

# Internal Control Deficiencies and the Issuance of Going Concern Opinions

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**ABSTRACT:** This study examines whether internal control quality is associated with auditors' going concern assessments following the implementation of the Sarbanes-Oxley Act of 2002 (SOX). Using a sample of financially distressed firms that issue internal control reports under SOX Section 404 in 2004 and 2005, we find that firms with material internal control weaknesses are more likely to receive going concern audit opinions. Further analysis indicates that the positive association between disclosures of material weaknesses and auditors' propensity to issue a going concern opinions is largely driven by a subset of firms that disclose company-level material weaknesses, suggesting that only the more severe type of internal control material weakness influences the going concern assessment. These findings add to our understanding of the audit opinion formation process and the potentially important impact of internal control quality on that process.

**Key Words:** *Going concern opinions, internal control, SOX 404.*

## **Internal Control Deficiencies and the Issuance of Going Concern Opinions**

### **SUMMARY:**

This study examines whether internal control quality is associated with auditors' going concern assessments following the implementation of the Sarbanes-Oxley Act of 2002 (SOX). Using a sample of financially distressed firms that issue internal control reports under SOX Section 404 in 2004 and 2005, we find that firms with material internal control weaknesses are more likely to receive going concern audit opinions. Further analysis indicates that the positive association between disclosures of material weaknesses and auditors' propensity to issue a going concern opinions is largely driven by a subset of firms that disclose company-level material weaknesses, suggesting that only the more severe type of internal control material weakness influences the going concern assessment. These findings add to our understanding of the audit opinion formation process and the potentially important impact of internal control quality on that process.

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

## INTRODUCTION

In response to several well-publicized accounting scandals including Enron, WorldCom, and Adelphia, the United States Congress passed the sweeping Sarbanes-Oxley Act of 2002 (SOX). The most prominent provision in SOX is Section 404 that requires managers to attest to the adequacy of their firms' internal control systems and auditors to provide opinions regarding managers' assessments. Recent research has attempted to investigate the effects of SOX internal control reform on accrual quality (Ashbaugh-Skaife et al. 2007a; Doyle et al. 2007b), information risk (Ashbaugh-Skaife et al. 2007b; Beneish et al. 2007), and audit delay (Ettredge 2006). This study examines the impact of the newly established regulatory requirements for internal control quality reporting in the context of auditors' going concern assessments. Deficient internal controls along with other poor corporate governance mechanisms were at the heart of some of the largest bankruptcies in recent U.S. history. Many of these firms didn't receive going-concern audit opinions but subsequently filed for bankruptcy – otherwise known as audit failures (Blacconiere and DeFond 1997; Weil 2001). The investing public's concern about auditor diligence and independence, along with the SOX focus on internal controls, likely causes auditors to weigh the quality of internal controls in their audit opinion decision process. The purpose of this study is to examine whether disclosures of material internal control weaknesses affect auditors' propensity to issue going concern opinions.

Statement of Auditing Standard (SAS) No. 59 (AICPA 1988) requires auditors to

evaluate whether there is substantial doubt about an entity's ability to continue as a going concern for one year beyond its fiscal year-end. Factors affecting auditor decisions to issue going concern opinions have attracted the attention of accounting regulators and researchers for many years. Prior studies examine various contrary and mitigating factors (Altman and McGough 1974; Levitan and Knoblett 1985; Mutchler 1985; Menon and Schwartz 1987; Mutchler et al. 1997; Chen and Church 1992), corporate governance characteristics (Carcello and Neal 2000), and litigation risk (Carcello and Palmrose 1994) associated with the issuance of going concern opinions. While the extant literature on going concern assessment largely focuses on client business and financial risk factors and related auditor legal liability risk, an important factor absent from these studies is the potential impact of internal control quality on audit opinion assessments. One reason for this is that, prior to SOX, the disclosure of significant internal control deficiencies was publicly available only when companies changed auditors (SEC 1988), and thus the lack of internal control data precluded empirical investigations. Although requirements for firms to maintain adequate systems of internal control date back over twenty-five years to the Foreign Corrupt Practices Act of 1977, not until recently, under SOX Section 404, has the disclosure of material internal control weaknesses<sup>1</sup> in the annual report been a mandatory requirement for publicly traded firms. The widely available internal control disclosures provide an objective and reliable measure of the quality of internal

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<sup>1</sup> A material weakness in internal controls is defined as "a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected" (PCAOB, 2004). We use the terms material weakness, internal control weakness, and internal control deficiency interchangeably throughout the paper.

controls, thus allowing us to perform empirical tests with sufficient power to directly examine the association between the effectiveness of internal controls and auditors' going concern assessments.

The quality of internal control is likely to impact auditors' propensity to issue going concern opinions for several reasons. First, the presence of material internal control weakness(es) reflects greater control risk and can increase the overall audit risk<sup>2</sup> to auditors when performing audits of financial statements. A weak internal control environment facilitates earnings management and opportunistic behavior and reduces the reliability of financial reporting (Ge and McVay 2005). In the extreme case, managers resort to fraudulent financial reporting through the falsification of documentation and accounting records to conceal losses or hide debt that could signal underlying financial distress and impending bankruptcy. Audits of firms with potential earnings management and management fraud pose more uncertainty because of potential aggressive management estimations and greater chances of undetected going concern issues. Under these circumstances, auditors tend to exercise conservatism to compensate for their risk exposure and to lessen the likelihood of failing to issue a modified opinion when appropriate (Francis and Krishnan 1999).

Second, auditors are likely exposed to additional litigation risk when auditing firms with identified material internal control weaknesses. Firms with internal control deficiencies exhibit greater idiosyncratic risk (Ashbaugh-Skaife et al. 2007b), which

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<sup>2</sup> Audit risk is the risk of the auditor providing an inappropriate opinion on the financial statements. Under SAS No. 47 (AICPA, 1983), audit risk consists of three components: inherent risk, control risk and detection risk. Inherent risk is the likelihood of material misstatements in the financial statement before considering the effectiveness of internal controls; control risk is the likelihood that misstatements exceeding a tolerable level will not be prevented or detected by the client's internal control system; and detection risk is the likelihood that the misstatements will be detected by the auditors.

in turn increases the chances of a dramatic stock price drop or unexpected corporate failure that typically triggers third-party litigation. Auditors are also subject to greater scrutiny from regulators, investors, and the media due to the significance of SOX Section 404. This likely causes auditors to be overly cautious in an attempt to avoid the negative consequences of not fully weighing the implications of internal control deficiencies for firms' going concern status, especially for those firms mired in financial distress.<sup>3</sup> As a way of minimizing litigation risk, auditors tend to issue going concern opinions to protect themselves from increased legal liability (Krishnan and Krishnan 1996; Carcello and Palmrose 1994).

Lastly, recent research finds evidence that internal control deficiencies are associated with higher costs of capital and more negative credit ratings (Ashbaugh-Skaife et al. 2007b, Jonas 2006). The combination of higher costs of capital and negative credit ratings are likely to provide further contrary information to the going concern opinion assessment as these make it more difficult for companies to access the capital market, thus further exacerbating the adverse financial condition the company is experiencing. Given that ineffective internal controls pose increased audit and litigation risks and provide potential contrary information to auditors regarding a firm's financial viability, we conjecture that auditors are likely to lower their decision threshold for the "substantial doubt" criterion when making a going concern assessment for firms disclosing material weaknesses in internal control, as if

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<sup>3</sup> Doyle et al. (2007) suggest that auditors might be unduly cautious in identifying material weaknesses due to the increased scrutiny of a full Section 404 audit and therefore apply a lower internal control effectiveness threshold. The same reasoning can be applied to auditor's going concern assessment process, consistent with auditors exercising more reporting conservatism under Section 404.

they expect the worst ex ante.

Our sample includes firms filing SOX Section 404 reports in 2004 and 2005 in the Audit Analytics database that are also financially distressed. We perform logistic regressions to analyze the impact of reported material internal control weaknesses on the auditor's going concern assessment. Because the auditor's going concern assessment can depend on the severity of material weakness disclosed, we classify material weaknesses into company-level and account-specific types using the classification scheme in Doyle (2007a). Company-wide problems are more difficult to "audit around" and are more conducive to management fraud, and thus may be weighed more heavily in auditors' reporting decisions. Additional regression analyses are performed to analyze the impact of reported material internal control weaknesses on the auditor's going concern assessment based on the categorization of internal control weaknesses in the Committee of Sponsoring Organization's (COSO) framework.

