

# Fraudulent Financial Reporting: Consideration of Industry Traits and Corporate Governance Mechanisms

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**SYNOPSIS:** This paper provides insight into financial statement fraud instances investigated during the late 1980s through the 1990s within three volatile industries—technology, health care, and financial services—and highlights important corporate governance differences between fraud companies and no-fraud benchmarks on an industry-by-industry basis. The fraud techniques used vary substantially across industries, with revenue frauds most common in technology companies and asset frauds and misappropriations most common in financial-services firms.

For each of these three industries, the sample fraud companies have very weak governance mechanisms relative to no-fraud industry benchmarks. Consistent with prior research, the fraud companies in the technology and financial-services industries have fewer audit committees, while fraud companies in all three industries have less independent audit committees and less independent boards. In addition, this study provides initial evidence that the fraud companies in the technology and health-care industries have fewer audit committee meetings, and fraud companies in all three industries have less internal audit support.

This study of more current financial statement fraud instances contributes by updating our understanding of fraud techniques and risk factors in three key industries. Auditors should consider the industry context as they evaluate the risk of financial fraud, and they should compare clients' governance mechanisms to relevant no-fraud industry benchmarks.

**Data Availability:** The underlying fraud data in this study, which were gathered in the preparation of *Fraudulent Financial Reporting: 1987–1997, An Analysis of U.S. Public Companies*, are the property of the Committee of Sponsoring Organizations (COSO), and the underlying benchmark industry data are the property of the National Association of Corporate Directors (NACD).

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In response to continuing concerns with the incidence of financial statement fraud in the U.S. (e.g., AICPA 1997; Lublin and MacDonald 1998), the Committee of Sponsoring Organizations of the Treadway Commission (COSO) recently released a study of financial statement fraud, *Fraudulent Financial Reporting: 1987-1997, An Analysis of U.S. Public Companies* (Beasley et al. 1999). The study examined Securities and Exchange Commission (SEC) enforcement actions against approximately 200 companies over the period 1987-1997 and provided insight into issues including the nature of the companies involved, the amounts of the frauds, the types of fraud committed, and the corporate governance mechanisms in place at the companies. The study served to update the *Report of the National Commission on Fraudulent Financial Reporting* (the Treadway Commission), released in 1987 (NCFRR 1987).

COSO's fraud study, consistent with earlier research (e.g., Beasley 1996; Dechow et al. 1996; McMullen 1996; Beneish 1997; Bonner et al. 1998), grouped all industries together in the presentation of the findings in order to highlight some of the broad risk areas on which the financial community should focus. As a result, the fraud information presented is not specific to any one industry, but represents an overall average. In addition, the COSO fraud study did not compare any findings to no-fraud benchmarks.

This paper has two purposes. First, we provide deeper insight into financial statement fraud techniques within three volatile industries (technology, health care, and financial services) to illustrate the role of industry traits in the commission of fraud. While a limited number of prior studies (e.g., Loebbecke et al. 1989) provide some indication about broad categories of fraud schemes (fraudulent financial statement reporting vs. misappropriations of assets) across selected industries, this study breaks those fraud schemes into more specific fraud techniques employed at an industry-specific level using more current fraud data. This analysis continues to highlight the importance of auditors focusing their attention on the highest risk areas in an industry.

Second, we compare fraud-company governance mechanisms to no-fraud industry benchmarks. While earlier studies focus on certain corporate governance mechanisms, their analyses are performed at the overall combined-sample level. This study analyzes corporate governance differences at the industry-specific level for each of the three industries examined. This analysis extends some previous research results into these three industries, as well as into more recent time periods. It also provides some new insights into governance differences between fraud and no-fraud companies, in particular the number of audit committee meetings and the presence of an internal audit function, as well as variations in fraud/no-fraud differences across industries. The results suggest the importance of considering the industry setting when assessing a particular client's governance mechanisms.

A focus on the technology, health care, and financial-services industries is appropriate for several reasons. First, these industries account for approximately 40 percent of the fraud cases analyzed in the COSO study; therefore, there appears to be a concentration of frauds in these industries. Second, previous research on financial statement fraud (for example, Loebbecke et al. 1989; Dechow et al. 1996; Beneish 1997; Bonner et al. 1998; Bell and Carcello 2000) and auditor litigation (Francis et al. 1994; Jones and Weingram 1996; Palmrose 1988) finds concentrations of fraud and litigation in industries including technology, biotechnology, and financial services. However, those studies do not provide detailed empirical evidence on specific fraud techniques used within individual industries. Because a significant portion of litigation against auditors involves financial statement fraud (Palmrose 1987), it is important for auditors to have

current, industry-specific information on financial-fraud techniques. Finally, this focus on industry information is consistent with the Big 5 firms' movement toward an organizational structure that is industry focused (Hogan and Jeter 1999).

