

**The Effectiveness of Blue Ribbon Committee Recommendations
in Mitigating Financial Misstatements:
An Empirical Study**

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Abstract

This study addresses the impact of certain audit committee characteristics identified by the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (BRC) on the likelihood of financial misstatement. We examine 83 firms which misstated financial reports in the period 1991-1999, together with a matched pairs control group of similar size. We find that independence of the committee is significantly negatively related to misstatement, but that the size of the committee and the financial expertise of the audit committee members are not significant. We use a preliminary proxy (number of meetings) to represent the extent of audit committee compliance with BRC recommendations related to committee activities. This proxy is significantly, negatively related to misstatement. We also find, in contrast to Beasley (1996), that the characteristics of the overall committee (independence, director tenure and outside directorships, shareholdings and board size) are not related to financial misstatement.

Introduction

In this study we investigate whether firms which have voluntarily adopted governance structures consistent with the recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (BRC) are less likely to experience financial reporting misstatements. By doing so, we provide information of interest to policy-makers and others as to the likely effectiveness of the BRC recommendations.

Financial reporting misstatement appears to be a growing problem in the U.S. The number of class action securities suits filed has grown steadily since the passage of the 1995 Private Securities Litigation Act, and allegations of accounting manipulation have replaced disclosure-based allegations as the primary grounds of complaint.¹ SEC officials currently bring about 100 enforcement cases per year involving financial misstatement or fraud (Crenshaw 1999), including 30 cases on one day in September 1999.

The SEC's response, in part, has been to impose higher levels of responsibility on the audit committee. Chairman Levitt has stated "Qualified, committed independent and tough-minded audit committees represent the most reliable guardians of the public interest" (Levitt 1998). At Chairman Levitt's behest, the NASD and NYSE exchanges formed the BRC to develop recommendations aimed at improving financial reporting by strengthening the audit committee's role as a financial monitor. The BRC's

¹ The number of companies named in suits of this type in 1996 was 114, 181 in 1997, 244 in 1998, 216 in 1999 and 117 in the first 7 months of 2000. These figures and the statement by Joseph Grundfest that approximately 60% of post 1995 suits are based on financial reporting misstatements is taken from the Stanford Securities Class Action Clearinghouse website (<http://securities.stanford.edu>). Professor Grundfest also notes that the apparent increase in suits may also be due to the provision of the Private Securities Litigation Reform Act which calls for disclosure of suits filed, replacing previous rules requiring disclosure of settlements.

recommendations addressed audit committee independence, minimum size, financial expertise of members. The BRC also made several recommendations related to audit committee charters and communications with the external auditor and with shareholders. The SEC subsequently adopted certain recommendations made by the BRC regarding the audit committee, and these will become effective after December 15, 2000. In part, these regulations call for increased disclosure of audit committee activities, and additional disclosures related to the independence of committee members.² Current exchange regulations require the disclosure of certain audit committee characteristics, such as audit committee size, independence of directors and number of meetings.

We examine a sample of 83 firms which misstated earnings in the period 1991-1999 (together with a matched pairs control sample of the same size) and test the impact of certain BRC recommendations (independent directors, degree of financial literacy, minimum committee sizes) on the likelihood of misstatement. Because other BRC recommendations, such as those pertaining to audit committee duties as disclosed in audit committee charters and communications with external auditors, cannot be determined through public disclosures; we proxy for compliance with those recommendations by examining the number of meetings held by the committee.³

Prior research does not provide consistent evidence regarding whether the presence of an audit committee at the board level is an effective monitor of the reliability of financial reporting, nor is it clear what audit committee characteristics may be associated with increased effectiveness. Beasley (1996) finds that only characteristics of

² These rules are contained in 17 CFR Parts 210, 228, 229 and 240, Release No. 34-42266; File No. S7-22-99 and may be viewed at the SEC web site <http://www.sec.gov/rules>.

the full board are associated with the likelihood of fraudulent reporting, while the presence of an audit committee or the proportion of outsiders serving on the committee are not significant. In contrast, other studies find the absence of an audit committee is associated with more aggressive accounting (Dechow et al. 1996) and with a number of outcomes indicative of less reliable financial reporting (McMullen 1996).

We find that two audit committee characteristics (the absence of insiders and the number of meetings held) are significantly and positively related to decreased likelihood of misstatement. Audit committee size and the financial statement literacy of committee members are not significant. In contrast to Beasley (1996), we find that the characteristics of the full board are not related to increased reporting reliability in our sample. This study provides evidence consistent with regulatory statements regarding the importance of certain audit committee characteristics in reducing financial misstatement.

Hypothesis Development

Prior Literature

Previous studies find mixed results with respect to the role of the audit committee in deterring financial misstatements. McMullen (1996) studies five financial reporting events (shareholder litigation, quarterly earnings misstatements, SEC actions, illegal acts and auditor replacement stemming from a disagreement) indicative of low financial reporting reliability, concluding that the presence of an audit committee in these firms is associated with more reliable reporting. This conclusion is consistent with Dechow et al.