Consistent with expectations, our results indicate that firms with material internal control weaknesses are more likely to receive going concern audit opinions. This result is robust to the inclusion of contrary and mitigating factors that are used in prior studies to predict going concern opinion assessments and additional determinants of internal control weaknesses. Moreover, we find that only company-level material internal control weaknesses are significantly and positively associated with the likelihood of a company receiving a going concern opinion, suggesting that the severity of material weaknesses likely affect the auditor's decision process. Further

analyses based on the COSO classification provides evidence that material weaknesses categorized as “control environment” issues have a stronger association with the likelihood of a company receiving a going concern opinion. These findings add to our understanding of the audit report formation process and the potentially important role played by the quality of internal control in that process.

The remainder of the paper is organized as follows. The next section discusses the institutional background, prior research, and develops the hypotheses. Our research design and sample selection process follow. Results are then presented, followed by a summary and conclusions.

## **BACKGROUND, PRIOR RESEARCH AND HYPOTHESES**

Internal control is a major focus of recent SOX regulatory changes. SOX Section 404, “Management Assessment of Internal Controls,” effective for accelerated filers with fiscal year-ends subsequent to November 15, 2004,<sup>4</sup> explicitly requires an annual management report on internal controls over financial reporting to be filed with the SEC Form 10-K annual report. The management report must contain an assessment of the effectiveness of the internal control structure and procedures. In addition to auditors’ financial statement attestations, Section 404 requires auditors to report on management assessments of internal control structures as well as provide their own attestation on the effectiveness of internal controls. The auditor’s report must include the disclosure of any material internal control weaknesses, and procedures and corrective actions taken regarding weaknesses. When one or more material internal

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<sup>4</sup> Accelerated filers are publicly traded firms with equity float in excess of \$75 million. The effective date for non-accelerated filers under Rule 12b-2 of the Securities Exchange Act is for fiscal years ending on or after December 15, 2007 for the management report and after December 15, 2008 for the auditor’s attestation report.

control weaknesses exist, the auditor is required to issue an adverse opinion on the effectiveness of internal controls.

Implementing provisions of Section 404 not only dramatically increased the time and amount of work it takes to complete an audit, but it also likely increased the legal liabilities of auditors. As stated in the Weiss Ratings Report to the United States Senate for the Public Company Accounting and Investor Protection Act (precursor to the Sarbanes-Oxley Act), “in their report to shareholders, if auditors frequently fail to warn of obvious problems, it implies a neglect of their fundamental responsibility and a serious breach of trust.” As a result of SOX, auditors now likely assume greater risk when conducting audits. The existence of material weakness(es) in internal control represents higher level of control risk, which can translate into greater audit risk. Recent studies have documented a link between internal control weaknesses and lower quality accruals. Ashbaugh-Skaife et al. (2007a) find that companies with auditor confirmation of remediation of previously reported internal control deficiencies exhibit an increase in accrual quality relative to firms that do not remediate their control problems, and firms that receive different internal control audit opinions in successive years exhibit changes in accrual quality consistent with changes in internal control quality. Doyle et al. (2007b) find that material weaknesses are generally associated with poorly estimated accruals that are not realized as cash flows, and similar results are obtained using four alternative measures of earnings quality. Accrual-based estimations are inherently uncertain and involve managerial discretion. These estimations can not be objectively verified by auditors prior to the

occurrence of future outcomes (Francis and Krishnan 1999). A weak internal control environment allows management more discretion to intentionally bias accruals through aggressive earnings management, thus increasing the risk that material misstatements will not be detected. For example, a firm with a material weakness in its financial reporting process could likely have an indiscernible going concern issue because management has the ability to misrepresent firm performance, distort financial ratios, and conceal unfavorable earnings realizations (i.e. losses) that signal underlying financial distress. Faced with increased uncertainty and audit risk surrounding the evaluation of financial results and verification of accrual estimates caused by ineffective internal controls, auditors can compensate for the risk exposure by lowering their threshold for issuing modified reports, which will lead to higher frequency of going concern opinions (Francis and Krishnan 1999; Bartov et al. 2000).<sup>5</sup> This auditor reporting conservatism lessens the likelihood of failing to issue a going concern opinion when appropriate (a type II error). Given the significance of SOX Section 404 and the media scrutiny on internal control issues, we expect internal control quality to be incorporated into auditors' going concern assessment and that auditors are likely to exercise more conservatism to achieve a desirable level of audit risk.

Auditors can also manage potential additional litigation risk imposed by SOX and the Public Company Accounting Oversight Board (PCAOB) by their decisions to

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<sup>5</sup> Prior studies find that accounting accruals influence auditor's propensity to issue modified audit opinions. For example, Francis and Krishnan (1997) find that high-accrual firms are more likely to receive modified audit reports for asset realization uncertainties and going concern problems, while Bartov et al. (2000) find that higher discretionary accruals are associated with qualified audit reports due to scope limitations or departures from GAAP.

issue going concern opinions. Litigation against auditors often takes place in the case of business failures when the auditor did not provide an early warning of impending financial failures. Stice (1991) and Lys and Watts (1994) both find that accruals-based errors are positively associated with the probability of litigation against auditors because these increase the likelihood that financial statements are misstated. A recent study by Ashbaugh-Shaife et al. (2007b) finds that firms with internal control deficiencies manifest higher idiosyncratic risk. Higher idiosyncratic risk increases the likelihood of unexpected business failure<sup>6</sup> or a dramatic drop in stock price that leads to shareholder class-action lawsuits against auditors. Prior research suggests that the incidence of issuing modified opinions is associated with auditor's legal exposure. Krishnan and Krishnan (1996) find that auditors are more likely to issue modified opinions to firms with higher litigation risk.<sup>7</sup> Carcello and Palmrose (1994) find that modified audit reports issued prior to bankruptcy reduce both the incidence and magnitude of litigation if bankruptcy subsequently occurs as these reports reduce investor surprise.<sup>8</sup> Geiger and Raghunandan (2002) examine and find evidence that auditors are less likely to issue going concern opinions when litigation laws change in the favor of auditors. Therefore, reporting conservatively can be an effective way for auditors to offset increased litigation risk induced when their clients have material

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<sup>6</sup> For example, Opler and Titman (1994) and Asquith et al. (1994) both find evidence that bankruptcy is mostly due to idiosyncratic factors.

<sup>7</sup> They estimate a bivariate model that breaks down the probability of modifying an opinion into two components: (1) the probability that the client deserves a modified opinion based on the audit and (2) the probability that the auditor reports a modified opinion, given the auditor considers that the client deserves such an opinion. Litigation risk is a factor in the second-stage decision and is found to be positively related to the probability of issuing a modified opinion.

<sup>8</sup> Prior research suggests that, in addition to issuing modified opinions, auditors also manage litigation risk by selectively screening out clients (Francis and Reynolds 1998; DeFond and Subramanyam 1998), or resigning from their clients (Krishnan and Krishnan 1997, Shu 2000).

internal control weaknesses.

Ineffective internal controls also likely serve as contrary factors in auditors' decision processes. SAS 59 (AICPA 1988) requires auditors to consider both contrary and mitigating factors when evaluating whether there is substantial doubt about an entity's ability to continue as a going concern. Contrary factors include information that questions a firm's ability to continue for longer than one year, and mitigating factors include information that helps to overcome adverse financial and other contrary factors.<sup>9</sup> Prior research has examined the importance of both contrary and mitigating information in the auditor's going concern opinion decision process (Mutchler 1985; Chen and Church 1992; Mutchler et al. 1997; Behn et al. 2001). The effectiveness of a firm's internal controls likely provides auditors either mitigating or contrary information as to whether an entity will continue as a going concern. Reporting effective internal controls under SOX Section 404 is likely a mitigating factor for firms under financial distress because firm management is more likely able to carry out plans to acquire additional capital or otherwise deal with the firm's adverse financial condition.<sup>10</sup> Conversely, ineffective internal controls likely provide auditors further contrary information as to whether a firm will continue as a going concern. Ashbaugh-Skaife et al. (2007b) find that the cost of capital is positively

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<sup>9</sup> Contrary factors may include: (i) negative financial trends; (ii) other indications of possible financial difficulties; (iii) internal matters; and (iv) external matters that have occurred. Mitigating factors may include management plans to: (i) acquire additional debt and/or equity financing; (ii) restructure debt; (iii) plans to dispose of assets; and (iv) plans to delay expenditures.

<sup>10</sup> COSO's Integrated Framework highlights how good internal controls can promote financial viability: "Internal controls are put in place to keep the company on course toward profitability goals and achievement of its mission, and to minimize surprises along the way. They enable management to deal with rapidly changing economic and competitive environments, shifting customer demands and priorities, and restructuring for future growth. Internal controls promote efficiency, reduce risk of asset loss, and help ensure the reliability of financial statements and compliance with laws and regulations. Internal control is looked upon more and more as a solution to a variety of potential problems." (COSO 1992).

associated with material internal control weaknesses.<sup>11</sup> Thus a firm will likely incur a higher cost to acquire additional capital when it has material internal control weaknesses. According to a Moody's Investors Service's report (2006), disclosures of material weaknesses under certain circumstances might also adversely affect an entity's credit rating. A combination of higher costs of capital and negative credit ratings adds to the liquidity problem and can be a "one-two punch" to those firms already experiencing financial difficulty.