As we examine individual industries, a focus on the corporate governance mechanisms of fraud companies is warranted. Previous research (e.g., Beasley 1996; Dechow et al. 1996; McMullen 1996) has documented an association between weaknesses in certain audit committee and board governance mechanisms and fraudulent financial reporting. Recent professional activities, such as the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (BRC 1999), the NACD Blue Ribbon Commission on Audit Committees (NACD 1999a), and the SEC's new final rule, *Audit Committee Disclosure* (SEC 1999), advocate a more vigilant role for audit committees in overseeing the financial-reporting process. Thus, researchers, practitioners, and regulators have drawn a link between audit committee and board governance mechanisms and financial statement fraud.

### BACKGROUND AND MOTIVATION

Much of the early research on financial statement fraud provided descriptive information about financial and nonfinancial characteristics of companies experiencing fraud in the 1960s, 1970s, and early 1980s (see, for example, Elliott and Willingham 1980; Albrecht et al. 1982; Merchant 1987; Loebbecke et al. 1989; Campbell and Parker 1992). That research provided much of the foundation for the inclusion of many of the fraud risk factors in SAS No. 53 (AICPA 1988), which was superseded by SAS No. 82 (AICPA 1997).

Several studies have updated the descriptive information from these earlier studies by examining instances of financial statement fraud or GAAP violations investigated primarily during the 1980s and early to mid-1990s (DeFond and Jiambalvo 1991; Beasley 1996; Dechow et al. 1996; McMullen 1996; Beneish 1997; Bonner et al. 1998). One of the earliest studies to validate the importance of certain characteristics of companies engaging in financial statement fraud was conducted by Loebbecke et al. (1989), who surveyed partners in one Big 8 firm about their experiences (prior to the 1990s) with material irregularities at both privately held and publicly held companies. In their study, they identified important company and engagement characteristics related to (1) *conditions* at the company allowing a fraud to exist, (2) *motivation* for management to commit fraud, and (3) an *attitude* or ethical value allowing management to commit fraud.

### Concentrations of Fraud in Selected Industries

Research on fraud reveals that occurrences of financial statement fraud seem to be concentrated in certain industries. Many of these studies find high concentrations of fraud in the high-technology, computer-related industries (Loebbecke et al. 1989; Dechow et al. 1996; Bell and Carcello 2000). Other industries include manufacturing (Loebbecke et al. 1989; Beneish 1997; Bonner et al. 1998); transportation and communications (Loebbecke et al. 1989); business services (Dechow et al. 1996; Beneish 1997; Bonner et al. 1998); finance/insurance (Dechow et al. 1996; Bonner et al. 1998); and wholesale and retail trade industries (Beneish 1997; Bonner et al. 1998).

While these studies document concentrations of financial statement fraud in certain industries, the studies do not provide extensive evidence about specific fraud techniques used within individual industries. Loebbecke et al. (1989) found that intentional financial statement misstatements occurred during the 1980s in the manufacturing, transportation, and computer industries, but they do not provide detailed information

about the actual techniques employed (e.g., booking fictitious revenues, overstating assets, understating expenses, etc.) within specific industry groups. Given that auditor litigation is known to be associated with occurrences of financial statement fraud and given the auditing profession's movement toward an organizational structure that is industry-focused, empirical evidence about industry-specific techniques used to misstate financial statements could be beneficial to practitioners, academics, and regulators.

### **Focus on Audit Committee and Board Governance Mechanisms**

One of the key contributions of the Loebbecke et al. (1989) study is that it highlighted the potential for audit committee and board governance mechanisms to reduce occurrences of financial statement fraud. The authors observed that where controls over top management are weak (e.g., the control environment), a significant condition exists that could allow fraudulent financial reporting to occur. However, a limitation of the Loebbecke et al. (1989) study is the absence of a no-fraud control sample to examine whether fraud firms' audit committee and board governance mechanisms actually differ from no-fraud benchmarks.