³ Information on audit committee charters is typically obtained through survey. However, because our study covers a period of almost a decade, and because many misstatement firms are no longer in existence, we believe that surveying firms on this historical information is not feasible.

(1996) who conclude that the presence of an audit committee is a factor in an overall monitoring environment associated with less aggressive reporting.

Beasley (1996) evaluates the audit committee's role in more detail. In a sample of 75 fraud firms from the period 1979-1990, he finds that 41% (63%) of fraud (control) firms have an audit committee in place in the year *prior* to the fraud. However, the presence of an audit committee is not associated with decreased incidence of fraud in univariate tests. Beasley also evaluates the audit committee's composition and activity. For those firms with audit committees (n=26), the proportion of independent directors on the committee is not associated with the incidence of fraud, and the number of committee meetings does not differ significantly over the fraud and control firms. However, the proportion of outside directors on the full board, characteristics of these directors (common stock held, tenure, additional directorships held) and board size were all associated with a lower incidence of misstatement. Beasley notes that his findings are consistent with anecdotal evidence suggesting that audit committees are frequently ineffective. However, Abbott et al. (2000) find that firms are less likely to be sanctioned for fraud or misstatement when the audit committee meets certain thresholds of independence and number of meetings in combination, while the proportion of outsiders on the full board is unrelated to sanction.

Blue Ribbon Committee Recommendations

Independence

BRC recommendations 1 and 2 address the definition of director independence and requirements for independent audit committees. The BRC recommends that all listed

companies over a certain size have audit committees composed entirely of independent directors.⁴ Independence is defined to exclude current and former employees, relatives of management, persons receiving compensation from the company (except directors' fees) or controlling for-profit organizations receiving from or paying the corporation significant sums, and compensation committee interlocking directorships. The BRC's recommendations are consistent with audit committee incentives. Audit committee members have significant incentives for exercising effective oversight. Financial misstatements have negative outcomes for committee members, perhaps to a greater extent than other outside directors. First, the audit committee is specifically charged with overseeing the financial reporting process, and negative press attention focuses to some extent on alleged failure of the audit committee members (Berton 1995; Lublin and McDonald 1998; Lublin and Nelson 1998; Bailey 2000). Second, audit committee members, in common with other outsiders, are typically included in class action suits. Even if the director is effectively shielded from personal financial liability by insurance or indemnification, he or she faces the costs in time of mounting a defense as well as potential reputational damage (Sahlman 1990). Outside directors invest in the development of reputations as effective monitors and the rewards to service as an outside director, especially at a larger company can be substantial.⁵

For these two reasons, independent audit committee members are expected to have incentives to monitor effectively, which may entail more frequent meetings and greater time devoted to the firm's affairs. Carcello and Neal (2000) find that outside

⁴ The BRC's exemptions for companies under a certain size recognize that smaller firms may have difficulty attracting independent directors.

director representation on the audit committee is associated with increased likelihood of a going concern opinion in financially distressed firms. They interpret this finding as consistent with an independent audit committee exerting influence to strengthen the negotiating position of the external auditors. Abbott and Parker (2000a, 2000b) find that the presence of an audit committee which meets minimum thresholds of both activity and independence is associated with the engagement of an industry specialist auditor. Scarbrough et al (1998) find that audit committee independence is associated with a stronger internal audit function. These results are consistent with the audit committee exercising oversight of other, complementary monitoring systems (internal and external audit) and having the capacity to increase the effectiveness of these mechanisms. We hypothesize that:

H1(a): The presence of an audit committee which meets the BRC's recommendation for independence is associated with a lower incidence of financial reporting misstatement.

Financial Expertise and Minimum Committee Size

BRC recommendation 3 requires (except for small firms) a minimum of three audit committee directors, each of whom is financially literate and at least 1 of whom has accounting or related financial management expertise. Financial literacy is the ability to read and understand fundamental financial statements and accounting expertise may be demonstrated by employment experience in finance or accounting, a CPA certification or comparable experience, including a position as CEO or other senior officer with financial oversight responsibilities. Because of the difficulty of developing a measure of literacy

⁵ In 1999, average compensation for outside directors at the largest 200 industrial and service companies was \$133,672. Outside director compensation grew 70% between 1995 and 1999 (Pearl Meyers & Partners, quoted in Schellhardt (1999)).

from public information, we confine our hypotheses to addressing expertise. These two recommendations lead to our following hypotheses:

H2(a): The presence of an audit committee which meets the BRC's recommendation for minimum committee size is associated with a lower incidence of financial reporting misstatement.

H3(a): The presence of an audit committee which meets the BRC's recommendation for expertise is associated with a lower incidence of financial reporting misstatement.

Other BRC Recommendations

BRC recommendations 4 and 5 require the audit committee to have a formal charter and to disclose the status of the charter and whether the audit committee fulfilled its designated responsibilities during the proxy statement period.

