

## **ARE FULLY INDEPENDENT AUDIT COMMITTEES REALLY NECESSARY?**

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**ABSTRACT:** Accounting scandals and concerns about the quality of financial statements have led to many calls for improved audit committee effectiveness. Prior research indicates that audit committee independence is positively related to effective oversight of the financial reporting process. Unfortunately, prior research has not provided an answer as to how much independence on the audit committee is enough. This is an important unanswered question because Section 301 of SOX requires all listed companies to maintain an audit committee that is 100 percent independent. In this paper we examine whether the monitoring benefits provided by an independent audit committee can be attained at levels of independence that are lower than the 100 percent required by SOX. Our results suggest that the benefits of audit committee independence are not realized unless the audit committee is completely independent. In other words, partial independence is not associated with higher levels of audit committee effectiveness in reporting situations involving client financial distress. These results provide support for the SOX requirement of 100 percent independent audit committees.

## I. INTRODUCTION

Accounting scandals and concerns about the quality of financial statements have led to many calls for improved audit committee effectiveness. Starting with the Blue Ribbon Committee (BRC) in 1999 and culminating with the Sarbanes-Oxley Act of 2002 (SOX), one common element of these calls has been to increase audit committee independence. Most people would agree, and prior research has suggested, that the independence of the audit committee is positively related to effective corporate governance oversight. However, the requirement in SOX that audit committees must be completely independent has not been met with unanimous agreement. Although applauded by many as a necessary step to improve audit committee effectiveness, some have conversely argued that this requirement of SOX may have been an overreaction, and that allowing some non-independent members on the audit committee may be helpful in some cases.

Unfortunately, prior research has focused on documenting the positive relation between audit committee independence and improved committee oversight without providing an answer as to how much independence is enough. This is an important unanswered question because Section 301 of SOX requires all listed companies to maintain an audit committee that is 100 percent independent. In this paper we examine whether the benefits of improved oversight of the financial reporting process can be realized at levels of independence that are lower than the 100 percent required by SOX.

Our results suggest that the benefits of audit committee independence are not realized unless the audit committee is completely independent. In other words, partial independence is not associated with higher levels of audit committee effectiveness in reporting situations

involving client financial distress. These results provide support for the SOX requirement of 100 percent independent audit committees.

We organize the remainder of this paper as follows. Section II presents a brief discussion of the rule-making related to audit committee independence and prior literature. Section III discusses our research question and Section IV discusses our research design and sample selection. Section V presents our results. Finally, Section VI concludes with a summary and a discussion of the paper's policy implications and limitations.

## **II. BACKGROUND AND PREVIOUS LITERATURE**

### **Regulatory Background**

The call for audit committee independence is not new. The SEC started encouraging the use of independent audit committees as early as 1940.<sup>1</sup> However, prior to 1999, the rules related to audit committee composition were vague at best. In October 1999, the BRC issued a set of ten recommendations intended to improve the effectiveness of audit committees. The BRC suggested that audit committees of listed firms be completely independent of management and that the committee oversee and review all economic relationships between the external auditor and management (BRC 1999, 14).

In response to the BRC's recommendations, the New York Stock Exchange (NYSE) and the National Association of Securities Dealers (NASD) modified their listing requirements to require independent audit committees. However, firms were granted leeway to include non-independent members under certain circumstances, and small business filers were exempt from the requirements (SEC 1999a; SEC 1999b). Additionally, the NYSE and NASD definitions of independence were not completely consistent.

Following the high profile failures of Enron and WorldCom, Congress enacted a number of corporate governance initiatives through SOX. For example, Section 301 of SOX requires all listed companies to maintain an audit committee where each member is independent of management. Some have argued, however, that a 100 percent independence requirement is too restrictive and without merit. During the comment period, the SEC received more than 185 comments in response to the related rule proposal. While many commenters supported the SEC's independence criteria,<sup>2</sup> several commenters requested a broader definition of independence (SEC 2003). These comments appear to suggest that the costs of having an audit committee that is completely independent of management might outweigh the potential benefits. These costs may include search costs, increased director fees, costs associated with expanding the board, and the loss of board effectiveness through the potential replacement of affiliated directors who possess certain industry- or firm-specific knowledge by independent directors who lack such knowledge.

The assumed benefit of improved audit committee independence stems from the belief that independent directors are better monitors of management than are inside directors (DeFond and Francis 2005). Carcello and Neal (2000), Klein (2002a), and Carcello and Neal (2003), for example, document the benefits associated with higher levels of audit committee independence. Other research at the board-level, however, has documented that the market values inside directors on the board. Rosenstein and Wyatt (1997) find that the average stock price reaction is significantly positive when an insider who owns between 5 percent and 25 percent of the company's stock is added to the board. In addition, Klein (1998) finds a positive relation between the percentage of insiders on the finance and investment committees and both accounting and stock market performance. While these results are not directly related to the audit committee, they do suggest that the presence of insiders on the audit committee could add value

in certain circumstances. Furthermore, Klein (2002b) concludes that her findings suggest possible benefits of allowing boards of directors some amount of flexibility in determining the composition of their audit committee.