Several subsequent studies have provided empirical evidence of differences in governance characteristics between fraud and no-fraud companies (Beasley 1996; Dechow et al. 1996; McMullen 1996). Collectively, these studies have documented several significant differences in audit committee and board mechanisms between fraud and no-fraud companies. Relative to no-fraud companies, fraud companies:

- are less likely to have an audit committee in place prior to the fraud (Dechow et al. 1996; McMullen 1996);
- have lower percentages of outside directors on the audit committee (Beasley 1996);
- have lower percentages of outside directors on the board of directors (Beasley 1996; Dechow et al. 1996);
- have shorter tenures of outside directors on the board, lower outside-director ownership in the company, fewer outside directors with other outside board positions, and larger boards (Beasley 1996); and
- have a greater frequency of the founder serving as CEO, greater frequency of the CEO serving as Chairman of the Board, are less likely to have a blockholder as a shareholder, and have higher percentages of stockholdings in the company held by inside directors (Dechow et al. 1996).

### **Motivation for Present Study**

In relation to the studies discussed above, the present study is unique in four ways. First, the underlying data are more recent, extending the analysis of fraud occurrences though 1997. With the exception of Bonner et al. (1998), whose sample included SEC allegations of fraud through 1995, most of the prior research focused on SEC allegations of fraud ranging from the early 1980s (in some cases back to the early 1970s) to the early 1990s (Campbell and Parker 1992; Beasley 1996; Dechow et al. 1996; McMullen 1996; Beneish 1997).

Second, we perform analyses *within* three key industries rather than grouping all industries together. While several prior studies created a matched pair consisting of a fraud firm with a same-industry no-fraud firm, the underlying analyses in earlier studies were not performed or reported on an industry-by-industry basis (Beasley 1996;

Dechow et al. 1996; McMullen 1996). Given the industry focus in audit firms, as well as differences in board and audit committee structures across industries, we believe that it is fruitful to study financial fraud without mixing diverse industries together in the analysis.

Third, we compare fraud-company board and audit committee governance mechanisms to no-fraud industry benchmarks obtained from the leading corporate governance organization in the U.S., the National Association of Corporate Directors (NACD 1999b), rather than relying on a single industry-matched firm. The no-fraud industry benchmark data and the related analyses on an industry basis may prove useful to practitioners, academics, and regulators in helping them to identify unique industry differences.

Finally, we examine some corporate governance mechanisms for which significant fraud/no-fraud differences have not (to our knowledge) been documented in prior research. For example, we explore the number of audit committee meetings per year and the presence of an internal audit function.

## METHOD

### Fraud Companies

We analyzed instances of fraudulent financial reporting alleged by the SEC in Accounting and Auditing Enforcement Releases (AAERs) issued during the 11-year period between January 1987 and December 1997. The AAERs, which contain summaries of enforcement actions by the SEC against public companies, represent one of the most comprehensive sources of alleged cases of financial statement fraud in the U.S. This approach provided a sample of more recent AAERs than earlier studies that focus primarily on AAERs issued throughout the 1980s and early 1990s.

Consistent with most of the prior financial statement fraud research, our sample is based on SEC allegations of financial-reporting problems (Beasley 1996; Dechow et al. 1996; McMullen 1996; Bonner et al. 1998). Bonner et al. (1998) stated that focusing on SEC enforcement actions offers a significant advantage in that SEC actions provide an objective criterion for identifying companies with fraudulent financial-reporting occurrences.<sup>1</sup>

We focused on AAERs that involved an alleged violation of Rule 10(b)-5 of the 1934 Securities Exchange Act or Section 17(a) of the 1933 Securities Act, given that these represent the primary antifraud provisions related to financial statement reporting. Because these securities provisions generally require the presence of intent to deceive, manipulate, or defraud, they more specifically indicate alleged instances of financial statement fraud than do other provisions of the securities laws.

Our search identified nearly 300 companies involved in alleged instances of fraudulent financial reporting during the 11-year period.<sup>2</sup> From this list of companies, we randomly selected approximately 200 companies to examine in detail. In these approximately 200 companies, we found three key-industry concentrations: 25 technology companies,<sup>3</sup>

<sup>1</sup> However, as Bonner et al. (1998) discuss, there is the possibility of bias, given that the enforcement actions may reflect specific SEC agendas. However, Bonner et al. (1998) did not identify any evidence of an SEC agenda that was correlated with the specific types of fraud examined in their study. Both Pincus et al. (1988) and Feroz et al. (1991) suggest that the SEC is most likely to pursue a formal investigation if the evidence is strong and the probability of success is high. Thus, given the limited resources of the SEC, there are likely to be potential cases of financial statement fraud not included in the SEC enforcement actions.

