

Regulatory Intent and Political Reality: Evidence on Corporate Governance and Internal Controls in the Post-SOX World

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ABSTRACT

This paper examines two issues relating to implementation of the Sarbanes Oxley Act of 2002: (1) relaxation of the definition of “financial expert” under Section 407; and (2) application of the provisions of Section 404 to relatively small public companies. We address these issues using data on about 2,400 public companies, obtained by automated extraction and parsing of information in audit committee members’ biographies. For accelerated filers, we find that the proportions of audit committee members with accounting and supervisory financial qualifications, as well as board quality, are inversely related to material weakness disclosure under Section 404. None of these associations is significant in models explaining material weakness disclosures for non-accelerated filers under Section 302, yielding concern regarding the recent proposal that improved corporate governance can be an effective alternative to Section 404 implementation among those companies. We also find that material weaknesses related to accounting issues are less likely in companies with more accounting financial experts, whereas personnel and information technology weaknesses are less likely in companies with more supervisory financial experts. Further, companies designating audit committee financial experts without accounting *or* supervisory qualifications are more likely to disclose material weaknesses, as are companies designating more than one financial expert. Finally, we find that material weakness disclosure is positively associated with audit committee diligence and negatively associated with stronger board governance.

Keywords: Internal controls; corporate governance; audit committee; financial expertise

Data Availability: Data are publicly available from sources identified in the paper.

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I. INTRODUCTION

This paper addresses two contentious public policy issues relating to implementation of the Sarbanes Oxley Act of 2002 (SOX). For both issues, initially proposed regulations implementing the provisions were met with controversy, resulting in weakening or delaying of the proposed requirements. The first issue concerns appropriate qualifications for expertise of audit committee members. SOX Section 407 requires firms to disclose whether they have a financial expert on the audit committee, or to explain why not. Regulations initially proposed by the SEC defined financial expertise narrowly to those with direct experience in preparing or auditing financial reports (e.g., CPA, CFO, etc.). However, due to concern expressed in comment letters about insufficient qualified candidates to fill those positions, the final rule (Section 401(h)(3) of Regulation S-K) relaxes the definition to also include persons supervising the financial function (e.g., CEOs, Board chairs), assessing financial performance, etc. The issue that arises is whether individuals with less direct experience will provide the same level of effectiveness in managing the financial reporting process. We address this issue by studying the association of internal control effectiveness (as measured by disclosure of internal control material weaknesses, MW, in financial reports) with accounting financial experts (AFE) and supervisory financial experts (SFE) as separate categories. Consistent with prior research, we assume that a negative association between MW disclosure and qualifications implies that individuals so qualified are effective in reducing the company's financial reporting risk.

Other recent research has tested the association between audit committee financial expertise and financial reporting quality, both before and after SOX. These studies include several measures of financial reporting quality using accruals (e.g., Bédard et al. 2004; Dhaliwal

et al. 2006; Carcello et al. 2006), restatements (Abbott et al. 2004), and investor reaction to audit committee appointments (DeFond et al. 2005). The research most closely related to this paper is the Zhang et al. (2006) study of MWs disclosed under SOX 302 and 404.¹ These studies either obtain data on audit committee qualifications from corporate governance databases (which focus on the largest public companies) or use relatively small samples to enable hand collection of biographical information from proxies. We extend this research through use of an automated extraction and parsing routine that builds a database of audit committee qualifications from background information available from *AuditAnalytics*. This method enables a sample of 2,393 public companies with complete data for fiscal year 2004.

Aside from improving the power of our tests, the breadth of this sample enables us to address a second important current policy issue related to SOX: the application of Section 404 to smaller public companies. Section 404 requires registrants to report on the effectiveness of their internal controls over financial reporting (ICOFR), and their auditors to independently test controls and offer a separate opinion on ICOFR effectiveness. Section 404 was initially applied only to the largest public companies (accelerated filers). Its extension to non-accelerated filers is highly controversial because the cost of compliance with SOX 404 is high, and smaller companies are less likely to be able to absorb that cost. However, prior research (cited later in this paper) shows that fraud and material weaknesses in internal controls are more frequent among small companies. The application of Section 404 to non-accelerated filers has been delayed several times by the SEC. Recently, the Internal Controls Subcommittee of the SEC's Advisory Committee on Smaller Public Companies proposed exempting non-accelerated filers from compliance with Section 404, on the grounds that stricter corporate governance

¹ Krishnan (2005) also studied the association of internal control problems and audit committee financial expertise, in a pre-SOX study using data from 8-K filings on auditor changes.

requirements might be sufficient to enforce proper establishment and evaluation of companies' internal controls (Securities and Exchange Commission 2005).² The Advisory Committee's solution is a tempting option. If successful, it would accomplish improvement in financial reporting quality among smaller public companies, at relatively low cost.

To investigate these issues, we test whether disclosed internal control MWs are associated with corporate governance quality (including audit committee financial expertise), using separate models of accelerated and non-accelerated filers. MW data are obtained from Section 404 (302) filings for accelerated (non-accelerated) filers. While the disclosure of a MW indicates current and future risk of incomplete or incorrect financial reports, development of a directional expectation is complicated because the series of events leading to MW disclosure have different implications for governance quality. The existence of underlying (unobservable) weaknesses in ICOFR should be negatively associated with governance quality.³ However, the diligence of the company in detecting these weaknesses, and the willingness to publicly disclose detected weaknesses, should be positively associated with governance quality. For accelerated filers, it is likely that Section 404 requirements (i.e., both management and the auditor test internal controls, and both present opinions on control effectiveness) decrease the likelihood that existing weaknesses will *not* be detected or disclosed. Thus, we expect that stronger corporate governance will be associated with less disclosure of MW for accelerated filers. For non-accelerated filers, the expectation of a negative association of MW disclosure and governance quality is less clear. The increased liability for management and directors inherent in the post-

² Specifically, the Subcommittee recommended that microcap companies be exempted from Section 404 altogether if certain governance standards are met. Smaller public companies would perform management's assessment of internal controls, but would be exempted from the external audit requirements of Section 404.

³ In the 404 environment, better governed companies should have been more likely to initiate their own control testing early in the process, so that fewer unremediated problems remained at year-end. Anecdotal evidence suggests that some first-round MW disclosure might have been prevented had there been time for management to apply a remediation strategy and for auditors to test the remediation.

SOX environment may cause knowledgeable and diligent audit committees and boards to detect and disclose MWs. However, without the testing prescriptions and auditor opinion associated with Section 404, the likelihood of finding a directional association of governance quality with MW disclosure among non-accelerated filers may be reduced.

Consistent with this concern, our findings reflect a clear difference between accelerated and non-accelerated filers. For accelerated filers, we find the expected negative association of AFE (using the SEC's original narrow definition) with MW disclosure, and a marginally significant association for SFE (qualifications added in the expansion of the SEC's original proposal). We also find that different types of financial expertise are associated with improvement in different aspects of internal controls: SFE with MWs related to personnel issues and information technology, and AFE with accounting-related MWs. While both types of expert contribute in some way, AFE are associated with issues of more immediate impact on financial reporting. Further, accelerated filers with lower quality corporate governance at the board level are more likely to disclose MW. This combination of findings suggests that for accelerated filers, either direct accounting financial expertise *or* effective governance at the board level is associated with higher quality financial reporting. These results are similar to those of Carcello et al. (2006), who study the association of types of financial expertise with earnings management. This pattern of results seems to support the proposal of the SEC's Internal Controls Subcommittee. Importantly, however, we do *not* detect any negative associations between corporate governance quality and internal control MWs when the model is restricted to non-accelerated filers. This difference between large and small companies suggests that without independent auditor attestation associated with full application of Section 404, corporate governance quality has little impact on internal control over financial reporting.

It is important to note that our procedure collects qualification data on all audit committee members, whether or not they are designated as financial experts by their companies. Our qualifications variables thus represent the percentage of total audit committee members with those qualifications. However, the final SEC rules also allow companies to designate individuals with other experience (e.g., financial analysts, venture capitalists) as financial experts.⁴ We find that designation of those individuals as financial experts is *positively* associated with material weakness disclosure among both accelerated and non-accelerated filers. This suggests that such individuals do not contribute to improving internal controls (in contrast to persons with direct accounting or supervisory experience), or that the existence of material weaknesses compel companies to designate individuals with qualifications other than AFE and SFE. We also find that voluntary designation of more than one financial expert is positively associated with material weakness disclosure, for both accelerated and non-accelerated filers. This suggests that companies finding a material weakness designate more financial experts in their audit committees to spread the liability across more than one single individual. This is consistent with the decision by the SEC not to provide a safe harbor from liability for ACFE in fear that it would “adversely affect the operation of the audit committee.”

II. BACKGROUND, PRIOR RESEARCH AND HYPOTHESES

The Sarbanes-Oxley Act of 2002 introduced a variety of requirements aimed at restoring public confidence in the financial markets. Among its reforms are provisions aimed at strengthening the role of corporate governance through changing the composition and responsibilities of boards and audit committees, and improving disclosure. The audit committee

⁴ Prior related research (e.g. Dhaliwal et al. 2006) considers three groups of experts. While our automated parsing routine yielded highly accurate coding of accounting and supervisory experts based on a comparison to proxy information for a sample of companies, coding of the third category was not sufficiently accurate. We therefore consider accounting and supervisory expert categories in our main analysis, and consider all other individuals designated as financial experts in a separate model (Table 5).

has the responsibility to oversee internal controls; communicating with management, internal and external auditors, and the board of directors to assure that the overall internal controls and the reporting process are effective (SEC, 34-48745, 2003). In order to discharge this responsibility, the audit committee must possess the requisite understanding of financial reporting (SEC, 33-8177, 2003). SOX Section 407 requires companies to disclose whether their audit committee includes a financial expert, but does not specifically define financial expertise.