### **Stewardship Theory**

The belief that outside directors are better monitors than inside directors has primarily stemmed from the view that managers tend to be self-interested opportunists who will profit at the expense of shareholders when strong governance structures are not in place (Williamson 1985). Counter to this view, stewardship theory posits that managers are not opportunistic agents, but rather good stewards of the company. Additionally, stewardship theory promotes the benefits of having inside directors on the board.

Stewardship theory suggests that inside directors are better at maximizing shareholder profits because they have more firm-specific knowledge, understand the business better, and can make superior decisions to outside directors (Donaldson 1990; Donaldson and Davis 1991; Kiel and Nicholson 2003). The limited number of studies that explore the benefits of insiders on the board find that the proportion of insiders is positively associated with firm performance (Vance 1978) and returns to investors (Kesner 1988). While these studies do not examine the association between audit committees and performance, the audit committee is a subset of the board and, as a result, it is possible that having insiders on the audit committee could add value to the company.

### **Previous Literature**

The previous research on audit committee independence has primarily focused on whether committee independence is associated with enhanced effectiveness. In general, these studies have found greater audit committee independence to be associated with improved

monitoring of the financial reporting process (Collier and Gregory 1999; Abbott and Parker 2000; Carcello and Neal 2000; Klein 2002a; Abbott et al. 2003; Carcello and Neal 2003; Abbott et al. 2004; Bédard et al. 2004; Lee et al. 2004).<sup>3</sup> While these studies provide evidence that audit committee independence is associated with better corporate governance, all but two of these studies only use one measure of audit committee independence and thus do not provide insight as to what level of independence is optimal.<sup>4</sup>

We discuss these studies based on how audit committee independence is defined. The first group of studies defines independence using a binary measure capturing whether the audit committee is completely independent of management (i.e., 100 percent independence). The results suggest that completely independent audit committees are positively associated with audit fees (Abbott et al. 2003), and negatively associated with auditor resignations (Lee et al. 2004) and the occurrence of restatements (Abbott et al. 2004).<sup>5</sup>

Another group of studies defines audit committee independence using the proportion of independent audit committee members. These studies find that a higher proportion of affiliated audit committee members is positively associated with the issuance of a clean audit opinion to financially stressed companies (Carcello and Neal 2000) and auditor dismissals following the issuance of a new going-concern opinion (Carcello and Neal 2003).

Klein (2002a), one of the studies that uses multiple measures of independence, examines the relation between abnormal accruals and audit committee independence. She finds that firms with a majority of independent audit committee members have significantly smaller abnormal accruals, but her results do not hold for completely independent audit committees. Bédard et al. (2004) also use multiple levels of independence, but, contrary to Klein, document a negative association between completely independent audit committees and earnings management that

does not hold for firms with greater than 50 but less than 100 percent independent audit committees. Thus, given the inconsistent results of these two studies, the question regarding the optimal level of audit committee independence remains unanswered.

### **III. RESEARCH QUESTION**

The failure of prior studies to consider the optimal level of audit committee independence, or to provide a consistent answer to this question, is problematic because Section 301 of SOX requires all listed companies to maintain an audit committee in which every member is independent. Additionally, as required by SOX, the Securities and Exchange Commission (SEC) issued Rule 33-8220 requiring that firms be de-listed if they fail to comply with Section 301 of SOX (SEC 2003). Thus, the regulations now in effect require a level of independence on the audit committee that has not been specifically shown to be optimal in the existing research literature and that many in the business community believe may not be necessary.

In addition to the concerns raised by the business community in their comment letters and the literature indicating that insiders add value in certain situations, several academics have questioned the independence requirements of SOX. Specifically, Romano (2004, 18) questions “whether Congress has accurately matched a problem with a solution.” Romano (2004, 216) goes on to state “in the frantic political environment in which the law was enacted, legislators adopted proposals of policy entrepreneurs, with neither careful consideration, nor assimilation of the literature at odds with the policy prescriptions.” DeFond and Francis (2005, 4) state that the SOX mandate that all audit committee members be independent “raises questions about the potential benefits of having insiders on the board and we encourage future researchers to investigate this question.” Given the findings of previous research and the concerns raised by the business and academic communities, the issue of the optimal level of audit committee

independence still remains as an important unanswered question. Therefore, in this study we attempt to answer the following question:

RQ1: Is the SOX requirement of a 100 percent independent audit committee necessary to realize the benefits of improved audit committee effectiveness?