<sup>2</sup> Publicly traded partnerships, broker-dealers, and unit investment trusts were excluded from this study.

<sup>3</sup> The technology companies generally were computer hardware or software companies.

19 health-care companies,<sup>4</sup> and 22 financial-services firms. These 66 companies are the subject of the present study.

Fraud-company findings reported in this study are based on information we obtained from our reading of (1) AAERs related to each of the sample fraud companies, (2) selected Form 10-Ks filed before and during the period the alleged financial statement fraud occurred, and (3) proxy statements issued during the alleged fraud period.<sup>5</sup> We gathered information about audit committee and board governance mechanisms from the proxy statements, which were available for 36 of the 66 sample fraud companies examined in this study. The proxies examined were those issued by the company closest to the end of the fraud period.

### No-Fraud Industry Benchmark Data

To obtain no-fraud industry benchmark data on corporate governance characteristics, we contacted the National Association of Corporate Directors (NACD).<sup>6</sup> NACD provided us with subsets of the data presented in the *1999–2000 Public Company Governance Survey* (NACD 1999b) (hereafter the NACD survey). The NACD survey reflects information including the audit committee and board practices of over 300 public companies across a range of industries.

The subsets of the data we obtained were designed to correspond to the fraud company sizes (based on revenues) and industries as closely as possible. The three subsets obtained were: technology companies with revenues less than \$50 million; manufacturing or service companies with revenues from \$5–\$50 million (to provide a comparison for the health-care fraud companies);<sup>7</sup> and financial-services companies with revenues from \$10–\$250 million.<sup>8</sup>

We obtained all of the NACD data available that corresponded to the available fraud-company variables. To the extent that there are variables that we could not obtain for both the fraud companies and no-fraud industry benchmarks, such variables were excluded from the study and represent a limitation of this research.

## RESULTS

The following sections provide descriptive information on fraud companies and cases in the three key industries, as well as relevant no-fraud industry benchmark data. Because the total population of known fraud cases is relatively small, the fraud samples presented in this study are small.<sup>9</sup> As a result, statistical tests for differences across

<sup>4</sup> "Health care" companies include both health-care service providers and those manufacturing health-care/health-related products.

<sup>5</sup> Readers should recognize that, despite our best efforts to collect complete data for all sample companies, the data sources used often were incomplete. For example, AAERs were uneven in their level of disclosure, and other sources (e.g., Form 10-Ks, etc.) often were not available. Therefore, the sample sizes within each industry vary across the tables.

<sup>6</sup> According to its materials, NACD is "the premier educational, publishing, and consulting organization in board leadership and the only membership association for boards, directors, director candidates, and board advisors."

<sup>7</sup> The NACD survey did not have a separate category for health-care companies. Small manufacturing/service companies are used as the no-fraud benchmark for the health-care fraud companies, which are a mix of health-care service providers and health-product manufacturers (see footnote 4).

<sup>8</sup> To provide an appropriate comparison group, the size categories obtained from the no-fraud NACD data were designed to span at least from the 25th percentile to 75th percentile of fraud-company revenues.

<sup>9</sup> However, because our random sample of 200 fraud cases represents two-thirds of the population of 300 fraud cases investigated by the SEC from 1987–1997, we likely are examining a substantial portion of the total population of alleged frauds within these three industries.

industries or between fraud companies and no-fraud industry benchmarks may have limited power. Tests for differences were performed with t-tests.

### Fraud Company Descriptive Statistics

Panel A of Table 1 provides a financial profile of the fraud companies.<sup>10</sup> Within each industry, the median company was relatively small (in comparison to *Fortune 1000* companies) and had profits near break-even.<sup>11</sup>

As shown in Panel B of Table 1, for all three industry groups, most companies were not traded on the NYSE or AMEX. This is consistent with earlier studies (e.g., Beasley 1996; Dechow et al. 1996; McMullen 1996).