Recommendations 6-10 deal (either directly or indirectly) with the responsibilities and activities of the audit committee, requiring the committee to be active in selection and retention of the auditor (number 6), to evaluate auditor independence (number 7), to discuss accounting quality with the auditor (number 8), and to hold similar discussions with management and the auditor (number 9). Recommendation 10 requires interim reviews, and also discussion of these review-related issues with the auditor. As previously noted, we believe our sample time period (1991-1999), and the liquidation of many sample firms following SEC sanction, precludes obtaining survey information on audit committee charters and reviews (not required disclosures under current regulations) for misstatement periods. We therefore do not attempt to test these recommendations directly.

However, we do attempt to proxy for the completion of certain recommended activities. Audit committees are currently required to disclose assigned audit committee duties and the number of annual meetings in the proxy statement. In the tests reported here, we use the number of meetings held during the misstatement year as a proxy for the committee's compliance with BRC recommendations related to duties. This proxy assumes that the number of meetings is correlated with the completion of BRC-recommended activities. We intend to collect information on disclosed duties for a later version of this study. Our use of meetings as a proxy for completion of oversight activities is consistent with Menon and Williams (1994), who find that higher levels of activity are positively associated with the presence of outside directors and with Abbott and Parker (2000a and 2000b), who find that independent committees which meet at least twice per year are more likely to engage an industry specialist auditor. In these studies, the number of meetings is hypothesized to be associated with higher levels of liability concern on the part of the outside directors. Higher levels of liability concern is likely to be correlated with completion of activities, such as those recommended by the BRC.

Hypothesis 4 is:

H4(a): The frequency of audit committee meetings is negatively associated with the probability of financial reporting misstatement.

Methodology

Sample Selection

Our sample selection is similar to that used in Beasley (1996). We identify firms with financial misstatements in two ways. One hundred and thirteen firms are identified

by examining the Accounting and Auditing Enforcement Releases (AAERs) reporting SEC actions alleging financial statement fraud or misstatement during the period 1991 through 1999. Thirty additional firms are identified which restated earnings in 1991-1999, but have not been a target of SEC action. Earnings restatement firms were located through a search of the Wall Street Journal database for the term “restatement”. Table 1 shows the composition of the final sample. Because we require that proxy statements be available for the first year of the fraud or misstatement, 56 firms are eliminated. We lose an additional 14 firms due to lack of Compustat data for the last year preceding the misstatement or inability to find an adequate matching firm.

We match each of our 83 sample firms with a control firm on the same exchange with a market value of equity within 30% of the sample firm in the year preceding the fraud or misstatement. We also match on the basis of Big 5 (Big 6) or non Big 5 (Big 6) auditor. We select the control firm from among those meeting the above criteria in the same 4 digit SIC code whenever possible. In a minority of cases we are unable to locate a control firm from the 4 digit industry, and select from firms matching at the 3 digit or 2 digit level. Four sample firms were matched on a basis of total assets because no equity-value matching firm could be located in the same 2 digit industry. None of the firms selected as control firms were identified as having financial misstatements in the period from 1991 to 1999. Thirty-five percent of the sample firms are in the manufacturing sector (SIC codes 34-38), 24% are technology or communications firms (SIC code 73), and the remaining firms belong to a variety of industries.

Research Design

Our matched pairs design, as discussed above, is similar to that used in Beasley (1996) and Dechow et al. (1996). We employ regressions on our size, exchange and Big 6/non-Big 6 matched sample to test whether firms which voluntarily adopted audit committee characteristics consistent with certain BRC recommendations (those which can be objectively evaluated from public information) have a lower likelihood of financial misstatement. Our regression model is:

$$\begin{aligned} \text{MISSTATEMENT} = & \alpha + \beta_1 \text{MEETINGS} + \beta_2 \text{INDEP} + \beta_3 \text{EXPERT} \\ & + \beta_4 \text{ACSIZE} + \beta_5 \% \text{OUTSIDER} + \beta_6 \text{OUTDSHIP} + \beta_7 \text{OUTTENURE} \\ & + \beta_8 \text{OUTOWN} + \beta_9 \text{BLOCK} + \beta_{10} \text{TROUBLE} + \beta_{11} \text{FINANCE} \\ & + \beta_{12} \text{MGROWN} + \beta_{13} \text{GROWTH} + \beta_{14} \text{CEOCHAIR} + \beta_{15} \text{CEOTENURE} \\ & + \beta_{16} \text{AGEPUB} + \beta_{17} \text{FOUNDER} + \beta_{18} \text{BOARDSIZE} + \varepsilon \end{aligned}$$

where the variables are as described below.