The definition of “financial expert” has been a controversial topic. In implementing Section 407, the SEC (SEC 2002) originally defined “financial expert” narrowly as: “...*a person who has, through education and experience as a public accountant, auditor, principal financial officer, controller or principal accounting officer, of a company that, at the time the person held such position, was required to file reports.*” The SEC received over 200 comment letters, many claiming that this definition was too restrictive and would make it difficult to attract qualified individuals, that it goes beyond the intent of Section 407, and that the oversight role of the audit committee goes beyond accounting. Hence, the final regulation implementing Section 407 (Rule 33-8177, January 2003) defines “audit committee financial expert” as an individual with understanding of financial reporting, but not necessarily direct experience in that function.⁵

A number of prior studies examine the relationship between corporate governance and various measures of financial reporting quality, both before and after SOX. Several of those studies specifically address audit committee financial expertise, and measure financial reporting quality in various ways. Abbott et al. (2004) use the broad definition of Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (BRC; 1999) in a study of

⁵ The originally proposed rule further required companies to disclose the number and names of all individuals designated as financial experts. Many comment letters raised concerns individuals designated as financial experts would carry a higher liability, and thus it would be harder to find qualified individuals for the task. In reaction, the final rule requires companies to designate and disclose the name of only one financial expert.

restatements during the 1990's. They find that the presence of at least one financial expert is negatively associated with restatement likelihood. Krishnan (2005) uses 8-K data from the period prior to SOX, finding that the likelihood of disclosing internal control problems during auditor changes is lower for firms with audit committees having greater financial expertise. Krishnan (2005) defines financial expertise consistent with the SEC's initial narrow construction. Bédard et al. (2004) use a definition of financial expertise more narrow than the Blue Ribbon Committee's (i.e., excluding CEOs), and find that this variable is negatively associated with earnings management. Farber (2006), using the BRC definition, finds mixed evidence of association between audit committee financial expertise and fraud in the pre-SOX period.

While the weight of evidence before the advent of SOX suggests that audit committee financial expertise is important in improving financial reporting quality, the above studies use different definitions of expertise, and do not compare results across definitions. Thus, while informative on the overall issue of financial expertise, they do not directly address the differential qualifications question. Other studies of the pre-SOX period do provide comparisons of financial expertise definitions. Dhaliwal et al. (2006) study the association of accruals quality with three distinct categories of financial expertise: accounting, supervisory (i.e., supervisory) and finance (i.e.; venture capitalists, financial analysts, etc.). Using data from the pre-SOX period, they find that only accounting expertise is associated with higher quality accruals. Also, DeFond et al. (2005) find a favorable market reaction to the appointment of directors who are accounting experts, but no such reaction for non-accounting financial experts, or non-financial experts. Using the three categories of DeFond et al., Krishnan and Visvanathan (2006) find indication that only accounting experts are associated with more conservative financial reporting during 2000-2002. Using data from the post-SOX environment. Carcello et al. (2006) investigate

the association of earnings management with different types of audit committee qualifications in 2003. They find no association for designated experts having supervisory experience, but they do find reduced earnings management among companies having designated experts with accounting experience, and other experience not in either category.

To date, prior research strongly supports the value of including individuals with accounting-related experience on audit committees and boards of directors. However, the value of including individuals with less direct financial reporting experience remains unclear. Further, only one such study has been performed on post-SOX data. In this research, we proxy for quality of financial reporting through information on MWs in internal control over financial reporting, disclosed under Sections 404 or 302 of SOX. Zhang et al. (2006) also examine the association of internal control weakness disclosure with accounting and non-accounting financial experts using a combined sample of accelerated and non-accelerated filers, finding a negative association with both types of qualification. We extend prior research by addressing a common source of limitation of studies of audit committee or board member qualifications. Specifically, those studies obtain data from corporate governance databases (containing only large public companies) or by hand-collection (restricting sample size). Through use of an automated extraction and parsing routine, we gather and examine data on about 2,400 public companies. This enables the comparison of accelerated to non-accelerated filers, one important objective of our research.⁶ We predict in H1 that greater audit committee financial expertise will be

⁶ Prior research evidence is not consistent on small/large company governance differences. For example, Klein (2002b) and Beasley and Salterio (2001) find that smaller companies have lower quality corporate governance, while Abbott et al. (2001) find no difference.

associated with less disclosure of MWs. H2a and H2b consider this association for accounting and non-accounting financial experts separately.⁷

H1: Disclosure of a material weakness in internal controls will be negatively associated with the proportion of audit committee members possessing financial expertise.

H2a: Disclosure of a material weakness in internal controls will be negatively associated with the proportion of audit committee members possessing accounting financial expertise.

H2b: Disclosure of a material weakness in internal controls will be negatively associated with the proportion of audit committee members possessing supervisory financial expertise.

We extend prior related research on audit committee financial expertise in several ways. First, we consider whether different qualifications of financial experts are associated with improvement in certain aspects of internal control more related to those specific qualifications. This test is motivated by different findings of prior research on the effectiveness of supervisory financial experts in the post-SOX environment. Specifically, Carcello et al. (2006) find that supervisory financial experts are unrelated to accruals quality while Zhang et al. (2006) find that these financial experts are associated with reduced likelihood of internal control weaknesses. Taken together, these studies imply that these experts may have an impact on internal control quality that is not so directly related to the financial statements. H3a and H3b predict that accounting financial experts are negatively associated with accounting-related internal control problems, while supervisory financial experts (e.g., CEOs, Board chairs) are negatively associated with problems in their area of expertise, such as managing personnel and information technology issues.

H3a: Audit committee members with accounting financial expertise will be negatively associated with the disclosure of accounting-related material weaknesses.

⁷ As discussed in the introduction, while our hypotheses suggest that higher quality corporate governance (using various measures) will be associated with reduced MW disclosure, the more stringent regulation inherent in Section 404 suggests that support for these hypotheses is more likely for accelerated filers.

H3b: Audit committee members with supervisory financial expertise will be negatively associated with the disclosure of management-related material weaknesses.

Second, we also extend prior research by studying companies' designation of financial experts, in two ways. One of our hypotheses regarding designation arises from prior research on designation as financial experts of individuals without accounting or supervisory experience (e.g., venture capitalists and financial analysts). The experience of such experts as financial statement users seems less well related to the corporate financial reporting function. Thus, designating such individuals as experts in oversight of internal controls could result in reduced effectiveness in this particular aspect of audit committee activity. Results of prior research vary, with Carcello et al. (2006) concluding that designation of such individuals as financial experts is associated with reduced earnings management (as measured by accruals), while Dhaliwal et al. find no association. This association has not been tested with regard to internal control weaknesses. H4 is a directional hypothesis predicting that designation of such individuals as audit committee financial experts is associated with lower quality financial reporting:

H4: The designation of a financial expert without direct accounting or supervisory experience will be positively associated with the disclosure of material weaknesses.

Further, we extend prior research by testing the association of designating more than one financial expert with the effectiveness of internal control over financial reporting. In this case, the likely direction of effect is not clear ex ante. Presumably, disclosing more experts could signal that the audit committee is stronger, yielding a negative association with material weakness disclosures. Alternatively, firms disclosing material weaknesses might want to shield financial experts from liability exposure by spreading the risk among multiple audit committee members. Thus, H5 is a nondirectional hypothesis.

H5: The voluntary designation of more than one financial expert will be associated with the disclosure of material weaknesses.

Our third extension of the audit committee financial expertise literature arises from the extension of our sample to smaller public companies. This feature of our study allows us to address the very controversial issue of whether higher quality corporate governance is an adequate substitute for the provisions of SOX 404 among non-accelerated filers. Though there have been several delays in application of Section 404 to non-accelerated filers, the SEC has recently asserted that all companies will eventually be required to comply.⁸ The question for policy makers is whether the balance between the cost of complying with Section 404 and the benefits is reasonable for smaller filers.⁹ The SEC's Internal Controls Advisory Committee on smaller public companies (SEC 12-7-2005) has recently weighed into this debate, proposing that stricter corporate governance requirements might be sufficient to enforce proper establishment and evaluation of companies' internal controls. Our compilation of data on the qualifications of audit committee members of non-accelerated filers allows us to separately examine their associations with financial reporting quality. In so doing, we are particularly interested in whether the regularly observed association of accounting financial expertise with financial reporting quality holds for smaller public companies. We investigate this public policy issue by separately modeling the association of audit committee financial expertise (and other corporate governance variables, discussed below) with internal control quality. If stronger corporate governance is effective in improving financial reporting among both accelerated filers (under Section 404) and non-accelerated filers (under Section 302), we should observe that companies

⁸ Currently the SEC announced that companies with fiscal years ending on or after December 15, 2007 will have to comply with the management internal control evaluation requirements of Section 404, and a year later (on or after December 15 2008) with auditor involvement (per AS No. 2).

⁹ Costs of Section 404 compliance include both internal costs of documenting and testing controls, and fees paid to external auditors for testing preparing their opinion on control effectiveness.

with better corporate governance report fewer material weaknesses under both regimes. If, however, the involvement of external auditors is needed to make the less well-governed companies discover and disclose their problems, then we should not observe this association among non-accelerated filers.

Our final set of hypotheses concentrates on the association between governance variables other than audit committee financial expertise and the likelihood of disclosing MWs in internal controls. Prior literature commonly assesses corporate governance using variables measuring board and committee size, independence and diligence, as well as expertise. Using composite governance scores that combine board and audit committee composition and activity, both Carcello et al. (2006) and DeFond et al. (2005) conclude that strong corporate governance contributes to financial reporting quality. In contrast, Doyle et al (2006) fail to observe a significant association between a corporate governance quality index and the likelihood of disclosing material weaknesses, the topic of the current study.¹⁰

Due to our specific interest in audit committees and post-SOX changes in the regulatory environment, we separately consider audit committee size and diligence from that of the board. The BRC (1999), followed by the NASDAQ and the NYSE, require listed companies to include at least three directors on registrants' audit committees, implying that larger audit committees are important. Consistent with this view there is evidence suggesting that large audit committees are associated with lower cost of debt (Anderson et al. 2004). Audit committee diligence is commonly measured as number of meetings: fewer meetings can indicate lack of commitment and/or insufficient time for effective monitoring. McMullen and Raghunandan (1996), Beasley et al. (2000), Farber (2006) and Archambeault and DeZoort (2001) observe fewer audit committee

¹⁰ Both Zhang et al. (2006) and Doyle et al. (2006) examine whether the likelihood of disclosing material weaknesses relates to the audit committee and the corporate governance for a mixed sample of accelerated and non-accelerated filers. Thus these studies do not directly address the issue of extension to smaller firms of Section 404.

meetings among firms with restatements, SEC enforcements, fraud, and suspicious auditor switches, respectively. The evidence for an association of internal control quality with audit committee characteristics other than financial expertise is not strong. While a number of studies have considered audit committee size and diligence as indicators of governance quality, Zhang et al. (2006) do not find either variable to be associated with disclosure of material weaknesses. Based on the research cited in this section, we propose directional hypotheses for audit committee size and board quality, and a non-directional hypothesis for number of audit committee meetings.