SAS No. 59 was prompted by a GAO report (1989) that pointed out a main contributor to the expectations gap between public expectations of the accounting profession and the accounting profession's own perception was early warning disclosures. As ineffective internal controls can be viewed as another way of providing early warning signals, the presence of material internal control weaknesses may prompt the issuance of going concern opinions by auditors in order to manage risk. Auditors are likely to lower the decision threshold for the "substantial doubt" criterion when making a going concern assessment for financially distressed firms disclosing material internal control weaknesses, as if they expected the worst ex ante.<sup>12</sup>

Because ineffective internal controls pose as additional audit and litigation risk factors and provide contrary information to financially distressed firms' continued

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<sup>11</sup> Ineffective internal controls result in less reliable financial reporting, thus increasing the information risk faced by investors that manifests in higher cost of equity.

<sup>12</sup> Note that we are not claiming that material weaknesses in internal controls alone can predict going concern opinions. Instead, we argue that, *ceteris paribus*, auditors are more likely to issue going concern opinions to firms with internal control weakness disclosures. In other words, when a client is on the borderline of between survival and failure, the presence of material weaknesses in internal controls will provide the extra "push" that tips the auditor toward favoring a modified going concern opinion.

viability, we propose the following hypothesis:

**H1: The presence of material internal control weaknesses in financially distressed firms increase the likelihood that auditors issue going concern opinions.**

Auditor reporting choices may vary with the nature and magnitude of the material weakness reported. Company-level material weaknesses such as the control environment or the overall financial reporting process represent a more serious concern regarding the reliability of financial reporting than account-specific weaknesses related to specific account balances or transaction-level processes. Company-level weaknesses pose greater audit risk because auditors may not be able to “audit around” the internal control deficiencies (Doyle et al. 2007b). On the contrary, account-specific material weaknesses are identifiable and correctible by auditors through substantive testing. Management fraud is more likely to occur at companies with company-wide internal control problems because management is more capable of overriding control procedures. A weak control environment increases the incentive and ability of managers of firms in distress to abuse accounting principles or falsely report results in order to hide impending insolvency, meet debt covenants, or look more attractive to future potential investors (Rosner 2002). Management fraud has been linked to business failures and auditor litigation. The majority of the high profile accounting scandals and corporate debacles occurring during the last several years involved management fraud. Palmrose (1987) reports that 56 percent of auditor litigation cases with client bankruptcy involve management fraud. In a related study, McKeown et al. (1991) examine a sample of 118 bankrupt

companies between 1974 and 1985 and find that companies receiving qualified opinions had a higher incidence of hidden fraud than those which had not received qualified opinions. This suggests that auditors' qualified opinions may have been linked to their suspicion of hidden fraud, and not just the financial distress experienced by the entities in the sample. Therefore, auditors have the incentive to protect themselves from litigation risk by issuing going concern opinions prior to potential fraud-induced bankruptcies. Company-level material control weaknesses also have a more significant impact on a firm's credit rating. Moody's Investors Service (2006) indicates that company-level control problems, as compared to account-specific problems, are more likely a key factor in their decisions to take negative rating actions. The propensity for a firm to receive a negative credit rating provides further contrary information to the going concern opinion assessment as negative credit ratings make it more difficult for companies to access the capital market, thus further worsening the financial distress the company is experiencing. All the evidence appears to indicate that, compared to account-specific material weaknesses, company-wide internal control problems pose greater audit and litigation risk to auditors and provide further contrary information to financially distressed firms' continued viability. We therefore propose the following hypothesis:

**H2: Company-wide material internal control weaknesses in financially distressed firms are more likely to increase the likelihood that auditors issue a going concern opinion than account-specific material internal control weaknesses.**

## REGRESSION MODEL

We test our hypotheses by estimating the following logistic regression model.

$$\begin{aligned} \text{OPINION} = & \beta_0 + \beta_1 \text{ICW} + \beta_2 \text{BSCORE} + \beta_3 \text{FIRMSIZE} + \beta_4 \text{LOSS} + \beta_5 \text{LEVERAGE} \\ & + \beta_6 \text{INVESTMENTS} + \beta_7 \text{OP CASH FLOWS} \\ & + \beta_8 \text{REPORT LAG} + \beta_9 \text{BIG4} + \beta_{10} \text{FIRM AGE} + \beta_{11} \text{ROA} \\ & + \beta_{12} \text{SEGMENTS} + \beta_{13} \text{SALES GROWTH} + \beta_{14} \text{RESTRUCTURE} \\ & + \beta_{15} \text{FOREIGN TRANS} + \Sigma \text{INDUSTRY INDICATOR} \end{aligned}$$

The variable of primary interest is ICW, an indicator variable equal to one if the firm disclosed a material weakness in internal controls in our sample period, and zero otherwise. Based on Hypothesis 1, we expect ICW to be positively related to the likelihood of a firm receiving a first-time going concern opinion (OPINION). To test Hypothesis 2, we classify firms as having either a company-level or account-specific material weakness by replacing ICW in the above model with CICW and AICW. CICW (AICW) is an indicator variable that is equal to one if the firm disclosed a company-level (account-specific) material weakness in internal control, and zero otherwise. The categorization of internal control weaknesses is developed based on the classification schemes employed in Doyle et al. (2007a). Details of the classification are provided in Appendix 1. Since most disclosures are not so forthcoming, we also classify a firm as having a company-level material weakness if it has at least four account-specific control issues. Of our 361 firms with material weaknesses, 166 are classified as company-level and 195 are classified as account-specific material weaknesses.

Based on prior research, we control for factors that likely affect the issuance of a going concern opinion. These include but are not limited to the contrary and mitigating factors required to be evaluated by the auditor under SAS No. 59.

BSCORE is the probability of bankruptcy from Hopwood et al. (1994),<sup>13</sup> with higher values indicating a higher probability of bankruptcy. We control for firm size by including the log of total assets (FIRM SIZE).<sup>14</sup> On one hand, large firms are less likely to receive going-concern modifications because they have more negotiating power and financial resources in the event of financial difficulties (McKeown et al. 1991), but on the other hand, auditors tend to report more conservatively for large firms because they pose a greater litigation risk (Reynolds and Francis 2001). LOSS is an indicator variable equal to one if the firm reports net losses for the current and previous fiscal year, and zero otherwise. This variable is included because firms with multiple-year losses are more likely to fail. Debt covenant violations have been found to be positively associated with going concern modifications (Chen and Church 1992; Multcher et al. 1997). We include LEVERAGE as a proxy for the likelihood of default because leverage is likely to be high for firms close to violation. Following DeFond et al. (2002), INVESTMENTS is calculated as the sum of the firm's cash and investment securities scaled by total assets, and is used to capture the firm's ability to quickly raise cash. Firms with large cash and investment securities have more resources to defend against bankruptcy in the event of financial difficulty, and are less likely to receive going concern modifications. OP CASH FLOW (operating cash flow divided by total assets) is included in the model because poor operating cash flows worsen financial distress and increase the probability of bankruptcy. Prior studies suggest that

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<sup>13</sup> Geiger and Raghunandan (2001) note that the correct value of the intercept provided in Table 3 of Hopwood et al. (1994) should be -7.322 (as opposed to 5.565). As part of the sensitivity analysis, we also use an alternative model from Zmijewski (1984) to calculate the measure of financial distress. The results remain essentially the same.