Test Variables

Table 2 summarizes the test and control variables. We obtain information on the board and audit committee from the firm's proxy statement for the period covering the first year of financial misstatement, or the first year of restated earnings. For each director who served on the audit committee during the target year, we determine first whether the director was a current or former employee of the firm (acceptable under Nasdaq and AMEX regulations during the sample period) or had any other disclosed affiliation with the company or its management, other than board service. We find that a substantial proportion of audit committee members in our sample firms are not independent of management, consistent with Vicknair et al. 1993. These 'grey' directors have financial or other ties to management which may impair independence. These directors may have

financial incentives to support management which offset the potential costs of less effective financial oversight. INDEP is coded 1 if the audit committee consists entirely of independent auditors and 0 otherwise.

We believe the BRC's requirement that every member possess basic financial literacy is impossible to evaluate from the currently available public information, since such literacy may be associated with a wide variety of backgrounds and qualifications. However, the BRC requirement that at least one member possess 'financial expertise' is more precisely stated and may be a more important determinant of the audit committee's ability to monitor financial reporting. We evaluate the directors' prior experience to determine whether at least one director is or was previously a CPA, CEO or held a senior management position in accounting or finance EXPERT is coded 1 if at least one member of the committee holds (or previously held) a position as CEO, VP or EVP of finance, or controller, or holds a CPA certification, and 0 otherwise.

We also obtain the number of meetings held during the misstatement year and the number of directors on the committee. ACSIZE is coded 1 if the audit committee has at least 3 members (consistent with BRC recommendation), and 0 otherwise. The number of meetings held in the misstatement year (MEETINGS) is expected to be correlated with the level of monitoring undertaken by the audit committee, per the BRC recommendations. We also dichotomize the number of meetings at 2 and 4 to test whether the a minimum number of meeting is significantly related to lower probability of misstatement.

Control Variables

We control for incentives to misstate financial reports and alternative monitoring mechanisms using the control variables identified in Beasley's (1996) study of fraud firms. A number of the factors associated with misstatement are derived primarily from Loebbecke et al. (1989) and Bell et al. (1991), including factors related to the managers' incentives for misstatement, monitoring mechanisms and the internal control environment of the firm.

Misstatement Incentives

Incentives to misstate financial reporting may stem from financial pressures or from the need to raise debt or equity capital. TROUBLE measures the financial distress of the firm, and is coded 1 if the firm has experienced losses in 3 of the 6 years prior to misstatement. For those firms which did not possess a six year history prior to the misstatement, we based the trouble variable on the Altman Z score in the year prior to misstatement (Altman 1968).

We also include the measure of the need for external financing (FINANCE) used by Dechow et al. (1996). The need for financing is calculated as:

$$(\text{Operating cashflow}_t - \text{Average Capital Expenditures}_{t-3:t-1}) / \text{Current Assets}_{t-1}$$

Firms with scores less than -0.5 are expected to need external financing within 2 years, which provides incentive to manipulate earnings and assets in an attempt to qualify for lower cost financing (Dechow et al. 1996). FINANCE is coded 1 for these firms and 0 otherwise. For 30 firms for which we were unable to obtain enough information to

calculate the external financing need, we examine whether the firm registered a securities offering (Investment Dealers' Digest) or received additional debt or equity financing in the first year of the misstatement.

We also include the level of management ownership. High management ownership can indicate alignment of manager and shareholder interests or provide managers with incentives to misstate financial results and the ability to dominate the board of directors. MGROWN is the proportion of voting control held by management in the year of misstatement.

Internal Control Mechanisms

The internal control structure of the firm may also play a part in the likelihood of misstatement. Firms which are growing rapidly may be less likely to have effective internal control mechanisms. GROWTH is the average growth rate of total assets in the two years preceding the misstatement. Centralization of authority in the chief executive may also be indicative of a weak internal control environment. CEOCHAIR is an indicator variable for whether the firm's CEO is also the board chairman, and CEOTENURE is the length of CEO board service. FOUNDER is coded 1 if the firm's CEO is also the founder. AGE PUB is the length of time the firm has been public, and may be related to the firm's adjustment to exchange listing rules regarding corporate governance. Beasley notes that the board size may contribute to the internal control environment – larger boards are associated with a greater incidence of fraud, perhaps because as board size increases, the effectiveness of monitoring decreases. BOARDSIZE is the number of directors on the full board.

Alternate monitoring mechanisms

We also include alternative monitoring mechanisms which may be effective in preventing financial misstatement. Beasley (1996) finds that the percentage of outside directors on the full board (%OUTSIDERS) is negatively related to the incidence of fraud, consistent with the incentives of outside directors to enhance their human capital by demonstrating decision control expertise.

Beasley also finds other outside director characteristics are related to the effectiveness of the board's financial monitoring. The higher the mean number of other directorships held (OUTDSHIP), the higher the likelihood of fraud. This is consistent with additional directorships limiting the time available for monitoring at any one firm. Longer board service (OUTTENURE) and higher outside director ownership (OUTOWN) are both associated with decreased incidence of fraud. These results are consistent with greater board tenure increasing the directors' monitoring ability and expertise, and with higher stock ownership being consistent with greater alignment with shareholder interests.