We provide evidence related to this unanswered question in the particularly contentious setting of financial distress and going-concern reporting – a setting in which audit committee independence has been shown to be important in prior literature. Previous research indicates that the decision to issue a going-concern report is one of the most difficult (Chow et al. 1987; Carmichael and Pany 1993) and ambiguous tasks for an external auditor and is the result of contentious negotiations between management, the external auditor, and the audit committee (Knapp 1985; Antle and Nalebuff 1991; Teoh 1992). Mutchler (1984) suggests that management tends to resist a going-concern modified report due to the belief that the modified report may lead to a self-fulfilling-prophecy (i.e. the company's failure), and clients that receive a going-concern report are more likely to switch auditors (Chow and Rice 1982; Mutchler 1984; Geiger et al. 1998). Thus, the issuance of a going-concern report could have negative consequences for both management and the external auditor. This context provides an excellent environment in which a more effective audit committee would differentiate itself by working as a mediator between the auditor and its client.

Carcello and Neal (2000) examine the association between audit committee independence and auditor reporting in cases of client financial distress, while Carcello and Neal (2003) examine the association between audit committee independence and the likelihood of auditor

dismissal following the issuance of an initial going-concern opinion. In both studies, audit committee independence is defined using a continuous measure, the proportion of affiliated directors on the audit committee. Therefore, we examine the sensitivity of Carcello and Neal's (2000) and (2003) results to different levels of audit committee independence. We examine whether these results are driven by audit committees composed entirely of independent directors, or conversely, if the benefits of improved governance can be obtained when a majority, but not all, of the audit committee members are independent directors.

#### **IV. SAMPLE SELECTION AND RESEARCH DESIGN**

We use the samples from Carcello and Neal (2000) and (2003) for two reasons. First, as discussed in the previous section, the data provide an opportunity to examine multiple levels of audit committee independence in two very contentious situations in which audit committee independence would likely affect the interaction between management, the auditor, and the audit committee. Second, these datasets precede the SOX requirement that all audit committees be completely independent. Thus, we are able to examine, at multiple levels, the relation between audit committee independence and (1) going-concern reporting and (2) the dismissal of the auditor, in both cases using time periods in which the level of audit committee independence varied between companies.

The sample used in Carcello and Neal (2000) excludes companies that have no audit committee, are subsidiaries of other firms, and are foreign companies, and the sample used in Carcello and Neal (2003) excludes companies that have no audit committee, have filed for bankruptcy, have disagreements with their auditor over an accounting or auditing issue, and where the auditor has resigned. The final samples used in these two studies include 223 and 374 observations, respectively. Table 1 further details the sample selection process for both studies.

[INSERT TABLE 1 ABOUT HERE]

**C&N 2000**

Carcello and Neal (2000) use the following logistic regression model to test the relation between audit committee composition and auditor reporting:

$$\text{REPORT} = b_0 + b_1\text{AFFILIATED} + b_2\text{DEFAULT} + b_3\text{PRIOROPN} + b_4\text{SIZE} + b_5\text{ZFC} + b_6\text{DEVELOP} + e. \quad (1)$$

They define the dependent, test, and control variables as follows:

REPORT = 1 if going-concern-modified report, else 0;

AFFILIATED = percentage of inside or gray directors on the audit committee;

DEFAULT = 1 if firm is in default or in the process of restructuring debt, else 0;

PRIOROPN = 1 if going-concern-modified report in prior year, else 0;

SIZE = natural log of sales (in thousands);

ZFC = Zmijewski's (1984) financial condition index; and

DEVELOP = 1 if firm is a development-stage company, else 0.

We use the model discussed above except that we first replace the AFFILIATED variable from Carcello and Neal's (2000) paper with a variable, INDEPENDENT (which equals 1 – AFFILIATED), to focus on the level of audit committee independence rather than the lack of audit committee independence (Model 1). We then replace the INDEPENDENT variable with the following alternative measures of audit committee independence to examine the level that triggers improved audit committee effectiveness:

SOXREQ = 1 if the audit committee is 100 percent independent, else 0;

MAJNOTALL = 1 if level of audit committee independence is greater than 50 percent but less than 100 percent, else 0;

First, we test the relation between SOXREQ and the issuance of a going-concern report to examine whether redefining audit committee independence consistent with the SOX definition leads to similar results to those using the INDEPENDENT variable (Model 2). Next, we leave the SOXREQ variable in the model and include the MAJNOTALL variable to capture whether the company has a majority, but less than 100 percent, of independent directors on the audit committee (Model 3). This design enables us to examine whether the relation between audit committee independence and auditor reporting is driven by having a majority, but not 100 percent, of independent directors on the audit committee, by having a 100 percent independent audit committee, or by both.