<sup>14</sup> If we use natural log of sales, square root of sales, raw total assets, or square root of total assets as alternative specifications of firm size, our results do not differ substantively from those reported.

the audit reporting lag (the time between the company's fiscal year-end to the date of the audit report) is associated with the type of audit report given to financially distressed companies because going concern opinions typically take longer for the auditor to issue than non-modified audit reports (McKeown et al. 1991; Carcello et al. 1995). Ettredge et al. (2006) also find that the presence of material weaknesses in internal controls is associated with longer audit reporting delays. Thus, we include an audit report lag variable (REPORT LAG) to control for the timeliness of audit opinions. Big 4 auditors, with large resources, generally have more to lose financially from litigation and are more likely to suffer reputational losses in the case of a bankruptcy filing without a prior going-concern opinion issuance (Mutchler et al. 1997; Geiger and Rama 2006), and hence may be more conservative in their reporting decisions. We thus include the indicator variable, BIG 4, to control for auditor type. Finally, we include industry indicator variables to capture the tendency of material weakness firms to cluster by industry.<sup>15</sup>

Prior research has also identified determinants of material weaknesses in internal controls. Material weakness firms tend to be less profitable, smaller, younger, more complex, growing rapidly, or undergoing restructuring (Ge and McVay 2005; Doyle et al. 2007a). As these characteristics are correlated with the incidence of material weaknesses and may have a direct effect on the issuance of going concern opinions, failing to incorporate them into the model might create correlated omitted variable

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<sup>15</sup> Industry classifications are based on the following SIC codes: Agriculture 100-999; Mining: 1000-1299, 1400-1999; Food: 2000-2199; Textiles: 2200-2799; Drugs: 2830-2839, 3840-3851; Chemicals: 2800-2829, 2840-2899; Refining: 1300-1399, 2900-2999; Rubber: 3000-3499; Industrial: 3500-3569, 3580-3659; Electrical: 3660-3699; Miscellaneous Equipment: 3700-3839, 3852-3999; Computers: 3570-3579, 3670-3679, 7370-7379; Transportation: 4000-4899; Utilities: 4900-4999; Retail: 5000-5999; Banks: 6000-6999; Services: 7000-7369, 7380-8999; and Miscellaneous: 9000-9999.

problems. Therefore, we include proxies for these constructs in our main regressions as follows: profitability (ROA), the age of the firm (FIRM AGE), the complexity of the firm's operations (SEGMENTS and FOREIGN TRANS), rapid growth (SALES GROWTH), and restructurings (RESTRUCTURE). All variables are defined in Table 1.

-----Insert Table 1 Here-----

### **SAMPLE SELECTION**

Our initial sample consists of 6,113 companies required to issue internal control reports under SOX Section 404 in the fiscal 2004 and 2005 reporting periods obtained from the Audit Analytics database. Of these companies, we exclude 2,221 that are not covered by Compustat. We also exclude 304 companies in the financial, real estate, and utility sectors because these types of companies have unique financial characteristics not readily captured in our bankruptcy prediction model. As in prior research, we limit our analysis to a sample of financially distressed firms because auditors do not generally issue going-concern audit opinions for nonstressed companies (McKeown et al. 1991, Hopwood et al. 1994). We define financially distressed firms as firms that exhibit at least one of the following features in the same fiscal year-end as the internal control report: (1) negative working capital, (2) negative retained earnings, or (3) negative earnings.<sup>16</sup> 1,760 companies without any of the stress criteria are eliminated from the study. Finally, consistent with prior studies, we restrict the sample of going concern firms to those receiving a first-time going

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<sup>16</sup> We replicate our analysis using different samples of financially distressed firms based on alternative selection criteria and discuss the results in the additional analyses section.

concern opinion. Mutchler (1985) documents the reluctance of audit partners to remove the going-concern modification once it is rendered, and Carcello and Neal (2003) note that issuing a modified opinion in subsequent years is less risky for the auditor and constitutes a different decision model that may not include the perceived risk of losing a disgruntled client.<sup>17</sup> These restrictions result in a sample of 1813 firms: 361 (1,452) material weakness (control) firms and 31 (1,782) going concern (non-going concern) firms. We summarize our sample selection process in Table 2.

-----Insert Table 2 Here-----

## **RESULTS**

### **Descriptive Statistics and Univariate Analysis**

Table 3, Panel A presents descriptive statistics for our full sample. 1.7% of our sample firms receive going concern opinions, which is relatively low compared to the average reported in prior research. The small proportion of going concern opinions is attributable to the fact that, for our sample period of 2004-2005, only firms with a market capitalization of at least \$75 million were required to report under Section 404. Larger firms are much less likely to receive going-concern modifications because they have more financial resources and negotiating power and hence are more likely to avoid bankruptcy (McKeown et al. 1991). The proportion of firms disclosing material internal control weaknesses is 19.9%, of which 45% are company-level problems. The 45% proportion for company-level material weakness disclosures is slightly higher than the average of 40% reported in prior studies (Ettredge et al. 2006; Doyle et al.

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<sup>17</sup> Including multiple-year going concern opinions in our sample does not substantially alter the results presented.

2007b), likely due to the financially distressed composition of our sample. The mean and median values of total assets are \$2.149 billion and \$297 million, respectively, indicating a skewed distribution and thus justifying the log transformation. On average, our sample firms have a bankruptcy score, BSCORE, of 0.549, have a negative return on assets of -8.5%, and 42.0% incurred a loss in two consecutive years. These results are consistent with the distressed nature of our sample firms and reflect our sample-selection criteria. Audit report lag averages 78.27 days, which is longer than results found in earlier research (McKeown et al. 1991, DeFond et al. 2002). This finding complements Ettredge et al. (2006), who find that companies implementing the new internal control requirements under SOX Section 404 experience increased audit delay.

-----Insert Table 3 Here-----

In Table 3, Panel B, we present descriptive statistics for firms reporting material weaknesses versus those not identified as having material internal control weaknesses, along with the *p*-values from t-tests of the difference in means across the two groups. The proportion of firms receiving going concern opinions is 3.6% for the material weakness sample, and 1.2% for the control sample, with the difference significant at *p* = 0.006. This provides initial support for H1 that predicts that firms with material weakness disclosures are more likely to receive going concern opinion modifications. With regard to the control variables, material weakness firms are smaller (FIRM SIZE), have higher leverage (LEVERAGE), and more operating segments (SEGMENTS) than control firms. Material weakness firms also tend to be less liquid

(INVESTMENTS) and less likely to be audited by a Big 4 accounting firm. The average report delay is significantly higher for material weakness firms (120.64 versus 67.73 days), consistent with the notion that extended audit effort due to control weaknesses leads to longer audit reporting delay. In addition, material weakness firms are more likely to be undergoing restructuring. All other variables are not significantly different across the two groups.

In Table 3, Panel C, we classify the firms by types of internal control weakness and compare company-level material weakness firms to account-specific material weakness firms. The proportion of firms receiving going concern opinions is significantly higher for firms that disclose company-level problems than for firms that disclose account-specific problems (5.4% versus 2.1%), suggesting that auditors incorporate the types of internal control weaknesses into their report decisions and are more likely to issue a going concern opinion to a company with pervasive, company-level material weaknesses than a company with account specific weaknesses. This result lends preliminary evidence to H2. Regarding control variables, firms disclosing company-level material weaknesses tend to have: greater bankruptcy risk (BSCORE); lower operating cash flow (OP CASH FLOW); lower likelihood to have a Big 4 auditor (BIG 4); lower average earnings before extraordinary items (ROA); longer audit reporting delays (REPORT LAG); younger age (FIRM AGE); and greater likelihood to have foreign operations (FOREIGN TRANS) compared to firms disclosing account-specific material weaknesses.

Table 4 presents the Pearson correlation matrix for all the variables used in the

analysis. Consistent with our expectations, the incidence of a firm receiving a going concern opinion (OPINION) is positively associated with the existence of material weakness disclosures (ICW), BSCORE, LOSS, LEVERAGE, REPORT LAG and BIG 4, and negatively associated with FIRM SIZE, INVESTMENTS, OP CASH FLOWS and ROA. Most of the correlations are significant at conventional levels. We also find significant correlations among ICW, the variable of primary interest, and the same set of independent variables. Controlling for the numerous firm-specific characteristics that are associated with the auditor's decision to issue a going concern opinion is important because it is possible that these variables are the factors driving the results, not the material weakness per se, and failing to do so would produce unreliable estimates. Therefore, although the univariate tests provide some initial support for our hypotheses, we rely on the multivariate analyses to formally test these hypotheses.

### **Multivariate Regression Results**

Results of the multivariate logistic regressions are presented in Table 5. Results indicate that our models have sufficient explanatory power over the going concern decision (pseudo-  $R^2 = 0.34$  and  $0.35$ ). The first two columns of Table 5 contain the coefficient estimates and  $p$ -values for the H1 model where the type of audit opinion is regressed on the indicator variable, ICW, and a comprehensive set of control variables, where ICW is equal to one if the firm reports a material weakness and zero otherwise. The coefficient on ICW is 1.20 with a  $p$ -value of 0.008. The ICW variable's positive and significant association with the dependent variable indicates that firms with

material weakness disclosures are more likely to receive going concern audit opinions, thus supporting H1. The odds ratio for the ICW variable is 3.32 (untabulated), which implies that the probability of receiving a going concern opinion is 3.32 times higher for firms reporting material weaknesses in internal control. Thus, the significant economic magnitude of the coefficient on ICW lends further support to H1.

The results for the control variables are largely consistent with the descriptive analysis. Firms receiving going concern opinions are smaller, have higher probabilities of bankruptcy, are more likely to incur a loss in two consecutive years, and are more likely to have financial statements audited by a Big 4 firm. On the contrary, firms receiving a clean audit opinion tend to be more liquid and have higher cash flows from operations. These variables are all in predicted directions and significant. The report lag variable is positively associated with the likelihood of receiving a going concern opinion, but not significant. This is probably due to the high correlation between ICW and REPORT LAG, as auditors extend their audit effort for material weakness firms and hence the longer audit reporting delay (Ettredge et al. 2006).<sup>18</sup> Finally, the additional controls we identified through our examination of the internal control literature are largely insignificant.

