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# Internal Control Reporting by Non-Accelerated Filers

Vishal Munsif
*Florida International University*, vishalmunsif@yahoo.com

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

# INTERNAL CONTROL REPORTING BY NON-ACCELERATED FILERS

A dissertation submitted in partial fulfillment of the

requirements for the degree of

DOCTOR OF PHILOSOPHY

in

BUSINESS ADMINISTRATION

by

Vishal Munsif

2011

To: Dean Joyce Elam
College of Business Administration

This dissertation, written by Vishal Munsif, and entitled Internal Control Reporting by Non-Accelerated Filers, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

Abhijit Barua

Suchismita Mishra

Kannan Raghunandan,Co-Major Professor

Dasaratha Rama,Co-Major Professor

Date of Defense: June 14, 2011

The dissertation of Vishal Munsif is approved.

Dean Joyce Elam
College of Business Administration

Dean Lakshmi N. Reddi
University Graduate School

Florida International University, 2011

# DEDICATION

I would like to dedicate this dissertation to my family members and friends. Without their continuous support and encouragements, I would not be able to complete this work

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I would like to thank the members of my committee for their time, support and guidance: Dr. Abhijit Barua, Dr. Suchismita Mishra, Dr. Kannan Raghunandan and Dr. Dasaratha Rama. I would like to express my gratitude to my co-major professors: Dr. Kannan Raghunandan and Dr. Dasaratha Rama for their gentle support, useful comments and tireless supervision.

ABSTRACT OF THE DISSERTATION

INTERNAL CONTROL REPORTING BY NON-ACCELERATED FILERS

by

Vishal Munsif

Florida International University, 2011

Miami, Florida

Professor Kannan Raghunandan, Co-Major Professor

Professor Dasaratha Rama, Co-Major Professor

I examine three issues related to internal control reporting by non-accelerated filers. Motivation for the three studies comes from the fact that Section 404 of the Sarbanes-Oxley Act (SOX) continues to be controversial, as evidenced by the permanent exemption from Section 404(b) of SOX granted to non-accelerated filers by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. The Dodd-Frank Act also requires the SEC to study compliance costs associated with smaller accelerated filers.

In the first part of my dissertation, I document that the audit fee premium for non-accelerated filers disclosing a material weakness in internal controls (a) is significantly lower than the corresponding premium for accelerated filers, and (b) declines significantly over time. I also find that in the case of accelerated filers remediating clients pay lower fees compared to clients continuing to report internal control problems; however, such differences are not observed in the case of non-accelerated filers.

The second essay focuses on audit report lag. The results indicate that presence of material weaknesses are associated with increased audit report lags, for both accelerated and non-accelerated filers. The results also indicate that the decline in report lag following remediation of problems is greater for accelerated filers than for non-accelerated filers.

The third essay examines early warnings (pursuant to Section 302 disclosures) for firms that subsequently disclosed internal control problems in their 404 reports. The analyses indicate that non-accelerated firms with shorter CFO tenure, presence of accounting experts on the audit committee, and more frequent audit committee meetings are more likely to provide prior Section 302 warnings.

Overall the results suggest that there are differences in internal control reporting between the accelerated and non-accelerated filers. The results provide empirical grounding for the ongoing debate about internal control reporting by non-accelerated filers.

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# I. INTRODUCTION

Internal control reporting is an issue that has been of significant interest to regulators, legislators, and the accounting profession in recent years. During the congressional hearing about public accounting profession in 1985, many legislators questioned the SEC about requiring public companies to have a Management Report on internal controls in the audited financial statements (U.S. House of Representatives 1985). The National Commission on Fraudulent Financial Reporting (Treadway Commission 1987) noted that

> "The investing public has a legitimate interest in the extent of management's responsibilities for the company's financial statements and internal control and the means by which management discharges its responsibilities. Yet these responsibilities are not always communicated to the investing public. Management's opinion on internal control is important because the internal control system provides basis for the preparation of financial statements and, more broadly, the overall system of accountability."

The Treadway Commission recommended that all the publicly traded companies should be required to include such management report in the annual report.

Later, there were efforts by some legislators to mandate internal control reporting (U.S. House of Representatives 1991) but the efforts were not successful. The U.S. General Accounting Office (GAO) in 1992 shared support for such internal control reporting by the management and stated that "Public reporting encourages management to be proactive and pay attention to the effectiveness of internal controls…." Despite such support for internal control reporting, the SEC did not require management to include such reporting, nor did it require the auditor to provide opinion on internal controls until the enactment of the Sarbanes Oxley Act (SOX) in July 2002.

The fall of corporate giants like Enron and WorldCom and the failure of Arthur Andersen resulted in the enactment of the Sarbanes-Oxley Act (SOX 2002) in July 2002. While SOX contains many provisions related to accounting and auditing, and represents the most comprehensive reform of the accounting profession since the 1930s, Section 404 of SOX has been the most controversial.

Section 404 of SOX is titled "Management Assessment of Internal Controls" and has two parts as follows:

> " (a) Rules Required.--The Commission shall prescribe rules requiring each annual report required by section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) to contain an internal control report, which shall--
>
> (1) state the responsibility of management for establishing and maintaining an adequate internal control structure and procedures for financial reporting; and
>
> (2) contain an assessment, as of the end of the most recent fiscal year of the issuer, of the effectiveness of the internal control structure and procedures of the issuer for financial reporting.
>
> (b) Internal Control Evaluation and Reporting.--With respect to the internal control assessment required by subsection (a), each registered public accounting firm that prepares or issues the audit report for the issuer shall attest to, and report on, the assessment made by the management of the issuer. An attestation made under this subsection shall be made in accordance with standards for attestation engagements issued or adopted by the Board. Any such attestation shall not be the subject of a separate engagement."

Thus, the first paragraph, Section 404(a), requires management to provide an assessment about the effectiveness of the internal control system over financial reporting, and second paragraph, Section 404(b), requires auditor attestation of internal controls. The SEC implemented Section 404 of SOX through multiple instances of rulemaking. In such rulemaking, the SEC distinguished between

accelerated and non-accelerated filers. Non-accelerated filers are SEC registrants with public float of less than $75 million.

The requirements of SOX Section 404 have been met with a lot of criticism from the SEC registrants, with much of the criticism due the high cost of complying with Section 404. On many subsequent occasions, legislators, registrants, and business organizations have called for the SEC to relax its rules related to internal control reporting because of the high costs associated with Section 404(b).

In response to such concerns by registrants and legislators, the SEC granted multiple extensions for non-accelerated filers to comply with Section 404. Initially, when the SEC (2003a) issued rules to implement Section 404 of SOX, non-accelerated filers would have been subject to Sections 404(a) and 404(b) for fiscal years ending on or after April 15, 2005. In February 2004, the deadline for non-accelerated filers was extended to fiscal years ending on or after July 15, 2005. The deadline was further postponed in March 2005, September 2005, December 2006 and October 2009.

Before the final postponement for non-accelerated filers to comply with Section 404(b) ended, the *Dodd-Frank Wall Street Reform and Consumer Protection Act* (2010) was enacted in July 2010. Section 989G(a) of the Dodd-Frank Act provides permanent exemption from the requirements of Section 404(b) for non-accelerated filers. In addition, Section 989G(b) of the Dodd-Frank Act also requires the SEC to conduct a study to determine how the burden of complying with Section 404(b) can be reduced for registrants with market capitalization up to $250 million. Thus, it is clear that Section 404 continues to be controversial as evidenced by the subsequent actions of legislators and regulators.

A primary reason for the numerous postponements, and the eventual exemption, related to compliance with Section 404(b) for non-accelerated filers is the cost associated with such compliance. Many SEC registrants and business organizations complained vehemently to the SEC about the high cost associated with Section 404 audits (e.g., ABA 2005; AEA 2005; FEI 2005; Microsoft 2005). In particular, registrants and others have complained about the impact of Section 404(b) on fees paid to auditors (e.g., SEC 2005, 2006). The SEC convened two round-tables, in 2005 and 2006, about implementation issues related to Section 404. Following such dialogue, the PCAOB issued additional guidance and then replaced the much-criticized AS No.2 with the new AS No. 5 (PCAOB 2007); AS No.5 emphasizes a risk-based or "top-down" approach to risks and the testing of controls and is viewed as the answer to criticism of over-auditing by the auditors in the initial years of implementing Section 404.[1]

Auditors have noted that Section 404 audits would become more efficient over time (e.g., Ernst & Young 2005; PricewaterhouseCoopers 2005). The benefits from such streamlined audits would be particularly relevant for clients with internal control problems. In the initial years, clients with material weaknesses in internal control would have been particularly problematic for auditors who already had to contend with manpower shortages and the need to train staff in Section 404 related procedures even while simultaneously conducting Section 404 audits. When auditors are under severe time and resource pressure for all clients it is natural that a client who requires

[1] SEC Chairman Cox (U.S. House of Representatives 2007) noted during congressional testimony that "we expect the unduly high costs of implementing section 404 of the Act under the previous auditing standard will come down."

more time and resources would be charged a higher premium. Such a fee premium can be expected to decline in subsequent years, when the resource pressures faced by auditors are lower.

Given such focus on audit fees in the context of Section 404 reporting, and given the differential treatment granted non-accelerated filers, in the first part of my dissertation I examine the audit fee premium associated with material weakness disclosures by different types of filers. Using the sample of 2,839 companies for fiscal year 2008 and 2009, I find that the audit fee premium for non-accelerated filers disclosing a material weakness in internal controls (a) is significantly lower than the corresponding premium paid by accelerated filers, and (b) declines significantly over time. I also examine subsequent remediation of internal control problems and find that in the case of accelerated filers remediating clients pay lower fees compared to clients continuing to report internal control problems; however, such differences are not observed in the case of non-accelerated filers.

Another issue that has received significant attention from the SEC in recent years is the reporting lag. The SEC has initiated efforts to reduce the reporting lag, which is the number of days from the fiscal year end until the date the audited financial statements are filed with the SEC (SEC 2005). Such efforts are motivated by concerns related to the timeliness of corporate financial reporting.

The second part of my dissertation deals with the association between material weaknesses in internal controls and audit reporting lag. I measure audit reporting lag as the number of days between fiscal year-end and the date of the audit report. Using the same sample as in part 1 of my dissertation, I find that increase in audit report lag

in the presence of material weaknesses in internal control is lower for non-accelerated filers as compared to the corresponding increase for accelerated filers. Additional analysis indicated that the audit report lag falls significantly from fiscal 2008 to 2009 for the accelerated filers as compared to the non-accelerated filers. Further, the results also indicate that for firms that remediate previously disclosed internal control problems there is a steep decline in audit report lag for accelerated filers; the decline is not significant in the case of non-accelerated filers.

The third essay of my dissertation examines early warnings provided by firms pursuant to Section 302 disclosures. Section 302 of SOX, titled "Corporate Responsibility for Financial Reports," states as follows:

> "(a) Regulations Required.--The Commission shall, by rule, require, for each company filing periodic reports under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m, 78o(d)), that the principal executive officer or officers and the principal financial officer or officers, or persons performing similar functions, certify in each annual or quarterly report filed or submitted under either such section of such Act that--
>
> (1) the signing officer has reviewed the report;
>
> (2) based on the officer's knowledge, the report does not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which such statements were made, not misleading;
>
> (3) based on such officer's knowledge, the financial statements, and other financial information included in the report, fairly present in all material respects the financial condition and results of operations of the issuer as of, and for, the periods presented in the report;
>
> (4) the signing officers--
>
> (A) are responsible for establishing and maintaining internal controls;
>
> (B) have designed such internal controls to ensure that material information relating to the issuer and its consolidated subsidiaries is made known to such officers by others within those entities, particularly during the

period in which the periodic reports are being prepared;

(C) have evaluated the effectiveness of the issuer's internal controls as of a date within 90 days prior to the report; and

(D) have presented in the report their conclusions about the effectiveness of their internal controls based on their evaluation as of that date;

(5) the signing officers have disclosed to the issuer's auditors and the audit committee of the board of directors (or persons fulfilling the equivalent function)--

(A) all significant deficiencies in the design or operation of internal controls which could adversely affect the issuer's ability to record, process, summarize, and report financial data and have identified for the issuer's auditors any material weaknesses in internal controls; and

(B) any fraud, whether or not material, that involves management or other employees who have a significant role in the issuer's internal controls; and

(6) the signing officers have indicated in the report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of their evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses."

Prior researchers have noted that while there are some differences between Sections 302 and 404, there also are many similarities (Ashbaugh-Skaife et al 2007, Ashbaugh-Skaife et al. 2009, Beneish et al. 2008, Ogneva et al. 2007). One of the primary differences is that Section 302 disclosures are not subject to auditor attestation, unlike Section 404 disclosures. As such, there is significant managerial judgment associated with Section 302 disclosures.

However, given the importance attached by legislators and regulators to internal control disclosures, it is particularly relevant to examine the extent to which adverse Section 404 disclosures are preceded by early warnings in the form of Section

302 disclosures. It is reasonable to expect that if management and/or audit committee is diligent and forthcoming, there would be prior warnings in the form of 302 disclosures prior to the disclosure of material weaknesses pursuant to Section 404.

Hence, I examine firms that subsequently disclosed material weaknesses in their Section 404 reports to see if they had previously disclosed internal control problems in their Section 302 disclosures. The analysis indicate that for non-accelerated filers firms with shorter CFO tenure, greater number of audit committee members, higher number of accounting experts, and more audit committee meetings tend to provide prior Section 302 warnings as compared to firms that do not provide such warnings. In the case of accelerated filers, the only significant differences between those with and without early warning are CFO tenure and number of audit committee meetings. As part of my additional analyses, I examine the consequences for firms without prior warnings in the form of Section 302 disclosures. I find that only a small minority of firms without prior 302 disclosures receive a comment letter from the SEC. This finding indicates that the regulatory penalty for non-compliance (in the form of prior 302 disclosures) is not very significant for firms with respect to internal control disclosures.

The remainder of this dissertation is organized as follows: Chapter II discusses the internal control reporting by non-accelerated filers: impact on audit fees. Chapter III provides empirical tests on the association between presence of internal control weaknesses in audit report lag for non-accelerated filers and how they differ for that for accelerated filers. Chapter IV of my dissertation provides a statistical comparison between firms that provide early warnings under Section 302 and firms that do not for

both the accelerated and non-accelerated filers. The dissertation concludes with summaries and discussions on the results of the previous sections.

## II. INTERNAL CONTROL REPORTING AND AUDIT FEES FOR NON-ACCELERATED FILERS

Section 404(a) of SOX requires management to include a report about internal controls over financial reporting in annual financial statements filed with the SEC. Section 404(b) requires auditor attestation of such internal control reports by management.

SEC registrants and others have complained about the significant costs associated with the implementation of SOX Section 404. While audit fees represent only one component of costs associated with Section 404 reporting, such fees constitute a significant and recurring component of such costs. Complaints about the significant increase in audit fees subsequent to the implementation of SOX Section 404 has been voiced by SEC registrants and others. For example, at the Roundtable on Implementation of Internal Control Reporting Provisions convened by the SEC in April 2005, participants noted that audit fees constituted a significant part of total costs associated with Section 404, and that such fees increased significantly from the pre-SOX period (SEC 2005). Audit firms also have acknowledged the role of Section 404 in the steep increase in fees subsequent to SOX. For example, the CEOs of the Big 4 audit firms acknowledged significant criticism from their clients and others about the substantial increases in audit fees (the CEO of Ernst & Young noted that "much of the debate regarding the high costs of 404 implementation seems to be centered on audit fees" (EY 2005).

As discussed in the Introduction, legislators and others have also paid signfiicant attention to the impact of such high costs on non-accelerated filers. Such focus on audit fees and non-accelerated filers provides the motivation to examine the effect of Section 404 on audit fees of non-accelerated filers.

## BACKGROUND

### Prior Research on Internal Control Disclosures and Audit Fees

Raghunandan and Rama (RR 2006) examine 660 manufacturing firms with a December 31, 2004 fiscal year end that had filed their 10-Ks by May 15, 2005, and find that audit fees are 43 percent higher for clients with a material weakness disclosure compared to clients without such disclosure. By construction, all firms in their sample are accelerated firms. RR (2006) note, that in their sample, there was not a significant difference between systemic and non-systemic weaknesses in terms of the impact on audit fees.

Hoitash et al. (HHB 2008) use a sample of 2,501 accelerated filers with available data for fiscal years from November 2004 through October 2005 (i.e., the first fiscal year of SOX 404) and find that the fee premium varies by problem severity (measured either as material weaknesses versus significant deficiencies, or by general versus account specific); in contrast to RR (2006), HHB (2008) find that systemic weaknesses have a greater impact on audit fees than non-systemic weaknesses. Both of the above papers use data only from the first year of compliance with Section 404.

In contrast to the above two studies that examined the effect of material weakness disclosures made pursuant to Section 404(b) of SOX, Hogan and Wilkins (2008) examine audit fees prior to the implementation of SOX Section 404. They find that audit fees are higher for clients that disclosed an internal control weakness pursuant to Section 302 of SOX after July 2002.

While the above studies examined the effect of internal control weakness disclosures on audit fees, Krishnan et al. (2008) analyze voluntary disclosures by 266 firms about total costs to comply with Section 404. It is important to note that audit fees are only one component of the total fees examined by Krishnan et al. (2008). These authors find that the total SOX compliance costs are higher in the presence of material weaknesses in internal control.

While RR (2006) and HHB (2008) examine the effect of internal control weaknesses on audit fees, both of the above studies focus only on the initial years of SOX 404(b) reporting. As noted earlier, it is likely that the association between material weaknesses and audit fees would moderate over time. This is the rationale for Munsif et al. (2011), who examine audit fees for accelerated filers from 2004 to 2007; these authors find that firms remediating internal control weaknesses have lower audit fees when compared to firms continuing to report material weaknesses in internal control; however, the remediating firms pay, in the year of remediation as well as one and two years subsequent to remediation, significantly higher audit fees compared to firms that have clean Section 404 reports in each of the first four years.

In summary, almost all of the prior research related to the association between internal control reporting and audit fees has concentrated on accelerated filers. Given

the significant interest of legislators and others in internal control reporting by non-accelerated filers, it is important to examine the association between internal control reporting and audit fees by non-accelerated filers.

One prior published study has examined the association between internal control problem disclosures and audit fees for non-accelerated filers. Bedard et al. (2008) in their paper examine the association between audit fees with disclosures regarding the effectiveness of internal control under Section 302 of SOX for non-accelerated filers. Using data from fiscal 2003 and 2004 with the sample size of 4,492 firm years the authors find that firms disclosing Section 302 material weaknesses pay higher audit fees than firms that did not disclose such weaknesses. They also find that firms remediating internal control problems disclosed in fiscal 2003 continue to pay higher fees in 2004.

It is important to note that the sample in Bedard et al. (2008) stops with 2004. In addition, their focus is on internal control reporting pursuant to Section 302 disclosures, not Section 404 disclosures. Much has changed in the market for audit services since 2004 and, as noted previously, there are significant differences between Sections 302 and 404 of SOX. In the first part of my dissertation, I examine the association between material weaknesses in internal control over financial reporting and audit fees, for non-accelerated filers using Section 404(a) disclosures made in 2008 and 2009.

Remediation of Internal Control Weaknesses

Internal control systems are dynamic. Problems identified in one period may be remediated after discovery. It is natural for investors and others to be interested in the remediation of problems that are disclosed by companies. For example, Ashbaugh-Skaife et al. (2009) find that firms that had disclosed such internal control weaknesses but later received a clean Section 404 opinion exhibit an average decrease in market-adjusted cost of equity of 151 basis points around the disclosure of the opinion. Given the significant research interest in internal control disclosures, a natural extension of such research relates to the remediation of previously disclosed internal control problems.

In contrast to the extensive literature on internal control weakness disclosures, research related to remediation of previously disclosed problems is sparse. Johnstone et al. (2010) use sample of 3,602 firm-year observations with no material weaknesses disclosure to 733 firm-year observations with material weaknesses disclosure for fiscal years 2004 through 2007. The authors test a conceptual model of the process that firms use to remediate negative events such as fraud, restatements and/or internal control weaknesses (they focus mainly on internal control weaknesses) and the role of governance structure changed. The results suggest a positive association between material weakness disclosures and subsequent turnover of member of boards of directors, audit committee and top management. Johnstone et al. (2010) also find that remediation is associated with improvements in characteristics of audit committees, boards, and top management.

Li et al. (2010) examine the interrelationships among material weakness disclosures, the qualification of chief financial officers (CFOs) and their turnover following material weakness disclosures, and the remediation of material weaknesses. Li et al. (2010) show that remediation is more likely following the hiring of a new CFO with better qualifications.

Feng et al. (2010) examine the relationship between internal control quality and the accuracy of management guidance. The authors find that management forecasts become more accurate after firms remediate material weaknesses.

In summary, prior research has examined characteristics of firms that remediate previously disclosed internal control problems and the effects of remediation on some outcomes. It is worthwhile to note that all of the above referenced studies examining remediation have focused on accelerated filers. No prior published study has examined remediation of internal control weaknesses by non-accelerated filers who had previously disclosed such problems. In the first part of my dissertation, I examine the effect of remediation of previously disclosed internal control problems on audit fees, for both accelerated and non-accelerated filers.

## HYPOTHESES DEVELOPMENT

As noted previously, while both Sections 404(a) and 404(b) are applicable for accelerated filers, only Section 404(a) is applicable for non-accelerated filers. Thus, auditor attestation of internal control reporting is not required for non-accelerated filers. Hence, the auditor's involvement in internal control assessment is significantly lower in the case of non-accelerated filers than in the case of accelerated filers. This in

turn suggests that the association between internal control weaknesses and audit fees should be lower for non-accelerated filers than for accelerated filers.

In addition, post-SOX the extent of competition is much greater in the small client segment of the audit market (GAO 2003; Kohlbeck et al. 2008). Increased competition also should mean that the pressures on higher fees should be more muted in the small client segment. Since non-accelerated filers are, by definition, smaller than accelerated filers, I expect that the association between material weaknesses in internal control and audit fees would be smaller for non-accelerated filers than for accelerated filers.