### **C&N 2003**

Carcello and Neal (2003) use the following logistic regression model to test the relation between the likelihood that the client dismisses its auditor after receiving a going-concern opinion and audit committee characteristics:

$$\begin{aligned}
 \text{DISMISSED} = & b_0 + b_1\text{AFFILIATED} + b_2\text{AFFILIATED} \times \text{GC\_OPINION} + \\
 & b_3\text{GOVEXPERT} + b_4\text{GOVEXPERT} \times \text{GC\_OPINION} + b_5\text{FINEXPERT} + \\
 & b_6\text{FINEXPERT} \times \text{GC\_OPINION} + b_7\text{STOCKOWN} + \\
 & b_8\text{STOCKOWN} \times \text{GC\_OPINION} + b_9\text{SIZE} + b_{10}\text{INDSHARE} + \\
 & b_{11}\text{TENURE} + b_{12}\text{ZFC} + b_{13}\text{MGMTCHG} + e.
 \end{aligned} \tag{2}$$

They define the dependent, test, and control variables as follows:

$\text{DISMISSED} = 1$  if client dismissed its auditor before the company's next annual report, else 0;

$\text{AFFILIATED} =$  percentage of inside or gray directors on the audit committee;

GOVEXPERT = average number of directorships in other public companies held by directors on the audit committee;

FINEXPERT = percentage of directors on the audit committee with financial expertise;

STOCKOWN = percentage of the company's stock (including stock options) owned by directors on the audit committee;

GC\_OPINION = 1 if the client received a going-concern opinion, else 0;

SIZE = natural log of total assets (in millions of dollars);

INDSHARE = auditor's market share in the client's industry, based on the percentage of the square root of total assets of all the companies in the client's industry audited by the auditor;

TENURE = number of consecutive years the client has engaged the auditor (truncated at ten years);

ZFC = Zmijewski's (1984) financial condition index; and

MGMTCHG = 1 if client changed CEO or CFO during the year the opinion was issued or during the following year, provided the management change preceded the auditor dismissal, else 0.

We follow the same procedure for C&N 2003 that we outlined for C&N 2000 above.<sup>6</sup>

## V. RESULTS

Our logistic regression models test the relation between the various measures of audit committee independence and (1) auditor reporting (Table 2) and (2) auditor dismissals after the issuance of a going-concern report (Table 3). In the first model in each table, we replicate the results from Carcello and Neal (2000) and (2003), respectively, with two slight modifications. First, we substitute the INDEPENDENT variable for the AFFILIATED variable in each study in

order to state the results of Carcello and Neal (2000) and (2003) in terms of the percentage of independent audit committee members rather than the percentage of affiliated members. Second, we only include companies that have audit committees with three or more members since the committee cannot have a majority, but less than 100 percent of independent members, if its size is less than three members (i.e., the MAJNOTALL variable is meaningless).

### **Audit Committee Independence and Auditor Reporting**

The pseudo- $R^2$  for each of the models in Table 2 ranges from 54 percent – 55 percent, and each of the model chi-square statistics is highly significant ( $p < 0.01$ ). Consistent with Carcello and Neal’s original analysis, the INDEPENDENT variable in Model 1 is positive and significant ( $p < 0.01$ ) suggesting that financially distressed firms with a larger proportion of independent audit committee members are more likely to receive a going-concern opinion.

#### **[INSERT TABLE 2 ABOUT HERE]**

When we redefine audit committee independence using only SOXREQ, we find a positive relation between this measure and REPORT ( $p < 0.01$ ) indicating that financially distressed firms with wholly independent audit committees are more likely to receive a going concern opinion than similar firms with one or more affiliated members on the audit committee (Model 2).

The third model in Table 2 adds a second independence variable in addition to the SOXREQ variable. As discussed above, we include MAJNOTALL to capture the incremental association (above that of SOXREQ) between REPORT and audit committees with greater than a 50 percent majority of independent members but less than complete independence. While the SOXREQ variable remains significantly positive in this model ( $p < 0.01$ ), we fail to reject the null hypothesis that audit committees composed of greater than 50 but less than 100 percent

independent directors are also significantly related to auditor reporting. These results suggest that the relation between audit committee independence and going-concern reporting is driven by firms with wholly independent audit committees. Thus, the association documented by Carcello and Neal (2000) between audit committee independence and audit committee effectiveness is apparently limited to audit committees that are completely independent.