H6a: The likelihood of disclosing a material weakness is lower for companies with larger audit committees.

H6b. The likelihood of disclosing a material weakness will differ for companies with more frequent audit committee meetings.

H6c. The likelihood of disclosing a material weakness is lower for companies with stronger boards of directors.

III. METHOD

Development of Sample Data

Our sample is based on firms with coverage on *AuditAnalytics* database, which contains information on the structure of company boards and board committees. We first identify 4,456 companies with board and audit committee data for fiscal year 2004 and eliminate companies with a board or audit committee that contains only one member or did not meet during the fiscal year, leaving 4,019 companies. Because we codify audit committee financial expertise based on information in the biographical sketch taken from the proxy statement, we restrict our sample to companies for which we have a complete set of biographies for audit committee members, leaving 3,016 companies and 10,405 audit committee members. We collect internal control disclosures (Section 404 for accelerated filers and Section 302 for non-accelerated filers), along

with data on auditor changes, mergers and acquisitions, institutional holding, business segments, and other financial information from *AuditAnalytics*, *SDC Platinum*, *Thompson Financials*, Compustat Segment data and Compustat Annual files respectively. After eliminating firms with missing values, our final sample contains 2,393 companies (1,581 accelerated and 812 non-accelerated filers) with complete data, and 8,306 audit committee members.

Dependent Variables

Our dependent variable is the disclosure of a material weakness (*MW*) in internal control over financial reporting. *MW* is coded as one if the Section 404 report (for the accelerated) or at least one of the quarterly Section 302 reports (for the non-accelerated) indicates that the internal controls contained at least one unremediated material weakness in fiscal year 2004; zero otherwise. We classify the material weaknesses into categories according to the nature of the problem, using the *AuditAnalytics* classifications.¹¹ For purposes of testing H3, we create variables for two mutually exclusive groups of MW. One group relates to accounting problems, which we hypothesize will be associated with accounting expertise (*ACCTMW*). The second group contains MW relating personnel issues and information technology issues, which we hypothesize will be associated with supervisory expertise (*PERSONNEL&IT_MW*).¹²

Independent Variables: Corporate Governance

Audit Committee Characteristics

To test our hypotheses regarding audit committee financial expertise, we obtain data using a parsing routine, as follows. First, we constructed a software “robot” using Perl, a

¹¹ This particular form of MW classification is available from *AuditAnalytics* only for the accelerated filers.

¹² Some MWs do not fall into either category. There are 59 companies with MWs that are not *ACCTMW* or *PERSONNEL&IT_MW*. When testing H3 these companies are excluded from our sample.

programming language. This robot was used to download information on board and committee characteristics from *AuditAnalytics*, which is contained in HTML pages. Using a similar robot, we then downloaded the biographical information for *all* members of audit committees. Next, we parsed the HTML pages into text files, and uploaded the data into a SAS data set. Finally, we parsed the biographical information for each audit committee member in two stages: (1) we transformed all the letters in the biographical sketch to be small caps; and (2) we searched for common words and abbreviations that describe the qualifications of an individual audit committee member in his/her biography.

To construct individual expertise variables, we first follow the spirit of the originally proposed SEC rule (SEC 2002) for implementing Section 407 by coding members as “accounting financial experts” (AFE) only if their biographical data indicate that they have the specific qualifications mentioned in the SEC’s final rule. Thus, we classify a person as an “accounting financial expert” if his/her biography contained at least one of the following titles: cpa, certified public accountant, cfa, certified financial analyst, cma, certified management accountant, cfo, chief financial officer, principal financial officer, chief accounting officer, principal accounting officer, treasurer, auditor, vice president–finance, vice president of finance. We then classify “supervisory financial experts” (SFE) those audit committee members *not* classified as an accounting financial expert and whose biographies contain at least one of the following titles: ceo, chief executive officer, coo, chief operating officer, and chairman of the board. To validate this procedure, we selected a random sample of 100 biographies, and manually compared the automated classification to the biography text. This comparison revealed

only a single error: one person was misclassified due to a spelling mistake in his bio (“certified public accountant”). This indicates that our parsing procedure is highly accurate.¹³

Consistent with other recent studies (e.g., Lee et al. 2004, Carcello and Neal 2003, and Zhang et al. 2006) we define expertise as the percentage of individuals with various types of experience among *total* audit committee members: *PAFE* (percentage with accounting experience), *PSFE* (percentage with supervisory experience), and *PFE* (percentage of both categories combined). For comparative purposes, we also include variables measuring the company’s designation of financial experts: the percentages of *AFE* and *SFE* relative to the total number of designated financial experts are termed *PDES_AFE* and *PDES_SFE*, respectively.

Prior research also examines audit committee independence, diligence and size. The independence of audit committee members has been the subject of a number of studies examining the period preceding SOX (e.g., Klein 2002a; Abbott et al. 2004). SOX Section 301 recognizes the importance of independence by requiring all audit committees members to be unaffiliated with management. Thus, due to lack of variation in independence we do not include this construct in our models, but rather concentrate on diligence (*ACMEETING*, the number of audit committee meetings in fiscal year 2004), and size (*ACSIZE*, the total number of individuals serving on the committee in fiscal 2004).

Board of Directors

The board of directors plays a significant role in the overall governance of public companies. Previous research documented that stronger boards are associated with lower earnings management, restatements and fraud (e.g., Beasley et al. 2000, Klein 2002b, Bédard et

¹³ Attempts to accurately parse the SEC’s third category (experience as a financial statement user, such as venture capitalists, financial analysts, etc.) were not successful due to the variety of terminology used to describe those qualifications. Instead, we examine as a residual group the effectiveness of all audit committee members designated as financial experts, but not having accounting or supervisory qualifications, in the test of H4.

al. 2004). We measure the overall strength of the corporate governance by creating a score based on three factors: board size, board independence, and board tenure. There is evidence suggesting that smaller boards are associated with good governance (Yermack 1996; Core et. al 1999). Thus, our score accepts the value of one if the size of the board is smaller than the median board size in our sample; zero otherwise. (Because we estimate separate models of accelerated and non-accelerated filers, we perform this and other median calculations separately for each group.) Previous research also suggests that board independence is associated with positive outcomes (Beasley 1996; Klein 2002b). Thus, for each firm, we first calculate the percentage of independent board members¹⁴ and then calculate the median of this percentage across firms. Our score accepts the value of one if the board independence is greater than the median; zero otherwise. Finally, prior research suggests that longer tenure on the board and the audit committee members is associated with less fraud and earnings management (Beasley 1996; Bédard et al. 2004). Consequently, we calculate the average tenure for our independent board members for each firm, and the median tenure across each sample. Our score accepts one if the average tenure is above the median for our sample; zero otherwise. Finally, similar to Carcello (2006), we sum the scores from these three components and calculate the within-sample median. The overall board governance score takes the value of one for companies with scores that are higher than the median; zero otherwise. Following is a summary of governance variables, taken from *AuditAnalytics*:

<i>AUDITMEETING</i>	The number of meetings held by the audit committee for the fiscal year 2004;
<i>AUDITCOMMITTEESIZE</i>	The number of members serving on a company's audit committee;
<i>PFE</i>	Percentage of accounting and supervisory experts serving on a company's audit committee, based on total audit committee size;

¹⁴ We define independent board members as those who are not employed by the firm.

<i>PAFE</i>	Percentage of accounting experts serving on the audit committee, based on total audit committee size (individuals whose bios indicate at least one of the following qualifications: CPA, CFO, VP of finance, financial controller, CMA, CFA, principal financial officer, auditor or chief accounting officer);
<i>PSFE</i>	Percentage of supervisory serving on the audit committee, based on total audit committee size (individuals whose bios indicate at least one of the following qualifications, but not one of the qualifications used to define financial experts: CEO, COO, or chairman of a board of directors);
<i>BOARDSCOREGOV</i>	An indicator variable equal to one if the composite score (comprising board size, percent of independent board members, and board tenure) is greater than the within-sample median; zero otherwise.

Control Variables

Research on the determinants of internal control quality examines mixed samples of accelerated filers complying with Section 302 (Ashbaugh-Skaife et al. 2006) and Sections 302 and 404 (Doyle et al. 2006) of SOX. This research generally finds that smaller, more complex companies who are financially weaker and experience changes are more prone to disclose material weaknesses. Hence, in order to capture the incremental impact of the audit committee on internal controls, we include similar variables in our models. We first control for auditor type by including an indicator variable for companies audited by Big 4 auditors (*BIG4*) and for those audited by BDO Seidman and Grant Thornton (*MIDTIER*), expecting a positive association between these variables and the likelihood of discovery and disclosure of problems (Ashbaugh-Skaife et al. 2006). We control for company size by including the natural log of the market value of equity (*LOGMARKETCAP*) expecting a negative association (i.e., smaller filers are more prone to disclose MWs). We include a measure of profitability through a dummy variable capturing recent losses (*LOSS*). Financially weaker companies might have fewer resources to invest in a systematic system of controls and/or remediate their internal controls implying a positive association between this variable and material weakness disclosure. We capture

complexity and recent changes by including the number business and geographic segments (*SEGMENT*), a dummy for foreign operations (*FOREIGN*), recent mergers (*MERGER*), restructuring (*RESTRUCTURE*) and fast growth (*EXTREMEGROWTH*). We expect a positive sign between all of the complexity variables and the likelihood of disclosing material weaknesses. We also expect that recent auditor changes (*AUDITORCHANGE*) might be associated with the disclosure of material weaknesses (Ettredge et al. 2006). Finally, we control for industries more prone to litigation (*LITIGATION*) in effort to capture some control risk (Ashbaugh-Skaife et al. 2006). The following list summarizes our control variables:

<i>BIG4</i>	An indicator variable equal to one when the auditor is a Big 4 firm; zero otherwise [Audit Analytics];
<i>MIDTIER</i>	An indicator variable equal to one when the auditor is a mid-tier firm (Grant Thornton and BDO Seidman); zero otherwise [Audit Analytics];
<i>LOGMARKETCAP</i>	The log of share price times the number of shares outstanding [Compustat data item #25 * Compustat data item #199] ;
<i>LOSS</i>	An indicator variable equal to one if the company had net loss in any of the last two years; zero otherwise [Compustat data item #172];
<i>SEGMENT</i>	The sum of reported business and geographic segments in 2004 (Compustat Segment file);
<i>FOREIGN</i>	An indicator variable equal to one if the company has. non-zero foreign currency translation; zero otherwise [Compustat data item #150];
<i>MERGER</i>	An indicator variable equal to one when the client has experienced a merger in the past two years; zero otherwise [SDC Platinum];
<i>EXTREMEGROWTH</i>	An indicator variable equal to one if year over year industry-adjusted sales growth [data item #12] falls into the top quintile, and zero otherwise;
<i>RESTRUCTURE</i>	An indicator variable equal to one if a firm was involved in a restructuring, and zero otherwise. [This variable is coded one if any of the following Compustat data items are non-zero: 376, 377, 378 or 379];
<i>AUDITORCHANGE</i>	An indicator variable equal to one if the company changed auditors; zero otherwise [Audit Analytics];
<i>LITIGATION</i>	An indicator variable equal to one if a firm is in a litigious industry—SIC codes 2833 to 2836; 3570 to 3577; 3600 to 3674; 5200 to 5961; and 7370; zero otherwise;

Models

We study the likelihood of disclosing material weaknesses as a function of the characteristics of the audit committee and the board of directors, as well as the control variables mentioned above. Our main model is the following logistic regression:

$$MW = \alpha + \beta_1 PFE + \beta_2 AUDITMEETING + \beta_3 AUDITCOMMITTEESIZE + \beta_4 BOARDSCOREGOV + \beta_5 BIG4 + \beta_6 MIDTIER + \beta_7 LOGMARKETCAP + \beta_8 LOSS + \beta_9 SEGMENT + \beta_{10} FOREIGN + \beta_{11} MERGER + \beta_{12} EXTREMEGROWTH + \beta_{13} RESTRUCTURE + \beta_{14} AUDITORCHANGE + \beta_{15} LITIGATION + e$$

Changes to the basic model to test the research hypotheses are discussed along with results and are shown in the tables.

IV. RESULTS

Descriptive Statistics

Table 1 presents descriptive data for the sample, separately for accelerated and non-accelerated filers. These comparative statistics are in themselves interesting because prior research related to audit committee qualifications uses small samples and/or concentrates on larger companies. Table 1 Panel A shows a number of differences between accelerated and non-accelerated filers. Accelerated filers are more likely to disclose material weaknesses (15 versus seven percent). Because it is unlikely that smaller companies are better controlled than larger companies, this difference is likely due to the more rigorous requirements of ICOFR documentation and testing by companies and auditors in Section 404, relative to Section 302. Accelerated and non-accelerated filers also differ on some measures of corporate governance related to audit committees. Particularly, for accelerated filers, audit committees are larger (3.62 versus 3.16 members) and meet more frequently (8.38 versus 5.26 meetings).

Insert Table 1 About Here

Panel B shows that audit committees of accelerated filers have a higher percentage of audit committee members with supervisory qualifications (40 versus 34 percent), but the percent of those with accounting-related qualifications is not statistically different across groups (21 versus 20 percent).¹⁵ Table 1 Panel C shows the composition of those audit committee members designated as experts by companies. Again, we find that the percentage of designated financial experts with accounting experience is not different (45 versus 48 percent), but the percentage of audit committee members with supervisory experience is larger among accelerated filers (30 versus 24 percent). Accelerated filers are more likely to voluntarily designate more than one financial expert (26 versus 12 percent). However, the proportion of companies who designate financial experts without accounting or supervisory experience (at least based on available biographical information) is similar across groups (13 versus 12 percent). Taken together these data suggest that overall, accelerated filers have stronger audit committees on some, but not all, dimensions of governance.

Table 1 Panel A also shows that accelerated filers also differ from non-accelerated filers on other dimensions. They are less likely to experience net loss (28 versus 51 percent), have more complex operations measured by number of business and geographic segments (7.21 versus 4.98), frequency of mergers (28 versus 11 percent), restructuring (22 versus nine percent) and foreign operations (27 versus 15 percent). Accelerated filers are more likely to be audited by a Big 4 firm (88 percent versus 38 percent), and less likely to be audited by a mid-tier firm (five versus 15 percent). They are less likely to have changed auditors (seven versus 17 percent) and

¹⁵ Our percentage of AFE is similar to that obtained by Zhang (2006) studying a smaller sample during part of 2004. They observe that the mean and median of the AFE proportion to be 0.22 and 0.25 respectively, whereas we find that the mean and median are 0.21 and 0.25 for accelerated filers and 0.20 and 0.23 for non-accelerated filers respectively.

less likely to be in a litigation-prone industry (18 versus 20 percent). Overall, the differences between the two groups emphasize the need to model them separately.

Table 2 presents descriptive statistics for specific financial expertise qualifications, by filing status and for companies with/without a material weakness. Panel A displays audit committee members' qualifications as a proportion of the total number of committee members. Focusing on the statistics for total accounting financial experts, the table shows that about 20 percent of audit committees have these qualifications, regardless of filing status or material weakness disclosure. However, when the percentage of designated financial experts is considered (Panel B), companies without material weaknesses are seen to have a greater proportion of accounting financial experts designated than do those with material weaknesses, and the difference is larger for non-accelerated filers (46 versus 39 percent). Correspondingly, the proportion of supervisory financial experts on the audit committees of non-accelerated filers with a material weakness is 31 percent, whereas only 24 percent of the audit committees of non-accelerated filers without material weaknesses are supervisory financial experts.

Insert Table 2 About Here

Tests of Hypotheses

Table 3 presents results of the logistic regression models testing the research hypotheses regarding the association between expert qualifications, audit committee and other governance characteristics and the likelihood of disclosing a material weakness. We present our test results sequentially along with a comparative assessment for the differences between accelerated and non-accelerated filers (Columns B through D). Columns B and C provide tests of H1, which predicts that a higher percentage of financial experts is associated with lower likelihood of disclosing a material weakness. The results of the logistic models show that this hypothesis is

supported for accelerated filers (Chi-squared = 3.364, $p < 0.05$), suggesting that financial expertise on the audit committee of larger companies subject to Section 404 of SOX contributes to higher quality internal controls or to the remediation of material weaknesses prior to the required disclosure date.¹⁶ However, H1 is not supported for non-accelerated filers complying with Section 302 of SOX. Columns D and E show models testing H2a and H2b, which predict reduced likelihood of material weaknesses for companies with more accounting financial experts and supervisory financial experts, respectively. Results of the models show that for accelerated filers, H2a is supported at conventional levels (Chi-squared = 3.066, $p < 0.05$) and H2b is supported with marginal significance (Chi-squared = 2.13, $p < 0.10$). Again, however, neither hypothesis is supported for non-accelerated filers.¹⁷ Taken together, these results imply that both types of financial expertise play at least some role in stronger internal controls among companies subject to Section 404, but this effect is not seen among companies not subject to 404.¹⁸

Insert Table 3 About Here

Several control variables are also significant in the models reported in Columns B and C, with some similarities and some differences between the columns. Common to both accelerated and non-accelerated filers, companies with losses are more likely to disclose material weaknesses (Chi-squared = 6.964 and 12.281, respectively, $p < 0.01$ for both), as are those with foreign operations (Chi-squared = 4.435 and 4.158, respectively, $p < 0.05$ for both). Also for both groups, auditor change is associated with more likely disclosure of material weaknesses

¹⁶ This association could also be a result of experts choosing companies with better controls and/or companies with better controls choosing more experts.

¹⁷ We discuss results of tests of H6 in a following section.

¹⁸ We also perform a similar analysis that is based only designated ACFE. We construct a new measure by identifying experts, financial experts, and supervisory financial experts from the designated members and calculate the new expertise proportions by deflating the number of these experts by the total number of designated members for each company. Substituting these variables in the logistic regression we observe similar results wherein expertise is negatively significant for accelerated but not for non-accelerated filers. Separating the two types of expertise we observe that financial expertise is negatively significant for accelerated filers and supervisory expertise is not significant. None of the expertise variables is significant for non-accelerated filers.

(Chi-squared = 7.330 and 7.441, respectively, $p < 0.01$ for both). These findings are generally consistent with results found by Ashbaugh-Skaife et al. (2006) and Doyle et al. (2006). Variables with different significance include Big 4 auditor (positive and significant for non-accelerated filers, Chi-squared = 3.128, $p < 0.05$), mid-tier auditor (positive and significant for accelerated filers, Chi-squared = 7.083, $p < 0.01$), market capitalization (negative and significant for accelerated filers, Chi-squared = 16.728, $p < 0.05$) and the number of segments (positive and significant for accelerated filers). These results are different from those observed by Zhang et al. (2006), using a matched sample. They do not find an association of material weaknesses with size as well as several other control variables.

Accounting versus Supervisory Financial Expert Qualifications and Types of Material Weaknesses

Results presented in Table 3 show that for accelerated filers, greater representation of both AFE and SFE on the audit committee is associated (at some level) with improved internal controls. H3a and H3b propose that different types of financial expertise are associated with aspects of internal control quality most related to their experience. Specifically, we predict that AFEs (such as CPAs and CFOs) are more likely to contribute to internal controls that relate to accounting matters, and SFEs are more likely to contribute to internal controls pertaining to general issues such as personnel and information technology. To test this possibility, we partition the *MW* variable by separating those companies disclosing accounting-related material weaknesses from those disclosing issues that relate to personnel and information technology. We observe that 117 accelerated filers had material weaknesses relating to reconciliation and period-end adjustments, which we classify as accounting-related weaknesses (*ACCTMW*). Further, we observe that 55 accelerated filers had problems that relate to personnel and IT, including

segregation of duties, ethical problems, issues with senior management, and insufficient training and resources (*PERSONNEL&IT_MW*).¹⁹

Table 4 presents results of testing H3a and H3b. Column A reports results of a logistic regression model whose dependent variable is *ACCTMW*, which is estimated for accelerated filers excluding companies with material weaknesses that are not related to accounting. We find that greater representation of *AFEs* is associated with a reduced likelihood of disclosing accounting-related material weakness (Chi-squared = 3.848, $p < 0.05$), but representation by *SFEs* is not associated with accounting-related material weaknesses. In Column B, we exclude companies with accounting material weaknesses and estimate the model whose dependent variable is *PERSONNEL&IT_MW*. Results of this model indicate the reverse: companies with more supervisory financial experts have fewer of those problems disclosed (Chi-squared = 5.829, $p < 0.01$), but accounting financial expertise is unrelated to personnel and IT problems. Taken together, these results reinforce the view in many of the comment letters received by the SEC that both types of experience matter in some way. However, accounting qualifications matter more for MWs that directly affect the financial statements in the near term.