As noted earlier, prior studies related to the association between internal control quality and audit fees focus on accelerated filers or have used data from Section 302 disclosures. I fill this void in the literature, and examine the differential impact of internal control weakness disclosures on audit fees for non-accelerated and accelerated filers. As discussed in the preceding paragraphs, I expect that the association between material weaknesses in internal control and audit fees would be lower in case of non-accelerated filers. This leads to my first hypothesis:

$H_1$: *The audit fee premium associated with material weaknesses in internal control is lower for non-accelerated filers than for accelerated filers.*

As noted previously, research related to remediation of internal control problems is sparse. In the context of audit fees, Bedard et al. (2008) find that even after remediating the non-accelerated filers continued to pay higher audit fees than

those firms that had clean internal control report in both years (fiscal 2003 and 2004). However, their analysis is based on Section 302 disclosures, not Section 404 disclosures.

Hammerseley et al. (2009) examine firms with a material internal control weakness in year 1, and show that the remediating firms had a lower audit fee premium in year 2 of SOX 404 reporting compared to firms that did not remediate their internal control problems.

Munsif et al. (2011), also, find that firms remediating internal control weaknesses have lower audit fees when compared to firms continuing to report material weaknesses in internal control. However, these remediating firms continue to pay a premium not only the year of remediation but also one and two years after remediation.

Both Hammerseley et al. (2009) and Munsif et al. (2011) examine the impact of internal control weakness disclosures on audit fees only for the accelerated filers in the early years of SOX Section 404 reporting. Hammerseley et al. (2009) only investigate the first two years of Section 404 reporting and Munsif et al. (2011) examine the data from fiscal 2004 through 2007. The same arguments about differences between accelerated and non-accelerated filers, noted in the context of hypothesis one above, also are relevant in the context of examining the effects of remediation of previously disclosed internal control weaknesses on audit fees. This leads to my second hypothesis, which is:

$H_2$: *The effects of remediating previously disclosed internal control weaknesses on audit fees are lower for non-accelerated filers than for accelerated filers.*

METHOD

I use the following model to examine the association between audit fees and material weaknesses in internal control:

$$LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b_{11}*MW + b_{12\text{-}21}*(10\ Industry\ Variables) + error$$

The variables are defined as follows:

*LAFEE* = natural log of audit fees;

*LNTA* = natural log of client's total assets;

*RECINV* = proportion of total assets in accounts receivable and inventory;

*SQSEG* = square root of the number of segments;

*FORGN* = 1 if the firm has foreign operations, else 0;

*LIQ* = ratio of current assets divided by current liabilities;

*ROA* = return on assets (operating income divided by total assets);

*DA* = total debt divided by total assets;

*BIG4* = 1 if Big 4 auditor, else 0;

*GC* = 1 if audit opinion modified for going concern, else 0;

*INITIAL* = 1 if the audit engagement is in their first year, else 0;

*MW* = 1 if material weakness in internal control, else 0.

All of the control variables are derived from prior studies (e.g., Raghunandan and Rama 2006) and the variables are measured as of the relevant fiscal year ends. I use *LNTA* as control variable to proxy for size; for client complexity, I use *RECINV,*

*SQSEG*, and *FORGN.* Client financial condition is measured with *LIQ, ROA, DA* and *GC*. Following much of prior audit fee research, I use the *BIG4* variable for auditor type. Since prior research suggests that initial year audit clients pay a fee discount (e.g., Francis and Simon 1987), I include *INITIAL*. I winsorize *LIQ, ROA* and *DA* at absolute values of 10 and other continuous variables at the 1st and the 99th percentiles.

As part of my additional analyses, I partition internal control weaknesses based on the type of problem. In such analyses, following prior research (e.g., Hoitash et al. 2008, Doyle et al. 2007, Ettredge et al. 2006, Johmstone et al. 2010; Munsif et al. 2011), I distinguish between general and account specific internal control problems. If a firm reported both systemic and account specific internal control problems, then I code that company as having a systemic problem. A firm coded as having only account-specific problems by definition has no systemic problem. Following Munsif et al. (2011), I classify an internal control weakness as systemic if, per Audit Analytics, the problem was in any one or more of the following categories: senior management competency, tone, reliability issues; accounting personnel resources, competency/training; segregations of duties/ design of controls (personnel); information technology, software, security & access issue; ethical or compliance issues with personnel; ineffective, non-existent or understaffed audit committee; insufficient or non-existent internal audit function; ineffective regulatory compliance issues.

SAMPLE

I obtain the data about audit fees and material internal control weakness for fiscal years 2008 and 2009 from the Audit Analytics database.[2] The relevant financial data are obtained from the Compustat annual database.

In Panel A of Table 1, I present my data selection process for this analysis. I start with 9,828 observations in fiscal year 2008. First I deleted 1,659 foreign firms; next, following the tradition in audit fee research, I deleted 2,121 observations in the financial sector (SIC 60-67). After deleting 133 duplicate observations, I then deleted 1,613 observations that have fiscal year ends other than between December 15th and February 28th. The December 15th cutoff is used because Section 404(a) became applicable only for fiscal year ends on or after December 15, 2007. Similarly, I use the February 28 cutoff to ensure that the firms are comparable. Without such date cutoffs, for instance, a firm with fiscal year end of December 1, 2009 would be treated on par with a firm having a fiscal year end of March 31, 2009. While both firms would technically still be in the second year of Section 404(a) reporting, the time elapsed is such that both clients and auditors would have obtained substantial learning curve effects in the former case than in the latter. Such learning curve effects could influence the results, hence the need for a tight fiscal year end cutoff restriction.

For the remaining 3,234 observations I obtain financial data from the Compustat database. I delete another 30 observations due to missing financial information and 98 observations due to missing audit fee information. My final sample

[2] I use the year of Section 404 filing opinion available in the Audit Analytics database.

size for fiscal 2008 is 3,106. I follow the same process for fiscal 2009; the final sample size for fiscal 2009 is 2,933 observations.

Since my main analysis measures the impact of audit fees over two years, I delete all observations that are not common in both years (fiscal 2008 and 2009). This process yields a final sample size of 2,839 for each fiscal year 2008 and 2009. In Panel B of Table 1 I divide the sample by type of filer status – viz. Accelerated and Non-Accelerated. For fiscal year 2008 (2009) there are 2,003 (1,973) accelerated filers and 836 (866) non-accelerated filers.

I classify any company that had both management and auditor's report and as accelerated filers and any company that only had management report as non-accelerated filers. In other words, I classify any company that had both Section 404(a) and 404(b) internal control reports as an accelerated filer and any company that complied only with Section 404(a) as a non-accelerated filer.

Panel C of Table 1 provides information regarding the number of material weaknesses (systemic and account-specific) by filer type. For fiscal 2008 (2009) out of 184 (171) observations, there are 53 (32) accelerated filers and 131 (139) non-accelerated filers with systemic material weaknesses; there are 35 (26) accelerated filers and 24 (30) non-accelerated filers with only account-specific material weaknesses for fiscal year 2008 (2009).

## RESULTS

### Descriptive Analysis

Table 2 provides descriptive data about the sample for fiscal 2008 and 2009, for both accelerated and non-accelerated filers. The data is partitioned by internal control opinion type. For both years, for both accelerated and non-accelerated filers, firms with material weaknesses are significantly smaller in size (measured by *LNTA*). In both 2008 and 2009 the mean audit fees paid by firms with material weaknesses is lower than the audit fees paid by firms with no material weaknesses for both accelerated and non-accelerated filers. This can be explained by the fact that the firms that reported material weaknesses are smaller than firms that did not report material weaknesses.

The data also show that firms with material weaknesses are less profitable, as measured by *ROA*; for the accelerated filers 2008 (2009) the mean *ROA* is -0.20 (-0.20) for firms with material weaknesses as compared to -0.08 (-0.04) for firms without material weaknesses in internal control. For the non-accelerated filers the mean *ROA* is -2.47 (-1.98) for firms with material weaknesses as compared to -0.76 (-0.68) for firms without material weaknesses in internal control. The data also show that firms with material weaknesses are less likely to have Big4, are more likely to have a modified opinion due to going concern, and more likely to switch auditors. Further, in the case of non-accelerated filers, firms with material weaknesses are less likely to have foreign operations and are less liquid, as compared to firms with no such disclosures.

Regression Samples

For my regression analysis I use four different sample sizes. First, I run the main analysis for both fiscal year 2008 and 2009 using the full sample of 2,839 observations – divided into accelerated filers and non-accelerated filers. Next, I use a sub-sample of firms by taking only those accelerated filers that are not classified as large-accelerated filers in the Audit Analytics database and compare those results with those for non-accelerated filers. The sample size for this analysis is 1,801 for 2008 and 1,812 for 2009. I then use a restricted sample by using only those observations that are common in both years; this yields a sample size of 1,657 each for 2008 and 2009. Finally, for sensitivity analysis, I restrict the sample to only those observations that have the same filing status in both years – i.e., a firm should have filed as accelerated filer in both years or as non-accelerated filer in both years.

Impact of Material Weakness on Audit fees ($H_1$)

Table 3 shows the results for the first regression for the full sample with *MW* as the variable of interest. Each of the results for both accelerated and non-accelerated filers are significant and explain between 70 and 74 percent of audit fees of my sample firms. All of the control variables for accelerated and non-accelerated filers in fiscal 2008 and 2009 are significant with the exception of *GC* for non-accelerated filers and *LIQ* for both accelerated and non-accelerated filers.

An interesting observation is that the coefficient of *INITIAL* is negative and significant, indicating that there is a substantial initial year fee discount. Huang et al.

(2007) find that there is no initial year fee discounting in the immediate aftermath of SOX; the negative coefficient of *INITIAL* for my sample suggests that the market for audit services has changed significantly in more recent years, and that the phenomenon of auditors discounting initial year audit fees is back. One implication of this finding is that the market for audit services has become more competitive in 2008 and 2009. This finding corroborates the evidence in *ComplianceWeek* (2010) that the median audit fees declined by 5.4 percent from 2008 and 2009 for the Standard & Poor's 500 firms, with 317 of the firms reporting lower audit fees in 2009 compared to the previous year.

The regression for fiscal year 2008 shows that the coefficient of *MW* is 0.25 for accelerated filers and 0.13 for the non-accelerated filers; this indicates that firms with material weakness in their internal control reporting face a fee increase of 29 percent and 14 percent for accelerated and non-accelerated filers respectively.[3]

It is interesting to note that the coefficient for *MW* declines significantly from fiscal 2008 to 2009 for the non-accelerated filers, but not for the accelerated filers. The coefficient for fiscal 2009 for accelerated filers is 0.26 ($p < .01$) and non-accelerated filers is 0.06 ($p = .10$). The decline is statistically significant ($p < .05$) for non-accelerated filers, but not for accelerated filers.

I further divide material weakness in internal control into the following two types: Systemic internal control weaknesses (*SMW*) and Account Specific internal

[3] The effect of having a material weakness on audit fees is calculated as follows. When a firm has a material weakness in internal control in the first year, *MW* becomes 1. Thus, the value of the dependent variable in our regression increases by 0.25*1 = 0.25. Since our dependent variable is log transformed, the effect of the dependent variable increasing by 0.25 is given by $e^{0.25} = 1.29$, or the fee increases by 29 percent compared to the situation when there is no material weakness in internal controls.

control weaknesses (*AMW*).[4] Prior research (e.g., Hoitash et al. 2008; Munsif et al. 2011) shows that systemic problems are more difficult to audit around, so the effect on audit fees should be higher for systemic internal control problems than for account-specific problems.

The results in Table 4 indicate that for the accelerated filers the systemic weaknesses have higher impact on audit fees as compared to account-specific weaknesses; these results are similar to those presented in by Munsif et al. (2011). However, the results indicate that for non-accelerated filers the impact on audit fees is higher in the presence of account-specific weaknesses. The coefficient is 0.34 ($p = <.01$) for *SMW* and 0.11 ($p = .13$) for *AMW* for accelerated filers, while the coefficients are 0.10 ($p = .10$) and 0.34 ($p = .01$) for *SMW* and *AMW*, respectively for the non-accelerated filers in fiscal 2008. Similarly, for fiscal 2009 the coefficient for *SMW* is 0.47 ($p < .01$) and *AMW* is 0.02 ($p = .43$) for the accelerated filers, indicating higher impact of systemic internal control weaknesses on audit fees. However, the coefficients for non-accelerated filers are 0.01 ($p = .41$) for *SMW* and 0.23 ($p = .03$) for *AMW*, indicating higher impact on audit fees due to account specific internal control weaknesses. The overall models for all of the regressions are significant with adjusted R-squares ranging from 70 to 74 percent.

In summary, results from the above regressions show that the impact of material weaknesses in internal control on audit fees is lower for the non-accelerated

[4] Note that if a firm reported both systemic and account specific internal control problems, then I code that company as having a systemic problem. In only those instances where a firm has no systemic problem but indicates the presence of one or more account specific problems I code that firm as having a account specific problem. In other words, a firm coded as having only account specific problems by definition has no systemic problem.

filers than accelerated filers. In addition, the effect of systemic and account specific weaknesses on audit fees differ for accelerated and non-accelerated filers.

Results for sub-sample (non-large accelerated filers)

I run similar regressions as in Table 3 for my sub-sample of non-large accelerated filers. The results are presented in Table 7 and Table 8. As mentioned before for my sub-sample I use firms that are classified as accelerated filers other than large-accelerated filers.[5] The overall results are significant with adjusted R-squares between 50 and 70 percent. The results show that audit fee premium for firms with material weaknesses declines over time for both the non-large accelerated and non-accelerated filers. The coefficient for fiscal 2008 (2009) for non-large accelerated filer is 0.29 (0.24) indicating a fee premium of 34 (27) percent for firms disclosing material weaknesses in their internal controls as compared to firms that have no such disclosures. Both the coefficients are significant at 1 percent. Since the sample of non-accelerated filers is the same as in my main analysis the results remain the same for the non-accelerated filers with coefficient of 0.13 ($p = .03$) and 0.06 ($p = .10$) for fiscal 2008 and 2009, respectively.

In Table 8, I further restrict the sample size to those firms that are common in both 2008 and 2009. The results confirm the results presented in the main analysis and the analysis in Table 7. Both the non-large accelerated and non-accelerated filers see a

[5] Large-accelerated filers are those with a public float of more than $700 million measured as of the last day of the second quarter. Other accelerated filers are those with public float between $75 million and $700 million measure as of the last day of the second quarter. I classify firms as accelerated and large-accelerated based on the classification provided by the Audit Analytics database.

decline in premium charged from fiscal 2008 to fiscal 2009, in fact the coefficient for non-accelerated filers in 2009 is not significant with p-value of 0.18.

All of the results above, including the main analysis and analysis using the sub-samples, also confirm my first hypothesis that the fee premium associated with material weaknesses in internal controls is significantly lower for non-accelerated filers as compared to accelerated filers.

Impact of Remediation on audit fees ($H_2$)

To measure the impact of remediation, it is necessary to look at only those firms that have clean opinion in fiscal 2009. In other words, I examine the effects of remediation by comparing firms that remediated previously disclosed problems against firms without problems. Hoitash et al. (2008) find that accelerated filers with clean Section 404 opinion after disclosing weaknesses under Section 302 continue to pay higher fees; similarly Bedard et al. (2008) show the aforementioned results for the non-accelerated filers. Munsif et al. (2011), using the data from fiscal 2004 through fiscal 2007, confirm these results in their analysis and show that firms that disclose material weaknesses not only pay a premium in the year of disclosure but continue to pay premium in the year of remediation and one and two years after remediation. But none of these studies compare the results between accelerated and non-accelerated filers or compare the results having internal control weaknesses under Section 404 for non-accelerated filers. The comparison is especially interesting for the non-accelerated filers as the auditor's responsibility for internal controls is much lower for such firms as compared to that for the accelerated filers.

Table 5 presents the results of remediation for both accelerated filers and non-accelerated filers, as well as the overall sample. I include the *MW_08* variable (material weakness in 2008) in the 2009 regression to measure the impact of having a material weakness in 2008 in the fiscal year 2009, i.e. measure the impact on audit fees in the year of remediation. The regressions are significant with adjusted R-squares between 70 and 82 percent. The results indicate that the auditors continue to charge a premium in the year of remediation not only for the accelerated filers but also for the non-accelerated filers; the result for the overall sample is also similar. The coefficient for accelerated filers is 0.16 ($p = .03$) and for non-accelerated filers is 0.14 ($p = .05$), indicating that firms pay a premium of 17 percent and 15 percent in the year of remediation in the case of accelerated and non-accelerated filers, respectively. The result for non-accelerated filers is especially interesting because, as mentioned before, the auditor's risk and involvement in internal controls is lower as compared to that for the accelerated filers.

Next, I measure whether remediation in internal controls leads to any reduction in audit fee premium for the accelerated filers and non-accelerated filers.[6] I use similar analysis as in Munsif et al. (2011), and hence restrict the analysis to only those firms that have material weaknesses in 2008.

Table 6 presents the results for remediation, with *REMEDIATE* as the variable of interest. There are 243 firms that had material weaknesses in fiscal 2008, of which 113 remediated in fiscal 2009 and 130 continued to have material weaknesses. The

[6] Hammersley et al. (2009) show that firms that remediate internal control weaknesses pay lower premium as firms that continue to have material weaknesses in their internal control .

results indicate the remediation of internal control weaknesses does not lead to reduction in audit fee premium for either the accelerated or the non-accelerated filers. The overall regressions are significant with R-squares between 56 and 77 percent. Although the coefficient for accelerated filers is negative (-0.23), it is not significant at conventional levels; in the case of non-accelerated filers, the coefficient of *REMEDIATE* is 0.01 (p = .49).

The results in Table 6 in conjunction with those in Table 5 indicate that the firms disclosing a material weakness in internal controls pay a premium not only in the year of disclosure but also in the year of remediation; this is true for both the accelerated filers and non-accelerated filers. The results also show that remediating firms do not see a reduction in audit fee premium in the year of remediation, for both accelerated and non-accelerated filers. However, these results are subject to one important caveat. The remediation variable might not be significant due to limitation of small sample size; for instance the sample of accelerated filers is only 83 as compared to 165 for Munsif et al. (2011).

Next, I run the regressions with the sub-sample of firms that exclude large-accelerated filers. Since I am measuring the impact of remediation over two years I only run regressions for firms that are common in both years.

Table 9 presents the results for regressions similar to those in Table 5. To measure the impact on audit fee premium in the year of remediation I include *MW_08* in the 2009 regression for the sub-sample of firms without large-accelerated filers.[7] The results in Table 9 are consistent with those in Table 5; the results show that for

[7] Please refer to footnote 5 for definition of large-accelerated filers versus accelerated filers.

both the non-large accelerated and non-accelerated filers, the coefficient of *MW_08* is positive and significant. The coefficient for non-large accelerated filer is 0.21 (p =.02) and non-accelerated filers is 0.19 (p = .03).

The results in Table 10 are consistent with those in Table 6, indicating that both non-large accelerated and non-accelerated filers do not see a reduction in audit fee premium in the year of remediation. The coefficient of *REMEDIATE* is -0.19 (p = .28) for non-large accelerated filers and 0.01 (p = .45) for the non-accelerated filers. The coefficient for overall sample is -0.04 (p = .37).

The results for both the full sample and sub-sample indicate that both accelerated and non-accelerated filers continue to pay a premium in the year of remediation and also these remediating firms do not see a reduction in audit fee premium in the year of remediation.

Sensitivity Analysis: Results of Same Filer Status (non-large accelerated filers)

I also run regressions for sub-samples of firms that had the same filer status in both fiscal 2008 and 2009. I first restrict the sample to non-large accelerated filers and non-accelerated filers (as discussed in footnote 5). I then delete firms that switched filer status, either from accelerated to non-accelerated or vise-versa.

The results in Table 11 show a similar pattern to the results presented in Table 7. The results indicate that the impact on audit fees due to presence of material weaknesses in internal controls is higher for non-large accelerated filers as compared to non-accelerated filers, although the fee premium for non-large accelerated filers declines from fiscal 2008 to fiscal 2009. The results indicate that the impact of

material internal control weaknesses on audit fees is higher for the accelerated filers as compared to non-accelerated filers.

Tables 12 and 13 confirm the results presented in Tables 9 and 10. The results indicate that both the non-large accelerated filers and non-accelerated filers continue to pay a premium in the year of remediation and that these firms do not see a drop in audit fee premium in the year of remediation.

Taken together, the results are consistent with my main analysis and confirm my hypotheses: (1) the audit fee premium associated with a material weakness in internal controls in lower for the non-accelerated filers as compared to accelerated filers and, (2) non-accelerated filers continue to pay a premium in the year of remediation.

## SUMMARY

Legislators and regulators have paid significant attention in recent years to internal control reporting, and such attention is particularly pronounced for non-accelerated filers. Some recent studies (Raghunandan and Rama 2006, Hoitash et al. 2008, Munsif et al. 2011) have examined the association between material weakness in internal controls and audit fees, but these studies examine the impact of material weaknesses in internal control for accelerated filers. One prior published study has examined the association between internal control problem disclosures and audit fees for non-accelerated filers. Bedard et al. (2008) in their paper examine the association between audit fees with disclosures regarding the effectiveness of internal control under Section 302 of SOX for non-accelerated filers. The authors find that firms

disclosing Section 302 material weaknesses pay higher audit fees than firms that did not disclose such weaknesses. They also find that firms remediating internal control problems disclosed in fiscal 2003 continue to pay higher fees in 2004.

In this study, I examine (a) the associations between the presence and remediation of internal control problems and audit fees for non-accelerated filers, and (b) how such associations differ for non-accelerated filers from those for accelerated filers. The results indicate that the association between audit fees and presence of material weaknesses is positive for accelerated as well as for the non-accelerated filers, although I find that the risk premium for non-accelerated filers disclosing a material weakness in internal controls (pursuant to management evaluation of internal controls required by Section 404(a) of SOX) is proportionately significantly lower than the corresponding premium paid by accelerated filers. However, the results also indicate the audit fee premium for both the accelerated and non-accelerated filers continue to persist in the year of remediation and neither of the two filers see a reduction in audit fees. The results suggest that although the auditors price internal control weaknesses for accelerated and non-accelerated filers differently, they treat both filers similarly when it comes to remediation of such internal control problems.