The results for the control variables are similar to those from Carcello and Neal (2000). In each model, we find a positive relation between the issuance of a going-concern opinion for financially distressed firms that are in default ( $p < 0.01$ ) and firms that previously received a going-concern modified report ( $p < 0.01$ ), and a negative relation between the issuance of these reports and firm size ( $p < 0.01$ ). While the signs on the ZFC variable and DEVELOP are consistent with those from the original paper, neither is significant at conventional levels in any of the models.

### **Audit Committee Characteristics and Auditor Dismissals following “New” Going-Concern Reports**

The pseudo- $R^2$  for each of the models in Table 3 ranges from 12 percent – 13 percent, and each of the model chi-square statistics is highly significant ( $p < 0.01$ ). Consistent with Carcello and Neal (2003), the results in Model 1 indicate that the probability of auditor dismissal following the issuance of a going-concern report is lower for firms with a higher proportion of independent audit committee members (Joint Test  $p < 0.10$ ).<sup>7</sup> We also find that this probability is lower for firms with more governance experts on the audit committee (Joint Test  $p < 0.10$ ), is higher for firms with a higher percentage of stock owned by audit committee members (Joint Test  $p < 0.05$ ), and is not significantly different from zero for firms with a higher proportion of audit committee members with financial expertise (Joint Test  $p > 0.10$ ). For firms that did not receive a going-concern opinion, we find no significant relation between the likelihood of auditor

dismissal and INDEPENDENT or FINEXPERT. We do, however, find a significantly negative relation between auditor dismissal and (1) governance expertise ( $p < 0.10$ ) and (2) stock ownership ( $p < 0.10$ ) for companies that receive clean opinions.<sup>8</sup>

**[INSERT TABLE 3 ABOUT HERE]**

Model 2 presents the model results where the SOXREQ variable replaces the INDEPENDENT variable. We find that companies are less likely to dismiss their auditor after the auditor issues a going-concern opinion when the audit committee is completely independent from management (Joint Test  $p < 0.05$ ), while no significant association exists between SOXREQ and DISMISSED for firms that received a clean opinion.

Model 3 presents the model results when we include a second independence variable, MAJNOTALL, to capture the incremental relation between DISMISSED and audit committees with greater than a 50 percent majority of independent directors but less than 100 percent independence. The previously documented relation between SOXREQ and DISMISSED still holds; that is wholly independent audit committees are associated with a lower probability of auditor dismissal in the presence of a going-concern opinion. However, we find no significant relation between audit committees with greater than a 50 percent majority of independent members but less than complete independence and auditor dismissal in any case (i.e., when either a going-concern or clean opinion is issued). In general, these results suggest that the relation between audit committee independence and auditor dismissals is driven by firms with 100 percent independent audit committees.

Consistent with Carcello and Neal (2003), we find that auditor dismissals are: (1) positively associated with MGMTCHG ( $p < 0.05$ ), and (2) not significantly associated with SIZE and ZFC. Contrary to Carcello and Neal's original findings, we find no significant relation

between DISMISSED and the auditor's market share in the client's industry. Finally, we find a significant negative association between auditor tenure ( $p < 0.05$ ) and auditor dismissals, indicating that an auditor with longer tenure is less likely to be dismissed after issuing an initial going-concern report.

### **Additional Analyses**

The results discussed above suggest that only completely independent audit committees are associated with improved governance and that simply having a majority of independent audit committee members is not sufficient. In separate analyses (not tabled), we further examine whether audit committees with only one non-independent member are associated with improved governance. Consistent with our previous analyses, our results suggest that the benefits of improved audit committee performance are only realized if the audit committee is completely independent. In other words, allowing even one non-independent member to serve on the audit committee appears to be problematic.<sup>9</sup>

## **VI. SUMMARY, IMPLICATIONS, AND LIMITATIONS**

This paper provides new evidence regarding audit committee effectiveness using various levels of audit committee independence. In this paper, we examine the relation between differing levels of audit committee independence and (1) the issuance of going-concern reports and (2) auditor dismissals following the issuance of first-time going-concern reports. Overall, our results suggest that the previous findings in Carcello and Neal (2000) and Carcello and Neal (2003) are driven by completely independent audit committees, which SOX now mandates.