In an attempt to obtain an estimate of the typical size of the financial statement frauds, we accumulated information from the AAERs about the amounts involved. In some cases, the AAERs did not disclose the dollar amounts involved. As a result, we were only able to obtain some measure of the dollar amounts for 51 of the 66 sample companies. As reported in Panel C of Table 1, the median cumulative fraud amount within each of the three industries was approximately \$3–\$5 million. This amount of fraud appears material in light of the relatively small company sizes disclosed in Panel A.

### Fraud Techniques by Industry

Based on information included in the AAERs, we categorized the techniques used to fraudulently report the financial statement information.<sup>12</sup> Because the financial statement frauds at the sample companies often involved more than one fraud technique, the sum of the percentages reported exceeds 100 percent.

As revealed in Table 2, the two most common fraud techniques involved improper revenue-recognition methods to overstate revenues and improper methods to overstate assets. This is consistent with Loebbecke et al. (1989), Feroz et al. (1991), Dechow et al. (1996), Beneish (1997), and Bonner et al. (1998).

Our examination within specific industries reveals that revenue-recognition problems were significantly more common in technology companies than in financial-services companies ( $p < .05$ ). Seventy-six percent of the technology frauds involved revenues. In financial-services companies, only 41 percent of the cases involved revenue recognition. The subcategories, fictitious revenues and premature revenues, also were significantly more common in technology companies than in financial-services companies ( $p < .05$ ). Common revenue fraud techniques included sham sales, false confirmations, premature revenue recognition before all the terms of the sale were completed (before shipment), conditional sales, modified terms through the issuance of side letters, improper

<sup>10</sup> We do not provide a similar table for no-fraud companies due to the nature of the NACD data (NACD 1999b). For example, the NACD survey asked respondents to check a size range, rather than to indicate an exact dollar figure for company revenues.

<sup>11</sup> The median total assets of sample fraud firms in this study appears consistent with the median total assets of \$11.1 million for the sample fraud firms in Beasley (1996). Beasley's (1996) fraud sample consisted strictly of Rule 10(b)-5 and Section 17(a) violations, as in the current study. Other studies that include other financial-reporting problems in addition to Rule 10(b)-5 and Section 17(a) violations have somewhat larger median firms. For example, Dechow et al.'s (1996) sample of earnings-overstaters had median total assets of \$39.4 million, while Bonner et al.'s (1996) sample of firms subject to AAER enforcement actions for alleged financial statement reporting problems had median total assets of \$34 million. Based on the above, it appears that the companies cited for violations of Rule 10(b)-5 and Section 17(a) often are smaller than companies cited for other financial-reporting violations.

<sup>12</sup> The classification scheme is based primarily on our own judgment, as well as input from COSO representatives. We also consulted prior research in the area (e.g., Bonner et al. 1998).

**TABLE 1**  
**Fraud Company Descriptive Statistics**

	(\$ in 000s)		
<b>Panel A: Financial Measures</b>	<b>Technology (n = 16)<sup>a</sup></b>	<b>Health Care (n = 8)</b>	<b>Financial Services (n = 13)</b>
<b>Revenues</b>			
Median	\$ 6,020	\$ 21,289	\$ 67,551
Mean	194,329	44,239	136,757
Std. Deviation	703,034	74,552	153,831
Minimum	0	1,155	39
Maximum	2,827,266	225,143	444,985
<b>Assets</b>			
Median	6,981	17,660	212,185
Mean	111,429	40,442	1,612,578
Std. Deviation	367,586	48,197	2,604,462
Minimum	234	2,284	233
Maximum	1,484,236	117,942	8,624,000
<b>Net Income</b>			
Median	76	(956)	283
Mean	5,048	(353)	4,275
Std. Deviation	15,206	3,688	9,947
Minimum	(2,451)	(4,330)	(8,106)
Maximum	59,347	6,885	31,451
<b>Panel B: Exchange</b>	<b>Technology (n = 21)</b>	<b>Health Care (n = 15)</b>	<b>Financial Services (n = 12)</b>
NYSE	1	2	3
AMEX	1	1	0
OTC	19	12	9
<b>Panel C: Fraud Size</b>	<b>Technology (n = 20)</b>	<b>Health Care (n = 14)</b>	<b>Financial Services (n = 17)</b>
Median cumulative fraud amount (\$ in 000s)	\$3,980	\$3,230	\$5,500

<sup>a</sup> See footnote 5.

cutoff of sales, unauthorized shipments, and consignment sales.