# III. INTERNAL CONTROL REPORTING AND AUDIT REPORT LAGS FOR NON-ACCELERATED FILERS

Regulators have always been concerned about the need for timely financial information for investors and other financial statement users. Timeliness is recognized as one of the fundamental characteristics of financial information that makes it useful. Prior studies have shown that late disclosure of accounting information can lead to higher degree of information asymmetry, and non-timely information has led to negative market reaction (Bamber et al. 1993; Dopuch et al. 1986; Fields and Wilkins 1991).

The fall of Enron and WorldCom led to the enactment of one the most important acts in the field of accounting and auditing: Sarbanes-Oxley Act (SOX 2002). SOX significantly changed the landscape of accounting and auditing. While SOX has many sections, Section 404 of SOX deals with internal control reporting is arguably the most controversial of the various new requirements mandated by SOX. Section 404(a) of SOX requires management to provide an assessment about the effectiveness of the internal control system over financial reporting, while Section 404(b) requires auditor attestation of internal controls. Section 404 has met with significant opposition from the SEC registrants and the business community; conversely, investors and auditors have been very supportive of the requirements of Section 404 of SOX (Ernst & Young 2005; PricewaterhouseCoopers 2005).

SOX also recognized the need for timely financial reporting. Section 409 of SOX authorized the SEC to require its registrants to disclose financial and other important information rapidly. Specifically, Section 409 states:

> "(l) Real Time Issuer Disclosures.--Each issuer reporting under section 13(a) or 15(d) shall disclose to the public on a rapid and current basis such additional information concerning material changes in the financial condition or operations of the issuer, in plain English, which may include trend and qualitative information and graphic presentations, as the Commission determines, by rule, is necessary or useful for the protection of investors and in the public interest.".

Subsequently, the SEC sought to speed-up the financial reporting process by registrants. Prior to SOX, the SEC required registrants to file their annual and quarterly reports with the SEC within 90 and 45 days of the end of the fiscal year and quarter, respectively. In a series of actions after SOX, the SEC has speeded up the financial reporting process by reducing the time lag from the end of the fiscal year / quarter within which the relevant annual or quarterly report has to be filed with the Commission. Thus, the SEC now requires all large-accelerated filers (companies with public float of $700 million or more) to file their annual report within 60 days of the fiscal year end on or after December 2006; the corresponding deadline for other accelerated filers (companies with public float between $75 million and $700 million) is 75 days from the fiscal year end. While initially the SEC sought to have a shortened reporting lag for non-accelerated filers also, the SEC later relented and has left unchanged the deadline for filing by non-accelerated filers. Hence, non-accelerated filers (less than $75 million in public float) continue to have a 90 day deadline to file their annual reports with the SEC (SEC 2005).

In the second part of my dissertation, I examine the association between internal control reporting and audit reporting lag. Consistent with the approach used in prior studies, I use audit reporting lag as a proxy for the overall financial reporting lag. I hypothesize that the audit reporting lag would be greater for firms reporting a material weakness in internal control. Further, I focus on non-accelerated filer firms and examine the extent to which poor quality internal controls differentially impact the audit reporting lag for such firms when compared to accelerated filer firms. As with the first part of the dissertation, I also examine the consequences of remediating previously disclosed material weaknesses in internal control on audit reporting lag in the year of remediation.

## BACKGROUND

### Prior research relating to Audit Report Lag

Ashton et al. (1987) use survey data collected from the clients of Peat, Marwick, Mitchell & Co. Using a sample of 488 randomly selected clients in six industries (manufacturing, merchandising, oil & gas, commercial banks, savings and loans and mutual savings banks, and insurance) the authors find, in their univariate analysis, that firms that received qualified audit opinion and had poorer internal controls (as judged by the auditors) faced longer audit report lags as compared to firms that did not have such issues.

Using a sample of 465 companies listed on Toronto Stock Exchange from 1977 to 1982 Ashton et al. (1989) find that total assets of the client and the size of company's auditors were inversely related to audit delay. Financial services

companies had shorter audit delays than companies in other industries. Companies with negative net incomes had longer audit delays than companies with positive or zero net incomes.

Bamber et al. (1993) investigate the factors that determine audit report lag using data from 972 firms in seven industries. The authors use a model based on (1) the amount of audit work required, (2) incentives to provide timely report, and (3) the extent to which the auditor employs a structured audit approach. The results suggest that audit report lag increases with auditor business risk, audit complexity and other risk related factors such as loss and qualified opinions. The audit report lag decreases as incentives increase to provide the client with timelier audit report. Finally, audit report lag is longer for clients of structured audit firms than for clients of unstructured audit firms.

Schwartz and Soo (1996) examine audit report lags and earnings announcement lags for firms that switch auditors. The authors investigate whether audit report and earnings announcement lags are associated with the timing of auditor changes in relation to firms' fiscal year-ends. The results indicate that both audit report and earnings announcement lags decrease (increase) for firms that change their auditor early (late) in the fiscal year. This study contributes to the literature by demonstrating that the timing of auditor changes can provide insight into causes and consequences of auditor switching.

Knechel and Payne (2001) use a propriety database containing 226 audit engagements, for fiscal year 1991, from international public accounting firms and examine factors that influence audit report lag. Their results indicate that incremental

audit effort, the presence of tax issues and the use of less experienced audit staff are positively correlated with audit report lag. Interestingly, audit report lag decreased due to synergic relationship between non-audit services and audit services.

Krishnan and Yang (2009) examine (a) the audit report lag and, (b) the earnings announcement lag. The authors use a longitudinal sample from 2001 to 2006, with a sample of 1,077 firms in each year. Results indicate that audit report lag increased significantly from 2001 to 2006, but the increase was higher during the 2004-2006 period when SOX was in effect. Recently, Tanyi et al. (2010) examine audit reporting lags following voluntary and involuntary auditor changes. Tanyi et al. (2010) find that audit report lag is significantly higher for former Andersen clients that did not follow their Andersen partners to the new audit firm versus those clients that switched from another (non-Andersen) Big 5 auditor.

Prior research relating to Audit Lag and SOX

One previous study that looks at the impact of SOX Section 404 opinions on audit reporting lag in the post-SOX period is Ettredge et al. (2006); the authors analyze the impact of internal control quality on audit delay following the implementation of SOX. Using a sample of 2,344 companies for fiscal years 2003 and 2004, the authors find that the presence of material weaknesses in internal controls is associated with longer delays. Further, they also find that compared to specific material weaknesses, general (systemic) material weaknesses are associated with longer delays. However, Ettredge et al. (2006) examine only accelerated filers; further,

their sample stops with fiscal year 2004, which is the first year of reporting under SOX Section 404.

In the second part of my dissertation, I investigate the association between material weaknesses in internal control and audit report lag for non-accelerated filers. I then examine how such association differs for non-accelerated filers and accelerated filers.

## HYPOTHESES DEVELOPMENT

I expect differences between the accelerated and non-accelerated in terms of the effect of internal control problems on audit reporting lag for the following reasons. First, accelerated filers are subject to both Section 404(a) (which requires management's assertion on the effectiveness of internal controls over financial reporting) and 404(b) (auditors' assessment of internal controls). In contrast, non-accelerated filers are required to follow only Section 404(a). In other words the responsibility with respect to internal control evaluation in case of the non-accelerated filers is lower for the auditors as compared to those for the accelerated filers. Second, both anecdotal evidence and prior studies have consistently shown that smaller firms typically have lower quality internal controls. As such, auditors rely on internal controls to a lesser extent in the case of non-accelerated filers than in the case of accelerated filers. This in turn implies that the effect of having a material weakness in internal controls should be lower for non-accelerated filers than for accelerated filers. This leads to my third hypothesis:

*$H_3$:* *The audit report lag associated with material weaknesses in internal control is shorter for non-accelerated filers than for accelerated filers.*

As with audit fees, I also examine the impact of remediation of previously disclosed material weaknesses in internal control on audit report lag. While some audit fee studies, as discussed in the prior chapter, have examined the effects of remediation on audit fees no prior study has examined the effects of remediation on audit reporting lag. As with audit fees, I expect differences between the accelerated and non-accelerated filers in terms of the impact of remediation of previously disclosed internal control problems on audit reporting lag. My fourth hypothesis is as follows:

*$H_4$:* *The effects of remediating previously disclosed internal control weaknesses on audit reporting lag are lower for non-accelerated filers than for accelerated filers.*

METHOD

I use the following regression model to test my hypothesis:

$$REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + b_3*HIGROWTH + b_4*HILITIG + b_5*ROA + b_6*DA + b_7*LOSS + b_8*RESTAT + b_9*AFEE + b_{10}*AUOP + b_{11}*GC + b_{12}*XDOPS + b_{13}*INITIAL + b_{14}MW + error$$

The variables are defined as follows:

*REP_LAG* = number of days between fiscal year-end and date of the audit report;

*LNTA* = natural log of client's total assets;

*SQSEG* = square root of the number of segments;

*HITECH* = 1 if the firm belongs to high-tech industries (three-digit SIC codes 283,284, 357, 366, 367, 371, 382, 384, and 737), else 0;

*ROA* = return on assets (operating income divided by total assets);

*DA* = total debt divided by total assets;

*LOSS* = 1 if the firm reports a loss before extraordinary items, else 0;

*RESTAT* = 1 if the firm restated its financial reports in the current year, else 0;

*AFEE* = total audit fees divided by total assets;

*AUOP* = 1 if the firm receives modified auditor's opinion other than going concern, else 0;

*GC* = 1 if audit opinion modified for going concern, else 0;

*XDOPS* = 1 if the firm has extraordinary items on its financial statement, else 0;

*INITIAL* = 1 if the audit engagement is in their first year, else 0.

*MW* = 1 if material weakness in internal control, else 0.

All of the control variables are derived from prior studies (Ettredge et al. 2006; Krishnan and Yang 2009; Tanyi el al. 2010) and the variables are measured as of the relevant fiscal year ends. I use *LNTA* as control variable to proxy for size, for complexity I use *SQSEG*, for client industry I use *HITECH,* for financial condition I use *ROA, DA, LOSS, RESTAT*, *AUOP* and *GC*, for auditor type I use *AFEE* and *INITIAL* and a special variable *XDOPS*. I winsorize *ROA* and *DA* at absolute values of 10 and other continuous variables at the 1$^{st}$ and the 99$^{th}$ percentiles.

As with the audit fee analysis in the earlier chapter, as part of additional analyses, I divide material weakness in internal control into the following types: Systemic internal control weaknesses (*SMW*) and Account Specific internal control

weaknesses (*AMW*). As discussed earlier, systemic problems are more difficult to audit around, so the effect on audit reporting lag should be higher for systemic internal control problems than for account-specific problems.

For the second part of my dissertation, I use the same sample size as in the first part of the dissertation, which examines audit fees. Hence, I do not repeat the sample selection procedure here.

## RESULTS

### Descriptive Analysis

Table 2 also provides descriptive data about the variables in the audit reporting lag model for fiscal years 2008 and 2009, for accelerated and non-accelerated filers. The data is partitioned by internal control opinion type. For both years, firms with material weaknesses (both accelerated and non-accelerated filers) are smaller in size (measured by *LNTA*). For both fiscal years 2008 and 2009 the mean audit report lag, measured by *REP_LAG*, is higher for firms with material weaknesses as compared to firms that do not have such disclosures. In the case of accelerated filers, the mean *REP_LAG* for firms with material weaknesses in 2008 (2009) is 86.86 (76.86) as compared to 62.44 (61.69) for firms with no such disclosures; in the case of non-accelerated filers, the mean *REP_LAG* for firms with material weaknesses for fiscal 2008 (2009) is 99.79 (98.69) as compared to 82.78 (83.00) for firms with a clean internal control report.

Other significant differences between firms with and without weaknesses (for both the accelerated filers and non-accelerated filers) are that firms with material weaknesses have lower return on assets, have more firms that had losses in their operations (*LOSS*), and have more frequent restatements (*RESTAT*). The results also show that firms with material weaknesses are less likely to have Big4 as their auditors measured by BIG4, are more likely to have a modified opinion (expect for accelerated filers in fiscal 2009), more likely to have a going concern modified audit opinion and more likely to be in the initial years of audit engagement.

Regression Results

Similar to part I of my dissertation, for my regression analysis I use four different sample sizes. First I run the main analysis for both fiscal year 2008 and 2009 using the full sample of 2,839 observations – divided into all accelerated filers and non-accelerated filers. I then use a sub-sample of firms by taking only those accelerated filers that are not classified as large-accelerated filers in the Audit Analytics database; I then compare such firms with non-accelerated filers. The sample size for this analysis is 1,801 for 2008 and 1,812 for 2009. Next, I further restrict the sample to only those observations that are common in both years; this yields a sample size of 1,657 each for 2008 and 2009. Finally, for sensitivity analysis, I restrict the sample to only those observations that have the same filing status in both years – i.e. a firm should have filed as accelerated filer in both years or as non-accelerated filer in both years.

Impact of Material Weakness on Audit Report Lag ($H_3$)

Table 14 shows the results for the first regression for the full sample with *MW* as the variable of interest. Each regression, for both accelerated and non-accelerated filers, is significant and the models explain between 21 and 27 percent of the variation in audit report lag. Control variables – *LNTA, LOSS* and *GC* are significant in both 2008 and 2009 for accelerated and non-accelerated filers. *LNTA* is negatively significant whereas *LOSS* and *GC* are positively significant. The above results indicate that larger firms have shorter audit report lag and firms with poor financial conditions, measured by *LOSS* and *GC*, have longer audit report lag.

*SQSEG* is positively significant only in 2008 for both, accelerated and non-accelerated filers; this suggests that firms with complex accounting have longer audit report lag. *HITECH, ROA, DA* and *INITIAL* are significant in both years (2008 and 2009) only for non-accelerated filers; these variables are not significant in 2008 for accelerated filers. *HITECH* is negatively significant indicating that firms that belong to high-tech industries have shorter audit report lag. *ROA, DA* and *INITIAL* are positively significant, which means that firms with higher return on assets have longer audit report lag. Also, firms with higher debt-to-asset ratio have longer audit report lag. Firms that switch auditors have longer audit report lag as compared to firms that do not switch auditors during the year.

*AUOP* is negatively significant in both years for accelerated filers only; *AUOP* is not significant for non-accelerated filers in 2009; this indicates that firms that the

firms that receive modified auditor's opinion other than going concern have shorter audit report lag. Other control variables – *RESTAT* and *AUFEE* are not significant, except *RESTAT* is negatively significant in 2009 for accelerated filers and *AFEE* is negatively significant in 2008 for non-accelerated filers. Finally, *XDOPS* is negatively significant for accelerated filers in 2008 and positively significant for non-accelerated filers in 2009.

The regression results for fiscal year 2008 show that the coefficient of *MW* is positive and significant in both the accelerated and non-accelerated filer samples. The magnitude of the coefficient is 20.02 for accelerated filers and 10.47 for the non-accelerated filers, indicating that accelerated (non-accelerated) firms with material weakness in their internal control reporting face an audit report lag that is higher by 20.02 (10.47) days compared to firms without such material weaknesses in internal controls. Next, I run the same regressions for fiscal year 2009. In such regressions, once again the *MW* coefficient is positive and significant. The magnitudes of the coefficients are 10.49 and 9.92 for accelerated filers and non-accelerated filers, respectively. These results show that firms with material weakness disclosures have longer audit report lag as compared to firms that do not have such disclosures.[8]

I then compare the change in the magnitude of the *MW* coefficient from 2008 to 2009 for the accelerated and non-accelerated filers. Tests of comparisons of the *MW* coefficients indicate that there is significant decline from fiscal 2008 to 2009 in the

[8] I further perform similar regression analysis as in Table 14; I use *SQLAG* (square root of audit report lag) as my dependent variable instead of *REP_LAG*. The results indicate that firms with material weaknesses have longer audit report lag as compared to firms with clean internal control opinions. The *MW* coefficients for 2008 and 2009 for accelerated (non-accelerated) filers are 1.04 (0.53) and 0.60 (0.52), respectively.

*MW* coefficient for the accelerated filers; in contrast, the change in the coefficient value from 2008 to 2009 is not statistically significant for the non-accelerated filers.

As part of my additional analyses, I divide material weakness in internal control into types of internal control weaknesses, namely, Systemic internal control weaknesses (*SMW*) and Account Specific internal control weaknesses (*AMW*).

The results in Table 15 are mixed; the results show that for accelerated filers in fiscal 2008 the coefficient of *AMW* and *SMW* are 19.26 ($p < .01$) and 21.19 ($p < .01$), respectively; the difference in magnitude between the two coefficients is not statistically significant. For non-accelerated filers the coefficients of *SMW* and *AMW* are 10.64 ($p < .01$) and 9.56 ($p < .01$); here again, the difference is not statistically significant.

For fiscal 2009 the results indicate that for accelerated filers the impact of *SMW* is much higher as compared to *AMW*; the coefficient for *SMW* and *AMW* are 15.85 ($p < .01$) and 4.08 ($p = .04$), respectively; on the other hand for the non-accelerated filers the impact of *AMW* is higher as compared to *SMW* (12.19 days versus, 9.37 days).

Overall, the results suggest that the impact of having a material weakness in internal controls have a higher impact on accelerated filers as compared to non-accelerated filers. The results also indicate a decline in the impact of material weaknesses in internal controls on the audit report lag, for the accelerated filers.

Results for sub-sample (non-large accelerated filers)

I run similar regressions as in Table 14 for my sub-sample consisting of only non-large accelerated filers. The results of such regressions are presented in Tables 18 and 19. As mentioned in the prior chapter, for this sub-sample, I use firms that are classified as accelerated filers other than large-accelerated filers.

The results in Table 18 are consistent with the results presented for the full sample. The regressions are significant with adjusted R-square between 10 and 27 percent. The results show that audit report lag for firms with material weaknesses declines over time for the non-large accelerated filers. The coefficient for fiscal 2008 (2009) for non-large accelerated filer is 21.24 (10.84); both values are significant, and the decline from 2008 to 2009 also is significant.

In Table 19, I further restrict the sample size to those firms that are common in both 2008 and 2009. The results with this sub-sample also confirm the results presented in the main analysis (and the analysis in Table 18). The coefficients indicate that for firms with a material weakness in internal controls the audit report lag is higher by 20.70 and 8.88 days in 2008 and 2009, respectively, for the non-large accelerated filers; both values are significant, and the decline from 2008 to 2009 also is significant.

In summary, the results provide support to my first hypothesis that the audit report lag associated with material weaknesses in internal control is shorter for non-accelerated filers than for accelerated filers in 2008. However, the differences between the two groups of firms are not significant in 2009.

Impact of Remediation on audit report lag ($H_4$)

Hypothesis four examines the effects of remediation of previously disclosed material weaknesses in internal control on the audit report lag. I examine the effects of remediation by comparing firms that remediated previously disclosed problems against firms without problems.

. Table 16 presents the results of remediation for both accelerated filers and non-accelerated filers, as well as the overall combined sample. I include the *MW_08* variable (material weakness in 2008) in the 2009 regression to measure the impact of having a material weakness in 2008 in the fiscal year 2009, i.e. measure the impact on audit report lag in the year of remediation.

Each of the regressions is significant ($p < .01$), with adjusted R-squares between 18 and 39 percent. The results indicate that the accelerated and non-accelerated filers continue to face longer audit report lag in the year of remediation compared to firms with clean internal control opinions in both fiscal 2008 and 2009. The coefficient for *MW_08* for accelerated (non-accelerated) filers is 3.87 (7.06), both significant at ($p < .01$).

The above results raise the following question: does remediation result in any reduction in audit report lag for the accelerated filers and non-accelerated filers? For such analyses, I only use those firms that have material weaknesses in 2008. The results are presented in Table 17 and *REMEDIATE* is the variable of interest. There are 243 firms that had material weaknesses in fiscal 2008, of which 113 remediated in fiscal 2009 and 130 continued to have material weaknesses. The coefficient of *REMEDIATE* for accelerated (non-accelerated) filers is -9.71 (-4.67), both coefficients

are significant. The results indicate the remediation of internal control weaknesses leads to a reduction of 9.71 (4.67) days for the accelerated (non-accelerated) filers.

Results for sub-sample of non-large accelerated filers

Similar to Table 16 and Table 17, I run regressions with the sub-sample of firms that exclude large-accelerated filers. Since I am measuring the impact of remediation over two years I only run regressions for firms that are common in both years. Table 20 presents the results for regressions similar to those in Table 16. To measure the impact on audit report lag in the year of remediation I include *MW_08* in the 2009 regression for the sub-sample of firms without large-accelerated filers. The results in Table 20 are consistent with those in Table 16; the results show that for both the non-large accelerated and non-accelerated filers, the coefficient of *MW_08* is positive and significant. The coefficient for non-large accelerated filer is 4.54 ($p = .02$) and non-accelerated filers is 7.59 ($p < .01$).

Similarly the results in Table 21 are consistent with those in Table 17, indicating that both non-large accelerated and non-accelerated filers see a reduction in audit report lag in the year of remediation. The coefficient of *REMEDIATE* is -12.72 ($p < .01$) for non-large accelerated filers and -4.23 ($p = .08$) for the non-accelerated filers.

Sensitivity Analysis: Firms that have the same filer status

I then examine the sub-sample of firms that had the same filer status in both fiscal 2008 and 2009. I restrict the sample to non-large accelerated filers and non-

accelerated filers. I then delete all those observations that switched filer status, either from accelerated to non-accelerated or vise-versa. First, I run regressions similar to those in Table 19. The results in Table 22 show a similar pattern as in Table 19; the results indicate that the impact on audit report lag due to presence of material weaknesses in internal controls is higher for non-large accelerated filers as compared to non-accelerated filers. The results also show that the effect of having a material weakness in internal controls on audit report lag is much smaller in 2009 than in 2008 for the non-large accelerated filers.

Table 23 confirms the results presented in Table 20, indicating that both the non-large accelerated filers and non-accelerated filers continue to have longer audit report in the year of remediation. Finally, the results in Table 24 are similar to those in Table 21; the results indicate that the coefficient of *REMEDIATE* is larger for the non-large accelerated filers than for non-accelerated filers (-12.83 for the non-large accelerated filers versus -3.06 for the non-accelerated filers).

Overall, the results indicate that non-accelerated firms that, in 2009, remediate previously (i.e., in 2008) disclosed material weaknesses in internal control have a significant reduction in audit reporting lag compared to firms that did not remediate their material weaknesses. However, such remediating firms continue to have higher audit reporting lag when compared to firms that had a clean internal control report in both 2008 and 2009. Further, the effects of remediation differ for accelerated and non-accelerated firms.