Insert Table 4 About Here

Examining Company Designations of Financial Experts

Some prior research limits the analysis of audit committee qualifications to individuals designated as experts by companies (e.g., Carcello et al. 2006). Of course, individuals with qualifications such as CPA, CFO or CEO may serve on an audit committee and lend their expertise to the deliberations even if they are not so designated. Because we search for qualifications of all audit committee members, we can investigate both the effects of specific qualifications, and of the designation decision. In the previously presented tests of H1-H3, we

¹⁹ If a firm has both *ACCT-MW* and *PERSONNEL&IT_MW*, we gave precedence to *ACCT-MW*.

considered accounting and supervisory qualifications of all audit committee members. We now consider the designation as financial experts of individuals without those qualifications. Individuals designated as financial experts whose bios show neither *AFE* nor *SFE* qualifications are categorized as other financial experts (*OFE*). A simple comparison of accounting and supervisory FE to designated audit committee members is revealing. For the 1,811 firms for which we have complete data²⁰, we find the following numbers of individuals in each category:

	<u><i>AFE+SFE</i></u>	<u><i>OFE</i></u>	<u><i>Total</i></u>
<i>Designated</i>	1851	633	2484
<i>Not Designated</i>	1924	1795	3719

It is evident from these figures that while most designated financial experts have *AFE* or *SFE* qualifications (about 75 percent), there are as many similarly qualified individuals who are not designated as experts. H4 predicts that the designation as financial experts of audit committee members whose biographical data do not indicate qualifications as *AFE* or *SFE* is associated with greater likelihood of MW. To test H4, we identify 184 accelerated and 82 non-accelerated companies who designated at least one financial expert whose biographical information does not display qualifications consistent with being *AFE* or *SFE*. We define the variable *OFE* (other financial expertise) as one for these individuals; zero otherwise. From results of the models in Table 5 Columns A and B, we observe that for both accelerated and non-accelerated companies, firms that designate financial experts who are neither *AFE* nor *SFE* are more likely to disclose material weaknesses.²¹ Thus, H4 is supported.

Insert Table 5 About Here

²⁰ This sample is reduced because the file containing the designation information does not include all of our sample companies. Also, for this analysis we drop the 107 companies that did not designate at least one individual as ACFE.

²¹ Because we use similar variables to construct the proportion of experts and the *OFE* variable the two are highly correlated. Hence, we exclude the proportion of experts from this analysis.

H5 considers another issue concerning company designation of financial experts: the association of “over-designation” with internal control quality. The final rule for the implementation of Section 407 requires companies to designate one financial expert with either accounting or executive experience. Our data indicate that 359 accelerated and 79 non-accelerated filers chose to voluntarily disclose more than one financial expert. We define *VOLUNTARYDESIGNATED* as an indicator variable whose value is one if the company designated more than one individual as a financial expert; zero otherwise. Results in Table 5, Columns C and D, indicate that companies that voluntarily designate additional members as financial experts are more likely to disclose material weaknesses. Interestingly, these results hold for both accelerated and non-accelerated filers (Chi-squared = 7.196, $p < 0.05$, and 5.2971, $p < 0.01$, respectively). A likely explanation is the possible liability associated with being a designated financial expert (alluded to in many of the comment letters to the SEC) for companies with material weaknesses. The SEC has refused to approve a safe harbor from liability for ACFE, which could further deter committee members from desiring to be designated. Thus, boards of directors might attempt to spread the risk by designating more than one expert. Alternatively, voluntary disclosure could be an attempt to signal that although the internal controls contain a MW, the audit committee is well equipped to handle outstanding internal controls issues.

H6a-H6c predict that better corporate governance, as measured by factors other than audit committee expertise, is associated with lower likelihood of reporting a material weakness. We discuss our results relative to H6 using columns B and C of Table 3, as findings are consistent throughout the table. Relative to H6a, we find that the size of the audit committee is not associated with the likelihood of disclosing material weaknesses, either for accelerated or

non-accelerated filers, and thus this hypothesis is not supported. Results in Column B show that the coefficient on *AUDITMEETING* is positive and significant (Chi-squared = 16.426, $p < 0.01$) for accelerated filers, supporting H6b. Column C shows that this coefficient is also significant for non-accelerated filers (Chi-squared = 6.452, $p < 0.05$). The direction of this effect suggests that audit committees that meet more often contribute to the identification of material weaknesses, or alternatively, that committee members react to the discovery of material weaknesses by meeting more frequently in order to supervise the remediation process. This result might appear to be contradictory to previous research finding meeting frequency to be associated with positive outcomes. However, in the current environment, where personal liability for directors is real (Black et al. 2005), the increase in the number of meetings contemporaneously with the discovery of MW is not surprising. H6c predicts that governance quality of the board of directors is associated with reduced reporting of internal control weaknesses. We find that the board corporate governance index is negatively associated with the likelihood of disclosing material weaknesses, suggesting that stronger boards contribute to better controls and consistent with H6c (Chi-squared = 6.507, $p < 0.01$). Again, however, the coefficient is not significant for non-accelerated filers.

Additional analysis

In addition to our hypothesis tests, we also consider the effect of differences in regulation timing. While 2004 was the first year of implementation for 404 reporting, it was not the first year for Section 302 disclosure. Thus, if better-governed companies disclosed MWs under 302 in a prior year, our models would not have included those filings. To investigate this issue, we examined companies' disclosures under Section 302 in 2003, and found that only three sample

companies disclosed a MW in 2003 but not in 2004. Including these companies as MW disclosers among non-accelerated filers did not change results of any of our hypothesis tests.

DISCUSSION

In this study, we examine the association of audit committee quality with public disclosure of material weaknesses in internal control over financial reporting, as a measure of financial reporting quality. Our analysis yields findings new to the literature in two main areas. First, by separating our analysis according to SEC filing status, we find differences among accelerated and non-accelerated filers. Specifically, we find that more audit committee financial expertise and better governance at the board level are associated with reduced likelihood of material weakness disclosure among accelerated filers, but neither association holds for non-accelerated filers. Finding no association among non-accelerated filers implies that stronger governance among these companies does not contribute to better internal controls. Since internal control reporting under Section 302 does not require companies or their auditors to test internal control, it might be that audit committees of those filers aim to comply with the minimal compliance requirements in that Section. Thus, our results suggest that the strength of corporate governance matters more under a prescriptive regulation such as Section 404 (which requires companies to document, test and evaluate their internal controls, and requires separate auditor attestation). The pattern of associations we find does not support the recommendation by the SEC's Advisory Committee on Smaller Public Companies that improved corporate governance could be an effective substitute for extending compliance with Section 404 to non-accelerated filers. Rather, our findings suggest that *both* Section 404 and better corporate governance are associated with improved quality of financial reporting.

Our separate examination of accelerated and non-accelerated filers in this context is in itself a contribution to the literature. In addition to finding different associations of internal control quality with corporate governance for these groups, we also find some inter-group differences in some corporate governance metrics used in the study. Specifically, we find that accelerated filers in our sample are more than twice as likely as non-accelerated filers to disclose MWs. Accelerated filers also have larger boards and audit committees who meet more often, and a higher proportion of experts with supervisory backgrounds. However, they do not differ in the proportion of accounting financial experts on audit committees. Larger filers are also financially stronger, have more complex business operations, are audited by larger audit firms and experience fewer auditor changes.

This study also provides other findings that contribute to the literature on corporate governance and financial reporting. We find a positive association between number of audit committee meetings and material weaknesses, for both accelerated and non-accelerated filers. This contradicts prior findings that less frequent meetings are associated with negative outcomes (McMullen and Raghunandan 1996, Beasley et al. 2001, Farber 2006 and Archambeault and DeZoort 2001). The difference could be due to the nature of our dependent variable. More frequent audit committee meetings may be in reaction to the discovery of problems in the internal controls, rather than increased diligence *causing* better control over financial reporting. This uncertainty in direction leads to a question on the meaning of this variable for corporate governance quality in the current context. We also find that audit committee size is not associated with material weaknesses disclosure, either for accelerated or non-accelerated filers.

Our second set of results concerns audit committee financial expertise. As previously noted, prior research uniformly finds that accounting financial experts are associated with

financial reporting quality (e.g., DeFond et al 2005; Carcello et al. 2006; Zhang et al. 2006) but findings on financial experts with other qualifications are variable. Results for our accelerated group are consistent with prior research, suggesting that companies with more committee members with accounting-based financial expertise (as defined in the SEC's initial proposed rule) have lower likelihood of disclosing material weaknesses. However, the strength of association for those with supervisory executive among accelerated filers is marginal. Further investigation reveals that accounting experts are associated with better controls over processes directly associated with the financial reports, while supervisory experts are associated with better controls over management processes (e.g., personnel). These results suggest that both types of expertise provide advantages in improving financial reporting, but only accounting experts are associated with improvement in controls directly associated with financial statement line items. This finding reconciles disparate results obtained by measuring financial reporting quality using accruals (Carcello et al. 2006) versus internal controls (Zhang et al. 2006).

We also find that designation as financial experts of individuals with qualifications other than accounting or supervisory experience (while allowed by the final SEC rules) is associated with greater likelihood of material weakness disclosure. While further research is needed, this finding suggest that caution is needed in designating such individuals as financial experts, as their backgrounds do not lend themselves to understanding particular types of internal control over financial reporting.