Additional monitoring mechanisms include the presence of outside blockholders. BLOCK is the proportion of stock controlled by unaffiliated 5% owners. We expect block holders to have incentives to monitor management. Another possible monitoring mechanism is the presence of a higher quality auditor. We do not include auditor-related variables in our tests because our misstatement and control firms are matched on auditor membership in the Big 5 (Big 6).

Descriptive Statistics and Univariate Analysis

Table 3 also shows the results of a univariate analysis of the sample and control firms. All firms in our sample have mandated audit committees, but the compliance with BRC recommendations varies. The misstatement firms meet an average (median) of 1.76 (1) times in the first year of misstatement, while control firms meet on average (median) 2.31 (2) times ($p < .05$). The proportion of misstatement (control) firms with an entirely independent audit committee is .36 (.69), and the difference is significant at $p < .01$. However, the misstatement and control firms do not differ significantly in whether the committee includes at least three members or in the presence of at least one expert.

In order to determine whether the independence and activity levels have increased we split the sample into those firms with misstatements in 1991-1995 and those with misstatements in 1996-1999. We find that the average activity and independence levels have not changed significantly over time, despite the more intense scrutiny afforded audit committees in the later period.

The misstatement and control firms also differ in their incentives to misstate. Misstatement firms have higher levels of managerial ownership ($p < 0.01$), and are more likely to need external financing ($p < .01$). The misstatement and control firms differ in their internal control environments as well. Misstatement firms are significantly more likely to have a CEO who serves as chair ($p < .05$), and to have a CEO who is also the founder ($p < .01$).

None of the alternate monitoring mechanisms were significantly different on a univariate basis, with the exception of higher control firm levels for BLOCK ($p < .05$). In contrast to the results reported by Beasley (1996) we find no significant univariate

differences between our misstatement and control firms in any of the full board characteristics tested. The proportion of outside directors on the full board is 52% in misstatement firms and 55% in control firms ($p=.32$). The mean number of outside directorships held by directors in misstatement (control) firms is .98 (1.17), with a p -value = .24. The sample and control firms also do not differ significantly in outside director ownership or in tenure. These results suggest that the audit committee is a more important monitor than the full board in terms of financial reporting, and strongly support the importance of the BRC recommendations related to independence. Our proxy for BRC recommended activities (number of meetings) is also supported.

The misstatement and control firms do not differ significantly in AGE PUB, BOARD SIZE, TROUBLE, GROWTH, and CEOTENURE. In addition, firms are similar in total assets. Sample firms vary in assets from \$3 million to \$6416 million, with mean (median) total assets of \$597 million (\$76 million). The misstatement (mean = \$597 million) and control firms (mean = \$ 595 million) are not significantly different, suggesting that the matching process was successful with respect to size.

It is possible that the various monitoring mechanisms are highly correlated, functioning either as complements or substitutes. Table 4 shows the Pearson pairwise correlations between the corporate governance variables. Having an independent audit committee is associated with a higher proportion of outsiders on the full board (correlation = 0.52), as might be expected. However, diagnostics on the regression results which are reported in the next section do not show the presence of multicollinearity among any variables. The number of meetings is positively associated with outsiders on the full board (0.31), and the number of outside directorships held by outsiders (.32).

Results

Table 5 shows the regression results. Our results are consistent with hypotheses 1 and 4, but do not support hypotheses 2 and 3. The presence of a completely independent audit committee is significantly related with a lower incidence of misstatement. In addition, our proxy for audit committee activities (meetings) is significantly related to less misstatement when the number of meetings is dichotomized at less than 2 and 2 or more in model 2. In additional regressions (not reported) we find that raising the cut-off to four meetings both increases the parameter coefficient dramatically (to 0.368), and increases its significance (t statistic = 2.01). In contrast, our measures of expertise and audit committee size are not significant. The presence of a larger committee, or of a financially expert member (as defined by the BRC) does not affect the likelihood of misstatement.

Consistent with prior research, the likelihood of financial misstatement is also higher for firms which need financing, those with larger boards and those which have a founder as CEO. However, in contrast to Beasley (1996), the only significant alternative monitoring mechanism of those tested is the presence of outside blockholders. Consistent with the univariate results, we find no relation between the likelihood of misstatement and the independence, stock ownership, tenure or directorships of outsiders on the full board. As discussed in the sensitivity test section, these variables remain insignificant even in the absence of the audit committee-related variables. There is some evidence that the size of the company involved in reporting irregularities is higher today than in past years. Beasley's firms experienced SEC sanction in the period 1982-1991, finding

median total assets of sanctioned firms of \$11 million while this study uses a sample of sanctioned firms (and some voluntary restatements) for the period 1991-1999 and finds median total assets of \$75 million.⁶ We believe that the differences in our results may be related to the differences in sample firm size for two reasons. First, in an extremely small firm the board may be able to execute its activities, including financial monitoring, without recourse to a committee structure. Second, in these small firms the addition of one or more independent directors may be a strong signal of management's commitment to non-fraudulent reporting.