We next examine the relation between the audit opinion and the different types of internal control weaknesses. We replace the indicator variable for material weakness (ICW) with two indicators for company-level and account-specific material weakness

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<sup>18</sup> If we exclude ICW from the model, REPORT LAG turns highly significant with a p-value <0.0001. As can be seen from the Pearson correlation matrix, several of our variables have correlations above 0.30. We examined the variance inflation factors (VIFs) for each of our multivariate regressions and none of the calculated VIFs exceed two, suggesting that multicollinearity is unlikely to be a problem.

(CICW and AICW). The regression results are presented in columns 3 and 4 of Table 5. Company-level material weaknesses are significantly associated with the likelihood of receiving a going concern opinion ( $p$ -value = 0.002), while account-specific weaknesses are positively, but not significantly, associated with the likelihood of receiving a going concern opinion ( $p$ -value = 0.137). The statistical significance of CICW ( $p$ -value = 0.002) is more pronounced than that of ICW ( $p$ -value = 0.008), which aggregates different types of internal control weaknesses. More importantly, the economic magnitude of the coefficient on company-level material weaknesses is significantly higher than the magnitude of the coefficient on account-specific material weakness under a  $t$ -test (1.63 versus 0.71). The difference in magnitude translates into the odds of company-level material weaknesses prompting a going concern opinion being 2.56 times than that of account-specific material weaknesses.<sup>19</sup> These findings provide strong support for H2 which predicts that company-level material weaknesses in internal controls have a stronger positive association with the likelihood of a company receiving a going concern opinion than account-specific material weaknesses. In fact, our results indicate that the positive association between ICW and OPINION reported in the first two columns of Table 5 is largely driven by a subset of the firms disclosing company-wide material weaknesses, suggesting that only the more severe type of internal control weakness is incorporated into the auditor's going concern assessment process.

Overall, both the univariate and multivariate results provide strong evidence for

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<sup>19</sup> The odds ratio estimates for CICW and AICW are 5.214 and 2.035, respectively.

our hypotheses that receiving a going concern modification is more likely when a firm has a weak internal control system (H1) and that this relation is stronger when the internal control problems are at the company level (H2). These findings are further supported by the consistent results obtained and reported in the following section where a variety of empirical issues such as endogeneity and alternative model specifications are considered.

### **Additional Analyses**

#### ***Material Weakness based on the COSO Framework***

We further classify material internal control weaknesses using a scheme based on the Committee of Sponsoring Organization's (COSO) framework. Auditors rely on the COSO framework to evaluate internal control quality and identify internal control weaknesses. This COSO-based classification is similar to the one used by Ettredge et al. (2006). Our objective is to investigate whether different types of COSO-based internal control weaknesses have different levels of impact on auditors' going-concern assessments. We classify material internal control weaknesses into eight categories: Personnel, Process and Procedure, Documentation, Segregation of Duties, Information System Process, Risk Assessment, Closing Process, and Control Environment. The examples of each category of COSO-based internal control weakness are provided in Appendix 2. We examined auditors' internal control assessments extracted from firms' 10K reports and identified a total of 666 COSO-based deficiencies out of our sample. There are approximately 1.86 deficiencies for each firm year on average. The most frequent type of internal control

weakness is Process and Procedure, followed by Personnel and Documentation. Our regression analysis indicates that most of the specific COSO-based internal control deficiencies alone do not have a significant impact on auditor's going-concern assessments with the exception of "control environment" ( $p$ -value = 0.056). This result is consistent with our previous findings. Control environment can be considered a type of company-wide internal control weakness, which prompts auditors to issue going concern opinions. Conversely, other COSO-based weaknesses are more account-specific or department-specific which may have less impact on auditors' going-concern decisions.

### ***Endogeneity Issues***

The findings in our study are limited by the potential problem of endogeneity. It is entirely possible that going concern opinions and internal control weakness disclosures are both associated with financial distress. While financial distress increases a company's probability of bankruptcy, it may also strain the financial resources and company time required to invest in and maintain proper controls because the company is more concerned about staying in business, resulting in inadequate internal controls (Ge and McVay 2005). Although our models include a comprehensive set of economic determinants to control for financial distress, we can not be sure that they are complete. The simultaneity bias induced by endogeneity may potentially confound our results and produce biased estimates. Accordingly, we test whether our results are misspecified by performing a two-stage least squares analysis. In the first stage, we estimate a system of simultaneous equations that include a

logistic regression of ICW on the determinants of material weaknesses as identified in prior literature.<sup>20</sup>

$$\begin{aligned} \text{ICW} = & \beta_0 + \beta_1 \text{ MARKET CAP} + \beta_2 \text{ LOSS} + \beta_3 \text{ REPORT LAG} + \beta_4 \text{ BIG4} \\ & + \beta_5 \text{ FIRM AGE} + \beta_6 \text{ ROA} + \beta_7 \text{ SEGMENTS} + \beta_8 \text{ SALES GROWTH} \\ & + \beta_9 \text{ RESTRUCTURE} + \beta_{10} \text{ FOREIGN TRANS} \\ & + \Sigma \text{ INUSTRY INDICATOR} \end{aligned}$$

where the new variables are defined as follows:

$$\text{MARKET CAP} = \text{Log of share price} \times \text{number of shares outstanding}$$

In the second stage, we estimate the structural models after replacing each endogenous explanatory variable with the predicted value from the first stage. As suggested in D'Souza (1998), we employ a variant of the Hausman (1978) test, called "the omitted variable," to detect the presence of endogeneity. We find that the null hypothesis of no-endogeneity cannot be rejected,<sup>21</sup> and the two-stage procedure produces essentially identical results as those presented in Table 5. Specifically, the coefficient of the fitted value of ICW is significant with a  $p$ -value of 0.016. Thus, our main results hold even after controlling for potential simultaneous bias in our tests.

### ***Corporate Governance Factors***

Carcello and Neal (2000) find that the greater the percentage of affiliated directors on the audit committee, the lower the probability the auditor will issue a going-concern report. Krishnan (2005) presents evidence that internal control deficiencies are negatively related to audit committee independence. Therefore, leaving out audit committee independence could potentially lead to correlated omitted

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<sup>20</sup> Using a PROBIT regression model produces substantively similar results.

<sup>21</sup> Note that the null hypothesis can be erroneously rejected if the equations are incorrectly specified.

variable problems. We obtain the data on audit committee independence, measured as the percentage of outside directors on the audit committee, from the Investor Research Responsibility Center (IRRC) database. Additional corporate governance variables such as the percentage of independent directors on the board, audit committee size and board size are included as well. We re-estimate our regression of ICW on all the independent variables for the 423 observations with sufficient data. We fail to find any significant relation between ICW and our proxy for audit committee independence ( $p$ -value=0.572) and other corporate governance variables except for the percentage of independent directors on the board, which is marginally significant with a  $p$ -value of 0.09. This finding is in contrast to those reported in Krishnan (2005) and Carcello and Neal (2000), but consistent with Geiger and Rama (2003) and Krishnan and Visvanathan (2005). One possible explanation is that our sample is selected from the post Sarbanes-Oxley period.<sup>22</sup> Both the governance-related provisions of Sarbanes-Oxley Act and major stock exchange listing rules lead to very little variation across firms in terms of audit committee characteristics, such as the proportion of independent directors on the audit committee, thus rendering audit committee attributes “empirically” less relevant to auditor’s reporting decision.<sup>23</sup>

### ***Sample Selection Criteria***

To investigate the potential impact of our sample selection criteria, we replicate

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<sup>22</sup> Post-SOX, firms must have audit committees comprised of all independent members, unless the firm is a controlled firm.

<sup>23</sup> We were not able to perform a logistic analysis to directly test the relation between going concern reporting and audit committee independence due to the insufficient number of going concern opinion observations in our reduced sample. However, the largely insignificant results on the corporate governance variables mitigate concerns regarding correlated omitted variable problems biasing the statistical results for the internal control weakness variables.

our results using samples based on several alternative sample selection procedures. We first create financially distressed samples based on various combinations of the following criteria: (1) negative operating cash flows, (2) negative earnings, (3) negative working capital, and (4) negative retained earnings. These alternative samples represent a wide spectrum of the degree of financial distress, ranging from the less distressed to the severely distressed. Our results remain substantively the same when these alternative samples are used. We also expand our sample to include multi-year going concern opinions, with indicator variables to control for firms with prior-year going concern modifications. The results again are similar to those presented in Table 5. Thus, we conclude that our findings are robust to alternative sample selection criteria.