Asset overstatements (and the subcategory, overstating existing assets) were more prevalent in the financial-services industry than in technology companies ( $p < .05$ ). Fifty-nine percent of the financial-services cases involved asset overstatements vs. only 24 percent of technology cases.<sup>13</sup> Many of the financial-services asset frauds involved overstatement of loans receivable due to inadequate loan loss reserves. Asset overstatements in health-care and technology companies often involved inventory or accounts receivable (due to understatement of the allowance for doubtful accounts, an issue similar to the inadequate loan loss reserves noted above).

<sup>13</sup> To avoid double-counting, the information about the overstatement of assets does not include overstatements of accounts receivable due to the revenue recognition frauds.



**TABLE 2**  
**Fraud Techniques by Industry**

Fraud Techniques	Percentage of Companies Using Method		
	Technology (n = 25)	Health Care (n = 19)	Financial Services (n = 22)
Improper Revenue Recognition:	76 <sup>a</sup>	58	41
Recording fictitious revenues	40 <sup>a</sup>	26	9
Recording revenues prematurely	48 <sup>a</sup>	37	9
No description/"overstated"	24	16	32
Overstatement of Assets (excluding accounts receivable overstatements due to revenue fraud):	24	47	59 <sup>b</sup>
Overstating existing assets	16	42	55 <sup>b</sup>
Recording fictitious assets or assets not owned	4	11	0
Capitalizing items that should be expensed	8	5	5
Understatement of Expenses/Liabilities	16	11	14
Misappropriation of Assets	4	16	27 <sup>b</sup>
Inappropriate Disclosure (with no financial statement line item effects)	4	16	14
Other Miscellaneous Techniques	20	16	18

Totals add to more than 100 percent due to multiple fraud types at many companies.

<sup>a</sup> Technology > Financial Services ( $p < .05$ ).

<sup>b</sup> Financial Services > Technology ( $p < .05$ ).

The mix of revenue and asset frauds within each industry reflects the logical "best places" to commit fraud, given conditions present in those industries that may allow opportunities for fraud. For example, technology companies have relatively few assets on the balance sheet, yet they often have difficult revenue-recognition issues to address. As a result, we would expect more revenue frauds than asset frauds among technology companies. At the other extreme, financial-services companies are asset intensive, and many of the asset balances present judgmental valuation issues. Accordingly, we would expect more asset frauds in this industry.

Within each industry, approximately 15 percent of the companies' financial statements were misstated through the understatement of expenses or liabilities. In financial-services companies, 27 percent of the frauds involved misappropriation of assets, significantly higher ( $p < .05$ ) than in technology companies (4 percent). This finding is consistent with Loebbecke et al. (1989) who observed a high incidence of misappropriations of assets in the banking and savings and loan industries. Inherently, financial-services firms face the challenge of controlling cash and other marketable securities, while technology companies generally have fewer assets available to misappropriate.<sup>14</sup>

Less than 20 percent of the companies in each industry issued statements or press releases with inappropriate disclosures (without financial statement line-item effects).

<sup>14</sup> To put these reported percentages into perspective, the 1987 *Report of the National Commission on Fraudulent Financial Reporting* stated that 13 percent of the cases against public companies involved misappropriations of assets (NCFR 1987, 112), and Beasley (1996) found that 10 percent of his sample experienced misappropriation of assets.

A variety of other fraud techniques were used in 20 percent or fewer of cases within each of the three industries.

### **Fraud-Company Governance Mechanisms vs. No-Fraud Industry Benchmarks**

Given the alleged extensive involvement of senior executives in fraud (Beasley et al. 1999), as well as prior research (e.g., Beasley 1996; Dechow et al. 1996; McMullen 1996) linking earnings manipulation to weaknesses in the oversight of management, we focus on audit committee and board governance characteristics within these three industries. Table 3 presents comparisons between our sample fraud companies and the no-fraud industry benchmark data separately for each of the three industries examined.

#### ***Audit Committees***

Our analysis of fraud and no-fraud characteristics within each industry indicates that the fraud companies differed from the no-fraud industry benchmarks on several audit-committee dimensions. First, fraud companies in the technology ( $p < .10$ ) and financial-services industries ( $p < .05$ ) were significantly less likely to have an audit committee relative to industry benchmarks, which is consistent with overall findings in Dechow et al. (1996) and McMullen (1996). If an audit committee is not present, then the full board's attention to financial oversight may not be as vigilant or effective.