Sensitivity Analyses

We examine whether the proportion of outsiders on the full board, and other board-related characteristics are significant in the absence of the audit committee variable. When audit committee characteristics are omitted, the significance of the remaining monitoring mechanism variables is unaffected. We also test for the possibility that as yet undiscovered misstatement exists in control firms matched with more recent misstatement firms. When we omit misstatement firms after 1997 from our tests we obtain similar results.

Limitations and Conclusion

This study has at least three important limitations. First, as a result of the desire to provide timely information which may be of interest to policymakers, we test our hypotheses in a historical sample of firms. This precludes the more complete test of BRC

⁶ Larger firms in our sample include Oxford Health Plans, Sunbeam, Cendant, W.R. Grace, Rite Aid, MCN Energy Group, McKesson HBOC and Sensormatic.

recommendations which would have been possible if a survey instrument had been used to obtain non-public information. The BRC report stresses that its recommendations should be adopted in their entirety, while we are forced by data limitations to adopt a piecemeal approach to evaluating their efficacy. A second limitation lies in our proxy for audit committee activities. A greater number of meetings is *consistent* with the audit committee considering the issues recommended by the BRC (and is used to measure audit committee effectiveness in prior research), but it is unknown whether such discussions actually take place. Lastly, we cannot rule out the possibility that both audit committee characteristics and the lower incidence of misstatement are related to an undiscovered characteristic of the firm or management.

Conclusion

The Blue Ribbon Committee developed ten recommendations intended to improve financial monitoring by improving the independence and effectiveness of the audit committee. In this study we review the extent to which voluntary adoption of certain BRC recommendations is related to the incidence of misstatement in a sample of firms from 1991-1999. We find that the activity levels of the audit committee and its independence are associated with decreased incidence of fraud, while financial expertise on the part of directors and a minimum audit committee size are not significant. In contrast to some previous research (Beasley 1996) we find that characteristics of the full board are unrelated to the incidence of misstatement, supporting regulatory emphasis on the audit committee's role. Our study has a number of limitations, however, which may be addressed by future studies which obtain more detailed data on audit committee

activity and test whether other characteristics of management are responsible for both a lower likelihood of fraud and audit committee characteristics.

TABLE 1
Sample Selection

AAERs filed January 1991- December 1998 against firms, alleging fraudulent or negligent misstatement of annual financial reports, in which at least one misstatement year was in the period 1991-1998.	113
Firms which restated earnings, (WSJ search) 1991-1999.	30
Less: Firms for which proxies were not available for the year preceding the sanction period	(56)
Less: Firms for which financial data was not available on Compustat	(10)
Less: Firms for which we could not locate an appropriate control firm	(4)
Final sample	83

TABLE 2		
Description of Variables		
Variable Name	Description	Prior Studies
<i>BRC Recommendation Measures</i>		
INDEP	Indicator variable with the value 1 if the audit committee members are independent by BRC definition.	Carcello and Neal (2000)
MEETINGS	The number of audit committee meetings.	
EXPERT	Indicator variable with the value 1 if at least 1 audit committee member possesses financial expertise.	
ACSIZE	Indicator variable with the value 1 if the audit committee includes 3 or more members.	
<i>Other Monitoring Mechanisms</i>		
%OUTSIDERS	Percentage of the board members who are non-employee directors.	Beasley (1996), Abbott et al (2000)
OUTOWN	The cumulative percentage of stock held by outside directors.	Beasley (1996)
OUTDSHIP	The mean number of directorships held by outside directors in unaffiliated firms.	Beasley (1996)
OUTTENURE	Average years of board service of outside directors.	Beasley (1996)
BLOCK	The cumulative percentage of outstanding common stock shares held by blockholders holding at least 5 percent of such shares and who are not affiliated with management.	Beasley (1996), Abbott et al (2000)
<i>Incentives for Financial Misstatement</i>		
TROUBLE	Indicator variable equal to one if a firm has reported at least three annual net losses in the six-year period preceding the first year of misstatement and a value of zero otherwise. When six years of financial information are not available, the Altman Z-score in the year preceding misstatement is used.	Beasley (1996), Abbott et al (2000)
FINANCE	Indicator variable with the value 1 if the firm needs external financing in the year prior of misstatement.	Dechow et al. 1996
MGROWN	The cumulative percentage of ownership in the firm held by insiders (e.g. managers) who serve on the board.	Beasley (1996), Abbott et al (2000)
<i>Internal Control Environment</i>		
GROWTH	The average percentage change in total assets for the two years ending before the year of the AAER action.	Beasley (1996), Abbott et al (2000)
CEOCHAIR	Indicator variable with a value 1 if the chairperson of the board holds the managerial positions of CEO or president and a value of zero otherwise.	Beasley (1996), Abbott et al (2000)
CEOTENURE	The number of years that the CEO has served as a director.	Beasley (1996), Abbott et al (2000)
AGEPUB	Years the firm's stock has traded on a national stock exchange. Where this information is not available, approximated by the number of years the firm has Compustat data available. Truncated at 10 years.	Beasley (1996), Abbott et al (2000)
BOARDSIZE	The number of directors on the board.	Beasley (1996)
FOUNDER	Indicator variable with the value 1 if the firm's founder retains the post of either CEO or Chair.	Dechow et al. (1996)