Our conclusions may be limited by our method of obtaining information on qualifications of audit committee members through computerized parsing of data from AuditAnalytics. However, this method contributes to the literature in demonstrating a means of efficiently capturing data on qualifications, enabling larger and more representative samples.

REFERENCES

- Abbott, L.J., Parker, S., Peters, G.F., 2004. Audit committee characteristics and restatements. *Auditing: A Journal of Practice & Theory* 23 (1), 69-87.
- Anderson, R.C., Mansi, S.A., Reeb, D.M., 2004. Board characteristics, accounting report integrity, and the cost of debt. *Journal of Accounting and Economics* 37 (3), 315-342.
- Archambeault, D. and F. T. DeZoort. 2001. Auditor opinion shopping and the audit committee: An analysis of suspicious auditor switches. *International Journal of Auditing* 5(1): 33-52.
- Ashbaugh-Skaife, H. Collins, D., and Kinney .W. 2006. The Effect of Internal Control Deficiencies on Firm Risk and Cost of Equity Capital. Working paper, University of Wisconsin-Madison.
- Ashbaugh-Skaife, H. Collins, D., Kinney W., and LaFond R., 2006. The discovery and consequences of internal control deficiencies prior to SOX-mandated audits. Working paper, University of Wisconsin-Madison.
- Beasley, M.S. 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review* 71 (October): 443-465.
- Beasley, M.S., J. V. Carcello; D. R. Hermanson; and P. D. Lapedes. "Fraudulent financial reporting: Consideration of industry traits and corporate governance mechanisms." *Accounting Horizons* 14 (2000): 441-454.
- Beasley, M., and S. Salterio. 2001. The relationship between board characteristics and voluntary improvements in the capability of audit committees to monitor. *Contemporary Accounting Research* (18): 539-570.
- Bédard, J., Chtourou, S.M., Courteau, L., 2004. The effect of audit committee expertise, independence, and activity on aggressive earnings management. *Auditing: A Journal of Practice & Theory* 23 (2), 13-35.
- Black, B., B. Cheffins., and M. Klausner. 2005. Why directors' damages may harm investors. *Financial Times* (January 20).
- Blue Ribbon Committee (BRC). 1999. Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees. Printed by NYSE and NASD.
- Carcello, J.V., C.W. Hollingsworth, A. Klein, and T.L. Neal. 2006. Audit Committee Financial Expertise, Competing Corporate Governance Mechanisms, and Earnings Management. Working Paper, University of Tennessee.

- Core, J.E., R.W. Holthausen, and D.F. Larcker. 1999. Corporate Governance, Chief Executive Officer Compensation, and Firm Performance. *Journal of Financial Economics* 51: 371-406.
- DeFond, M.L., Hann, R.N., and Hu, X., 2005. Does the market value financial expertise on audit committees of boards of directors? *Journal of Accounting Research* 43 (2), 153-193.
- Dhaliwal, D.S., V. Naiker and F. Navissi, 2006. Audit Committee Financial Expertise, Corporate Governance and Accruals Quality: An Empirical Analysis. Working paper, University of Arizona
- Doyle, J., W. Ge, and S. McVay, 2005. Determinants of Weaknesses in Internal Control Over Financial Reporting. Working Paper, University of Utah.
- Farber, D. 2006. Restoring trust after fraud: Does corporate governance matter? *The Accounting Review* 80 (2):539-561.
- Klein, A. 2002a. Economic determinants of audit committee independence. *The Accounting Review* 77 (April): 435-452.
- Klein A. 2002b. Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics* 33 (August): 375-400.
- Krishnan, G., and G., Visvanathan, 2006. Does the SOX definition of an accounting expert matter? The association between audit committee directors' expertise and conservatism. Working Paper.
- Krishnan, J., 2005. Audit committee quality and internal control: An empirical analysis. *The Accounting Review* 80(2): 649-678.
- Lee, H.Y.; V. Mande and R. Ortman. 2004. The effect of audit committee and board of director independence on auditor resignation. *Auditing: A Journal of Practice & Theory*. Vol. 23, No. 2. 131-146.
- McMullen, D. and K. Raghunandan. 1996. Enhancing audit committee effectiveness. *Journal of Accountancy* 182 (2), 79-81.
- NASDAQ Stock Market, Inc. 2005. *NASD Manual Online*. Rockville, MD. <http://nasd.complinet.com/nasd/display/index.html>.
- New York Stock Exchange (NYSE). 2005. *Listed Company Manual*. New York, NY: NYSE. <http://www.nyse.com/Frameset.html?nyseref=http%3A//www.nyse.com/audience/listedcompanies.html&displayPage=/about/listed/1022221393251.html>
- Securities and Exchange Commission. 2005. *Preliminary Report of the Internal Controls Subcommittee to the Advisory Committee on Smaller Public Companies*. Washington, D.C. (December 7).

Yermack, D. 1996. Higher market valuation of companies with a small board of directors. *Journal of Financial Economics* 40, 185-212.

Zhang, Y., J. Zhou, and N. Zhou. 2006. Audit Committee Quality, Auditor Independence and Internal Control Weaknesses. *Journal of Accounting and Public Policy*, forthcoming.

Table 1
Descriptive Statistics on Dependent and Independent Variables, by Filing Status

<i>Variable</i>	<i>Accelerated</i>				<i>Non- Accelerated</i>				<i>t or Chi-squared statistic</i>
	<i>Number of companies</i>	<i>Mean</i>	<i>Median</i>	<i>Std Dev</i>	<i>Number of companies</i>	<i>Mean</i>	<i>Median</i>	<i>Std Dev</i>	
PANEL A. COMPANY, AUDIT COMMITTEE AND BOARD VARIABLES									
<i>MW</i>	1,581	0.15	0	0.35	812	0.07	0	0.25	33.50***
<i>AUDITCOMMITTEESIZE</i>	1,581	3.62	3	0.89	812	3.16	3	0.76	-13.09***
<i>AUDITMEETING</i>	1,581	8.38	8	3.58	812	5.26	5	2.54	-24.64***
<i>BOARDSCOREGOV</i>	1,581	0.41	0	0.49	812	0.40	0	0.49	N/A
<i>LOGMARKETCAP</i>	1,581	6.75	6.587	1.49	812	3.49	3.687	1.04	-62.41***
<i>LOSS</i>	1,581	0.28	0	0.45	812	0.51	1	0.50	124.46***
<i>SEGMENT</i>	1,581	7.21	6	5.71	812	4.98	4	4.01	-11.1***
<i>FOREIGN</i>	1,581	0.27	0	0.44	812	0.15	0	0.36	43.41***
<i>MERGER</i>	1,581	0.28	0	0.45	812	0.11	0	0.31	92.13***
<i>EXTREMEGROWTH</i>	1,581	0.17	0	0.38	812	0.17	0	0.37	0.12
<i>RESTRUCTURE</i>	1,581	0.22	0	0.41	812	0.09	0	0.28	65.19***
<i>BIG4</i>	1,581	0.88	1	0.33	812	0.38	0	0.48	648.94***
<i>MIDTIER</i>	1,581	0.05	0	0.22	812	0.15	0	0.36	66.55***
<i>AUDITORCHANGE</i>	1,581	0.07	0	0.25	812	0.17	0	0.37	62.47***
<i>LITIGATION</i>	1,581	0.18	0	0.38	812	0.20	0	0.40	2.90*
PANEL B. EXPERTS BASED ON QUALIFICATIONS									
<i>PFE</i>	1,581	0.61	0.667	0.28	812	0.54	0.667	0.31	-5.43***
<i>#FE</i>	1,581	2.21	2	1.13	812	1.70	2	1.00	-11.41***
<i>PAFE</i>	1,581	0.21	0.25	0.21	812	0.20	0.2	0.23	-0.56
<i>#AFE</i>	1,581	0.74	1	0.74	812	0.63	1	0.69	-3.52***
<i>PSFE</i>	1,581	0.40	0.333	0.28	812	0.34	0.333	0.29	-5.23***
<i>#SFE</i>	1,581	1.48	1	1.10	812	1.07	1	0.91	-9.6***

Table 1 (continued)
Descriptive Statistics on Dependent and Independent Variables, by Filing Status

PANEL C. EXPERTS BASED ON COMPANY DESIGNATION

<i>PDES_FE</i>	1,277	0.76	1	0.39	534	0.71	1	0.43	-2.04**
<i>#DES_FE</i>	1,379	1.34	1	0.88	680	0.94	1	0.67	-11.39***
<i>PDES_AFE</i>	1,277	0.45	0.333	0.47	534	0.48	0.333	0.48	0.98
<i>#DES_AFE</i>	1,379	0.56	0	0.64	680	0.43	0	0.54	-4.76***
<i>PDES_SFE</i>	1,277	0.30	0	0.42	534	0.24	0	0.41	-3.23***
<i>#DES_SFE</i>	1,379	0.46	0	0.73	680	0.23	0	0.48	-8.42***
<i>VOLUNTARYDESIGNATED</i>	1,379	0.26	0	0.44	680	0.12	0	0.32	56.48***
<i>OFE</i>	1,379	0.13	0	0.34	680	0.12	0	0.33	0.66

Notes: Variables are defined as follows:

<i>AUDITMEETING</i>	The number of meetings held by the audit committee for the fiscal year 2004 [Audit Analytics]
<i>AUDITCOMMITTEESIZE</i>	The number of members serving on the audit committee in 2004 [Audit Analytics]
<i>PFE</i>	Percentage of accounting and supervisory experts serving on a company's audit committee, based on total audit committee size [Audit Analytics]
<i>PAFE</i>	Percentage accounting experts serving on the audit committee, based on total audit committee size (individuals whose bios indicate at least one of the following qualifications: CPA, CFO, VP of finance, financial controller, CMA, CFA, principal financial officer, auditor or chief accounting officer) [Audit Analytics]
<i>PSFE</i>	Percentage of supervisory serving on the audit committee, based on total audit committee size (individuals whose bios indicate at least one of the following qualifications, but not one of the qualifications used to define financial experts: CEO, COO, or chairman of a board of directors) [Audit Analytics]
<i>BOARDSCOREGOV</i>	An indicator variable equal to one if the composite score is greater than the within-sample median; zero otherwise. The composite score comprises board size, percent of independent board members, and board tenure.