Second, we examined audit committee composition differences across fraud and no-fraud firms within each of the three industries examined. Consistent with Beasley (1996), who reported a univariate difference in audit committee composition between fraud and no-fraud firms representing several industries, we found that audit committees of fraud companies in all three industries were less independent than the industry benchmarks ( $p < .05$ , except  $p < .10$  in health care). Within each industry, the percentage of audit committees composed entirely of outside directors (those with no disclosed relationship, other than stock ownership, between the director and the company or its officers) was lower for fraud companies. This difference was particularly pronounced in financial services, where 94 percent of no-fraud companies had audit committees composed entirely of outside directors (consistent with most audit-committee reform proponents [SEC 1999]) vs. only 17 percent of fraud-company audit committees composed entirely of outside directors.

Finally, *The Report of the NACD Blue Ribbon Commission on Audit Committees* (NACD 1999a) recently suggested a rule of thumb of four half-day audit committee meetings per year, indicating that the diligence of the audit committee is critically important. Beasley (1996) found no evidence of a difference between fraud and no-fraud companies in the number of audit committee meetings. However, we found that in the technology and health-care industries ( $p < .05$ ), audit committees of fraud companies met less often (generally one time per year) than did the no-fraud companies (generally two or three times per year, which is still below the NACD [1999a] suggestion). To our knowledge, this is the first evidence of a significant difference between fraud and no-fraud companies in the number of audit committee meetings, although McMullen and Raghunandan (1996) did document a similar difference when comparing companies with financial-reporting problems (SEC enforcement actions or material restatements of quarterly earnings, which may or may not involve fraud) to companies without such reporting problems.

TABLE 3  
Fraud-Company Governance Mechanisms vs. No-Fraud Industry Benchmarks

Item	Industry <sup>a</sup>	Fraud	No-Fraud	Conclusion
<b>Audit Committees</b> Companies with an audit committee	Technology	88%	100%**	Extends Dechow et al. (1996) and McMullen (1996) results to technology and financial-services industries
	Health Care	67%	83%	
	Financial	75%	97%	
Audit committees composed entirely of outside directors	Technology	50%	100%*	Extends Beasley (1996) result to each of the three industries
	Health Care	38%	71%**	
	Financial	17%	94%*	
Mean number of audit committee meetings per year	Technology	1.3	2.6*	New result <sup>b</sup>
	Health Care	1.0	2.2*	
	Financial	2.8	4.3	
<b>Internal Audit</b> Internal audit function appears to be present	Technology	0%	82%*	New result
	Health Care	13%	74%*	
	Financial	67%	94%*	
<b>Boards</b> Boards with a majority of outside directors	Technology	31%	100%*	Extends Beasley (1996) and Dechow et al. (1996) results to each of the three industries
	Health Care	33%	77%*	
	Financial	25%	78%*	
Mean number of board members	Technology	6.3	6.0	Fails to extend Beasley (1996) result to any of the three industries
	Health Care	6.9	6.6	
	Financial	7.4	8.8	
Mean director tenure with the board (years)	Technology	5.6	5.4	Fails to extend Beasley (1996) result to any of the three industries
	Health Care	5.4	6.1	
	Financial	6.6	7.2	
CEO and Board Chair are same person	Technology	50%	64%	Fails to extend Dechow et al. (1996) result to any of the three industries
	Health Care	83%	68%	
	Financial	63%	50%	

\* \*\* Difference between fraud and no-fraud groups is significant at  $p < .05$ ,  $p < .10$ , respectively, two-tailed.

<sup>a</sup> Small manufacturing/service companies are used as the no-fraud benchmark for the health-care fraud companies, which are a mix of service providers and medical manufacturers.

<sup>b</sup> McMullen and Raghunandan (1996) found a similar result when comparing companies with vs. without financial-reporting problems (SEC enforcement actions or quarterly earnings restatements, which may or may not involve fraud).

### **Internal Audit**

As audit-committee expectations have continued to rise (e.g., BRC 1999), internal audit support of the audit committee has received increasing attention (NACD 1999a). Within each of the three industries ( $p < .05$ ), it appears that internal audit existence was less common among fraud companies (less than 70 percent in each industry) than no-fraud companies (greater than 70 percent in each industry).<sup>15</sup> To our knowledge, this variable has not been examined in prior fraud research.