Thus, our evidence is consistent with the requirements of SOX; we find that *only* wholly independent audit committees are (1) significantly positively associated with the likelihood that an audit firm issues a going concern opinion to a financially distressed client and (2) negatively

associated with the likelihood of auditor dismissal following the issuance of a going-concern opinion. We find no significant association for audit committees composed of greater than 50 but less than 100 percent independent members. Our results suggest that the benefits of audit committee independence in the presence of financial distress are not realized unless the audit committee is completely independent. In other words, majority but not complete independence is not associated with higher levels of audit committee effectiveness as it relates to going-concern reporting. These results should be of interest to Congress, the SEC, and the SEC Advisory Committee on Smaller Public Companies examining the impact of SOX on smaller companies (SEC 2004). In fact, the SEC Advisory Committee on Smaller Public Companies plans to evaluate the impact of requiring independent directors for smaller public companies, including those companies listed on Nasdaq (SEC 2005). Our results suggest that not only should the SOX requirement mandating a completely independent audit committee not be relaxed but rather that this requirement should be extended to all public companies. In addition, at least one member of the SEC's Advisory Committee has argued that the pool of available board members has shrunk below an acceptable level because of the restrictive definition now used to assess board independence and suggests that the definition of independence be "loosened" (Lamb 2005). We caution against "loosening" the definition of audit committee independence – our results, which suggest improved audit committee effectiveness when the committee is 100 percent independent, are based on measuring independence consistent with existing stock exchange rules.

This study is subject to a number of limitations. Although our results suggest that completely independent audit committees are related to the auditor issuing a going-concern opinion in situations in which such an opinion appears to be warranted and to protecting auditors

from dismissal following the issuance of a going-concern report, we only document association, not causation. Consistent with Carcello and Neal (2000; 2003) we attempt to control for other variables that may be correlated with our variables of interest; however, it is possible that we may not have identified all potential correlated omitted variables. Finally, it is important to realize that we examine the impact of different levels of audit committee independence on two situations in which tension is likely to exist between the auditor and the client. While we believe these situations are representative of many corporate governance situations, it is possible that examination of the association between other corporate governance situations and the level of audit committee independence could lead to different conclusions regarding the optimal level of audit committee independence. We encourage other researchers, particularly those with existing datasets, to examine the relation between various levels of audit committee independence and other measures of auditing and financial reporting quality.

Subject to the limitations discussed, our results support SOX's requirement that all audit committee members be independent from management. In fact, our results suggest that *only* completely independent audit committees are associated with the issuance of going-concern reports in situations of significant client financial distress and the protection of auditors from dismissal following the issuance of going-concern reports. This is consistent with the benefits of improved corporate governance associated with audit committee independence being realized only when the audit committee is completely independent.

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**Table 1**  
**Sample Selection Criteria**

*Panel A: Sample from Carcello and Neal (2000)*

	<u>Sample</u>
Initial Sample <sup>a</sup>	383
Firms with no audit committee	(117)
Subsidiaries of other sample firms	(11)
Firms with no sales in 1994	(10)
Firms received an audit report modified for non-going-concern reasons	(7)
Prior audit opinion not available	(6)
Foreign companies	(4)
Outliers removed	(3)
No audit opinion issued for 1994	<u>(2)</u>
Final sample	<u><u>223</u></u>

*Panel B: Sample from Carcello and Neal (2003)*

	<u>Going-Concern Opinion Sample<sup>b</sup></u>	<u>Clean Opinion Sample<sup>c</sup></u>	<u>Combined Sample</u>
Initial sample	174	200	374
Companies that filed for bankruptcy	(30)		(30)
Companies with no audit committee	(45)	(24)	(69)
Proxy statement and/or Form 10-K not available	(33)	(13)	(46)
Disagreement over accounting or auditing issues		(7)	(7)
Auditor resigned		(14)	(14)
No companies meeting matching criteria existed	<u>(4)</u>	<u>(17)</u>	<u>(21)</u>
Dismissal sample	62	125	187
Nondismissal sample <sup>d</sup>	<u>62</u>	<u>125</u>	<u>187</u>
Total sample	<u><u>124</u></u>	<u><u>250</u></u>	<u><u>374</u></u>

<sup>a</sup> The sample frame is defined as publicly held nonfinancial companies that are financially distressed (i.e., probability of failure is greater than 0.28, as derived from Zmijewski's (1984) financial distress prediction model), based on 1994 financial data.

<sup>b</sup> The going-concern opinion sample frame is publicly held companies that dismissed their auditors after receiving new going-concern reports from Big 6 audit firms during the period 1988–1999 (financial institutions and service companies excluded).

<sup>c</sup> The clean opinion sample frame is publicly held companies that dismissed their auditors after receiving clean reports from Big 6 audit firms during the period 1988–1999 (financial institutions and service companies excluded). Due to the large sample size, Carcello and Neal selected an initial random sample of 200 companies.

<sup>d</sup> Carcello and Neal matched every company in the sample that dismissed its auditor with a company that received the same type of opinion but did not dismiss its auditor. They matched companies on year, industry, and, to the extent possible, size.