## **SUMMARY AND CONCLUSIONS**

This study examines the impact of disclosures of material internal control weaknesses on auditors' going concern opinion assessments for a sample of financially distressed firms disclosing internal control opinions under SOX Section 404. Additionally, this paper examines the impact of the classification of the material weakness (company-level and account-specific) as well as the COSO framework classification of the type of material weakness on the auditor's going concern opinion assessment. We add to the growing literature examining the impact of internal control quality disclosures.

The primary contribution of this paper is that we provide evidence that the reporting of internal control quality appears to influence the auditor's going concern

assessments and that company-wide internal control problems impact these assessments more than account-specific problems. Results of this paper enhance our knowledge of the impact of the SOX Section 404 internal control reports and the impact of internal control quality on auditor opinion assessments. This knowledge is likely useful to policy makers in their consideration of further internal control regulations. However, this paper is subject to certain limitations including the generalizability of results as our sample includes only larger companies required to report under SOX Section 404. Smaller companies with market capitalization of less than \$75 million were not required to report under SOX Section 404 during our sample period. As smaller companies begin to disclose internal control opinions, future research can examine whether internal control quality impacts auditors opinion decisions for these companies.

## REFERENCES

- Altman, E. and T. McGough. 1974. Evaluation of a company as a going-concern. *Journal of Accountancy*: 50-57.
- American Institute of Certified Public Accountants. 1983. *Audit Risk and Materiality in Conducting an Audit*. Statement on Auditing Standard No. 47. New York, NY: AICPA.
- . 1988. *The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern*. Statement on Auditing Standard No. 59. New York, NY: AICPA.
- Ashbaugh-Skaife, H., D. Collins, W. Kinney, and R. LaFond. 2007a. The Effect of SOX internal control deficiencies and their remediation on accrual quality. Working Paper, University of Wisconsin.
- , ———, ———, and ——— 2007b. The effect of SOX internal control deficiencies on firm risk and cost of equity. Working Paper, University of Wisconsin.
- Asquith, P., R. Gertner and D. Sharfstein. 1994. Anatomy of financial distress: an examination of junk-bond issuers. *Quarterly Journal of Economics* 109 (August): 625-658.
- Bartov, E., F. Gul, and J. Tsui. 2000. Discretionary accruals and audit qualifications. *Journal of Accounting and Economics* 30 (December): 421-452.
- Behn, B.K., S.E. Kaplan, and K.R. Krumwiede. 2001. Further evidence on the auditor's going-concern report: The influence of management plans. *Auditing: A Journal of Practice & Theory* 20 (March): 13-28.
- Beneish, M.D, M.B. Billings, and L.D. Hodder. 2007. "Internal control weaknesses and information uncertainty." Working Paper, Lehigh University.
- Blacconiere, W., and M. DeFond. 1997. "An Investigation of audit opinions and subsequent auditor litigation of publicly-traded failed savings and loans." *Journal of Accounting and Public Policy*: Vol. 16, pp. 415-454.
- Carcello J.V., D. Hermanson, and F. Huss. 1995. Temporal changes in bankruptcy-related reporting. *Auditing: A Journal of Practice & Theory* 14 (Fall): 133-143
- , and T. Neal. 2000. Audit committee composition and auditor reporting." *The Accounting Review* 75 (October): 453-467.

———, and ———. 2003. Audit committee characteristics and auditor dismissals following “new” going concern reports. *The Accounting Review* 78 (January): 95-117.

———. and Z.V. Palmrose. 1994. Auditor litigation and modified reporting on bankrupt clients. *Journal of Accounting Research* 32 (Supplement): 1-30.

Chen C.W., and B.K. Church. 1992. Default on debt obligations and the issuance of going-concern opinions. *Auditing: A Journal of Practice & Theory* 11 (Fall): 30-49.

Committee of Sponsoring Organizations of the Treadway Commission (COSO). 1992. “Internal Control – Integrated Framework.” New York, NY: AICPA.

DeFond, M.L., K. Raghunandan, and K.R. Subramanyam. 2002. Do non-audit service fees impair auditor independence? Evidence from going concern audit opinions. *Journal of Accounting Research* 40 (September): 1247-1274.

D’Souza, J. 1998. Rate-regulated enterprises and mandated accounting changes: the case of electric utilities and post-retirement benefits other than pensions (SFAS No. 106). *The Accounting Review* 73 (July): 387-410.

Doyle, J., W. Ge, and S. McVay. 2007a. Determinants of weaknesses in internal control over financial reporting. *Journal of Accounting and Economics* 44 (September):193-223.

———, ———, and ———. 2007b. Accrual quality and internal control over financial reporting. *The Accounting Review*, forthcoming.

Ettredge, M.L., C. Li and L. Sun. 2006. The impact of SOX Section 404 internal control quality assessment on audit delay in the SOX era. *Auditing: A Journal of Practice & Theory* 25 (November): 1-23.

Francis, J., and J. Krishnan. 1999. Accounting Accruals and Auditor Reporting Conservatism. *Contemporary Accounting Research* 16 (Spring): 135-165.

Ge, W. and S. McVay. 2005. The disclosure of material weaknesses in internal control after the Sarbanes-Oxley Act. *Accounting Horizons* 10 (September): 137-158.

Geiger, M.A. and D.V. Raghunandan, 2002. Auditor tenure and audit reporting failures. *Auditing: A Journal of Practice & Theory* 21 (March): 67-78.

Gilson, S.C. 1989. Management turnover and financial distress. *Journal of Financial Economics* 25 (December): 241-262.

———. 1990. Bankruptcy, boards, banks, and blockholders: evidence on changes in corporate ownership and control when firms default. *Journal of Financial Economics* 27 (October): 355-387.

Hausman, J. 1978. Specification tests in econometrics. *Econometrica* 46 (November): 1251-1271.

Hopwood, W., J. McKeown, and J. Mutchler. 1994. A reexamination of auditor versus model accuracy within the context of the going-concern opinion decision. *Contemporary Accounting Research* 10 (Spring): 409-431.

Jonas, G., A. Rosenberg A. and M.Gale. 2006. The second year of section 404 reporting on internal control. New York, NY: Moody's Investors Service.

Knechel, R. and A.Vanstraelen. 2007. The relationship between auditor tenure and audit quality implied by going concern opinions. *Auditing: A Journal of Practice & Theory* 26 (May):113-131.

Krishnan, J. 2005. Audit committee quality and internal control: An empirical analysis. *The Accounting Review* 80 (April): 649-675.

———, and J. Krishnan. 1996. The role of economic trade-offs in the audit opinion decision: An empirical analysis. *Journal of Accounting, Auditing, & Finance* 11 (Fall): 565-586.

———, and ———. 1997. Litigation risk and auditor resignations. *The Accounting Review* 72 (October): 539-560.

Krishnan, G.V., and G. Visvanathan. 2007. Reporting internal control deficiencies in the post-Sarbanes-Oxley era: The role of auditors and corporate governance. *International Journal of Auditing*: 11: 73-90.

Levitan, A. and J. Knoblett. 1985. Indicators of exceptions to the going-concern assumption. *Auditing: A Journal of Practice and Theory* 5 (Fall): 26-39.

Lys, T. and R.L. Watts. 1994. Lawsuits against auditors. *Journal of Accounting Research* 32 (Supplement): 65-93.

McKeown, J. C., J. F. Mutchler, and W. Hopwood. 1991. Towards an explanation of auditor failure to modify the audit opinion of bankrupt companies. *Auditing: A Journal of Practice & Theory* 10 (Supplement): 1-13.

Menon, K., and K. Schwartz. 1986. The auditor's report for companies facing bankruptcy. *Journal of Commercial Bank Lending* 68 (January): 52-52.

———, and ———. 1987. An empirical investigation of audit qualification decisions in the presence of going-concern uncertainties. *Contemporary Accounting Research* 3 (Spring): 303-315.

Multcher, J., 1985. A multivariate analysis of the auditor's going concern decision. *Journal of Accounting Research* 23 (Autumn): 668-682.

———, W. Hopwood, and J. McKeown, 1997. The influence of contrary information and mitigating factors in audit opinion decisions on bankrupt companies. *Journal of Accounting Research* 35 (Autumn): 295-310.

Opler, T. and S. Titman. 1994. Financial distress and corporate performance. *Journal of Finance* 49 (July): 1015-1040.

Palmrose, Z.V. 1987. Litigation and independent auditors: The role of business failures and management fraud. *Auditing: A Journal of Practice & Theory* 6 (Spring): 90-103.

Reynolds, K., and J. Francis. 2001. Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics* 30 (December): 375-400.

Rosner R.L. 2003. Earnings manipulation in failing firms. *Contemporary Accounting Research* 20 (Summer): 361-408.