SUMMARY

In the second part of my dissertation I examine the association between presence of material weaknesses in internal controls and audit report lag, measured by number of days between fiscal year-end and date of the audit report. The results show that firms with material weaknesses in internal control under Section 404 face longer audit report lag as compared to firms that do not have such disclosures. More importantly, the effect of having material weaknesses in internal control on the audit report lag is significantly smaller for non-accelerated firms than for accelerated firms in 2008. This finding is consistent with the position that auditors rely on internal controls to a much smaller extent in the context of auditing non-accelerated filers; if the reliance on internal controls is in general low, then the penalties associated with having material weaknesses will also be lower.

The regression results also indicate that there is a sharp decline in value of the *MW* coefficient from 2008 to 2009 for the accelerated filers, but not for the non-accelerated filers. The decline is such that by 2009 there is no statistically (or practically) significant difference in the penalty, in the form of additional audit report lag, for accelerated and non-accelerated firms disclosing material weaknesses in internal control.

The results also indicate that both the accelerated and non-accelerated filers, firms that remediate face longer audit report lag as compared to firms with clean internal control reports in both 2008 and 2009.

## IV. EARLY WARNINGS OF INTERNAL CONTROL PROBLEMS BY NON-ACCELERATED FILERS

The Enron and WorldCom failures, in late 2001 and early 2002, gave rise to concerns to the effectiveness of internal controls over financial reporting, and ultimately resulted in the enactment of the Sarbanes-Oxley Act (SOX 2002) in July 2002. As noted in the earlier chapters, parts A and B of Section 404 of SOX required reporting on internal control by management and attestation of such reports by auditors, respectively.

Another section of SOX dealt with "disclosure controls." Specifically, Section 302 of SOX requires the SEC to enact rules that require the "principal executive officer or officers and the principal financial officer or officers, or persons performing similar functions" to certify in each annual or quarterly report filed or submitted with the SEC that the officer has reviewed the report and that based on the officer's knowledge, the report does not contain any untrue statement of a material fact or omit to state a material fact. More importantly, the signing officers have to acknowledge that they (a) are responsible for establishing and maintaining internal controls; (b) have designed such internal controls to ensure that material information relating to the issuer and its consolidated subsidiaries is made known to such officers by others within those entities, (c) have evaluated the effectiveness of the issuer's internal controls as of a date within 90 days prior to the report; and (d) have presented in the report their conclusions about the effectiveness of their internal controls based on their evaluation as of that date. Section 302 also requires that the SEC rules specify that the

signing officers have disclosed to the issuer's auditors and the audit committee of the board of directors (a) all significant deficiencies in the design or operation of internal controls data and (b) any fraud that involves management or other employees who have a significant role in the issuer's internal controls; and that the signing officers have indicated in the report whether or not there were significant changes in internal controls.

The SEC's (2003b) rules related to the implementation of Section 302 require the Chief Executive Officer and the Chief Financial Officer of the registrant to certify as follows:

> I, [identify the certifying individual], certify that:
> 1. I have reviewed this [specify report] of [identify registrant];
> 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
> 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
> 4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
> (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
> (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
> (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness

> of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
> (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
> 5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
> (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
> (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

There are differences of opinion, among academics and others, about the extent of overlap between Sections 302 and 404. The SEC also notes that there is substantial overlap between Sections 302 and 404 of SOX. Specifically, the SEC notes as follows:

> "While there is substantial overlap between a company's disclosure controls and procedures and its internal control over financial reporting, there are both some elements of disclosure controls and procedures that are not subsumed by internal control over financial reporting and some elements of internal control that are not subsumed by the definition of disclosure controls and procedures.
> ...
>
> "We agree that some components of internal control over financial reporting will be included in disclosure controls and procedures for all companies. In particular, disclosure controls and procedures will include those components of internal control over financial reporting that provide reasonable assurances that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles. However, in designing their disclosure controls and procedures, companies can be expected to make judgments regarding the processes on which they will rely to meet applicable requirements. In doing so, some companies might design their disclosure controls and procedures so that certain components of internal control over financial reporting pertaining to the accurate recording of

> transactions and disposition of assets or to the safeguarding of assets are not included.
>
> "For example, a company might have developed internal control over financial reporting that includes as a component of safeguarding of assets dual signature requirements or limitations on signature authority on checks. That company could nonetheless determine that this component is not part of disclosure controls and procedures. We therefore believe that while there is substantial overlap between internal control over financial reporting and disclosure controls and procedures, many companies will design their disclosure controls and procedures so that they do not include all components of internal control over financial reporting."

Some academics and practitioners, including a former SEC chief accountant, view the rules relating to Section 302 as requiring prior disclosure about internal control problems in Section 302 filings before such problems are disclosed as material weaknesses in internal control in Section 404 filings. Both sections 302 and 404 of SOX introduce new disclosures related to controls. Section 302 requires management attestation about *disclosure controls* in quarterly and annual filings, while section 404 requires management to attest about *internal controls over financial reporting* in annual filings. In addition, section 302 requires management public disclosure of any *changes in internal controls over financial reporting*, while Section 404 requires public disclosure of the *evaluation as of the fiscal year end*. Finally, while there is direct auditor involvement in 404 related disclosures the auditor's involvement in section 302 disclosures is only indirect.

There are numerous instances where SEC registrants have filed clean 302 reports prior to filing adverse 404 reports. Hermanson and Ye (2009) using data for firms with fiscal year ending between November 15, 2004 and November 14, 2005,

find that only 27 percent of the accelerated filers provided prior warnings of any internal control weaknesses during the year under Section 302.

Given such controversy related to prior warnings about internal control problems disclosed in Section 404 filings, it is important to examine the characteristics of firms that do or do not disclose such internal control problems early, as well as the consequences associated with the lack of such early warnings. The third part of my dissertation examines prior warnings by firms that disclosed material weaknesses in internal controls in 2007, 2008 and 2009. Specifically, I examine the characteristics of those firms that make prior disclosures, pursuant to Section 302 of SOX, of material weaknesses that subsequently led to adverse Section 404 disclosures. I examine the propensity of both accelerated and non-accelerated filers to make such prior Section 302 disclosures. In addition, I also examine if such firms were subject to SEC actions in the form of comment letters from regulators requiring registrants to amend previously filed financial statements.

Section 302 versus Section 404

Before Section 404 was enacted, Section 302 was put in place on August 29, 2002. Unlike Section 404, which is an annual requirement, Section 302 is a quarterly requirement for the CEO and CFO of the company about the effectiveness of internal controls over financial reporting. Section 302 addresses disclosure controls and procedures. Section 404 on became applicable for accelerated filers for fiscal years starting on or after November 15, 2004. Section 404(a) of SOX requires management to provide an assessment about the effectiveness of the internal control system over

financial reporting, and became applicable for non-accelerated filers for fiscal years ending on or after December 15, 2007. The SEC (2003) claims that "there is a substantial overlap between internal control over financial reporting (Section 404) and disclosure controls (Section 302) and procedures."

Despite the clear definition by the SEC regarding Section 302 about internal control weaknesses most companies were not clear on its implementation and it was evident in the first year of Section 404 implementation. Ashbaugh-Skaife et al. 2007 state that "neither SEC nor SOX Section 302 specify particular procedures to be applied by management in evaluating internal controls nor do they require independent audits of internal controls". Hence, most accelerated filers deferred reporting internal control weaknesses until required under Section 404. This is more evident from the fact that only 27 percent of the accelerated filers reported internal control weaknesses under Section 302 in the initial year of Section 404 (Hermanson and Ye 2009).

As noted in prior chapters, non-accelerated filers are not required to follow Section 404(b); after multiple extensions by the SEC, in July 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) was enacted that permanently exempts non-accelerated filers from following Section 404(b) of SOX. Hence the involvement of the auditors' in reporting material weaknesses in internal control is minimal.

Prior research

Using a sample of 261 companies that disclosed at least one material weakness in internal control under Section 302, Ge and McVay (2005), find disclosures of

material weaknesses under Section 302 to be positively related to company complexity and negatively related to company size and profitability. Ashbaugh-Skaife et al. (2007) examine internal control deficiency disclosure prior to the implementation of Section 404. They find (using a sample of 326 firms between November 2003 and December 2004) that relative to non-disclosers firms disclosing internal control deficiencies have more complex operations, recent organizational changes, greater accounting risk, more auditor resignations and fewer resources available for internal control.

One prior published study has examined factors associated with prior Section 302 disclosures by firms that subsequently disclosed material internal control weaknesses in their Section 404 reports. Hermanson and Ye (2009) examine firms with fiscal year ending between November 15, 2004 and November 14, 2005; by construction, their sample is limited to accelerated filers. Their sample includes 451 accelerated filers that reported material weaknesses in internal controls. These authors find that early warnings in Section 302 quarterly filings are positively associated with certain firm characteristics such as the number of material weaknesses, severity of material weakness, prior earnings restatements, auditor independence, CFO change, and number of audit committee meetings. In addition, Hermanson and Ye (2009) find that prior disclosures are less likely when there is future equity financing and CEO/ board chair duality.

## HYPOTHESES DEVELOPMENT

Empirical evidence in Hermanson and Ye (2009) indicates that many registrants that disclosed internal control weaknesses pursuant to Section 404 had still issued clean Section 302 reports in the immediately preceding quarterly statements. The sample in Hermanson and Ye (2009) includes only accelerated filers.

After the enactment of Dodd-Frank Wall Street Reform and Consumer Protection Act (2010), non-accelerated filers are exempted from following Section 404(b) of SOX. Hence, the involvement of the external auditors in the internal control evaluation process is lower for the non-accelerated filers. This in turn implies that non-accelerated filers may be even less likely to have early warning disclosures of material internal control weaknesses that are later disclosed pursuant to Section 404(a) reporting. Conversely, it is management that is responsible for both Section 302 and Section 404 reporting in the case of non-accelerated filers; that is, since it is the same evaluators for both Section 302 and 404 reporting it is more likely that there would be early warning disclosures in the case of non-accelerated filers. This argument relies on the assumption that in the case of accelerated filers, management may be reluctant to classify a weakness as material (and hence requiring disclosure) but that at the end of the fiscal year when the auditor makes his assessment the same problem may be deemed material and hence require a Section 404 disclosure.

In addition, the evidence in Hermanson and Ye (2009) relates to the early years of implementation of Section 404. As registrants' and auditors' experience with Section 404 increases, it is more likely that registrants would be able to identify

material weaknesses in internal control earlier, and accordingly be able to provide early warnings of internal control problems in the form of Section 302 disclosures.

Thus, arguments can be made on either side of the issue in this instance. Ultimately, the issue is empirical and I provide some relevant empirical evidence on this important issue. Hence, I frame the hypothesis in the null form:

$H_5$: *Early warning of material internal control weaknesses, in the form of prior Section 302 disclosures, are equally likely for non-accelerated filers and accelerated filers.*

In addition, I also examine the factors associated with the early warning disclosures. As in Hermanson and Ye (2009), I expect that executive, and audit committee characteristics would be associated with the early warning disclosures. Specifically, I expect that that recently appointed top executives have greater incentives to make disclosures about internal control, since they would be less likely to be personally blamed for having tolerated such weaknesses; in addition, it is easier to shift the blame on predecessors. As in Hermanson and Ye (2009), I expect that audit committee characteristics will be associated with the likelihood of early warning disclosures. A long line of research in auditing shows that audit committees that (a) have a greater number of accounting and auditing experts, and/or (b) are more diligent, are associated with a variety of positive outcomes related to the financial reporting process (Abbott et al. 2004; Carcello and Neal 2003; Krishnan and Visvanathan 2008). Consistent with such research, I expect that prior Section 302 warnings, for companies

that subsequently disclose problems pursuant to Section 404 reports, would be more likely when the audit committee of a company has more (a) accounting and auditing experts, and (b) frequent audit committee meetings. Thus, my sixth hypothesis is:

$H_6$: *Early warning of material internal control weaknesses, in the form of prior Section 302 disclosures, are more likely for companies that*

*(a) have a new CEO or CFO, and*

*(b) have audit committees that have (i) accounting and auditing experts and (ii) more frequent meetings.*

METHOD

I use the following logistic regression:

$$PRIOR_302 = b_0 + b_1*AUFEE + b_2*LNTA + b_3*INITIAL + b_4*BIG4 + b_5*RESTAT + b_6*LITIG + b_7*GC + b_8*DNASR + b_9*EQUIFIN + b_{10}*CEO_CHR + b_{11}*SQ_CFO_TEN + b_{12}*CEO_CHG + b_{13}*NUM_AC_MEM + b_{14}*PROP_EXPT + b_{15}*AC_MEET + b_{16}*LOG_NUM_WK + b_{17}*SMW + error$$

The variables are defined as follows:

*PRIOR_302* = 1 if one or more internal control weaknesses disclosed during the fiscal year prior to Section 404 reporting by external auditor(s), else 0;

*AUFEE* = audit fees scaled by total assets at the end of the fiscal year;

*LNTA* = natural log of client's total assets;

| | |
|---|---|
| *INITIAL* | = 1 if the audit engagement is in their first year, else 0; |
| *BIG4* | = 1 if Big 4 auditor, else 0; |
| *RESTAT* | = 1 if a firm restated their financial statements, else 0; |
| *LITIG* | = 1 if the company is in a litigious industry: SIC codes 2833-2836, 3570-3577, 3600-3674, 5200-5961, 7370-7374, and 8731-8734, else 0; |
| *GC* | = 1 if audit opinion modified for going concern, else 0; |
| *DNASR* | = 1 if the nonaudit fee ratio (the sum of tax fees and other fees divided by the sum of audit fees and audit-related fees) is above the sample median, else 0; |
| *EQUIFIN* | = 1 if the company's equity issuance is greater than 10 percent of its total assets in the next fiscal year, else 0; |
| *CEO_CHR* | = 1 if the CEO also serves as chairman of the board, else 0; |
| *SQ_CFO_TEN* | = square root of number of years of a CFO with a firm; |
| *CEO_CHG* | = for firms with Prior 302 disclosure = 0, 1 if the tenure of the CEO at the fiscal year-end is no greater than one year, else 0. For firms with Prior 302 disclosure=1, 1 if the tenure of the CEO on the earliest Section 302 disclosure date in the fiscal year is no greater than one year by that time, else 0; |
| *NUM_AC_MEM* | = number of audit committee members; |
| *PROP_EXPT* | = proportion of audit committee members with accounting expertise; |
| *AC_MEET* | = number of audit committee meetings held in the fiscal year; |

*LOG_NUM_WK* = log of number of material weaknesses;

*SMW* = 1 if a firm reported system internal control weaknesses in internal control, else 0.

.

The model above is similar to that in Hermanson and Ye (2009). Auditor related variables are *AUFEE, DNASR, INITIAL* and *BIG4*. Company characteristics are measured by *LNTA*, *RESTAT*, *LITIG, GC*, and *EQUIFIN*; executive and audit committee characteristics by *CEO_CHR*, *SQ_CFO_TEN, CEO_CHG, NUM_AC_MEM, PROP_EXPT* and *AC_MEET*. Internal control problems are measured using *LOG_NUM_WK* and *SMW*.

SAMPLE

I obtain information regarding audit fees and audit related variables from the Audit Analytics database.[9] In Panels A of Table 25, I present my data selection process for fiscal years 2007, 2008 and 2009.

For fiscal year 2007 I start with 9,704 firms with a management report on internal controls.[10] I then delete firms as follows: foreign firms (n = 1,525); firms in financial industry (SIC 60-67) (n = 2099); duplicate observations (n = 95). This process yields 5,895 observations with management reports. I then obtain observations

[9] I use the year of Section 404 filing opinion available in the Audit Analytics database.

[10] I classify a firm as an accelerated filer if it had both management and auditors report, as it signifies that that firm followed both Section 404(a) and 404(b) of SOX. I classify any firm that had only managements report as non-accelerated filers, as it signifies that that firm only followed Section 404(a) of SOX.

that have both management and auditor's report on internal controls. For fiscal year 2007 there are 4,615 observations with both management and auditors report. I follow the same process for deleting firms as before; I delete 681 foreign firms, 981 observations that belong to the financial industry, and 23 duplicate observations.

This process leaves me with 2,930 observations that have both management and auditor's reports and 3,055 (5985 – 2930) observations with only management reports. I then delete 1,595 observations that have a fiscal year end other than between December 15th and February 28th of the following year. I restrict the sample to fiscal years staring December 15th because the non-accelerated filers were not required to provide management's report on internal control over financial reporting until December 15th 2007. The February 29th ending is used because given the learning curve associated with Section 404 I did not want to treat a firm with a December 15, 2007 fiscal year on par with a firm that has, for example, an October 31, 2008 fiscal year end. Finally I delete 187 observations with missing audit fee data.

My final sample size for fiscal year 2007 is 4,233 observations with 2,028 non-accelerated and 2,205 accelerated filers. I follow the same process for fiscal years 2008 and 2009.

In Panel B of Table 25, I divide the observations by types of internal control weaknesses and filer status. If a firm reported both systemic and account specific internal control problems, then I code that company as having a systemic problem. A firm coded as having only account-specific problems by definition has no systemic problem. Following Munsif et al. (2011), I classify an internal control weakness as systemic if, per Audit Analytics, the problem was in any one or more of the following

categories: senior management competency, tone, reliability issues; accounting personnel resources, competency/training; segregations of duties/ design of controls (personnel); information technology, software, security & access issue; ethical or compliance issues with personnel; ineffective, non-existent or understaffed audit committee; insufficient or non-existent internal audit function; ineffective regulatory compliance issues.

For fiscal year 2007, out of 2,028 (2,205) non-accelerated (accelerated filers) there are 1,440 (2,039) firms without any internal control weakness disclosure, there are 513 (107) firms with systemic weaknesses and 75 (59) firms with account-specific weaknesses. Similarly, for fiscal 2008 out of 1,980 (2,161) non-accelerated (accelerated) filers there are 1,419 (2,060) firms with no material weakness disclosure, 495 (64) firms with systemic weaknesses and 66 (37) firms with account-specific weaknesses. Finally, for fiscal year 2009, out of 1,499 (2,057) there are 1,120 (2,001) firms with no material weaknesses, 323 (28) firms with systemic weaknesses and 56 (28) firms with account-specific weaknesses.

One striking feature from Panel B is the relatively higher proportion of systemic weaknesses for non-accelerated filers compared to accelerated filers, for each of the three years. One inference from this evidence is that in the case of non-accelerated filers a material weakness has to be much more severe, before management deems it serious enough to merit a Section 404 disclosure. In the case of accelerated filers, the involvement of the auditor may result in a lower threshold for an internal control problem to be deemed "material" and hence requiring Section 404 disclosure.

Panel C of Table 1 shows that for non-accelerated filers there were 791 firms that had clean opinion in both fiscal 2007 and 2008, 79 firms that had systemic material weaknesses in 2007 but had clean opinion in 2008, while 12 firms went from having systemic weakness in 2007 to having account-specific in 2008.

## RESULTS

In Panels A, B, C and D of Table 26, I present the breakdown of the sample for both the accelerated and non-accelerated filers by showing the number of weaknesses disclosed under Section 404 of SOX and firms that had prior Section 302 disclosure. There were some observations lost from Panel B of Table 25; this is because some firms did not have any prior 302 filings. In addition, observations for the multivariate analysis were lost due to lack of financial information in Compustat; for example, out of 588 non-accelerated filers' observations for fiscal 2007 only 258 observations had financial data available.

Hermanson and Ye (2009) note that in the first year of Section 404 for the accelerated filers in 2004, there were only 27 percent of the companies provided early warnings under Section 302. Panel A of Table 26 shows that for the non-accelerated filers in fiscal 2007, the first year of Section 404 for the non-accelerated filers, only 15 percent of the companies (79 out of 544) provided early warnings under Section 302. In the sample of accelerated filers, 44 percent of the firms that disclosed early warnings under Section 302 for fiscal year 2007.

For fiscal years 2008 and 2009 (presented in Panels B and C of Table 26), the proportion of non-accelerated filers that provided early warnings under Section 302 increases to 51 percent (274 of 539) and 65 percent, respectively. On the other hand the proportion of accelerated filers disclosing early warnings is lower in 2008 and 2009 than in 2007; the proportion is 42 percent in 2008 and 38 percent in 2009, although the numbers of firms with material weaknesses is lower over the latter two years.

In Panels A, B, C and D of Table 27, I provide descriptive evidence about the consequences associated with not providing early warnings in the form of Section 302 disclosures. For this table, I take only those firms that reported a material weakness under Section 404 reporting but did not provide early warnings under Section 302. For this group of firms, I examine if they received an SEC Comment Letter relating to such non-disclosure. The source of my data is the Comment Letters section of the Audit Analytics database.

For fiscal 2007 (Panel A of Table 27), non Accelerated filers had 473 (71) systemic (account specific) material weaknesses; of these, with 65 (14) firms had with prior 302 disclosures. Of the remaining 408 (57) firms with no prior 302 disclosure, 65 (15) received a SEC Comment Letter. Similarly, of the 103 (58) accelerated filer firms that had systemic (account specific) material weaknesses, 45 (25) had prior 302 warnings (Table 26). Out of the remaining 58 (33) firms, 9 (5) firms received SEC comment letters.

Overall (presented in Panel D of Table 27), from fiscal 2007 to 2009 there are 18 percent of non-accelerated and 22 percent accelerated filers had SEC action

(comment letters) against them. I further divide the sample into type of weaknesses for both accelerated and non-accelerated filers. The results show that overall 18 percent of firms with systemic weaknesses and 22 percent of firms with account-specific weaknesses received SEC action (comment letters) for both accelerated and non-accelerated filers.

Descriptive Statistics for Regression Sample

For the regression analyses, I use data for fiscal year 2007 because, as in Hermanson and Ye (2009), I want to measure the impact in the first year of Section 404 for the non-accelerated filers. Table 28 provides descriptive evidence about the industry composition of my sample, for both the accelerated filers and non-accelerated filers. The biggest proportion of my sample, for both accelerated and non-accelerated filers, is from the manufacturing sector– 40 percent and 45 percent for accelerated and non-accelerated filers, respectively.

In Table 29, I provide descriptive statistics for both accelerated and non-accelerated filers; I only use those firms that had internal control weakness disclosures under Section 404. I lose some additional observations from my analysis at this stage due to missing financial information for some firms in Compustat; hence, out of 588 non-accelerated filers' observations for fiscal 2007 noted earlier, I have only 258 observations for the regression analyses.