Table 1 (continued)
Descriptive Statistics on Dependent and Independent Variables, by Filing Status

<i>BIG4</i>	An indicator variable equal to one when the auditor is a Big 4 firm; zero otherwise [Audit Analytics]
<i>MIDTIER</i>	An indicator variable equal to one when the auditor is a mid-tier firm (Grant Thornton or BDO Seidman); zero otherwise [Audit Analytics]
<i>LOGMARKETCAP</i>	The log of share price times the number of shares outstanding [Compustat data item #25 * Compustat data item #199]
<i>LOSS</i>	An indicator variable equal to one if the company had net loss in any of the last two years; zero otherwise [Compustat data item #172]
<i>SEGMENT</i>	The sum of reported business and geographic segments in 2004 (Compustat Segment file)
<i>FOREIGN</i>	An indicator variable equal to one if the company has non-zero foreign currency translation; zero otherwise [Compustat data item #150]
<i>MERGER</i>	An indicator variable equal to one when the client has experienced a merger in the past two years; zero otherwise [SDC Platinum]
<i>EXTREMEGROWTH</i>	An indicator variable equal to one if year over year industry-adjusted sales growth [data item #12] falls into the top quintile, and zero otherwise
<i>RESTRUCTURE</i>	An indicator variable equal to one if a firm was involved in a restructuring, and zero otherwise. [Coded as one if any of the following Compustat data items are non-zero: 376, 377, 378 or 379.]
<i>AUDITORCHANGE</i>	An indicator variable equal to one if the company changed auditors; zero otherwise [Audit Analytics]
<i>LITIGATION</i>	An indicator variable equal to one if a firm is in a litigious industry—SIC codes 2833 to 2836; 3570 to 3577; 3600 to 3674; 5200 to 5961; and 7370; zero otherwise
<i>PDES_FE</i>	Percentage of designated financial experts who have accounting or supervisory qualifications, based on the total number of designated experts [Audit Analytics]
<i>PDES_AFE</i>	Percentage of designated financial experts who have accounting qualifications, based on the total number of designated experts [Audit Analytics]
<i>PDES_SFE</i>	Percentage of designated financial experts who have supervisory qualifications, based on the total number of designated experts [Audit Analytics]
<i>VOLUNTARYDESIGNATED</i>	An indicator variable equal to one if a firm designated more than one expert; zero otherwise.
<i>OFE</i>	An indicator variables equal to one if a company designated at least one ACFE with qualifications other than AFE and SFE, and zero otherwise [Audit Analytics]

Table 2. Type of Financial Expert by Filing Status, Material Weakness Disclosed, and Company Designation

Qualifications	<i>Panel A</i>				<i>Panel B</i>			
	<i>Audit Committee Composition by Qualification</i>				<i>Audit Committee Composition by Designation</i>			
	<i>Accelerated With MW</i>	<i>Accelerated Without MW</i>	<i>Non-Accelerated With MW</i>	<i>Non-Accelerated Without MW</i>	<i>Accelerated With MW</i>	<i>Accelerated Without MW</i>	<i>Non-Accelerated With MW</i>	<i>Non-Accelerated Without MW</i>
# Of Companies	231	1350	53	759	183	1094	36	498
CFO only	90 (11%)	555 (11%)	16 (10%)	165 (7%)	58 (21%)	373(24%)	9(18%)	97(16%)
CPA only	38 (5%)	229(5%)	10(6%)	161(7%)	28 (10%)	164 (10%)	6 (12%)	102 (17%)
CFO&CPA	21 (3%)	90 (2%)	5 (3%)	64 (3%)	15 (5%)	74 (5%)	4(8%)	43(7%)
Other Financial Expert	19(2%)	123(3%)	4(2%)	86(4%)	9(3%)	45(3%)	1(2%)	29(5%)
Total Accounting Financial Experts	168 (21%)	997 (20%)	35 (21%)	476 (20%)	110 (39%)	656 (42%)	20 (39%)	271 (46%)
CEO only	159(20%)	1009(21%)	29(18%)	394(16%)	45(16%)	260(17%)	5(10%)	69(12%)
Board Chair only	39(5%)	234(5%)	7(4%)	134(6%)	8(3%)	59(4%)	3(6%)	16(3%)
COO only	33(4%)	162(3%)	4(2%)	80(3%)	13(5%)	51(3%)	1(2%)	14(2%)
CEO & Board Chair & COO	9(1%)	70(1%)	2(1%)	18(1%)	4(1%)	25(2%)	0(0%)	4(1%)
CEO & Board Chair	54(7%)	363(7%)	15(9%)	129(5%)	14(5%)	108(7%)	6(12%)	29(5%)
CEO & COO	16(2%)	173(4%)	2(1%)	47(2%)	6(2%)	40(3%)	1(2%)	10(2%)
COO & Board Chair	0(0%)	11(0%)	1(1%)	5(0%)	0(0%)	2(0%)	0(0%)	1(0%)
Total Supervisory Financial Experts	310 (39%)	2022 (41%)	60 (37%)	807 (33%)	90 (32%)	545 (35%)	16 (31%)	143 (24%)

Table 2 (continued)
Type of Financial Expert by Filing Status, Material Weakness Disclosed, and Company Designation

Qualifications	<i>Panel A</i>				<i>Panel B</i>			
	<i>Audit Committee Composition by Qualification</i>				<i>Audit Committee Composition by Designation</i>			
	<i>Accelerated With MW</i>	<i>Accelerated Without MW</i>	<i>Non-Accelerated With MW</i>	<i>Non-Accelerated Without MW</i>	<i>Accelerated With MW</i>	<i>Accelerated Without MW</i>	<i>Non-Accelerated With MW</i>	<i>Non-Accelerated Without MW</i>
Subtotal	478(60%)	3019(61%)	95(58%)	1283(53%)	200(72%)	1201(77%)	36(71%)	414(70%)
Other Audit Committee Members	324	1901	69	1137				
Other Designated Financial Experts					79	365	15	174
Total AC Members by Column	802	4920	164	2420	279	1566	51	588
Total Of All AC Members			8306				2484	
Total Number of Companies			2393				1811	

Notes: This table reports qualifications of individuals on corporate audit committees, separately for accelerated/non-accelerated filers, and companies with/without material weaknesses. Panel A shows numbers and percentages based on total audit committee members, while Panel B shows numbers and percentages within the group of audit committee members designated as financial experts by their companies.

Table 3
Logistic Regression of Governance Determinants of Material Weakness and Control Variables

$$MW = \alpha + \beta_1 PFE + \beta_2 AUDITMEETING + \beta_3 AUDITCOMMITTEESIZE + \beta_4 BOARDSCOREGOV + \beta_5 BIG4 + \beta_6 MIDTIER + \beta_7 LOGMARKETCAP + \beta_8 LOSS + \beta_9 SEGMENT + \beta_{10} FOREIGN + \beta_{11} MERGER + \beta_{12} EXTREMEGROWTH + \beta_{13} RESTRUCTURE + \beta_{14} AUDITORCHANGE + \beta_{15} LITIGATION + e$$

$$MW = \alpha + \beta_1 PAFE + \beta_2 PSFE + \beta_3 AUDITMEETING + \beta_4 AUDITCOMMITTEESIZE + \beta_5 BOARDSCOREGOV + \beta_6 BIG4 + \beta_7 MIDTIER + \beta_8 LOGMARKETCAP + \beta_9 LOSS + \beta_{10} SEGMENT + \beta_{11} FOREIGN + \beta_{12} MERGER + \beta_{13} EXTREMEGROWTH + \beta_{14} RESTRUCTURE + \beta_{15} AUDITORCHANGE + \beta_{16} LITIGATION + e$$

Variable	Predicted Sign	A. Pooled model	B. Accelerated	C. Non-Accelerated	D. Accelerated	E. Non-Accelerated
		Coefficient (Wald Chi-Square)	Coefficient (Wald Chi-Square)	Coefficient (Wald Chi-Square)	Coefficient (Wald Chi-Square)	Coefficient (Wald Chi-Square)
INTERCEPT		-2.973 (48.516***)	-0.796 (1.886*)	-5.334 (23.901***)	-0.757 (1.685*)	-5.418 (24.079***)
ACCELERATED	+	1.508 (41.423***)				
PFE (H1)	-	-0.459 (3.731**)	-0.503 (3.364**)	-0.164 (0.111)		
PAFE (H2a)	-				-0.679 (3.066**)	0.106 (0.024)
PSFE (H2b)	-				-0.438 (2.13*)	-0.308 (0.302)
AUDITCOMMITTEESIZE (H6a)	-	-0.053 (0.347)	-0.063 (0.418)	-0.074 (0.079)	-0.068 (0.488)	-0.061 (0.053)
AUDITMEETING (H6b)	?	0.086 (21.21***)	0.081 (16.426***)	0.135 (6.452**)	0.082 (16.76***)	0.134 (6.375**)
BOARDSCOREGOV (H6c)	-	-0.397 (7.942***)	-0.402 (6.507***)	-0.399 (1.489)	-0.413 (6.792***)	-0.389 (1.411)
BIG4	+	0.342 (2.021*)	0.152 (0.232)	0.649 (3.128**)	0.156 (0.243)	0.642 (3.057**)
MIDTIER	+	0.901 (10.895***)	1.014 (7.083***)	0.544 (1.534)	1.018 (7.137***)	0.537 (1.492)
LOGMARKETCAP	-	-0.211 (13.497***)	-0.262 (16.728***)	0.135 (0.675)	-0.266 (17.075***)	0.14 (0.719)
LOSS	+	0.636 (16.577***)	0.47 (6.964***)	1.368 (12.281***)	0.471 (6.959***)	1.382 (12.483***)
SEGMENT	+	0.026 (3.83**)	0.03 (4.355**)	0.022 (0.35)	0.03 (4.245**)	0.024 (0.401)
FOREIGN	+	0.44 (7.837***)	0.371 (4.435**)	0.735 (4.158**)	0.371 (4.436**)	0.736 (4.173**)
MERGER	+	0.007 (0.002)	0.007 (0.002)	0.105 (0.049)	0.011 (0.004)	0.138 (0.083)
EXTREMEGROWTH	+	-0.114 (0.401)	-0.195 (0.93)	0.235 (0.356)	-0.191 (0.888)	0.236 (0.362)
RESTRUCTURE	+	-0.01 (0.004)	-0.012 (0.004)	0.154 (0.133)	-0.019 (0.01)	0.15 (0.126)
AUDITORCHANGE	+	0.847 (17.444***)	0.704 (7.33***)	0.944 (7.441***)	0.706 (7.367***)	0.944 (7.441***)
LITIGATION	+	0.001 (0.00)	0.025 (0.016)	0.04 (0.013)	0.019 (0.009)	0.05 (0.021)

Table 3 (continued)
Logistic Regression of Governance Determinants of Material Weakness and Control Variables

	<i>A. Pooled model</i>	<i>B. Accelerated</i>	<i>C. Non-Accelerated</i>	<i>D. Accelerated</i>	<i>E. Non-Accelerated</i>
<i>LIKELIHOOD RATIO χ^2</i>	180.15***	110.82***	55.04***	111.29***	55.35***
<i>WALD χ^2</i>	156.94***	101.29***	46.30***	101.79***	46.59***
<i>PSEUDO R²</i>	0.0725	0.0677	0.0655	0.0680	0.0659
<i>Sample Size</i>	2,393	1,581	812	1,581	812
<i># of companies with Material weakness</i>	284	231	53	231	53

Notes: The table presents model coefficients, with the following indicators of significance of the Wald Chi-squared statistic: *** significant at 1% level; ** significant at 5% level; * significant at 10% level. One-tailed tests are used when coefficients have predicted signs. Variables are defined in Table 1.