SEC, 1988. Disclosure amendments to regulation S-K, form 8-K, form 8-K and schedule 14A regarding changes in accountants and potential opinion shopping situations. *Financial Reporting Release* No. 31 (April). SEC Docket 1140-1147. Washington, DC: SEC.

Shu, S. 2000. Auditor resignations: clientele effects. *Journal of Accounting and Economics* 29 (April): 173-205.

Stice, J.D. 1991. Using financial and market information to identify pre-engagement factors associated with lawsuits against auditors. *The Accounting Review* 66 (July): 516-533

U.S. Congress. 2002. "Sarbanes-Oxley Act of 2002," One Hundred Seventh Congress of the United States of America, H.R. 3763.

Zmijewski, M. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* 22 (Supplement): 59-82.

**TABLE 1: VARIABLE DEFINITIONS**

<b>Variable</b>	<b>Definition</b>
OPINION	= 1 if the firm received a first-time going concern opinion, 0 otherwise
ICW	= 1 if the firm disclosed a material weakness in internal control, 0 otherwise
CICW	= 1 if the firm disclosed a company-level material weakness in internal control, and 0 otherwise
AICW	= 1 if the firm disclosed an account-specific material weakness in internal control (an auditable problem), 0 otherwise
<b>Firm Characteristics</b>	
BSCORE	= Probability of bankruptcy (Hopwood et al. 1994)
FIRM SIZE	= Log of total assets (Compustat item #6) at fiscal year-end
LOSS	= 1 if the firm reports a net loss (Compustat item #172) in both years t and t-1, 0 otherwise
LEVERAGE	= Total liabilities (Compustat items #9 + #34) divided by total assets at year-end
INVESTMENTS	= Short- and long-term investment securities, including cash and cash equivalents (Compustat items #1+ #31 + #32) divided by total assets at year-end
OP CASH FLOW	= Operating cash flow (Compustat item #308) divided by beginning of fiscal year total assets
REPORT LAG	= Number of calendar days from fiscal year-end to date of the auditor's report
BIG 4	= 1 if the auditor is a Big 4 auditor, 0 otherwise
<b>Material Weakness Determinants</b>	
FIRM AGE	= Log of the number of years of firm CRSP data as of 2005
ROA	= Income before extraordinary items (Compustat item # 13) divided by average total assets
SEGMENTS	= Log of the sum of the number of operating segments reported on SEC Form 10-K
SALES GROWTH	= 1 if fiscal year-over-year industry-adjusted sales growth (Compustat item #12) falls into the top quintile, 0 otherwise
RESTRUCTURE	= 1 if the firm reported restructuring charges in any of the previous two years (non-zero values of Compustat items #376, #377, #378, or #379), and 0 otherwise
FOREIGN TRANS	= 1 if the firm has non-zero values of foreign currency translation (Compustat item #150), and 0 otherwise

**TABLE 2: SAMPLE SELECTION**

Firms filing SOX Section 404 internal control reports in 2004 and 2005	6,113
Less: Firms not covered by Compustat	(2,221)
Firms in the financial, real estate and utility sectors	(304)
Firms not in the financial distress category	(1,760)
Firms with non-first-time going concern opinions	(15)
Total firms in the final sample	<u>1,813</u>
 <u>Breakdown by disclosure type</u>	
Number of firms disclosing material weaknesses under Section 404	361
Number of control firms (no Section 404 material weaknesses disclosed)	<u>1,452</u>
	1,813
 <u>Breakdown by opinion type</u>	
Number of first-time going concern opinions	31
Number of firms not receiving a going concern opinion	<u>1,782</u>
	1,813

**TABLE 3: DESCRIPTIVE STATISTICS**

**Panel A: Descriptive Statistics for Full Sample of Financially Distressed Firms**

Variable	Mean	Median	SD	1Q	3Q
OPINION	0.017	0.000	0.129	0.000	0.000
ICW	0.199	0.000	0.399	0.000	0.000
CICW	0.067	0.000	0.251	0.000	0.000
AICW	0.119	0.000	0.323	0.000	0.000
BSCORE	0.549	0.500	0.143	0.500	0.500
FIRM SIZE (\$million)	2148.589	296.526	8038	112.691	962.987
LOSS	0.420	1.000	0.494	0.000	1.000
LEVERAGE	0.520	0.468	0.319	0.261	0.687
INVESTMENTS	0.336	0.267	0.281	0.081	0.562
OP CASH FLOW	0.011	0.041	0.543	-0.058	0.122
REPORT LAG	78.269	72.000	45.018	65.000	75.000
BIG 4	0.859	1.000	0.348	1.000	1.000
ROA	-0.085	-0.016	0.253	-0.156	0.052
FIRM AGE (years listed)	13.742	9.333	13.558	5.583	15.750
SEGMENTS	1.939	1.000	1.393	1.000	3.000
SALES GROWTH	0.197	0.000	0.395	0.000	0.000
RESTRUCTURE	0.429	0.000	0.495	0.000	1.000
FOREIGN TRANS	0.105	0.000	0.306	0.000	0.000

**Panel B. Descriptive Statistics for Material Weakness Firms vs. Control Firms**

Variable	Material Weakness Firms			Control Firms		t-test: Mean Dif.
	Mean	Median	Predicted Difference	Mean	Median	<i>p</i> -value
N	361			1452		
OPINION	0.036	0.000	>	0.012	0.000	0.006
BSCORE	0.539	0.500	>	0.552	0.500	0.297
FIRM SIZE	1059.300	251.200	<	2419.400	313.500	<.0001
LOSS	0.438	0.000	>	0.416	0.000	0.128
LEVERAGE	0.532	0.468		0.508	0.469	0.222
INVESTMENTS	0.284	0.209	<	0.349	0.282	<.0001
OP CASH FLOW	0.066	0.029	<	-0.002	0.047	0.239
REPORT LAG	120.640	89.000	>	67.730	69.000	<.0001
BIG 4	0.787	1.000	<	0.877	1.000	<.0001
FIRM AGE	13.674	9.667	<	13.759	9.333	0.357
ROA	-0.084	-0.032	<	-0.085	-0.010	0.848
SEGMENTS	2.172	1.000	>	1.881	1.000	0.000
SALES GROWTH	0.186	0.000	>	0.195	0.000	0.688
RESTRUCTURE	0.459	0.000	>	0.421	0.000	0.092
FOREIGN TRANS	0.122	0.000	>	0.101	0.000	0.118

**Panel C. Descriptive Statistics by Types of Internal Control Weakness**

	Company-level Material Weakness Firms			Account-specific Material Weakness Firms		t-test: Mean Differences
N	166			195		
Variable	Mean	Median	Predicted Difference	Mean	Median	<i>p</i> -value
OPINION	0.054	0.000	>	0.021	0.000	0.003
BSCORE	0.551	0.500	>	0.529	0.500	0.059
FIRM SIZE	1166.090	281.690	<	968.320	240.530	0.483
LOSS	0.439	0.000	>	0.436	1.000	0.471
LEVERAGE	0.542	0.466	>	0.523	0.475	0.297
INVESTMENTS	0.288	0.218	<	0.281	0.201	0.388
OP CASH FLOW	-0.008	0.027	<	0.129	0.035	0.100
REPORT LAG	137.870	90.000	>	105.960	84.000	<0.001
BIG 4	0.753	1.000	<	0.815	1.000	0.076
FIRM AGE	12.780	9.200	<	14.440	9.830	0.023
ROA	-0.108	-0.139	<	-0.063	-0.026	0.017
SEGMENTS	2.151	1.500		2.189	1.000	0.802
SALES GROWTH	0.211	0.000		0.164	0.000	0.256
RESTRUCTURE	0.464	0.000		0.456	0.000	0.888
FOREIGN TRANS	0.151	0.000		0.097	0.000	0.095

Notes:

The t-test of means uses the pooled method when the underlying variances are equal and the Stterthwaite method when they are unequal. Each of the continuous variables is winsorized at top 1% and bottom 99%. All variables are defined in Table 1. P-values are one-tailed for directional predictions, and zero otherwise.