In Panel A of Table 29, I divide the observations, for both accelerated and non-accelerated filers, into firms with early warnings under Section 302 and firms without such warnings. In the non-accelerated filers sub-sample, significant difference

between the two groups (those with and without prior 302 Disclosures) are as follows: firms with prior disclosure have (a) lower audit fee ratio (b) larger in size, (c) more likely to have a Big 4 auditor, (d) fewer going concern (*GC*) opinions and, (e) less likely to issue equity. In terms of management and audit committee characteristics, non-accelerated filers with prior 302 have (a) shorter CFO tenure, (b) more audit committee members, (c) higher proportion of audit committee members with accounting expertise, and (d) more audit committee meetings. Further, non-accelerated filers with prior 302 disclosures have (a) have more number of material internal control weaknesses. In the accelerated filers sub-sample, significant differences between firms with and without prior 302 disclosures exist in terms of the following variables: *INITIAL, SQ_CFO_TEN, AC_MEET, LNTA* and *LOG_NUM_WK*.

In Panel B of Table 29, I further divide the observations with prior 302 and no prior 302 disclosures, for both accelerated and non-accelerated filers, by the type of internal control weaknesses (i.e., systemic or account-specific). It is noteworthy that the variables with significant differences between firms with and without prior 302 disclosures vary based on the type of internal control weakness. However, given that there are only 7 observations that are in the non-accelerated sub-sample and disclose account specific weaknesses with a prior Section 302 warning, caution is warranted in drawing any inferences.

Regression Results

Table 30 presents the results for my analysis about firms with and without a prior Section 302 disclosure. The regression model is derived from Hermanson and Ye (2009) paper. My dependent variable is *PRIOR_302*, coded as 1 if a firm had prior Section 302 disclosure during the year, else 0.

The regression for non-accelerated filers is significant with Likelihood Ratio Chi-Square of 62.40 and Wald Chi-Square of 38.05, both significant at $p < .01$; the Max-rescaled R-Square for the model is 0.33. The results show that larger companies are more likely to disclose under Section 302, consistent with my univariate analysis. In terms of management characteristics, CFO tenure is negatively and significantly related to prior 302 disclosures, indicating that a new CFO would be more likely to have a prior warning under Section 302. In terms of corporate governance (audit committee) characteristics, the significant variables are *NUM_AC_MEM* and *PROP_EXPT*. This indicates that in the non-accelerated filers sub-sample, firms with greater number of audit committee members and more members with accounting expertise tend to provide prior warnings under Section 302.

The regression for the accelerated filers is significant with Likelihood Ration Chi-Square of 39.50 ($p < .01$) and Wald Chi-Square of 25.95 ($p < .05$); the Max-rescaled R-Square is 0.29. Similar to non-accelerated filers, the results for accelerated filers indicate that larger firms tend to provide prior warnings as compared to smaller firms. Other variables that are significant are *AUFEE* and *INITIAL*; the coefficients of both these variables are positive and significant, indicating that firms that disclose prior 302 disclosures pay higher audit fees as compared to firms that do not disclose.

In addition, for the accelerated filers, clients with new auditors tend to provide prior warnings. The only other variable that is significant is *AC_MEET* with a coefficient of 0.16 and p-value of < .01. This means that a firm with more active audit committee, in terms of audit committee meetings, is more likely to disclose material internal control weaknesses with pursuant to Section 302 than firms with less diligent active audit committees.

It is interesting to note that auditor related variables are significant in the accelerated filers regression, but not in the non-accelerated filers regression. This is consistent with the suggestion that because accelerated filers are required to comply with both Sections 404(a) and 404(b) (while the non-accelerated filers are not required to follow Section 404(b)) of SOX, the risk and responsibility for the auditor in the case of non-accelerated filers is significantly lower than that in the case of accelerated filers.

## SUMMARY

In third part of my dissertation I examine early warnings in the form of prior Section 302 disclosures by firms that subsequently disclosed material weaknesses in internal control in their Section 404 filings. I find that in fiscal 2007, only 15 percent of non-accelerated filers provided early warnings in the form of Section 302 disclosures. This is significantly lower than the proportion of accelerated filers with prior Section 302 warnings. However, I also find that the proportions change dramatically in the case of non-accelerated filers; by 2008 and 2009, non-accelerated filers are much more likely to provide early warning disclosures in the form of Section

302 filings, of material internal control weaknesses that subsequently lead to adverse SOX 404 opinions. The results from my logistic regression analyses show that there are two distinct set of variables (characteristics), except for *LNTA*, that are associated with whether or not non-accelerated filers and accelerated filers provide early warning in the form of Section 302 disclosures.

## V. CONCLUSION

Internal control reporting has been in the spotlight for the last decade. The fall of corporate giants like Enron and WorldCom and the subsequent failure of Arthur Andersen resulted in the enactment of the Sarbanes-Oxley Act (SOX 2002) in July 2002. Section 404 of SOX deals with internal control reporting and has two important paragraphs. The first paragraph, Section 404(a), requires management to provide an assessment about the effectiveness of the internal control system over financial reporting, and second paragraph, Section 404(b), requires auditor attestation of internal controls.

Non-accelerated filers have been the subject of significant attention from legislators and regulators ever since the enactment of SOX. While the SEC granted numerous exemptions for non-accelerated filers from having to comply with the requirements of Section 404, legislators held many hearings about reducing the regulatory burden on such firms. Finally, Section 989G of the *Dodd-Frank Wall Street Reform and Consumer Protection Act* provides permanent exemption from the requirements of Section 404(b) for non-accelerated filers. In addition, this Act also requires the SEC to conduct a study to determine how the burden of complying with Section 404(b) can be reduced for registrants with market capitalization up to $250 million.

Given the above focus on internal control reporting and non-accelerated filers by legislators and regulators in recent years, in my dissertation I examine the internal control reporting by non-accelerated filers. Almost all prior research related to Section 404 has used data from accelerated filers, and there is little prior research related to

non-accelerated filers. Thus, my dissertation attempts to fill the gap in the literature on an issue of current interest to the regulators and auditing profession.

In the first part of my dissertation, I find that the audit fee premium for non-accelerated filers disclosing a material weakness in internal controls (a) is significantly lower than the corresponding premium paid by accelerated filers, and (b) declines significantly over time. I also examine subsequent remediation of internal control problems and find that in the case of accelerated filers remediating clients pay lower fees compared to clients continuing to report internal control problems; however, such differences are not observed in the case of non-accelerated filers.

The second essay of my dissertation investigates the association between presence of material weaknesses in internal controls and audit report lag. The results indicate that presence of material weaknesses lead to longer audit report lag as compared to firms that do not have such weaknesses, for both the accelerated and non-accelerated filers. In addition, the effect of having a material weakness on the audit report lag is significantly lower for non-accelerated filers than for accelerated filers in 2008; however, the differences are not significant for fiscal year 2009. The results also indicate a steep fall in audit report lag in the year of remediation for accelerated filers as compared to non-accelerated filers.

The third essay of my dissertation examines early warnings, under Section 302 disclosures, by firms that subsequently disclose material weaknesses in internal control. I find that only a small proportion of non-accelerated filers had such prior warnings in 2007; however, in 2008 and 2009 a majority of the non-accelerated filers with material internal control problems had prior warnings in the form of Section 302

disclosures. The proportion of such firms with early warnings disclosures is significantly higher than the proportion of accelerated filers with such early warnings. Results from my logistic regression analyses indicate that the set of variables that are associated with early warning disclosures differ for accelerated and non-accelerated firms.

As with empirical studies in general, each of the three studies in my dissertation is subject to some limitations. First, I only examine the period from 2007 to 2009. These three years, particularly 2008 and 2009, have been quite turbulent; there was a significant economic downturn throughout the world during 2008. It is likely that the economic downturn would have impacted the decisions of management and auditors. This in turn raises questions about the generalizability of the findings. Second, in the context of non-accelerated filers, we are dependent on the internal control assessments of management. But, given regulatory and legislative actions, that is beyond our control. We have to accept that there could be greater cross sectional variations in the decisions of managements about internal control and that such variation is not moderated by the judgments of auditors.

Notwithstanding the above limitations, the results have significant implications for regulators, legislators, public companies, and auditors. Taken together, the results suggest that there are significant differences in many aspects related to internal control reporting between the accelerated and non-accelerated filers. While ex-ante one may have expected that such differences could exist, empirically showing that such differences exist—as well as providing evidence about the magnitude of such differences—is important for both practitioners and academics. This is particularly

true with respect to internal control reporting because, as is evident from the provisions of the Dodd-Frank Act of 2010, legal and regulatory requirements related to internal control reporting are far from settled. The results also show that there are some areas of similarities between accelerated and non-accelerated filers. Overall, the results provide empirical grounding for any future legislative or regulatory actions related to internal control reporting, by both accelerated and non-accelerated filers.

**Table 1**
**Sample Selection for Audit Fee Analyses**

**Panel A – Sample by Year**

| | **2008** | **2009** |
|---|---|---|
| **Total Observations from Audit Analytics (AA)** | **9828** | **9180** |
| Less Foreign Firms | (1659) | (1575) |
| Less Financial Firms (SIC 60-67) | (2121) | (1993) |
| Less Duplicates | (133) | (66) |
| Less Fiscal year other than between 12/15 and 2/29 | (1613) | (1468) |
| | | |
| **Total Observations from Compustat** | **3234** | **3032** |
| Less Firm without financial information | (30) | (15) |
| Less Financial without audit fee data | (98) | (84) |
| | | |
| **Total Sample from Compustat and AA** | **3106** | **2933** |
| Less observations not common in both years | (267) | (94) |
| **Final Sample for analysis** | **2839** | **2839** |

**Panel B – Sample by Filer Status**

| | **2008** | **2009** |
|---|---|---|
| Accelerated filers | 2003 | 1973 |
| Non-accelerated filers | 836 | 866 |
| **Total Sample of analysis** | **2839** | **2839** |

*The Filer status is based as follows: I define firms to be accelerated if they filed both management and auditors report for internal control and define non-accelerated filers if a firm only had managements report. Some firms might have changed their status, either from accelerated to non-accelerated or vice-versa. The status in our analysis is based on a firm's status (as defined above) in the year of analysis. Hence, if a firm had both management and auditors in fiscal 2008 I classify it as accelerated filer status, but if that same firm has only management report in fiscal 2009 I classify that firm as non-accelerated filer status.

**Panel C – Firms with Internal Control Weakness Disclosures**

| | **2008** | **2009** |
|---|---|---|
| Systemic Internal Control Weakness | | |
| Accelerated filers | 53 | 32 |
| Non-accelerated filers | 131 | 139 |
| Total Systemic Internal Control Weaknesses | 184 | 171 |
| | | |
| Account Specific Internal Control Weaknesses | | |
| Accelerated filers | 35 | 26 |
| Non-accelerated filers | 24 | 30 |
| Total Account-Specific Internal Control Weaknesses | 59 | 56 |
| **Total Observations with Internal Control Problems** | **243** | **227** |

**Table 2**
**Descriptive statistics: Mean (median) values of variable**
**Audit Fees and Audit Report Lag**

| Variable | Fiscal Year 2008 (n= 2839) | | | | Fiscal Year 2009 (n=2839) | | | |
|---|---|---|---|---|---|---|---|---|
| | Accelerated (n= 2003) | | Non Accelerated (n = 836) | | Accelerated (n= 1973) | | Non Accelerated (n = 866) | |
| | ICW (n= 88) | Non-ICW (n=1915) | ICW (n= 155) | Non-ICW (n=681) | ICW (n= 58) | Non-ICW (n=1915) | ICW (n= 169) | Non-ICW (n=697) |
| *LAFEE* | 13.80** (13.81) | 14.06 (14.01) | 11.49*** (11.50) | 12.13 (12.12) | 13.48*** (13.43) | 14.01 (13.95) | 11.45*** (11.35) | 12.13 (12.12) |
| *LNTA* | 19.59*** (19.78) | 20.60 (20.50) | 15.33*** (15.65) | 17.38 (17.24) | 19.99*** (19.42) | 20.68 (20.56) | 15.46*** (15.51) | 17.26 (17.23) |
| *RECINV* | 0.24 (0.21) | 0.21 (0.18) | 0.25 (0.14) | 0.24 (0.17) | 0.19 (0.12) | 0.20 (0.17) | 0.22 (0.13) | 0.25 (0.19) |
| *SQSEG* | 1.32 (1.00) | 1.37 (1.00) | 1.15 (1.00) | 1.18 (1.00) | 1.32 (1.00) | 1.39 (1.00) | 1.10*** (1.00) | 1.17 (1.00) |
| *FORGN* | 0.50 (0.50) | 0.51 (1.00) | 0.10*** (0.00) | 0.17 (0.00) | 0.45 (0.00) | 0.52 (1.00) | 0.09*** (0.00) | 0.21 (0.00) |
| *LIQ* | 2.57 (1.89) | 2.43 (1.82) | 1.30*** (0.64) | 2.45 (1.60) | 2.79 (2.50) | 2.53 (1.94) | 1.37*** (0.64) | 2.63 (1.69) |
| *ROA* | -0.20** (-0.05) | -0.08 (-0.03) | -2.47*** (-0.57) | -0.76 (-0.11) | -0.20*** (-0.02) | -0.04 (-0.02) | -1.98*** (-0.43) | -0.68 (-0.08) |
| *DA* | 0.56 (0.57) | 0.57 (0.55) | 2.70*** (0.80) | 1.07 (0.56) | 0.57 (0.55) | 0.55 (0.52) | 2.78*** (0.92) | 1.05 (0.54) |
| *BIG4* | 0.66*** (1.00) | 0.84 (1.00) | 0.07*** (0.00) | 0.34 (0.00) | 0.69*** (1.00) | 0.83 (1.00) | 0.05*** (0.00) | 0.30 (0.00) |
| *GC* | 0.10** (0.00) | 0.03 (0.00) | 0.61*** (1.00) | 0.25 (0.00) | 0.14** (0.00) | 0.02 (0.00) | 0.63*** (1.00) | 0.23 (0.00) |
| *INITIAL* | 0.16*** | 0.04 | 0.26*** | 0.15 | 0.16** | 0.04 | 0.29*** | 0.15 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| *REP_LAG* | 86.86***<br>(75.00) | 62.44<br>(59.00) | 99.79***<br>(93.00) | 82.78<br>(85.00) | 76.86***<br>(74.50) | 61.69<br>(59.00) | 98.69***<br>(96.00) | 83.00<br>(85.00) |
| *HITECH* | 0.27<br>(0.00) | 0.28<br>(0.00) | 0.38<br>(0.00) | 0.38<br>(0.00) | 0.35<br>(0.00) | 0.28<br>(0.00) | 0.34*<br>(0.00) | 0.40<br>(0.00) |
| *LOSS* | 0.68***<br>(1.00) | 0.39<br>(0.00) | 0.77***<br>(1.00) | 0.64<br>( 1.00) | 0.64***<br>(1.00) | 0.36<br>(0.00) | 0.75***<br>(1.00) | 0.65<br>(1.00) |
| *RESTAT* | 0.13**<br>(0.00) | 0.05<br>(0.00) | 0.15***<br>(0.00) | 0.05<br>(0.00) | 0.29***<br>(0.00) | 0.04<br>(0.00) | 0.13***<br>(0.00) | 0.05<br>(0.00) |
| *AFEE* | 0.01***<br>(0.00) | 0.00<br>(0.00) | 0.21***<br>(0.02) | 0.03<br>(0.01) | 0.01***<br>(0.00) | 0.00<br>(0.00) | 0.18**<br>(0.02) | 0.03<br>(0.01) |
| *AUOP* | 0.42***<br>(1.00) | 0.56<br>(1.00) | 0.07***<br>(0.00) | 0.21<br>(0.00) | 0.38<br>(0.00) | 0.41<br>(0.00) | 0.10**<br>(0.00) | 0.15<br>(0.00) |
| *XDOPS* | 0.19<br>(0.00) | 0.20<br>(0.00) | 0.10<br>(0.00) | 0.11<br>(0.00) | 0.14<br>(0.00) | 0.18<br>(0.00) | 0.14<br>(0.00) | 0.11<br>(0.00) |

*, **, *** Significantly different at 0.10, 0.05, and 0.01 level from non-ICW firms, respectively

Note: The sample includes 2,839 firms (derived as described in Table 1). The variables are defined as follows:

*LAFEE* = natural log of audit fees;
*LNTA* = natural log of client's total assets;
*RECINV* = proportion of total assets in accounts receivable and inventory;
*SQSEG* = square root of the number of segments;
*FORGN* = 1 if the firm has foreign operations, else 0;
*LIQ* = ratio of current assets divided by current liabilities;
*ROA* = return on assets (operating income divided by total assets);
*DA* = total debt divided by total assets;
*BIG4* = 1 if Big 4 auditor, else 0;
*GC* = 1 if audit opinion modified for going concern, else 0;
*INITIAL* = 1 if the audit engagement is in their first year, else 0;
*MW* = 1 if material weakness in internal control, else 0;
*REP_LAG* = number of days between fiscal year-end and date of the audit report;

| | |
|---|---|
| *HITECH* | = 1 if the firm belongs to high-tech industries (three-digit SIC codes 283,284, 357, 366, 367, 371, 382, 384, and 737), 0 otherwise; |
| *LOSS* | = 1 if the firm reports a loss before extraordinary items, else 0; |
| *RESTAT* | = 1 if the firm restated its financial reports in the current year, else 0; |
| *AFEE* | = total audit fees divided by total assets; |
| *AUOP* | = 1 if the firm receives modified auditor's opinion other than going concern, else 0; |
| *XDOPS* | = 1 if the firm has extraordinary items on its financial statement, 0 otherwise. |

**Table 3**
**Regression Results: Effects of Material Weakness on Audit Fees**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b11*MW + b_{12-21}*(10\ Industry\ Variables) + error$

| Variable | Fiscal Year 2008 (n= 2839) | | Fiscal Year 2009 (n= 2839) | |
|---|---|---|---|---|
| | **Accelerated (n=2003)** | **Non-Accelerated (n=836)** | **Accelerated (n=1973)** | **Non-Accelerated (n=866)** |
| *Intercept* | 10.08 (<.01) | 10.11 (<.01) | 10.00 (<.01) | 10.57 (<.01) |
| *LNTA* | 0.45 (<.01) | 0.39 (<.01) | 0.45 (<.01) | 0.36 (<.01) |
| *RECINV* | 0.57 (<.01) | 0.22 (.03) | 0.74 (<.01) | 0.29 (<.01) |
| *SQSEG* | 0.14 (<.01) | 0.17 (.01) | 0.15 (<.01) | 0.06 (.19) |
| *FORGN* | 0.37 (<.01) | 0.31 (<.01) | 0.32 (<.01) | 0.31 (<.01) |
| *LIQ* | -0.01 (.41) | -0.01 (.34) | -0.01 (.36) | -0.03 (<.01) |
| *ROA* | -0.11 (<.01) | -0.05 (<.01) | -0.03 (.21) | -0.07 (<.01) |
| *DA* | 0.21 (<.01) | 0.06 (<.01) | 0.18 (<.01) | 0.03 (.02) |
| *BIG4* | 0.29 (<.01) | 0.49 (<.01) | 0.25 (<.01) | 0.49 (<.01) |
| *GC* | 0.17 (.02) | 0.06 (.21) | 0.21 (<.01) | 0.01 (.49) |
| *INITIAL* | -0.46 (<.01) | -0.47 (<.01) | -0.71 (<.01) | -0.52 (<.01) |
| *MW* | 0.25 (<.01) | 0.13 (.03) | 0.26 (<.01) | 0.06 (.10) |
| | F = 287.01<br>p < .001<br>Adj. $R^2$ = 0.74 | F = 96.76<br>p < .001<br>Adj. $R^2$ = 0.70 | F = 280.88<br>p < .001<br>Adj. $R^2$ = 0.74 | F = 101.70<br>p < .001<br>Adj. $R^2$ = 0.70 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 4**
**Regression Results: Effects of Material Weakness on Audit Fees**
**(SMW & AMW)**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b_{11}*SMW + b_{12}*AMW + b_{13\text{-}22}*(10\ Industry\ Variables) + error$

| ariable | Fiscal Year 2008 (n= 2839) | | Fiscal Year 2009 (n= 2839) | |
|---|---|---|---|---|
| | **Accelerated (n=2003)** | **Non-Accelerated (n=836)** | **Accelerated (n=1973)** | **Non-Accelerated (n=866)** |
| ***Other variables omitted for brevity*** | | | | |
| *SMW* | 0.34<br>(<.01) | 0.10<br>(.10) | 0.47<br>(<.01) | 0.01<br>(.41) |
| *AMW* | 0.11<br>(.13) | 0.34<br>(.01) | 0.02<br>(.43) | 0.23<br>(.03) |
| | F = 273.84<br>p < .001<br>Adj. $R^2$ = 0.74 | F = 92.47<br>p < .001<br>Adj. $R^2$ = 0.70 | F = 269.04<br>p < .001<br>Adj. $R^2$ = 0.74 | F = 97.20<br>p < .001<br>Adj. $R^2$ = 0.70 |