### **Boards**

Our industry-by-industry comparisons of fraud-company board characteristics to no-fraud industry benchmarks revealed one significant difference. In all three industries ( $p < .05$ ), the percentage of boards with a majority of outside directors was much lower for fraud companies (33 percent or less) than no-fraud companies (74 percent or more), which is consistent with overall findings in Beasley (1996) and Dechow et al. (1996). Many governance organizations and shareholder activists have called for boards to be composed of a majority of outside directors. Interestingly, significant differences did not exist between fraud companies and no-fraud benchmarks within any industry for characteristics such as board size (inconsistent with Beasley [1996]), director tenure (inconsistent with Beasley [1996]), and holding of the CEO and Board Chair positions by the same person (inconsistent with Dechow et al. [1996]).<sup>16</sup> The lack of significant differences in board size and the segregation of CEO and Board Chair positions is not surprising given the mixed results reported in earlier studies (Beasley 1996; Dechow et al. 1996) for these characteristics.

### **Overall Patterns**

Across virtually all within-industry comparisons, the fraud companies had fewer audit committees, less independent audit committees, fewer audit committee meetings, less frequent internal audit support, and less independent boards. These results extend some previous research results to more recent time periods and to specific industry groups, such as differences in audit-committee presence (Dechow et al. 1996; McMullen 1996), audit-committee independence (Beasley 1996), and board independence (Beasley 1996; Dechow 1996). Other previous findings about board size, director tenure, and the combination of CEO and Board Chair positions (Beasley 1996; Dechow et al. 1996) did not extend to the industry subsamples examined in this study. Finally, two new results were found in this study. Fraud companies had fewer audit-committee meetings and were less likely to have an internal audit function.

## **CONCLUSION**

One message from this analysis is that financial statement fraud techniques vary by industry. In technology companies, the most common fraud technique involved revenue

<sup>15</sup> For fraud companies, the existence of an internal audit function was based on whether proxy disclosures regarding audit-committee activities mentioned oversight of an internal audit function.

<sup>16</sup> We also compared fraud and no-fraud companies on the number of board meetings per year. There were no significant differences for technology or health-care companies (all approximately six meetings per year). For financial-services companies, there was a significant difference ( $p < .05$ ) between fraud companies (mean of 13.4 meetings) and no-fraud companies (only 9.2 meetings); however, this difference may be due to the nature of the no-fraud data collection. The NACD survey only allowed for responses of up to "12 or more" meetings per year, thus likely creating a downward bias in the financial-services, no-fraud figures for this variable.

recognition, while asset frauds and misappropriation of assets were most common in financial-services companies.

A second message is that the nature of corporate governance mechanisms differs dramatically between fraud and no-fraud companies at the industry-specific level for these three industries. We confirm earlier findings that fraud and no-fraud firms differ to the extent that audit committees exist and are independent and to the extent that boards are independent from management. In addition, we extend the analysis of board and audit-committee governance to find that fraud companies and no-fraud industry benchmarks differ in terms of audit-committee diligence (number of meetings) and internal audit existence.

What lessons can practicing auditors take from the results? First, it is critical to be attuned to unique fraud opportunities that exist within individual industries. The move of the Big 5 firms and others toward organizational structures that are industry-focused is consistent with this need for appreciating the fraud techniques most common in different industry settings. Second, it is important, when assessing governance mechanisms, to compare firm-specific findings to relevant industry benchmarks. For example, financial institutions in general have more frequent audit-committee meetings and are more likely to have an internal audit function than are companies in the other two industries. When auditors and regulators evaluate an individual banking client, it is important to compare its board and audit-committee governance mechanisms to other banks, rather than to a broad sample of companies. Finally, it is important for auditors to recognize that weak governance mechanisms are associated with financial fraud across a number of time periods and industries. Any time the governance structure is weak, auditors should evaluate the resulting impact on the audit.

Finally, readers are cautioned to recognize an important limitation of this research. The comparison of fraud- and no-fraud-company traits did not employ a discriminant model with one-to-one matching of fraud and no-fraud companies on several dimensions. Rather, the fraud-companies' characteristics were compared to industry benchmark statistics, within comparable size ranges. Future researchers are encouraged to continue building and refining fraud prediction models (e.g., Bell and Carcello 2000) to assist auditors in differentiating between fraud and no-fraud companies.

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