**TABLE 4: PEARSON CORRELATION MATRIX**

	ICW	BSCORE	FIRM SIZE	LOSS	LEVERAGE	INVESTMENTS	OP CASH FLOW
OPINION	0.073 (0.002)	0.160 (<0.0001)	-0.098 (<0.0001)	0.095 (<0.000)	0.066 (0.005)	-0.035 (<0.0001)	-0.076 (0.001)
ICW	1.000	-0.047 (0.057)	-0.047 (0.013)	0.057 (0.020)	0.051 (0.214)	-0.097 (0.000)	-0.051 (0.033)
BSCORE		1.000	-0.282 (0.000)	0.310 (0.000)	0.120 (0.000)	0.368 (0.000)	0.266 (0.000)
FIRM SIZE			1.000	-0.303 (0.000)	0.350 (0.000)	-0.508 (0.000)	0.181 (0.000)
LOSS				1.000	0.056 (0.022)	0.320 (0.000)	-0.202 (0.000)
LEVERAGE					1.000	-0.333 (0.000)	0.048 (0.050)
INVESTMENTS						1.000	-0.195 (0.000)
OP CASH FLOW							1.000

  

	REPORT LAG	BIG 4	FIRM AGE	ROA	SEGMENTS	SALES GROWTH	RESTRUCTURE	FOREIGN TRANS
OPINION	0.039 (0.099)	0.004 (0.851)	-0.007 (0.763)	-0.202 (0.000)	-0.027 (0.272)	0.031 (0.200)	-0.032 (0.196)	-0.030 (0.218)
ICW	0.469 (0.000)	-0.104 (0.000)	0.007 (0.332)	0.001 (0.956)	0.097 (0.000)	-0.022 (0.374)	0.040 (0.105)	0.035 (0.158)
BSCORE	-0.052 (0.035)	-0.068 (0.006)	-0.103 (0.000)	-0.690 (0.000)	-0.193 (0.000)	0.049 (0.047)	-0.087 (0.000)	-0.032 (0.189)
FIRM SIZE	0.005 (0.837)	0.290 (0.000)	0.379 (0.000)	0.288 (0.000)	0.298 (0.000)	-0.127 (0.000)	0.234 (0.000)	0.071 (0.004)
LOSS	-0.007 (0.775)	-0.107 (0.000)	-0.098 (0.000)	-0.454 (0.000)	-0.088 (0.000)	0.016 (0.509)	0.040 (0.101)	-0.030 (0.217)
LEVERAGE	0.043 (0.082)	0.043 (0.081)	0.203 (0.000)	-0.078 (0.002)	0.140 (0.000)	-0.110 (0.000)	0.139 (0.000)	0.032 (0.192)
INVESTMENTS	-0.067 (0.006)	-0.010 (0.677)	-0.287 (0.000)	-0.272 (0.000)	-0.293 (0.000)	0.150 (0.000)	-0.145 (0.000)	-0.035 (0.148)
OP CASH FLOW	0.021 (0.399)	0.058 (0.017)	0.041 (0.094)	0.265 (0.000)	0.056 (0.021)	-0.037 (0.131)	0.008 (0.747)	0.010 (0.689)
REPORT LAG	1.000	0.010 (0.683)	0.013 (0.608)	0.016 (0.509)	0.038 (0.117)	-0.035 (0.158)	0.028 (0.256)	0.036 (0.142)
BIG 4		1.000	0.029 (0.241)	0.055 (0.025)	-0.018 (0.466)	-0.053 (0.029)	0.050 (0.040)	0.003 (0.888)
FIRM AGE			1.000	0.120 (0.000)	0.289 (0.000)	-0.223 (0.000)	0.182 (0.000)	0.057 (0.020)

**Table 4 (continued)**

	REPORT LAG	BIG 4	FIRM AGE	ROA	SEGMENTS	SALES GROWTH	RESTRUCTURE	FOREIGN TRANS
ROA				1.000	0.140 (0.000)	-0.039 (0.107)	0.053 (0.029)	0.026 (0.280)
SEGMENTS					1.000	-0.119 (0.000)	0.232 (0.000)	0.016 (0.517)
SALES GROWTH						1.000	-0.131 (0.000)	-0.012 (0.629)
RESTRUCTURE							1.000	0.114 (0.000)
FOREIGN TRANS								1.000

Notes: All variables are defined in Table 1. *P*-values are in parenthesis.

**TABLE 5: LOGISTIC REGRESSION: GOING CONCERN OPINIONS AND INTERNAL CONTROL QUALITY**

Variables	Predicted Sign	Hypothesis 1		Hypothesis 2	
		Coefficient Estimate	p-value	Coefficient Estimate	p-value
INTERCEPT		-11.049	0.949	-10.871	0.962
<b>ICW</b>	+	1.201	0.015		
<b>CICW</b>	+			1.634	0.002
<b>AICW</b>	+			0.710	0.137
BSCORE	+	2.865	0.049	2.668	0.023
FIRM SIZE		-0.644	0.003	-0.640	0.004
LOSS	+	0.914	0.080	0.930	0.039
LEVERAGE	+	-0.241	0.538	-0.242	0.542
INVESTMENTS	-	-5.557	<0.001	-5.719	<0.001
OP CASH FLOW	-	-1.467	0.069	-1.456	0.036
REPORT LAG	+	0.411	0.693	-0.443	0.870
BIG 4	+	1.799	0.016	1.820	0.008
ROA	-	-0.752	0.484	-0.760	0.240
FIRM AGE		0.134	0.645	0.155	0.598
SEGMENTS		0.038	0.924	0.036	0.929
SALES GROWTH		0.328	0.535	0.315	0.551
RESTRUCTURE		-0.025	0.957	-0.073	0.874
FOREIGN TRANS		0.288	0.691	0.316	0.668
N		1813		1813	
Pseudo R <sup>2</sup>		0.34		0.35	

Notes:

The dependent variable is coded 1 for the issuance of a going concern opinion and 0 otherwise.

See Table 1 for definitions of independent variables. Each of the continuous variables is winsorized at 1% and 99% to mitigate outliers. P-values are one-tailed for directional predictions and two-tailed otherwise.

## **APPENDIX 1: COMPANY-LEVEL AND ACCOUNT-SPECIFIC MATERIAL WEAKNESS CLASSIFICATIONS**

### **Examples of Company-level Material Weaknesses:**

- Ineffective company-level controls as defined in the Internal Control—Integrated Framework published by COSO. These deficiencies relate to each of the five components of internal control as defined by COSO: control environment, risk assessment, control activities, information and communication, and monitoring.
- Control environment does not sufficiently promote effective internal control over financial reporting throughout its organizational structure.
- Inadequate risk assessment controls, including inadequate mechanisms for anticipating and identifying financial reporting risks; and for reacting to changes in the operating environment that could have a material effect on financial reporting.
- Inadequate communication from management to employees regarding the general importance of controls and employees duties and control responsibilities.
- Inadequate monitoring controls, including inadequate staffing and procedures to ensure periodic evaluations of internal controls to ensure that appropriate personnel regularly obtain evidence that controls are functioning effectively and that identified control deficiencies are remediated timely.

### **Examples of Account-Specific Material Weaknesses:**

- Inadequate administration, supervision, and review controls over the approval and recording of stock-based compensation.
- Inadequate controls over the recording of intangible assets.
- Ineffective controls over properly valuing net deferred tax assets through establishing an appropriate valuation allowance.
- Ineffective controls over properly accounting for treasury stock issuances.
- Inadequate policies and procedures governing the acquisition, tracking and disposition of property and equipment.

**APPENDIX 2:  
COSO FRAMEWORK INTERNAL CONTROL DEFICIENCY  
CLASSIFICATION EXAMPLES**

We classify internal control weaknesses into eight categories based on the COSO-frame work: Personnel, Process and Procedure, Documentation, Segregation of Duties, Information System Process, Risk Assessment, Closing Process and Control Environment.

Examples of Internal Control Weaknesses on Personnel Issues

- Lack of personnel resources with appropriate training and expertise in accounting, finance or other departments.
- Lack of personnel in key financial positions such as controller or CFO
- High turnover rate of accounting or finance staff

Examples of Internal Control Weaknesses on Process and Procedure Issues

- Insufficient process, procedure or policy on financial reporting of certain accounts or transactions (e.g. inventory, income tax)
- Failure to comply with accounting regulations such as GAAP and SFAS

Examples of Internal Control Weaknesses on Documentation Issues

- Lack of documentation of journal entries
- Lack of documentation of policies and procedures on certain accounts or transactions

Examples of Internal Control Weaknesses on Segregation of Duties Issues

- Lack of segregation of duties in company's daily operations (e.g. sales person process shipping, the person who process invoice also authorizes payments...)

Examples of Internal Control Weaknesses on Information System Process Issues

- Insufficient information system access control and authorization
- Lack of data backup and recovery
- Lack of information system to support daily operations and reporting.

Examples of Internal Control Weaknesses on Risk Assessment Issues

- Lack of consistent risk assessment process
- Insufficient assessment for financial reporting risks

Examples of Internal Control Weaknesses on Closing Process Issues

- Insufficient controls over period-end financial reporting process for certain accounts
- Insufficient controls over interim reporting closing process
- Failure to reconcile accounts at period end

## **Appendix 2 (continued)**

### Examples of Internal Control Weaknesses on Control Environment

- Lack of internal control for the entire firm
- Lack of senior management support to establish effective internal control systems
- Senior management can override certain control functions
- Lack of control or monitoring process for subsidiaries
- Ineffective communication between senior management and other employees regarding internal control