Note: *SMW* = 1 if a firm reported system internal control weaknesses in internal control, else 0; *AMW* = 1 if a firm reported account specific material weaknesses in internal control, else 0; other variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 5**
**Regression Results: Sub-samples of Firms with Clean Section 404 Opinions**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b_{11}*MW_08 + b_{12\text{-}21}*(10\ Industry\ Variables) + error$

| Variable | Fiscal Year 2009 | | |
|---|---|---|---|
| | **Accelerated (n=1915)** | **Non-Accelerated (n=697)** | **Overall Sample (n=2612)** |
| *Intercept* | 10.00 (<.01) | 10.62 (<.01) | 10.07 (<.01) |
| *LNTA* | 0.45 (<.01) | 0.37 (<.01) | 0.45 (<.01) |
| *RECINV* | 0.71 (<.01) | 0.30 (.01) | 0.47 (<.01) |
| *SQSEG* | 0.15 (<.01) | 0.01 (.46) | 0.15 (<.01) |
| *FORGN* | 0.32 (<.01) | 0.29 (<.01) | 0.33 (<.01) |
| *LIQ* | -0.01 (.39) | -0.02 (.01) | -0.01 (.02) |
| *ROA* | -0.02 (.25) | -0.06 (<.01) | -0.07 (<.01) |
| *DA* | 0.18 (<.01) | 0.04 (.04) | 0.06 (<.01) |
| *BIG4* | 0.24 (<.01) | 0.44 (<.01) | 0.35 (<.01) |
| *GC* | 0.23 (<.01) | 0.01 (.44) | 0.13 (<.01) |
| *INITIAL* | -0.75 (<.01) | -0.57 (<.01) | -0.65 (<.01) |
| *MW_08* | 0.16 (.03) | 0.14 (.05) | 0.14 (<.01) |
| | F = 279.22<br>p < .001<br>Adj. $R^2$ = 0.74 | F = 82.39<br>p < .001<br>Adj. $R^2$ = 0.70 | F = 604.24<br>p < .001<br>Adj. $R^2$ = 0.82 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 6**
**Regression Results: Effects of Remediation on Audit Fees**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b_{11}*REMEDIATE + b_{12\text{-}21}*(10\ Industry\ Variables) + error$

| Variable | Fee Model for Fiscal Year 2009 for Firms with *MW* = 1 in 2008 | | |
|---|---|---|---|
| | **Accelerated (n=83)** | **Non-Accelerated (n= 160)** | **Overall Sample (n= 243)** |
| *Intercept* | 10.31<br>(<.01) | 10.72<br>(<.01) | 10.54<br>(<.01) |
| *LNTA* | 0.52<br>(<.01) | 0.33<br>(<.01) | 0.39<br>(<.01) |
| *RECINV* | 0.72<br>(.12) | 0.29<br>(.13) | 0.30<br>(.09) |
| *SQSEG* | 0.03<br>(.45) | 0.29<br>(.10) | 0.23<br>(.05) |
| *FORGN* | 0.40<br>(.05) | 0.46<br>(.02) | 0.50<br>(<.01) |
| *LIQ* | -0.03<br>(.28) | -0.08<br>(.02) | -0.06<br>(.02) |
| *ROA* | -0.32<br>(.20) | -0.08<br>(.01) | -0.11<br>(<.01) |
| *DA* | -0.13<br>(.31) | 0.01<br>(.22) | 0.01<br>(.32) |
| *BIG4* | 0.21<br>(.20) | 0.64<br>(.01) | 0.61<br>(<.01) |
| *GC* | 0.05<br>(.45) | -0.19<br>(.14) | -0.13<br>(.19) |
| *INITIAL* | -0.71<br>(<.01) | -0.29<br>(.02) | -0.39<br>(<.01) |
| *REMEDIATE* | -0.23<br>(.16) | 0.01<br>(.49) | -0.09<br>(.23) |
| | F = 6.27<br>p < .001<br>Adj. $R^2$ = 0.56 | F = 13.38<br>p < .001<br>Adj. $R^2$ = 0.61 | F = 40.72<br>p < .001<br>Adj. $R^2$ = 0.77 |

Note: *REMEDIATE* = 1 if a previously disclosed material weakness was remediated and there is a clean Section 404 opinion; else 0. Other variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 7**
**Regression Results: Effects of Material Weakness on Audit Fees**
**(Full Sample – Non-Large Accelerated Filers)**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b11*MW + b_{12\text{-}21}*(10\ Industry\ Variables) + error$

| Variable | Fiscal Year 2008 (n= 1801) | | Fiscal Year 2009 (n= 1812) | |
|---|---|---|---|---|
| | Non-Large Accelerated (n=965) | Non-Accelerated (n=836) | Non-Large Accelerated (n=946) | Non-Accelerated (n=866) |
| *Intercept* | 10.70 (<.01) | 10.11 (<.01) | 10.52 (<.01) | 10.57 (<.01) |
| *LNTA* | 0.37 (<.01) | 0.39 (<.01) | 0.37 (<.01) | 0.36 (<.01) |
| *RECINV* | 0.37 (<.01) | 0.22 (.03) | 0.63 (<.01) | 0.29 (<.01) |
| *SQSEG* | 0.10 (.02) | 0.17 (.01) | 0.16 (<.01) | 0.06 (.19) |
| *FORGN* | 0.34 (<.01) | 0.31 (<.01) | 0.30 (<.01) | 0.31 (<.01) |
| *LIQ* | -0.01 (.27) | -0.01 (.34) | -0.01 (.18) | -0.03 (<.01) |
| *ROA* | -0.10 (.03) | -0.05 (<.01) | -0.02 (.24) | -0.07 (<.01) |
| *DA* | 0.15 (.01) | 0.06 (<.01) | 0.15 (<.01) | 0.03 (.02) |
| *BIG4* | 0.37 (<.01) | 0.49 (<.01) | 0.34 (<.01) | 0.49 (<.01) |
| *GC* | 0.14 (.08) | 0.06 (.21) | 0.15 (.10) | 0.01 (.49) |
| *INITIAL* | -0.56 (<.01) | -0.47 (<.01) | -0.65 (<.01) | -0.52 (<.01) |
| *MW* | 0.29 (<.01) | 0.13 (.03) | 0.24 (<.01) | 0.06 (.10) |
| | F = 54.63<br>p < .001<br>Adj. $R^2$ = 0.53 | F = 96.76<br>p < .001<br>Adj. $R^2$ = 0.70 | F = 53.66<br>p < .001<br>Adj. $R^2$ = 0.53 | F = 101.70<br>p < .001<br>Adj. $R^2$ = 0.70 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 8**
**Regression Results: Effects of Material Weakness on Audit Fees**
**(Common Observations – Non-Large Accelerated Filers)**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b11*MW + b_{12\text{-}21}*(10\ Industry\ Variables) + error$

| Variable | Fiscal Year 2008 (n= 1657) | | Fiscal Year 2009 (n= 1657) | |
|---|---|---|---|---|
| | Non-Large Accelerated (n=849) | Non-Accelerated (n=808) | Non-Large Accelerated (n=807) | Non-Accelerated (n=850) |
| *Intercept* | 10.68 (<.01) | 10.14 (<.01) | 10.72 (<.01) | 10.54 (<.01) |
| *LNTA* | 0.36 (<.01) | 0.39 (<.01) | 0.35 (<.01) | 0.37 (<.01) |
| *RECINV* | 0.37 (<.01) | 0.21 (.04) | 0.57 (<.01) | 0.28 (<.01) |
| *SQSEG* | 0.11 (.03) | 0.16 (.02) | 0.13 (<.01) | 0.05 (.23) |
| *FORGN* | 0.35 (<.01) | 0.32 (<.01) | 0.28 (<.01) | 0.33 (<.01) |
| *LIQ* | -0.01 (.46) | -0.01 (.27) | -0.01 (.27) | -0.02 (.01) |
| *ROA* | -0.07 (.15) | -0.05 (<.01) | -0.03 (.19) | -0.07 (<.01) |
| *DA* | 0.25 (<.01) | 0.06 (<.01) | 0.14 (<.01) | 0.03 (.03) |
| *BIG4* | 0.38 (<.01) | 0.48 (<.01) | 0.37 (<.01) | 0.48 (<.01) |
| *GC* | 0.14 (.12) | 0.04 (.27) | 0.07 (.30) | 0.01 (.42) |
| *INITIAL* | -0.53 (<.01) | -0.48 (<.01) | -0.57 (<.01) | -0.52 (<.01) |
| *MW* | 0.31 (<.01) | 0.13 (.03) | 0.27 (<.01) | 0.06 (.18) |
| | F = 46.44<br>p < .001<br>Adj. $R^2$ = 0.52 | F = 87.37<br>p < .001<br>Adj. $R^2$ = 0.68 | F = 36.46<br>p < .001<br>Adj. $R^2$ = 0.50 | F = 102.78<br>p < .001<br>Adj. $R^2$ = 0.70 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 9**
**Regression Results: Sub-samples of Firms with Clean Section 404 Opinions**
**(Common Observations – Non-Large Accelerated Filers)**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b_{11}*MW_08 + b_{12\text{-}21}*(10\ Industry\ Variables) + error$

| Variable | Fiscal Year 2009 | | |
|---|---|---|---|
| | **Non-Large Accelerated (n=765)** | **Non-Accelerated (n=684)** | **Overall Sample (n=1449)** |
| *Intercept* | 10.76<br>(<.01) | 10.60<br>(<.01) | 10.45<br>(<.01) |
| *LNTA* | 0.34<br>(<.01) | 0.38<br>(<.01) | 0.40<br>(<.01) |
| *RECINV* | 0.57<br>(<.01) | 0.29<br>(.01) | 0.36<br>(<.01) |
| *SQSEG* | 0.13<br>(.01) | 0.01<br>(.45) | 0.10<br>(.02) |
| *FORGN* | 0.28<br>(<.01) | 0.31<br>(<.01) | 0.32<br>(<.01) |
| *LIQ* | -0.01<br>(.36) | -0.02<br>(.04) | -0.01<br>(.11) |
| *ROA* | -0.04<br>(.15) | -0.06<br>(<.01) | -0.06<br>(<.01) |
| *DA* | 0.14<br>(<.01) | 0.04<br>(.03) | 0.05<br>(<.01) |
| *BIG4* | 0.38<br>(<.01) | 0.44<br>(<.01) | 0.44<br>(<.01) |
| *GC* | 0.13<br>(.18) | 0.02<br>(.39) | 0.03<br>(.34) |
| *INITIAL* | -0.66<br>(<.01) | -0.56<br>(<.01) | -0.60<br>(<.01) |
| *MW_08* | 0.21<br>(.02) | 0.19<br>(.03) | 0.20<br>(<.01) |
| | F = 35.65<br>p < .001<br>Adj. $R^2$ = 0.48 | F = 82.58<br>p < .001<br>Adj. $R^2$ = 0.70 | F = 193.18<br>p < .001<br>Adj. $R^2$ = 0.73 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 10**
**Regression Results: Effects of Remediation**
**(Non-Large Accelerated Filers)**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b_{11}*REMEDIATE + b_{12\text{-}21}*(10\ Industry\ Variables) + error$

| Variable | Fee Model for Fiscal Year 2009 for Firms with *MW* = 1 in 2008 | | |
|---|---|---|---|
| | **Non-Large Accelerated (n=54)** | **Non-Accelerated (n= 157)** | **Overall Sample (n= 211)** |
| *Intercept* | 9.21<br>(<.01) | 10.72<br>(<.01) | 10.71<br>(<.01) |
| *LNTA* | 0.82<br>(<.01) | 0.33<br>(<.01) | 0.39<br>(<.01) |
| *RECINV* | 1.02<br>(.15) | 0.28<br>(.13) | 0.26<br>(.14) |
| *SQSEG* | -0.23<br>(.22) | 0.24<br>(.14) | 0.12<br>(.22) |
| *FORGN* | 0.39<br>(.13) | 0.51<br>(.01) | 0.49<br>(<.01) |
| *LIQ* | -0.02<br>(.40) | -0.07<br>(.02) | -0.06<br>(.02) |
| *ROA* | -0.58<br>(.18) | -0.08<br>(.01) | -0.11<br>(<.01) |
| *DA* | -0.24<br>(.30) | 0.03<br>(.21) | 0.01<br>(.30) |
| *BIG4* | -0.05<br>(.45) | 0.68<br>(.01) | 0.68<br>(<.01) |
| *GC* | 0.41<br>(.26) | -0.18<br>(.15) | -0.17<br>(.16) |
| *INITIAL* | -0.63<br>(.05) | -0.31<br>(.01) | -0.36<br>(<.01) |
| *REMEDIATE* | -0.19<br>(.28) | 0.01<br>(.45) | -0.04<br>(.37) |
| | F = 3.17<br>p < .001<br>Adj. $R^2$ = 0.45 | F = 12.80<br>p < .001<br>Adj. $R^2$ = 0.60 | F = 27.80<br>p < .001<br>Adj. $R^2$ = 0.72 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 11**
**Regression Results: Effects of Material Weakness in Internal Controls on Audit Fees**
**(Same Filer Status – Non-Large Accelerated Filers)**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b11*MW + b_{12-21}*(10\ Industry\ Variables) + error$

| Variable | Fiscal Year 2008 (n= 1561) | | Fiscal Year 2009 (n= 1561) | |
|---|---|---|---|---|
| | Non-Large Accelerated (n=780) | Non-Accelerated (n=781) | Non-Large Accelerated (n=780) | Non-Accelerated (n=781) |
| *Intercept* | 10.62 (<.01) | 10.14 (<.01) | 10.84 (<.01) | 10.51 (<.01) |
| *LNTA* | 0.36 (<.01) | 0.39 (<.01) | 0.33 (<.01) | 0.37 (<.01) |
| *RECINV* | 0.40 (<.01) | 0.19 (.06) | 0.51 (<.01) | 0.34 (<.01) |
| *SQSEG* | 0.11 (.03) | 0.16 (.02) | 0.11 (<.01) | 0.06 (.21) |
| *FORGN* | 0.33 (<.01) | 0.30 (<.01) | 0.26 (<.01) | 0.28 (<.01) |
| *LIQ* | -0.01 (.40) | -0.01 (.25) | -0.01 (.35) | -0.02 (.02) |
| *ROA* | -0.10 (.08) | -0.05 (<.01) | -0.05 (.12) | -0.07 (<.01) |
| *DA* | 0.22 (<.01) | 0.07 (<.01) | 0.21 (<.01) | 0.03 (.03) |
| *BIG4* | 0.41 (<.01) | 0.48 (<.01) | 0.35 (<.01) | 0.50 (<.01) |
| *GC* | 0.15 (.16) | 0.04 (.30) | 0.03 (.42) | 0.02 (.36) |
| *INITIAL* | -0.46 (<.01) | -0.47 (<.01) | -0.59 (<.01) | -0.53 (<.01) |
| *MW* | 0.42 (<.01) | 0.13 (.03) | 0.25 (<.01) | 0.04 (.27) |
| | F = 39.90<br>p < .001<br>Adj. $R^2$ = 0.49 | F = 85.96<br>p < .001<br>Adj. $R^2$ = 0.69 | F = 34.32<br>p < .001<br>Adj. $R^2$ = 0.46 | F = 97.67<br>p < .001<br>Adj. $R^2$ = 0.71 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 12**
**Regression Results: Sub-samples of Firms with Clean Section 404 Opinions**
**(Same Filer Status – Non-Large Accelerated Filers)**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b_{11}*MW_08 + b_{12\text{-}21}*(10\ Industry\ Variables) + error$

| Variable | Fiscal Year 2009 | | |
|---|---|---|---|
| | **Non-Large Accelerated (n=743)** | **Non-Accelerated (n=622)** | **Overall Sample (n=1365)** |
| *Intercept* | 10.89<br>(<.01) | 10.49<br>(<.01) | 10.43<br>(<.01) |
| *LNTA* | 0.32<br>(<.01) | 0.38<br>(<.01) | 0.40<br>(<.01) |
| *RECINV* | 0.51<br>(<.01) | 0.32<br>(<.01) | 0.34<br>(<.01) |
| *SQSEG* | 0.11<br>(.02) | 0.04<br>(.31) | 0.10<br>(.01) |
| *FORGN* | 0.26<br>(<.01) | 0.28<br>(<.01) | 0.30<br>(<.01) |
| *LIQ* | -0.01<br>(.40) | -0.02<br>(.07) | -0.01<br>(.14) |
| *ROA* | -0.06<br>(.09) | -0.06<br>(<.01) | -0.05<br>(<.01) |
| *DA* | 0.21<br>(<.01) | 0.04<br>(.03) | 0.05<br>(<.01) |
| *BIG4* | 0.35<br>(<.01) | 0.45<br>(<.01) | 0.44<br>(<.01) |
| *GC* | 0.08<br>(.30) | 0.03<br>(.36) | 0.02<br>(.38) |
| *INITIAL* | -0.69<br>(<.01) | -0.57<br>(<.01) | -0.62<br>(<.01) |
| *MW_08* | 0.24<br>(.01) | 0.23<br>(.02) | 0.22<br>(<.01) |
| | F = 34.29<br>p < .001<br>Adj. $R^2$ = 0.48 | F = 79.89<br>p < .001<br>Adj. $R^2$ = 0.71 | F = 194.81<br>p < .001<br>Adj. $R^2$ = 0.74 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 13**
**Regression Results: Effects of Remediation**
**(Same Filer Status – Non-Large Accelerated Filers)**

Model: $LAFEE = b_0 + b_1*LNTA + b_2*RECINV + b_3*SQSEG + b_4*FORGN + b_5*LIQ + b_6*ROA + b_7*DA + b_8*BIG4 + b_9*GC + b_{10}*INITIAL + b_{11}*REMEDIATE + b_{12\text{-}21}*(10\ Industry\ Variables) + error$

| Variable | Fee Model for Fiscal Year 2009 for Firms with *MW* = 1 in 2008 | | |
|---|---|---|---|
| | **Non-Large Accelerated (n=48)** | **Non-Accelerated (n= 147)** | **Overall Sample (n= 195)** |
| *Intercept* | 8.49<br>(<.01) | 10.78<br>(<.01) | 10.75<br>(<.01) |
| *LNTA* | 0.97<br>(<.01) | 0.35<br>(<.01) | 0.39<br>(<.01) |
| *RECINV* | 0.61<br>(.30) | 0.33<br>(.11) | 0.34<br>(.09) |
| *SQSEG* | -0.21<br>(.26) | 0.13<br>(.30) | 0.07<br>(.35) |
| *FORGN* | 0.63<br>(.07) | 0.36<br>(.06) | 0.43<br>(<.01) |
| *LIQ* | -0.02<br>(.43) | -0.07<br>(.03) | -0.07<br>(.02) |
| *ROA* | -0.54<br>(.31) | -0.08<br>(.01) | -0.11<br>(<.01) |
| *DA* | -0.25<br>(.31) | 0.03<br>(.20) | 0.02<br>(.30) |
| *BIG4* | -0.41<br>(.15) | 0.68<br>(.02) | 0.70<br>(<.01) |
| *GC* | 0.94<br>(.14) | -0.16<br>(.19) | -0.17<br>(.17) |
| *INITIAL* | -0.92<br>(.02) | -0.34<br>(.01) | -0.40<br>(<.01) |
| *REMEDIATE* | -0.26<br>(.24) | 0.06<br>(.34) | -0.02<br>(.46) |
| | F = 2.45<br>p < .001<br>Adj. $R^2$ = 0.38 | F = 10.19<br>p < .001<br>Adj. $R^2$ = 0.56 | F = 25.50<br>p < .001<br>Adj. $R^2$ = 0.72 |

Note: Variables are defined as in Table 2. Industry dummy variables have been suppressed in the tables for brevity. P-values are in parentheses

**Table 14**
**Regression Results: Effects of Material Weakness on Audit Report Lag**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}MW + error$

| Variable | Fiscal 2008 (n= 2839) | | Fiscal 2009 (n= 2839) | |
|---|---|---|---|---|
| | Accelerated (n= 2003) | Non-Accelerated (n = 836) | Accelerated (n= 1973) | Non-Accelerated (n = 866) |
| *Intercept* | 76.13 (<.01) | 78.36 (<.01) | 77.94 (<.01) | 85.65 (<.01) |
| *LNTA* | -2.20 (<.01) | -1.63 (<.01) | -2.48 (<.01) | -1.98 (<.01) |
| *SQSEG* | 1.08 (.06) | 5.57 (<.01) | -0.07 (.45) | 0.71 (.33) |
| *HITECH* | -0.75 (.15) | -1.67 (.10) | -1.13 (.04) | -1.56 (.10) |
| *ROA* | -0.15 (.28) | 0.92 (.01) | 1.21 (.05) | 0.99 (<.01) |
| *DA* | 0.31 (.38) | 1.39 (<.01) | 1.11 (.07) | 0.69 (.03) |
| *LOSS* | 3.51 (<.01) | 4.72 (<.01) | 2.45 (<.01) | 3.73 (<.01) |
| *RESTAT* | -0.51 (.36) | -2.57 (.19) | -1.70 (.08) | -1.00 (32) |
| *AFEE* | -34.68 (.32) | -2.98 (.05) | -9.34 (.45) | -1.46 (.15) |
| *AUOP* | -2.65 (<.01) | -5.15 (<.01) | -0.82 (.06) | -0.29 (.43) |
| *GC* | 9.42 (<.01) | 4.96 (<.01) | 3.92 (.01) | 4.16 (<.01) |
| *XDOPS* | -1.55 (.03) | 0.13 (.48) | -0.38 (.29) | 2.51 (.07) |
| *INITIAL* | 1.86 (.11) | 2.96 (.03) | 4.37 (<.01) | 2.82 (.03) |
| *MW* | 20.02 (<.01) | 10.47 (<.01) | 10.49 (<.01) | 9.92 (<.01) |
| | F = 50.36<br>p < .001<br>Adj. $R^2$ = 0.24 | F = 25.10<br>p < .001<br>Adj. $R^2$ = 0.27 | F = 39.37<br>p < .001<br>Adj. $R^2$ = 0.21 | F = 21.23<br>p < .001<br>Adj. $R^2$ = 0.23 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 15**
**Regression Results: Effects of Material Weakness on Audit Report Lag**
**(SMW & AMW)**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}SMW + b_{14}AMW + error$

| Variable | Fiscal 2008 (n= 2839) | | Fiscal 2009 (n= 2839) | |
|---|---|---|---|---|
| | **Accelerated (n= 2003)** | **Non-Accelerated (n = 836)** | **Accelerated (n= 1973)** | **Non Accelerated (n = 866)** |
| ***Other variables omitted for brevity*** | | | | |
| *SMW* | 19.26 (<.01) | 10.64 (<.01) | 15.85 (<.01) | 9.37 (<.01) |
| *AMW* | 21.19 (<.01) | 9.56 (<.01) | 4.08 (.04) | 12.19 (<.01) |
| | F = 46.76<br>p < .001<br>Adj. $R^2$ = 0.24 | F = 23.29<br>p < .001<br>Adj. $R^2$ = 0.27 | F = 37.94<br>p < .001<br>Adj. $R^2$ = 0.21 | F = 19.77<br>p < .001<br>Adj. $R^2$ = 0.23 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 16**
**Regression Results: Sub-samples of Firms with Clean Section 404 Opinions**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}MW_08 + error$