**Table 2**  
**Logistic Regression Analysis - (Carcello and Neal 2000)**

<b>Variable<sup>a</sup></b>	<b>Predicted Relation</b>	<b>(Model 1)</b>	<b>(Model 2)</b>	<b>(Model 3)</b>
		<b>INDEPENDENT</b>	<b>SOXREQ</b>	<b>SOXREQ and MAJNOTALL</b>
INTERCEPT	None	2.094 (0.249)	4.094 (0.017)	3.569 (0.055)
INDEPENDENT	+	3.192 (0.006)		
SOXREQ	+		1.945 (0.003)	2.345 (0.005)
MAJNOTALL	+			0.639 (0.232)
DEFAULT	+	3.685 (0.000)	3.795 (0.000)	3.746 (0.000)
PRIOROPN	+	2.733 (0.000)	2.739 (0.000)	2.746 (0.000)
SIZE	-	-0.704 (0.000)	-0.757 (0.000)	-0.746 (0.000)
ZFC	+	0.045 (0.337)	0.028 (0.398)	0.046 (0.340)
DEVELOP	-	-1.103 (0.168)	-1.119 (0.177)	-1.149 (0.166)
<i>N</i>		118	118	118
$\chi^2$		78.06	78.81	79.37
pseudo R <sup>2</sup>		0.54	0.54	0.55

The numbers in parentheses are the *p*-values, which are one-tailed when the relation is predicted.

<sup>a</sup> Variable definitions:

- REPORT = 1 if going-concern-modified report, else 0;
- INDEPENDENT = percentage of "outside" directors on the audit committee;
- SOXREQ = 1 if the audit committee is 100 percent independent, else 0;
- MAJNOTALL = 1 if level of audit committee independence is greater than 50 percent but less than 100 percent, else 0;
- DEFAULT = 1 if firm is in default or in the process of restructuring debt, else 0;
- PRIORPN = 1 if going-concern-modified report in prior year, else 0;
- SIZE = natural log of sales (in thousands)
- ZFC = Zmijewski's (1984) financial condition index; and
- DEVELOP = 1 if firm is a development-stage company, else 0.

**Table 3**  
**Logistic Regression Analysis - (Carcello and Neal 2003)**

	<b>Predicted Relation</b>	<b>(Model 1) INDEPENDENT</b>	<b>(Model 2) SOXREQ</b>	<b>(Model 3) SOXREQ and MAJNOTALL</b>
INTERCEPT	None	1.656 (0.180)	1.089 (0.349)	0.999 (0.410)
INDEPENDENT	None	-0.239 (0.705)		
INDEPENDENT*GC_OPINION	-	-1.523 (0.089)		
Joint Test	-	-1.762 (0.053)		
SOXREQ	None		-0.153 (0.653)	0.183 (0.692)
SOXREQ *GC_OPINION	-		-1.764 (0.067)	-2.302 (0.033)
Joint Test	-		-1.917 (0.045)	-2.119 (0.037)
MAJNOTALL	None			0.529 (0.260)
MAJNOTALL*GC_OPINION	-			-0.911 (0.115)
Joint Test	-			-0.382 (0.273)
GOVEXPERT	None	-0.261 (0.084)	-0.249 (0.096)	-0.271 (0.073)
GOVEXPERT*GC_OPINION	-	-0.147 (0.337)	-0.172 (0.314)	-0.117 (0.371)
Joint Test	-	-0.408 (0.099)	-0.422 (0.099)	-0.388 (0.116)
FINEXPERT	None	0.648 (0.272)	0.815 (0.154)	0.623 (0.291)
FINEXPERT*GC_OPINION	-	-0.534 (0.296)	-1.140 (0.066)	-0.605 (0.244)
Joint Test	-	0.114 (0.453)	-0.325 (0.350)	0.018 (0.492)
STOCKOWN	None	-3.679 (0.093)	-3.436 (0.106)	-3.221 (0.138)
STOCKOWN*GC_OPINION	+	11.438 (0.003)	10.417 (0.006)	10.591 (0.006)
Joint Test	+	7.776 (0.019)	6.981 (0.029)	7.370 (0.024)

**Table 3 (continued)**  
**Logistic Regression Analysis - (Carcello and Neal 2003)**

		(Model 1)	(Model 2)	(Model 3) SOXREQ and MAJNOTALL
	Predicted Relation	INDEPENDENT	SOXREQ	
SIZE	-	-0.076 (0.220)	-0.058 (0.276)	-0.060 (0.271)
INDSHARE	-	0.194 (0.439)	0.162 (0.449)	-0.014 (0.496)
TENURE	-	-0.104 (0.027)	-0.097 (0.037)	-0.096 (0.038)
ZFC	+	-0.071 (0.151)	-0.085 (0.105)	-0.074 (0.137)
MGMTCHG	+	0.696 (0.020)	0.679 (0.022)	0.701 (0.020)
<i>N</i>		234	234	234
$\chi^2$		37.73	39.15	40.90
pseudo R <sup>2</sup>		0.12	0.12	0.13

The numbers in parentheses are the *p*-values, which are one-tailed when the relation is predicted.