Table 4
Logistic Regression of Governance Determinants of Specific Types of Material Weaknesses

$$ACCT_MW = \alpha + \beta_1 PAFE + \beta_2 PSFE + \beta_3 AUDITMEETING + \beta_4 AUDITCOMMITTEESIZE + \beta_5 BOARDSCOREGOV + \beta_6 BIG4 + \beta_7 MIDTIER + \beta_8 LOGMARKETCAP + \beta_9 LOSS + \beta_{10} SEGMENT + \beta_{11} FOREIGN + \beta_{12} MERGER + \beta_{13} EXTREMEGROWTH + \beta_{14} RESTRUCTURE + \beta_{15} AUDITORCHANGE + \beta_{16} LITIGATION + e$$

$$PERSONAL\&IT_MW = \alpha + \beta_1 PAFE + \beta_2 PSFE + \beta_3 AUDITMEETING + \beta_4 AUDITCOMMITTEESIZE + \beta_5 BOARDSCOREGOV + \beta_6 BIG4 + \beta_7 MIDTIER + \beta_8 LOGMARKETCAP + \beta_9 LOSS + \beta_{10} SEGMENT + \beta_{11} FOREIGN + \beta_{12} MERGER + \beta_{13} EXTREMEGROWTH + \beta_{14} RESTRUCTURE + \beta_{15} AUDITORCHANGE + \beta_{16} LITIGATION + e$$

Variable	Predicted Sign	A.	B.
		ACCT_MW	PERSONNEL&IT_MW
		Coefficient (Wald Chi-Square)	Coefficient (Wald Chi-Square)
INTERCEPT		-1.435 (2.859**)	-0.158 (0.02)
PAFE (H3a)	-	-1.062 (3.848**)	-0.856 (1.39)
PSFE (H3b)	-	-0.201 (0.248)	-1.431 (5.829***)
AUDITMEETING	?	0.118 (20.573***)	0.009 (0.039)
AUDITCOMMITTEESIZE	-	-0.008 (0.004)	-0.111 (0.347)
BOARDSCOREGOV	-	-0.503 (5.245**)	-0.139 (0.209)
BIG4	+	0.637 (1.536)	-0.975 (4.746**)
MIDTIER	+	0.811 (1.735*)	0.782 (2.541*)
LOGMARKETCAP	-	-0.467 (24.397***)	-0.287 (4.3**)
LOSS	+	0.414 (3.032**)	0.798 (5.009**)
SEGMENT	+	0.056 (9.103***)	-0.012 (0.141)
FOREIGN	+	0.604 (6.908***)	0.341 (0.806)
MERGER	+	-0.048 (0.04)	0.208 (0.37)
EXTREMEGROWTH	+	-0.012 (0.002)	-0.122 (0.102)
RESTRUCTURE	+	0.255 (1.171)	0.215 (0.291)
AUDITORCHANGE	+	0.773 (4.794**)	0.53 (1.555)
LITIGATION	+	-0.222 (0.636)	0.14 (0.133)
LIKELIHOOD RATIO χ^2		105.65***	66.89***
WALD χ^2		94.45***	63.52***
PSEUDO R ²		0.0696	0.0465
Sample Size		1,465	1,405
# of companies with Material weakness		117	55

Table 4 (continued)
Logistic Regression of Governance Determinants of Specific Types of Material Weaknesses

The table presents model coefficients, with the following indicators of significance of the Wald Chi-squared statistic: *** significant at 1% level; ** significant at 5% level; * significant at 10% level. One-tailed tests are used when coefficients have predicted signs. Variables are defined in Table 1.

Table 5
Logistic Regression of Governance Determinants of Material Weakness, Voluntary Designation of More than One Financial Expert or “Other” Financial Expert, and Control Variables

$$MW = \alpha + \beta_1 VOLUNTARYDESIGNATION + \beta_2 PAFE + \beta_3 PSFE + \beta_4 AUDITMEETING + \beta_5 AUDITCOMMITTEESIZE + \beta_6 BOARDSCOREGOV + \beta_7 BIG4 + \beta_8 MIDTIER + \beta_9 LOGMARKETCAP + \beta_{10} LOSS + \beta_{11} SEGMENT + \beta_{12} FOREIGN + \beta_{13} MERGER + \beta_{14} EXTREMEGROWTH + \beta_{15} RESTRUCTURE + \beta_{16} AUDITORCHANGE + \beta_{17} LITIGATION + e$$

$$MW = \alpha + \beta_1 OFE + \beta_2 AUDITMEETING + \beta_3 AUDITCOMMITTEESIZE + \beta_4 BOARDSCOREGOV + \beta_5 BIG4 + \beta_6 MIDTIER + \beta_7 LOGMARKETCAP + \beta_8 LOSS + \beta_9 SEGMENT + \beta_{10} FOREIGN + \beta_{11} MERGER + \beta_{12} EXTREMEGROWTH + \beta_{13} RESTRUCTURE + \beta_{14} AUDITORCHANGE + \beta_{15} LITIGATION + e$$

		A. <i>Accelerated</i>	B. <i>Non-Accelerated</i>	C. <i>Accelerated</i>	D. <i>Non-Accelerated</i>
Variable	<i>Predicted Sign</i>	<i>Coefficient (Wald Chi-Square)</i>	<i>Coefficient (Wald Chi-Square)</i>	<i>Coefficient (Wald Chi-Square)</i>	<i>Coefficient (Wald Chi-Square)</i>
<i>INTERCEPT</i>		-1.089 (2.548*)	-8.557 (27.021***)	-0.482 (0.478)	-8.133 (23***)
<i>OFE (H4)</i>	?	0.473 (4.572**)	1.032 (5.112**)		
<i>VOLUNTARYDESIGNATION (H5)</i>	?			0.497 (7.196***)	1.141 (5.971**)
<i>PAFE</i>	-			-0.885 (4.106**)	-0.327 (0.133)
<i>PSFE</i>	-			-0.582 (2.932**)	-0.589 (0.647)
<i>AUDITMEETING</i>	?	0.086 (15.676***)	0.152 (5.528**)	0.088 (15.757***)	0.14 (4.589**)
<i>AUDITCOMMITTEESIZE</i>	-	-0.075 (0.378)	0.28 (0.583)	-0.123 (1.006)	0.163 (0.195)
<i>BOARDSCOREGOV</i>	-	-0.313 (3.158**)	-0.248 (0.379)	-0.347 (3.78**)	-0.255 (0.389)
<i>BIG4</i>	+	0.264 (0.473)	0.864 (3.119**)	0.252 (0.425)	0.847 (2.955**)
<i>MIDTIER</i>	+	0.955 (4.477**)	0.857 (2.361*)	0.883 (3.776**)	0.879 (2.507*)
<i>LOGMARKETCAP</i>	-	-0.294 (15.889***)	0.405 (2.899**)	-0.311 (17.276***)	0.481 (3.907**)
<i>LOSS</i>	+	0.35 (3.085**)	2.064 (14.718***)	0.387 (3.701**)	2.114 (15.312***)
<i>SEGMENT</i>	+	0.032 (3.887**)	0 (0.00)	0.035 (4.576**)	-0.008 (0.023)
<i>FOREIGN</i>	+	0.337 (2.974**)	0.472 (1.052)	0.33 (2.849**)	0.511 (1.19)
<i>MERGER</i>	+	0.002 (0.00)	0.203 (0.112)	0.007 (0.001)	0.22 (0.125)
<i>EXTREMEGROWTH</i>	+	-0.338 (2.011*)	0.489 (0.951)	-0.354 (2.179*)	0.475 (0.893)
<i>RESTRUCTURE</i>	+	0.059 (0.082)	0.213 (0.162)	0.062 (0.089)	0.091 (0.028)
<i>AUDITORCHANGE</i>	+	0.633 (4.666**)	0.966 (4.66**)	0.661 (5.042**)	1.097 (5.882***)
<i>LITIGATION</i>	+	0.035 (0.025)	0.12 (0.078)	0.07 (0.098)	0.069 (0.025)

Table 5 (continued)
Logistic Regression of Governance Determinants of Material Weakness, Voluntary Designation of More than One Financial Expert or “Other” Financial Expert, and Control Variables

<i>LIKELIHOOD RATIO χ^2</i>	94.4698***	57.5994***	88.2713***	55.9015***
<i>WALD χ^2</i>	85.3836***	42.1623***	81.0697***	40.2634***
<i>PSEUDO R²</i>	0.0714	0.1028	0.0668	0.0999
<i>Sample Size</i>	1,276	531	1,276	531
<i># of companies with Material weakness</i>	183	36	183	36

The table presents model coefficients, with the following indicators of significance of the Wald Chi-squared statistic: *** significant at 1% level; ** significant at 5% level; * significant at 10% level. One-tailed tests are used when coefficients have predicted signs. Variables are defined in Table 1.