| Variable | Fiscal Year 2009 | | |
|---|---|---|---|
| | **Accelerated (n= 1915)** | **Non Accelerated (n = 697)** | **Overall Sample (n=2612)** |
| *Intercept* | 78.48 (<.01) | 84.51 (<.01) | 86.94 (<.01) |
| *LNTA* | -2.57 (<.01) | -2.30 (<.01) | -3.57 (<.01) |
| *SQSEG* | -0.03 (.47) | 2.78 (.05) | 0.23 (.35) |
| *HITECH* | -0.95 (.07) | -0.36 (.39) | -1.68 (<.01) |
| *ROA* | 0.99 (.09) | 0.68 (.08) | 1.12 (<.01) |
| *DA* | 1.00 (.09) | 0.49 (.14) | 0.74 (.02) |
| *LOSS* | 2.20 (<.01) | 1.47 (.14) | 2.18 (<.01) |
| *RESTAT* | -2.23 (.05) | 0.09 (.49) | -1.66 (.10) |
| *AFEE* | -65.04 (.20) | -3.31 (.10) | -4.52 (.02) |
| *AUOP* | -0.52 (.17) | 1.36 (.21) | -0.68 (.12) |
| *GC* | 5.53 (<.01) | 4.98 (<.01) | 6.30 (<.01) |
| *XDOPS* | -0.38 (.29) | 2.35 (.10) | 0.31 (.33) |
| *INITIAL* | 3.57 (.01) | 1.97 (.12) | 4.42 (<.01) |
| *MW_08* | 3.87 (<.01) | 7.06 (<.01) | 5.24 (<.01) |
| | F = 33.24<br>p < .001<br>Adj. $R^2$ = 0.18 | F = 11.16<br>p < .001<br>Adj. $R^2$ = 0.16 | F = 127.12<br>p < .001<br>Adj. $R^2$ = 0.39 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 17**
**Regression Results: Effects of Remediation on Audit Report Lag**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}REMEDIATE + error$

| Variable | Lag Model for Fiscal Year 2009 for Firms with *MW* = 1 in 2008 | | |
|---|---|---|---|
| | **Accelerated (n= 83)** | **Non-Accelerated (n = 160)** | **Overall Sample (n = 243** |
| *Intercept* | 87.16<br>(<.01) | 93.47<br>(<.01) | 104.46<br>(<.01) |
| *LNTA* | -2.29<br>(.04) | 1.08<br>(.17) | -2.37<br>(<.01) |
| *SQSEG* | -0.98<br>(.38) | -5.06<br>(.16) | -7.17<br>(.01) |
| *HITECH* | -1.30<br>(.36) | -5.05<br>(.04) | -4.34<br>(.03) |
| *ROA* | 12.51<br>(.03) | 0.89<br>(.15) | 1.53<br>(.03) |
| *DA* | 6.97<br>(.05) | 1.55<br>(.03) | 1.20<br>(.05) |
| *LOSS* | 4.00<br>(.12) | 8.51<br>(.01) | 5.67<br>(.02) |
| *RESTAT* | -5.85<br>(.03) | -2.04<br>(.30) | -4.75<br>(.04) |
| *AFEE* | 479.21<br>(.08) | 1.34<br>(.23) | -0.60<br>(.34) |
| *AUOP* | -1.79<br>(.31) | -4.34<br>(.23) | -5.20<br>(.08) |
| *GC* | -2.76<br>(.33) | 1.44<br>(.35) | -0.02<br>(.50) |
| *XDOPS* | -1.80<br>(.33) | 0.70<br>(.43) | 4.48<br>(.07) |
| *INITIAL* | 12.22<br>(<.01) | 2.66<br>(.21) | 4.80<br>(.04) |
| *REMEDIATE* | -9.71<br>(<.01) | -4.67<br>(.07) | -8.74<br>(<.01) |
| | F = 2.36<br>p < .001<br>Adj. $R^2$ = 0.18 | F = 2.00<br>p < .001<br>Adj. $R^2$ = 0.08 | F = 10.34<br>p < .001<br>Adj. $R^2$ = 0.33 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 18**
**Regression Results: Effects of Material Weakness on Audit Report Lag**
**(Full Sample – Non-Large Accelerated Filers)**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}MW + error$

| Variable | Fiscal Year 2008 (n= 1801) | | Fiscal Year 2009 (n= 1812) | |
|---|---|---|---|---|
| | Non-Large Accelerated (n=965) | Non-Accelerated (n=836) | Non-Large Accelerated (n=946) | Non-Accelerated (n=866) |
| *Intercept* | 61.81 (<.01) | 78.36 (<.01) | 74.54 (<.01) | 85.65 (<.01) |
| *LNTA* | 0.45 (.21) | -1.63 (<.01) | -1.58 (<.01) | -1.98 (<.01) |
| *SQSEG* | 1.92 (.05) | 5.56 (<.01) | -0.16 (.43) | 0.71 (.33) |
| *HITECH* | 0.58 (.30) | -1.68 (.10) | -0.63 (.24) | -1.56 (.08) |
| *ROA* | 1.26 (.15) | 0.92 (.02) | 1.22 (.09) | 0.99 (<.01) |
| *DA* | -0.07 (.49) | 1.40 (<.01) | 0.63 (.24) | 0.69 (.03) |
| *LOSS* | 3.28 (<.01) | 4.72 (<.01) | 1.30 (.06) | 3.73 (<.01) |
| *RESTAT* | -0.79 (.35) | -2.57 (.15) | -1.68 (.17) | -1.00 (32) |
| *AFEE* | 53.19 (.32) | -2.98 (.05) | 23.20 (.42) | -1.45 (.03) |
| *AUOP* | -1.76 (.03) | -5.15 (<.01) | -0.84 (.16) | -0.29 (.43) |
| *GC* | 10.46 (<.01) | 4.96 (<.01) | 3.32 (.08) | 4.16 (<.01) |
| *XDOPS* | -2.04 (.06) | 0.13 (.48) | -1.55 (.06) | 2.51 (.07) |
| *INITIAL* | 1.45 (.21) | 2.95 (.03) | 2.86 (.05) | 2.81 (.03) |
| *MW* | 21.24 (<.01) | 10.47 (<.01) | 10.84 (<.01) | 9.92 (<.01) |
| | F = 16.46<br>p < .001<br>Adj. $R^2$ = 0.17 | F = 25.10<br>p < .001<br>Adj. $R^2$ = 0.27 | F = 6.88<br>p < .001<br>Adj. $R^2$ = 0.10 | F = 21.23<br>p < .001<br>Adj. $R^2$ = 0.23 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 19**
**Regression Results: Effects of Material Weakness on Audit Report Lag**
**(Common Observations – Non-Large Accelerated Filers)**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}MW + error$

| Variable | Fiscal Year 2008 (n= 1657) | | Fiscal Year 2009 (n= 1657) | |
|---|---|---|---|---|
| | Non-Large Accelerated (n=849) | Non-Accelerated (n=808) | Non-Large Accelerated (n=807) | Non-Accelerated (n=850) |
| *Intercept* | 60.59 (<.01) | 78.20 (<.01) | 71.68 (<.01) | 85.16 (<.01) |
| *LNTA* | 0.55 (.20) | -1.63 (<.01) | -0.86 (.04) | -1.86 (<.01) |
| *SQSEG* | 2.39 (.03) | 5.60 (<.01) | -0.60 (.28) | 0.62 (.35) |
| *HITECH* | 0.55 (.32) | -1.58 (.11) | -0.60 (.27) | -1.73 (.08) |
| *ROA* | 2.12 (.10) | -0.95 (<.01) | 1.09 (.12) | 0.83 (.02) |
| *DA* | -0.92 (.30) | 1.41 (<.01) | 0.59 (.28) | 0.62 (.05) |
| *LOSS* | 3.00 (<.01) | 5.10 (<.01) | 1.31 (.08) | 4.17 (<.01) |
| *RESTAT* | -1.64 (.23) | -2.43 (.16) | -1.39 (.24) | -0.81 (36) |
| *AFEE* | 200.45 (.08) | -2.98 (.05) | 58.69 (.30) | -1.52 (.15) |
| *AUOP* | -2.18 (.02) | -5.37 (<.01) | 0.55 (.28) | -0.39 (.41) |
| *GC* | 10.07 (<.01) | 4.73 (<.01) | 3.07 (.12) | 3.65 (<.01) |
| *XDOPS* | -1.51 (.15) | 0.02 (.50) | -1.07 (.20) | 2.79 (.05) |
| *INITIAL* | 2.30 (.14) | 2.94 (.03) | 3.10 (.05) | 2.90 (.02) |
| *MW* | 20.70 (<.01) | 10.63 (<.01) | 8.88 (<.01) | 10.41 (<.01) |
| | F = 13.49<br>p < .001<br>Adj. $R^2$ = 0.16 | F = 23.99<br>p < .001<br>Adj. $R^2$ = 0.27 | F = 3.45<br>p < .001<br>Adj. $R^2$ = 0.10 | F = 20.81<br>p < .001<br>Adj. $R^2$ = 0.23 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 20**
**Regression Results: Sub-samples of Firms with Clean Section 404 Opinions**
**(Common Observations – Non-Large Accelerated Filers)**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}MW_08 + error$

| Variable | Fiscal Year 2009 | | |
|---|---|---|---|
| | **Non-Large Accelerated (n=765)** | **Non-Accelerated (n=684)** | **Overall Sample (n=1449)** |
| *Intercept* | 73.70<br>(<.01) | 83.87<br>(<.01) | 87.26<br>(<.01) |
| *LNTA* | -1.19<br>(<.01) | -2.17<br>(<.01) | -3.25<br>(<.01) |
| *SQSEG* | -0.71<br>(.24) | 2.75<br>(.05) | 0.40<br>(.33) |
| *HITECH* | -0.35<br>(.36) | -0.51<br>(.34) | -1.94<br>(.01) |
| *ROA* | 0.91<br>(.16) | 0.40<br>(.21) | 0.91<br>(.02) |
| *DA* | 0.55<br>(.30) | 0.38<br>(.20) | 0.61<br>(.06) |
| *LOSS* | 0.90<br>(.16) | 1.88<br>(.09) | 1.40<br>(.04) |
| *RESTAT* | -3.04<br>(.10) | 0.70<br>(.40) | -0.82<br>(.33) |
| *AFEE* | -20.30<br>(.43) | -3.60<br>(.08) | -4.28<br>(.04) |
| *AUOP* | 1.46<br>(.06) | 1.36<br>(.21) | 0.87<br>(.17) |
| *GC* | 5.21<br>(.04) | 4.43<br>(<.01) | 6.29<br>(<.01) |
| *XDOPS* | -1.11<br>(.20) | 2.64<br>(.08) | 0.73<br>(.27) |
| *INITIAL* | 1.50<br>(.22) | 2.12<br>(.10) | 3.30<br>(<.01) |
| *MW_08* | 4.54<br>(.02) | 7.59<br>(<.01) | 5.56<br>(<.01) |
| | F = 1.90<br>p < .001<br>Adj. $R^2$ = 0.02 | F = 10.79<br>p < .001<br>Adj. $R^2$ = 0.16 | F = 36.99<br>p < .001<br>Adj. $R^2$ = 0.25 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 21**
**Regression Results: Effects of Remediation**
**(Non-Large Accelerated Filers)**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}REMEDIATE + error$

| Variable | Lag Model for Fiscal Year 2009 for Firms with *MW* = 1 in 2008 | | |
|---|---|---|---|
| | **Non-Large Accelerated (n=54)** | **Non-Accelerated (n= 157)** | **Overall Sample (n= 211)** |
| *Intercept* | 77.92<br>(<.01) | 93.23<br>(<.01) | 102.59<br>(<.01) |
| *LNTA* | -0.53<br>(.40) | 1.31<br>(.10) | -1.27<br>(.06) |
| *SQSEG* | -0.84<br>(.41) | -5.39<br>(.15) | -8.28<br>(.01) |
| *HITECH* | 1.49<br>(.34) | -5.04<br>(.04) | -4.39<br>(.04) |
| *ROA* | 16.46<br>(.03) | 0.86<br>(.15) | 1.33<br>(.06) |
| *DA* | 10.51<br>(.04) | 1.62<br>(.02) | 1.35<br>(.04) |
| *LOSS* | 4.00<br>(.17) | 8.90<br>(<.01) | 6.04<br>(.02) |
| *RESTAT* | -6.63<br>(.05) | -1.10<br>(.38) | -5.26<br>(.04) |
| *AFEE* | 485.16<br>(.10) | 1.52<br>(.20) | -0.07<br>(.49) |
| *AUOP* | 1.75<br>(.37) | -5.90<br>(.16) | -3.57<br>(.22) |
| *GC* | -0.85<br>(.46) | 0.59<br>(.44) | 0.68<br>(.42) |
| *XDOPS* | -4.16<br>(.22) | 2.10<br>(.30) | 4.21<br>(.10) |
| *INITIAL* | 15.29<br>(<.01) | 3.07<br>(.18) | 4.61<br>(.06) |
| *REMEDIATE* | -12.72<br>(<.01) | -4.23<br>(.08) | -7.94<br>(<.01) |
| | F = 1.83<br>p < .001<br>Adj. $R^2$ = 0.17 | F = 2.01<br>p < .001<br>Adj. $R^2$ = 0.08 | F = 5.85<br>p < .001<br>Adj. $R^2$ = 0.23 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 22**
**Regression Results: Effects of Material Weakness on Audit Report Lag**
**(Same Filer Status – Non-Large Accelerated Filers)**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}MW + error$

| Variable | Fiscal Year 2008 (n= 1561) | | Fiscal Year 2009 (n= 1561) | |
|---|---|---|---|---|
| | Non-Large Accelerated (n=780) | Non-Accelerated (n=781) | Non-Large Accelerated (n=780) | Non-Accelerated (n=781) |
| *Intercept* | 59.51 (<.01) | 78.17 (<.01) | 71.17 (<.01) | 85.08 (<.01) |
| *LNTA* | 0.87 (.10) | -1.71 (<.01) | -0.76 (.08) | -1.94 (<.01) |
| *SQSEG* | 1.56 (12) | 5.76 (<.01) | -0.56 (.30) | 1.26 (.23) |
| *HITECH* | 0.87 (.24) | -1.62 (.11) | -0.64 (.26) | -1.70 (.08) |
| *ROA* | 2.29 (.13) | 1.01 (<.01) | 1.20 (.12) | 0.88 (.01) |
| *DA* | -0.83 (.32) | 1.38 (<.01) | -0.01 (.50) | 0.64 (.04) |
| *LOSS* | 1.99 (.06) | 5.75 (<.01) | 1.37 (.08) | 3.71 (<.01) |
| *RESTAT* | -1.93 (.20) | -2.32 (.16) | -0.55 (.40) | -1.52 (24) |
| *AFEE* | 299.71 (.05) | -2.84 (.05) | 81.13 (.25) | -1.51 (.30) |
| *AUOP* | -2.21 (.02) | -5.10 (<.01) | 0.67 (.25) | -0.39 (.41) |
| *GC* | 8.16 (.01) | 4.22 (<.01) | 3.90 (.08) | 3.66 (.02) |
| *XDOPS* | -1.45 (.15) | -0.42 (.41) | -1.06 (.20) | 2.32 (.11) |
| *INITIAL* | 3.51 (.05) | 2.50 (.06) | 2.81 (.08) | 3.53 (.01) |
| *MW* | 21.32 (<.01) | 10.54 (<.01) | 8.85 (<.01) | 9.89 (<.01) |
| | F = 10.77<br>p < .001<br>Adj. $R^2$ = 0.14 | F = 23.87<br>p < .001<br>Adj. $R^2$ = 0.27 | F = 3.09<br>p < .001<br>Adj. $R^2$ = 0.10 | F = 19.25<br>p < .001<br>Adj. $R^2$ = 0.23 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 23**
**Regression Results: Sub-samples of Firms with Clean Section 404 Opinions**
**(Same Filer Status – Non-Large Accelerated Filers)**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}MW_08 + error$

| Variable | Fiscal Year 2009 | | |
|---|---|---|---|
| | **Non-Large Accelerated (n=743)** | **Non-Accelerated (n=622)** | **Overall Sample (n=1365)** |
| *Intercept* | 73.50<br>(<.01) | 84.18<br>(<.01) | 87.61<br>(<.01) |
| *LNTA* | -1.19<br>(.02) | -2.20<br>(<.01) | -3.29<br>(<.01) |
| *SQSEG* | -0.62<br>(.30) | 2.90<br>(.05) | 0.39<br>(.30) |
| *HITECH* | -0.43<br>(.34) | -0.45<br>(.37) | -2.09<br>(<.01) |
| *ROA* | 0.92<br>(.16) | 0.46<br>(.18) | 0.90<br>(.02) |
| *DA* | 0.42<br>(.38) | 0.43<br>(.19) | 0.69<br>(.05) |
| *LOSS* | 1.03<br>(.14) | 1.63<br>(.13) | 1.16<br>(.09) |
| *RESTAT* | -2.55<br>(.15) | 0.25<br>(.47) | -1.05<br>(.30) |
| *AFEE* | -13.39<br>(.46) | -3.53<br>(.09) | -4.42<br>(.04) |
| *AUOP* | 1.46<br>(.06) | 1.05<br>(.28) | 0.70<br>(.23) |
| *GC* | 5.29<br>(.05) | 3.97<br>(.02) | 5.69<br>(<.01) |
| *XDOPS* | -1.09<br>(.20) | 2.31<br>(.15) | 0.22<br>(.43) |
| *INITIAL* | 1.33<br>(.26) | 2.49<br>(.08) | 3.80<br>(<.01) |
| *MW_08* | 4.40<br>(.03) | 7.09<br>(<.01) | 5.26<br>(<.01) |
| | F = 1.68<br>p < .001<br>Adj. $R^2$ = 0.02 | F = 9.37<br>p < .001<br>Adj. $R^2$ = 0.15 | F = 34.73<br>p < .001<br>Adj. $R^2$ = 0.24 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 24**
**Regression Results: Effects of Remediation Audit**
**(Same Filer Status)**

Model: $REP_LAG = b_0 + b_1*LNTA + b_2*SQSEG + + b_3*HITECH + b_4*ROA + b_5*DA + b_6*LOSS + b_7*RESTAT + b_8*AFEE + b_9*AUOP + b_{10}*GC + b_{11}*XDOPS + b_{12}*INITIAL + b_{13}REMEDIATE + error$

| Variable | Lag Model for Fiscal Year 2009 for Firms with *MW* = 1 in 2008 | | |
|---|---|---|---|
| | **Non-Large Accelerated (n=48)** | **Non-Accelerated (n= 147)** | **Overall Sample (n= 195)** |
| *Intercept* | 83.75<br>(<.01) | 89.20<br>(<.01) | 101.04<br>(<.01) |
| *LNTA* | -1.71<br>(.27) | 0.76<br>(.23) | -1.68<br>(.02) |
| *SQSEG* | -0.83<br>(.42) | -1.86<br>(.36) | -6.75<br>(.03) |
| *HITECH* | 0.44<br>(.47) | -4.33<br>(.08) | -3.70<br>(.07) |
| *ROA* | 27.09<br>(.09) | 1.02<br>(.10) | 1.47<br>(.04) |
| *DA* | 10.49<br>(.07) | 1.67<br>(.02) | 1.46<br>(.05) |
| *LOSS* | 6.50<br>(.13) | 8.38<br>(.01) | 5.34<br>(.04) |
| *RESTAT* | -5.88<br>(.10) | -0.29<br>(.47) | -5.19<br>(.05) |
| *AFEE* | 563.96<br>(.10) | 1.24<br>(.25) | -0.24<br>(.45) |
| *AUOP* | 0.32<br>(.49) | -3.64<br>(.28) | -2.96<br>(.27) |
| *GC* | 2.47<br>(.41) | 1.28<br>(.37) | 0.83<br>(.41) |
| *XDOPS* | -5.20<br>(.20) | 2.75<br>(.26) | 3.62<br>(.15) |
| *INITIAL* | 16.37<br>(<.01) | 3.10<br>(.17) | 5.40<br>(.04) |
| *REMEDIATE* | -12.83<br>(.01) | -3.06<br>(.15) | -6.69<br>(.01) |
| | F = 1.64<br>p < .001<br>Adj. $R^2$ = 0.15 | F = 1.68<br>p < .001<br>Adj. $R^2$ = 0.06 | F = 5.93<br>p < .001<br>Adj. $R^2$ = 0.25 |

Note: Variables are defined as in Table 2; P-values are in parentheses.

**Table 25**
**Sample Selection for Prior 302 Warning Analyses**

**Panel A: Audit Analystics**

| | **2007** | **2008** | **2009** |
|---|---|---|---|
| **Total Firms with Management Reports** | 9704 | 9828 | 9180 |
| Less Foreign Firms | (1525) | (1659) | (1575) |
| Less Financial Firms (SIC 60-67) | (2099) | (2121) | (1993) |
| Less Duplicates | (95) | (133) | (66) |
| | **5985** | **5915** | **5606** |
| **Total Firms with Auditor Reports** | 4615 | 4472 | 3927 |
| Less Foreign Firms | (681) | (682) | (597) |
| Less Financial Firms (SIC 60-67) | (981) | (964) | (865) |
| Less Duplicates | (23) | (27) | (12) |
| | **2930** | **2799** | **2453** |
| **Total Merged Sample** | 5985 | 5915 | 5606 |
| Less Fiscal year other than between 12/15 and 2/28 | (1565) | (1613) | (1468) |
| Less firms without audit fee data | (187) | (161) | (582) |
| **Final Sample** | **4233** | **4141** | **3556** |

**Panel B: Types of Internal Control Opinions**

| | **2007** | **2008** | **2009** |
|---|---|---|---|
| **Non-Accelerated Filers** | **2028** | **1980** | **1499** |
| Clean | 1440 | 1419 | 1120 |
| Systemic Weaknesses | 513 | 495 | 323 |
| Specific Weaknesses | 75 | 66 | 56 |
| **Accelerated Filers** | **2205** | **2161** | **2057** |
| Clean | 2039 | 2060 | 2001 |
| Systemic Weaknesses | 107 | 64 | 28 |
| Specific Weaknesses | 59 | 37 | 28 |

Note: Internal control weakness is classified as general if, per *AuditAnalytics*, the problem was in any one or more of the following categories: senior management competency, tone, reliability issues; accounting personnel resources, competency/training; segregations of duties/ design of controls (personnel); information technology, software, security & access issue; ethical or compliance issues with personnel; ineffective, non-existent or understaffed audit committee; insufficient or non-existent internal audit function; ineffective regulatory compliance issues. Also note that if a firm reported both, general and account specific internal control problems, then that company is coded as having a general problem. In only those instances where a firm has no general problem but indicates the presence of one or more account specific problems a firm is coded as having a specific problem. In other words, a firm coded as having only specific problems by definition has no general problem.