<sup>a</sup> Variable definitions:

DISMISSED	=	1 if client dismissed its auditor before the company's next annual report, else 0;
INDEPENDENT	=	percentage of "outside" directors on the audit committee;
SOXREQ	=	1 if the audit committee is 100 percent independent, else 0;
MAJNOTALL	=	1 if level of audit committee independence is greater than 50 percent but less than 100 percent, else 0;
GOVEXPERT	=	average number of directorships in other public companies held by directors on the audit committee;
FINEXPERT	=	percentage of directors on the audit committee with financial expertise;
STOCKOWN	=	percentage of the company's stock (including stock options) owned by directors on the audit committee;
GC_OPINION	=	1 if the client received a going-concern opinion, else 0;
INDSHARE	=	auditor's market share in the client's industry, based on the percentage of the square root of total assets of all the companies in the client's industry audited by the auditor;
SIZE	=	natural log of assets (in millions of dollars)
TENURE	=	number of consecutive years the client has engaged the auditor (truncated at ten years);
ZFC	=	Zmijewski's (1984) financial condition index; and
MGMTCHG	=	1 if client changed CEO or CFO during the year the opinion was issued or during the following year, provided the management change preceded the auditor dismissal, else 0.

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## ENDNOTES

<sup>1</sup> The SEC encouraged the use of independent audit committees in its December 5, 1940 release related to the auditing practices of McKesson & Robbins Inc.

<sup>2</sup> Congress detailed the criteria for an audit committee member to be considered independent. Specifically, “a member of an audit committee of an issuer may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other committee – (i) accept any consulting, advisory, or other compensatory fee from the issuer; or (ii) be an affiliated person of the issuer or any subsidiary thereof” (SOX 2002).

<sup>3</sup> Anderson et al. (2003) and Xie et al. (2003) are examples of studies that have found no association between audit committee independence and improved financial reporting.

<sup>4</sup> These studies primarily use either the proportion of independent audit committee members or a binary variable indicating whether or not the audit committee is completely independent. Abbott and Parker (2000) use a binary variable that indicates whether the audit committee is completely independent and meets at least twice during the sample year.

<sup>5</sup> Abbott and Parker (2000) find a positive association between wholly independent audit committees and the selection of an industry specialist auditor. Their definition of independence, however, includes gray directors and also requires that the audit committee meet at least two times a year. Furthermore, their sensitivity analyses indicate that their results are sensitive to the categorization of gray directors.

<sup>6</sup> It is important to note that this sample includes matched-pairs of companies in which each pair includes one company that dismissed its auditor and a similar company with respect to year, size, and industry that did not dismiss its auditor. Consistent with Carcello and Neal (2003), we do not

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expect a significant relation between the level of audit committee independence and auditor dismissal following the issuance of a clean opinion. Our primary interest is in the level of audit committee independence and auditor dismissals following the issuance of a going-concern opinion. Thus, consistent with Carcello and Neal (2003) for each audit committee independence level we sum the coefficient on the main effect for that level with the coefficient on the term that interacts that level of independence with the going-concern opinion indicator variable. Consistent with Carcello and Neal (2003) we do not include the main effect of GC\_OPINION in the model due to the matched pairs design. Our results are qualitatively similar to those reported in this paper if we include a dummy variable for the issuance of a going-concern opinion.

<sup>7</sup> Note that the level of significance is not as strong as it was in Carcello and Neal (2003). This is likely due to the fact that sample items are excluded from the analyses in this study if they have less than three members on their audit committee. These excluded companies are likely to have been cases with the least effective audit committees (i.e., an audit committee either less likely or less effective in trying to prevent management from changing auditors after receipt of a GC report), and thus their removal may have weakened the results.

<sup>8</sup> The results for audit committee member governance expertise, financial expertise, and stock ownership in each of the models discussed below are qualitatively similar to those discussed in this model except for the following differences:

- The Joint Test for audit committee governance expertise becomes insignificant when SOXREQ and MAJNOTALL replace INDEPENDENT in the model and
- The coefficient on STOCKOWN is insignificant when SOXREQ replaces INDEPENDENT, and when SOXREQ and MAJNOTALL replace INDEPENDENT in the model.

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Because the focus of this paper is strictly on audit committee independence, we do not discuss the results for these variables in each model.

<sup>9</sup> Note that for most of the companies in this study (i.e., those with three or four audit committee members) the MAJNOTALL variable is actually capturing the presence of just one non-independent director on the committee. There are only two (four) companies in the 2000 (2003) sample that have more than one non-independent member and still have a majority of independent members.