TABLE 3
Mean, Median and Standard Deviation of Independent Variables

Variable Name	Misstatement Firms			No Misstatement Firms			Diff. in means	Mann-Whitney Statistic
	Mean	Median	Standard Deviation	Mean	Median	Standard Deviation		
MEETINGS	1.76	1	1.46	2.31	2	1.49	-0.55	5.85**
INDEP	0.36	0	0.48	0.69	1	0.47	-0.33	19.46***
EXPERT	0.43	0	0.50	0.55	1	0.50	-0.12	2.42
ACSIZE	2.81	3	1.26	2.92	3	0.94	-0.11	0.53
TROUBLE	0.29	0	0.46	0.28	0	0.45	0.01	0.03
FINANCE	0.46	0	0.50	0.18	0	0.39	0.28	15.89***
MGROWN	0.19	0.15	0.20	0.12	0.05	0.16	0.07	6.43***
GROWTH	1.05	0.42	2.30	0.54	0.19	2.20	0.51	2.12
CEOCHAIR	0.84	1	0.37	0.69	1	0.47	0.15	5.79**
CEOTENURE	9.34	6	8.31	8.20	6	6.91	1.14	0.91
AGEPUB	8.40	7	9.98	8.63	9	6.71	-0.23	0.03
FOUNDER	0.45	0	0.50	0.22	0	0.39	0.23	10.31***
BOARDSIZE	7.14	7	3.79	7.16	7	2.51	-0.02	0.00
%OUTSIDERS	0.52	0.56	0.18	0.55	0.57	0.18	-0.03	1.10
OUTDSHIP	0.98	0.75	1.04	1.17	1	1.11	-0.19	1.38
OUTTENURE	4.74	4	3.47	5.59	5	3.57	-0.85	2.44
OUTOWN	0.04	0.01	0.09	0.05	0.01	0.10	-0.01	0.01
BLOCK	0.09	0.07	0.10	0.14	0.12	0.14	-0.05	5.40**
TOTALASSETS	597.49	75.51	1242.62	595.48	136.84	1164.86	2.01	0.00

Note: Variables are defined in table 2.

* = p value < .10
 ** = p-value < .05
 *** = p-value < .01

	Meet-ings	Indep	Expert	AC Size	%Out-sider	Out-dship	Out-tenure	Outown	Block
Meetings	1.00	0.27	0.22	0.43	0.31	0.32	0.17	-0.11	0.20
Indep	-	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.03)	(0.15)	(0.01)
Expert		1.00	0.19	-0.01	0.52	0.11	0.01	0.11	0.04
ACSize		-	(0.01)	(0.90)	(0.00)	(0.16)	(0.85)	(0.15)	(0.62)
%Out-sider			1.00	0.33	0.17	0.13	0.06	-.11	-0.10
Outdship			-	(0.00)	(0.03)	(0.11)	(0.52)	(0.17)	(0.18)
Outtenure				1.00	0.21	0.17	0.23	-0.23	0.17
Outown				-	(0.01)	(0.03)	(0.00)	(0.00)	(0.03)
Block					1.00	0.20	0.11	0.18	0.19
					-	(0.01)	(0.15)	(0.02)	(0.01)
						1.00	0.15	0.08	0.08
						-	(0.06)	(0.28)	(0.28)
							1.00	-0.09	-0.05
							-	(0.24)	(0.54)
								1.00	0.13
								-	(0.10)
									1.00
									-

TABLE 5
Regression Results for Misstatement/No Misstatement Firms

$$\begin{aligned} \text{MISSTATEMENT} = & \alpha + \beta_1 \text{MEETINGS}(\text{MEETINGS} > 2) + \beta_2 \text{INDEP} \\ & + \beta_3 \text{EXPERT} + \beta_4 \text{ACSIZE} + \beta_5 \% \text{OUTSIDER} + \beta_6 \text{OUTDSHIP} \\ & + \beta_7 \text{OUTTENURE} + \beta_8 \text{OUTOWN} + \beta_9 \text{BLOCK} + \beta_{10} \text{TROUBLE} \\ & + \beta_{11} \text{FINANCE} + \beta_{12} \text{MGROWN} + \beta_{13} \text{GROWTH} + \beta_{14} \text{CEOCHAIR} \\ & + \beta_{15} \text{CEOTENURE} + \beta_{16} \text{AGEPUB} + \beta_{17} \text{FOUNDER} + \beta_{18} \text{BOARDSIZE} + \varepsilon \end{aligned}$$