**Panel C: Remediation of Weaknesses**
**Non-Accelerated Filers**

| | | Year 2 | | | | Year 3 | |
|---|---|---|---|---|---|---|---|
| | **Clean2** | **AMW2** | **SMW2** | | **Clean3** | **AMW3** | **SMW3** |
| **Clean1** | 791 | 17 | 60 | | 761 | 26 | 81 |
| **SMW1** | 79 | 12 | 165 | | 101 | 11 | 144 |
| **AMW1** | 24 | 3 | 14 | | 25 | 6 | 10 |
| | | | | | | | |
| **Clean2** | - | - | - | | 810 | 29 | 55 |
| **SMW2** | - | - | - | | 63 | 9 | 167 |
| **AMW2** | - | - | - | | 14 | 5 | 13 |

**Accelerated Filers**

| | | Year 2 | | | | Year 3 | |
|---|---|---|---|---|---|---|---|
| | **Clean2** | **AMW2** | **SMW2** | | **Clean3** | **AMW3** | **SMW3** |
| **Clean1** | 1757 | 26 | 22 | | 1769 | 15 | 21 |
| **SMW1** | 66 | 3 | 18 | | 77 | 4 | 6 |
| **AMW1** | 42 | 3 | 7 | | 43 | 5 | 4 |
| | | | | | | | |
| **Clean2** | - | - | - | | 1830 | 18 | 17 |
| **SMW2** | - | - | - | | 32 | 5 | 10 |
| **AMW2** | - | - | - | | 27 | 1 | 4 |

Note: Clean1, Clean2 and Clean3 represent firms that had no material weaknesses disclosed in their internal controls in fiscal years 2007, 2008 and 2009, respectively. Similarly SMW1 (AMW1), SMW2 (AMW2) and SMW3 (AMW3) represent firms that had systemic (Account-Specific) weaknesses disclosed in their internal controls for fiscal years 2007, 2008 and 2009, respectively. Since the above tables represent remediation information, only those observations were used that had information available for all three years.

**Table 26**

## New Problems and Prior Section 302 Disclosures

**Panel A – Fiscal 2007**

| | Number of Weaknesses | Prior 302 disclosures | Percentage |
|---|---|---|---|
| **Non-Accelerated Filers** | | | |
| Systemic Weaknesses | 473 | 65 | 14% |
| Specific Weaknesses | 71 | 14 | 20% |
| **Total Non-Accelerated** | **544** | **79** | **15%** |
| | | | |
| **Accelerated Filers** | | | |
| Systemic Weaknesses | 103 | 45 | 44% |
| Specific Weaknesses | 58 | 25 | 43% |
| **Total Accelerated** | **161** | **70** | **44%** |

**Panel B – Fiscal 2008**

| | Number of Weaknesses | Prior 302 disclosures | Percentage |
|---|---|---|---|
| **Non-Accelerated Filers** | | | |
| Systemic Weaknesses | 474 | 246 | 52% |
| Specific Weaknesses | 65 | 28 | 43% |
| **Total Non-Accelerated** | **539** | **274** | **51%** |
| | | | |
| **Accelerated Filers** | | | |
| Systemic Weaknesses | 59 | 30 | 51% |
| Specific Weaknesses | 37 | 10 | 27% |
| **Total Accelerated** | **96** | **40** | **42%** |

**Panel C – Fiscal 2009**

| | Number of Weaknesses | Prior 302 disclosures | Percentage |
|---|---|---|---|
| **Non-Accelerated Filers** | | | |
| Systemic Weaknesses | 318 | 223 | 70% |
| Specific Weaknesses | 56 | 20 | 36% |
| **Total Non-Accelerated** | **374** | **243** | **65%** |
| | | | |
| **Accelerated Filers** | | | |
| Systemic Weaknesses | 27 | 12 | 44% |
| Specific Weaknesses | 28 | 9 | 32% |
| **Total Accelerated** | **55** | **21** | **38%** |

**Panel D – Overall**

| | Number of Weaknesses | Prior 302 disclosures | Percentage |
|---|---|---|---|
| **Non-Accelerated Filers** | | | |
| Systemic Weaknesses | 1256 | 534 | 42% |
| Specific Weaknesses | 192 | 62 | 32% |
| **Total Non-Accelerated** | **1457** | **596** | **41%** |
| | | | |
| **Accelerated Filers** | | | |
| Systemic Weaknesses | 189 | 87 | 46% |
| Specific Weaknesses | 123 | 44 | 36% |
| **Total Accelerated** | **312** | **131** | **42%** |

Note: There were a few observations lost from Table 25 Panel B, as no prior 302 were filed for such observations. (Further observations for analysis were lost due to lack of financial information in Compustat; hence, out of 588 non-accelerated filers observations for fiscal 2007 only 258 observations had financial data available, as shown in Table 29).

**Table 27**
**SEC action (Comment Letters) for firms without Prior Section 302 Disclosures**

**Panel A – Fiscal 2007**

| | **Non-Accelerated Filers** | **Accelerated Filers** |
|---|---|---|
| **Weaknesses Without Prior 302** | **465** | **91** |
| | | |
| Systemic Weaknesses | 408 | 58 |
| Firms with SEC action | 65 (16%) | 9 (16%) |
| | | |
| Specific Weaknesses | 57 | 33 |
| Firms with SEC action | 15 (26%) | 5 (15%) |

**Panel B – Fiscal 2008**

| | **Non-Accelerated Filers** | **Accelerated Filers** |
|---|---|---|
| **Weaknesses Without Prior 302** | **265** | **56** |
| | | |
| Systemic Weaknesses | 228 | 29 |
| Firms with SEC action | 45 (20%) | 12 (41%) |
| | | |
| Specific Weaknesses | 37 | 27 |
| Firms with SEC action | 10 (27%) | 7 (26%) |

**Panel C – Fiscal 2009**

| | Non-Accelerated Filers | Accelerated Filers |
|---|---|---|
| **Weaknesses Without Prior 302** | **131** | **34** |
| | | |
| Systemic Weaknesses | 95 | 15 |
| Firms with SEC action | 12 (13%) | 3 (20%) |
| | | |
| Specific Weaknesses | 36 | 19 |
| Firms with SEC action | 5 (14%) | 4 (21%) |

**Panel D – Overall**

| | Total Non-Accelerated | Total Accelerated | Overall |
|---|---|---|---|
| **Weaknesses Without Prior 302** | **861** | **181** | **1042** |
| | | | |
| Systemic Weaknesses | 731 | 102 | **833** |
| Firms with SEC action | 122 (17%) | 24 (24%) | **146 (18%)** |
| | | | |
| Specific Weaknesses | 130 | 79 | **209** |
| Firms with SEC action | 30 (23%) | 16 (20%) | **46 (22%)** |

Note: Information regarding SEC actions (Comment Letters) are obtained from the *AuditAnalytics* database. The time period chosen for such action (letter) is 1 through 9 months after a firm's fiscal year end. All of the fiscal year ends for our observations are between Dec 15th and March 1st of the following year.

**Table 28**
**Sample Composition by Industry**
**Companies with Material Internal Control Weaknesses (Fiscal Year 2007)**

**Non-Accelerated Filers**

| Industry (SIC) | Prior 302 Disclosure | No Prior 302 Disclosure | Overall Percentage |
|---|---|---|---|
| Agricultural Production & Services, Mining, & Construction (1–19) | 5 | 73 | 14.34 |
| Manufacturing (20–39) | 35 | 185 | 40.44 |
| Transportation and Utilities (40–49) | 9 | 40 | 9.01 |
| Wholesale and Retail (50–59) | 9 | 42 | 9.38 |
| Services (70–89) | 20 | 119 | 25.55 |
| Other | 1 | 6 | 1.28 |
| **Total** | **79** | **465** | **100.00** |

**Accelerated Filers**

| Industry (SIC) | Prior 302 Disclosure | No Prior 302 Disclosure | Overall Percentage |
|---|---|---|---|
| Agricultural Production & Services, Mining, & Construction (1–19) | 4 | 6 | 6.21 |
| Manufacturing (20–39) | 29 | 44 | 45.34 |
| Transportation and Utilities (40–49) | 12 | 12 | 14.91 |
| Wholesale and Retail (50–59) | 6 | 5 | 6.83 |
| Services (70–89) | 19 | 24 | 26.71 |
| Other | - | - | - |
| **Total** | **70** | **91** | **100.00** |

Note: The above industry classifications are based on Hermanson and Ye (2009).

**Table 29**
**Descriptive statistics: Mean (median) values of variables**
**Prior 302 Disclosure Analyses**

## Panel A: Prior 302 versus No Prior 302 Disclosure

| Variables | Non-Accelerated | | | Accelerated | | |
|---|---|---|---|---|---|---|
| | Prior 302 Disclosure (n= 55) | No Prior 302 Disclosure (n= 203) | All Non-Accelerated (n=258) | Prior 302 Disclosure (n= 70) | No Prior 302 Disclosure (n= 91) | All Accelerated (n=161) |
| *AUFEE* | 0.05** (0.01) | 0.65 (0.02) | 0.52 (0.02) | 0.01 (0.01) | 0.01 (0.00) | 0.01 (0.00) |
| *LNTA* | 17.12*** (17.02) | 15.22 (15.65) | 15.63 (16.11) | 20.00* (19.88) | 19.63 (19.68) | 19.79 (19.74) |
| *INITIAL* | 0.24 (0.00) | 0.26 (0.00) | 0.25 (0.00) | 0.16** (0.00) | 0.05 (0.00) | 0.09 (0.00) |
| *BIG4* | 0.18** (0.00) | 0.05 (0.00) | 0.08 (0.00) | 0.71 (1.00) | 0.70 (1.00) | 0.71 (1.00) |
| *RESTAT* | 0.13 (0.00) | 0.14 (0.00) | 0.14 (0.00) | 0.23 (0.00) | 0.25 (0.00) | 0.24 (0.00) |
| *LITIG* | 0.31 (0.00) | 0.33 (0.00) | 0.33 (0.00) | 0.33 (0.00) | 0.31 (0.00) | 0.32 (0.00) |
| *GC* | 0.35*** (0.00) | 0.59 (1.00) | 0.54 (1.00) | 0.07 (0.00) | 0.03 (0.00) | 0.05 (0.00) |
| *DNASR* | 0.58* (1.00) | 0.48 (0.00) | 0.50 (0.50) | 0.46 (0.00) | 0.53 (1.00) | 0.50 (0.00) |
| *EQUIFIN* | 0.15*** (0.00) | 0.37 (0.00) | 0.32 (0.00) | 0.07 (0.00) | 0.09 (0.00) | 0.08 (0.00) |
| *CEO_CHR* | 0.46 (0.00) | 0.49 (0.00) | 0.48 (0.00) | 0.42 (0.00) | 0.41 (0.00) | 0.41 (0.00) |
| *SQ_CFO_TEN* | 1.54*** (1.41) | 1.91 (1.41) | 1.83 (1.41) | 1.47** (1.41) | 1.69 (1.41) | 1.59 (1.41) |
| *CEO_CHG* | 0.24 (0.00) | 0.18 (0.00) | 0.19 (0.00) | 0.16 (0.00) | 0.14 (0.00) | 0.15 (0.00) |

| | | | | | | |
|---|---|---|---|---|---|---|
| *NUM_AC_MEM* | 2.92***<br>(3.00) | 1.88<br>(2.00) | 2.11<br>(3.00) | 3.37<br>(3.00) | 3.42<br>(3.00) | 3.40<br>(3.00) |
| *PROP_EXPT* | 0.45***<br>(0.00) | 0.23<br>(0.00) | 0.28<br>(0.00) | 0.51<br>(0.33) | 0.43<br>(0.00) | 0.46<br>(0.00) |
| *AC_MEET* | 4.20***<br>(4.00) | 2.27<br>(1.00) | 2.68<br>(1.00) | 10.99***<br>(10.00) | 7.32<br>(7.00) | 8.91<br>(8.00) |
| *LOG_NUM_WK* | 0.71*<br>(0.69) | 0.58<br>(0.69) | 0.61<br>(0.69) | 0.47*<br>(0.00) | 0.36<br>(0.00) | 0.41<br>(0.00) |

*, **, *** Significantly different at 0.10, 0.05, and 0.01 level respectively

**Panel B: Prior 302 versus No Prior 302 Disclosure (Systemic and Specific – ICW)**

| Variables | Non-Accelerated | | | | Accelerated | | | |
|---|---|---|---|---|---|---|---|---|
| | Systemic – ICW | | Specific - ICW | | Systemic – ICW | | Specific - ICW | |
| | Prior 302 (n= 48) | No Prior 302 (n= 179) | Prior 302 (n= 7) | No Prior 302 (n= 24) | Prior 302 (n= 45) | No Prior 302 (n= 58) | Prior 302 (n= 25) | No Prior 302 (n= 33) |
| *AUFEE* | 0.05** (0.01) | 0.74 (0.02) | 0.02 (0.01) | 0.04 (11.98) | 0.01* (0.01) | 0.00 (0.00) | 0.00 (0.00) | 0.01 (0.00) |
| *LNTA* | 17.13*** (17.02) | 15.07 (15.50) | 17.04* (16.87) | 16.31 (16.89) | 19.75 (19.39) | 19.60 (19.45) | 20.45* (20.33) | 19.70 (19.85) |
| *INITIAL* | 0.21 (0.00) | 0.27 (0.00) | 0.43* (0.00) | 0.13 (0.00) | 0.22*** (0.00) | 0.07 (0.00) | 0.04 (0.00) | 0.01 (0.00) |
| *BIG4* | 0.15** (0.00) | 0.05 (0.00) | 0.43* (0.00) | 0.13 (0.00) | 0.62 (1.00) | 0.66 (1.00) | 0.88 (1.00) | 0.79 (1.00) |
| *RESTAT* | 0.15 (0.00) | 0.16 (0.00) | 0.00 (0.00) | 0.00 (0.00) | 0.22 (0.00) | 0.23 (0.00) | 0.24 (0.00) | 0.30 (0.00) |
| *LITIG* | 0.25 (0.00) | 0.32 (0.00) | 0.71* (1.00) | 0.38 (0.00) | 0.31 (0.00) | 0.33 (0.00) | 0.36 (0.00) | 0.27 (0.00) |
| *GC* | 0.38*** (0.00) | 0.62 (1.00) | 0.14 (0.00) | 0.37 (0.00) | 0.11* (0.00) | 0.04 (0.00) | 0.01 (0.00) | 0.03 (0.00) |
| *DNASR* | 0.56 (1.00) | 0.49 (0.00) | 0.72* (1.00) | 0.42 (0.00) | 0.47 (0.00) | 0.57 (1.00) | 0.44 (0.00) | 0.46 (0.00) |
| *EQUIFIN* | 0.11*** (0.00) | 0.40 (0.00) | 0.43 (0.00) | 0.17 (0.00) | 0.11 (0.00) | 0.09 (0.00) | 0.01 (0.00) | 0.09 (0.00) |
| *CEO_CHR* | 0.42 (0.00) | 0.47 (0.50) | 0.71 (1.00) | 0.63 (1.00) | 0.38 (0.00) | 0.36 (0.00) | 0.48 (0.00) | 0.49 (0.00) |
| *SQ_CFO_TEN* | 1.40*** (1.41) | 1.91 (1.41) | 2.50 (2.45) | 1.90 (1.73) | 1.50 (1.41) | 1.67 (1.41) | 1.42** (2.00) | 1.75 (1.41) |
| *CEO_CHG* | 0.23 (0.00) | 0.18 (0.00) | 0.29 (0.00) | 0.13 (0.00) | 0.20 (0.00) | 0.17 (0.00) | 0.09 (0.00) | 0.09 (0.00) |
| *NUM_AC_MEM* | 2.90*** (3.00) | 1.81 (2.00) | 3.14** (3.00) | 2.46 (3.00) | 3.33 (3.00) | 3.43 (3.00) | 3.44 (3.00) | 3.40 (3.00) |
| *PROP_EXPT* | 0.42*** | 0.22 | 0.64** | 0.35 | 0.64** | 0.44 | 0.27 | 0.41 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (0.00) | (0.00) | (1.00) | (0.00) | (1.00) | (0.00) | (0.00) | (0.00) |
| *AC_MEET* | 4.10***<br>(4.00) | 2.09<br>(1.00) | 4.86<br>(5.00) | 3.63<br>(3.50) | 10.76***<br>(9.00) | 7.28<br>(7.00) | 11.40***<br>(11.00) | 7.40<br>(7.00) |
| *LOG_NUM_WK* | 0.77*<br>(0.69) | 0.60<br>(0.69) | 0.35<br>(0.00) | 0.44<br>(0.00) | 0.56<br>(0.69) | 0.51<br>(0.69) | 0.32**<br>(0.00) | 0.09<br>(0.00) |

***, **, *** Significantly different at 0.10, 0.05, and 0.01 level respectively**

Note: The sample includes all such firms (excluding those in SIC codes 60-67). Variables are defined as follows:

*AUFEE* = audit fees scaled by total assets at the end of the fiscal year;
*LNTA* = natural log of client's total assets;
*INITIAL* = 1 if the audit engagement is in their first year, else 0;
*BIG4* = 1 if Big 4 auditor, else 0;
*RESTAT* = 1 if a firm restated their financial statements, else 0;
*LITIG* = 1 if the company is in a litigious industry: SIC codes 2833-2836, 3570-3577, 3600-3674, 5200-5961, 7370-7374, and 8731-8734, else 0;
*GC* = 1 if audit opinion modified for going concern, else 0;
*DNASR* = 1 if the nonaudit fee ratio (the sum of tax fees and other fees divided by the sum of audit fees and audit-related fees) is above the sample median, else 0;
*EQUIFIN* = 1 if the company's equity issuance is greater than 10 percent of its total assets in the next fiscal year, else 0;
*CEO_CHR* = 1 if the CEO also serves as chairman of the board, else 0;
*SQ_CFO_TEN* = square root of number of years of a CFO with a firm;
*CEO_CHG* = for firms with Prior 302 disclosure = 0, 1 if the tenure of the CEO at the fiscal year-end is no greater than one year, else 0. For firms with Prior 302 disclosure = 1, 1 if the tenure of the CEO on the earliest Section 302 disclosure date in the fiscal year is no greater than one year by that time, else 0;
*NUM_AC_MEM* = number of audit committee members;
*PROP_EXPT* = proportion of audit committee members with accounting expertise;
*AC_MEET* = number of audit committee meetings held in the fiscal year;
*LOG_NUM_WK* = log of number of material weaknesses;
*SMW* = 1 if a firm reported system internal control weaknesses in internal control, else 0.

**Table 30**
**Logistic Regression Results: Prior Section 302 Disclosures**

Model: $PRIOR_302 = b_0 + b_1*AUFEE + b_2*LNTA + b_3*INITIAL + b_4*BIG4 + b_5*RESTAT + b_6*LITIG + b_7*GC + b_8*DNASR + b_9*EQUIFIN + b_{10}*CEO_CHR + b_{11}*SQ_CFO_TEN + b_{12}*CEO_CHG + b_{13}*NUM_AC_MEM + b_{14}*PROP_EXPT + b_{15}*AC_MEET + b_{16}*LOG_NUM_WK + b_{17}*SMW + error$

| Variables | MW in Fiscal 2007 (n= 419) | |
|---|---|---|
| | Non-Accelerated Filers (n= 258) | Accelerated Filers (n= 161) |
| *Intercept* | -3.24<br>(<.01) | -2.96<br>(.03) |
| *AUFEE* | 0.07<br>(.33) | 83.84<br>(.03) |
| *LNTA* | 0.37<br>(<.01) | 0.42<br>(.02) |
| *INITIAL* | 0.08<br>(.43) | 1.59<br>(.02) |
| *BIG4* | 0.07<br>(.46) | -0.51<br>(.16) |
| *RESTAT* | -0.36<br>(.27) | 0.02<br>(.49) |
| *LITIG* | 0.25<br>(.26) | -0.01<br>(.49) |
| *GC* | 0.07<br>(.44) | 0.94<br>(.15) |
| *DNASR* | 0.18<br>(.31) | -0.10<br>(.40) |
| *EQUFIN* | -0.58<br>(.12) | 0.30<br>(.36) |
| *CEO_CHR* | -0.05<br>(.45) | 0.30<br>(.23) |
| *SQ_CFO_TEN* | -0.55<br>(.01) | -0.28<br>(.19) |
| *CEO_CHG* | -0.04<br>(.47) | -0.12<br>(.42) |
| *NUM_AC_MEM* | 0.47<br>(<.01) | -0.37<br>(.11) |
| *PROP_EXPT* | 0.59<br>(.05) | 0.24<br>(.24) |
| *AC_MEET* | 0.04<br>(.24) | 0.16<br>(<.01) |
| *LOG_NUM_WK* | 0.19<br>(.25) | 0.44<br>(.13) |
| *SMW* | 0.34<br>(.27) | -0.29<br>(.25) |
| | L.R., Chi-Sqr = 61.31***<br>Wald, Chi-Sqr = 37.68***<br>Max. R-Sqr = 0.33 | L.R., Chi-Sqr = 39.43***<br>Wald, Chi-Sqr = 25.84**<br>Max. R-Sqr = 0.29 |

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VITA

Vishal Munsif

| | |
|---|---|
| 2000-2004 | BBA Business Management<br>Northern Kentucky University,<br>Highland Heights, Kentucky |
| 2006-2007 | MSc. Accounting<br>Northern Kentucky University<br>Highland Heights, Kentucky |
| 2008-2011 | Doctoral Candidate<br>Florida International University<br>Miami, Florida<br><br>Teaching Assistant<br>Florida International University<br>Miami, Florida |

PUBLICATIONS AND PRESENTATIONS

V. Munsif, K. Raghunandan, D. Rama and M. Singhvi. Audit Fees after Remediation of Internal Control Weaknesses. *Accounting Horizons* 25 (1): 87-105.