Independent Variable	Model 1			Model 2	
	Exp. Sign	Parameter Estimate	t-stat	Parameter Estimate	t-stat
Intercept	none	0.128	0.61	0.195	0.08
MEETINGS	-	-0.008	-1.12		
MEETINGS>=2	-			-0.094	-1.69*
INDEP.	-	-0.322	-3.95**	-0.315	-3.92***
EXPERT	-	-0.082	-1.05	-0.079	-1.03
ACSIZE	-	-0.075	-0.87	0.064	0.73
%OUTSIDERS	-	0.511	0.95	0.522	0.89
OUTDSHIP	none	-0.025	-0.68	-0.022	-0.62
OUTTENURE		-0.005	-0.46	-0.004	-0.36
OUTOWN		0.311	0.76	0.296	0.72
BLOCK	-	-0.658	2.05**	-0.601	-1.88**
TROUBLE	+	0.011	0.130	0.010	0.07
FINANCE	+	0.284	3.47***	0.286	3.47***
MGROWN	none	0.074	0.29	0.028	0.11
GROWTH	+	-0.005	-0.33	-0.004	-0.24
CEOCHAIR	+	0.128	1.28*	0.122	1.24
CEOTENURE	+	-0.006	-0.89	-0.006	-0.94
AGEPUB	none	0.003	0.75	0.003	0.71
FOUNDER	+	0.189	1.98***	0.195	
BOARDSIZE	+	0.021	1.60*	0.024	1.75**
Adj. R ²		0.194		0.198	
Model F-STAT		3.24***		3.28***	

* = p value < 0.10 (one-tailed)
 ** = p value < 0.01 (one-tailed)
 *** = p value < 0.001 (one-tailed)

References

- Abbott, L.J., Y. Park, and S. Parker. 2000. The effects of audit committee activity and independence on corporate fraud. *Managerial Finance*, Vol. 26, No. 26: 55-67.
- Abbott, L.J. and S. Parker. 2000a. Audit committee characteristics and auditor selection. *Auditing: A Journal of Practice and Theory*, forthcoming.
- . 2000b. Audit committee characteristics and auditor selection: evidence from auditor switches. Working paper. University of Memphis.
- Altman, E.I. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance* (September): 589-609.
- Bailey, J. 2000. Second helping: Star rescuers take on Waste Management and end up tarnished. *The Wall Street Journal* (February 29).
- Beasley, M. 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review*, Vol. 71, No. 4: 443-465.
- Bell, T. B., S. Szykowny, and J.J. Willingham. 1991. Assessing the likelihood of fraudulent financial reporting: A cascaded logit approach. Working paper, KPMG, Peat Marwick, Montvale, NJ.
- Berton, L. 1995. Corporate woes put board audit panels in the spotlight. *The Wall Street Journal* (April 7).
- Blue Ribbon Committee (BRC) on Improving the Effectiveness of Corporate Audit Committees. 1999. Stamford, CT.
- Carcello, J. and T. Neal. 2000. Audit committee characteristics and auditor reporting. Forthcoming, *The Accounting Review*, October.
- Crenshaw, A.B. 1999. Rite Aid's restatement raises an important question for investors: What good were the two years of audited financial statements the company issued earlier? *The Washington Post* (October 24).
- Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1996. Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research* 13: 1-36.
- Levitt, A. 1998. "The Numbers Game" Speech presented September 28.

- Loebbecke, J. K., M.M. Eining, and J.J. Willingham. 1989. Auditors' experience with material irregularities: Frequency, nature, and detectability. *Auditing: A Journal of Practice and Theory* 9 (Fall): 1-28.
- Lublin, J.S. and E. MacDonald. 1998. Scandals signal laxity of audit panels. *The Wall Street Journal* (July 17).
- and E. Nelson. 1998. Cendant audit panel's ties raise questions. *The Wall Street Journal* (July 24).
- McMullen, D. A. 1996. Audit committee performance: An investigation of the consequences associated with audit committees. *Auditing: A Journal of Practice and Theory* 15, (Spring): 87- 103.
- Menon, K., and J. D. Williams. 1994. The use of audit committees for monitoring. *Journal of Accounting and Public Policy* 13 (Spring): 121-139.
- Sahlman, W.A. 1990. Why sane people shouldn't serve on public boards. *Harvard Business Review* (May-June): 28-35.
- Scarbrough, P., D. Rama, and K. Raghunandan. 1998. Audit committee composition and interaction with internal auditing: Canadian evidence. *Accounting Horizons* 12 (1): 51-62.
- Schellhardt, T. D. 1999. More directors are raking in six-figure pay. *The Wall Street Journal* (October 29).
- Vicknair, D., K. Hickman, and K. C. Carnes, 1993. A note on audit committee independence: Evidence from the NYSE on grey area directors. *Accounting Horizons* 7, (1): 53-57.