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Corporate Governance Factors Associated with Financial Fraud

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We examine the association between corporate governance ratings and the incidence of financial fraud. We identify 36 publicly-held firms with fraud in their 2003 annual financial statements, that are included in the database of corporate governance ratings developed by RiskMetrics Group (RMG), formerly Institutional Shareholder Services. We generate a control sample of non-fraud firms, which also are included in RMG's database, matched with the test firms on the basis of RMG's Corporate Governance Quotient – Industry (CGQ-Y) rating. The CGQ-Y rating is a proprietary composite measure based on the scores of more than 60 governance mechanisms for each firm in comparison with others in its industry, as classified by the Global Industry Classification Standard (GICS). The CGQ-Y rating is a number between 0 and 100, indicating the relative strength of a firm's governance (higher numbers correspond to higher rated governance), in comparison with others in its industry. We also examine changes in governance ratings between fraud and control firms for three years (2004-2006) following the fraud year of 2003.

Our matching criterion required that the fraud and control firms have similar CGQ-Y ratings in the fraud year (2003). However, while fraud firms improve their governance in the year (2004) following the year of fraud, we find that they revert to lower CGQ-Y ratings in 2005

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and 2006 when compared to the control firms. Along these lines, Farber (2005) and Richardson (2005) also find governance changes following restatement announcements. However, Farber's (2005) results suggest that the credibility of fraud firms from the perspective of financial analysts remains low three years after the fraud. Thus our finding that fraud companies revert to lower corporate governance ratings two and three years after the fraud is consistent with this evidence from prior literature.

Analyzing for specific governance mechanisms, we hypothesize and find evidence that significantly fewer fraud firms, in comparison to controls, purchase non-audit services (audit-related and "other") from incumbent auditors. Also, we hypothesize and find evidence that more fraud companies provide for the annual election of all directors compared to the boards of control firms where a greater proportion provide for staggered terms for directors.

Prior research generally has focused on a limited number of specific governance mechanisms and their possible relation to accounting errors or other irregularities. While we examine possible differences in the CGQ-Y scores between the two samples following the fraud year, we also investigate for possible effects related to two specific governance mechanisms with theoretical appeal and possible explanatory power. Prior studies document that summary ratings of governance are value relevant for investment decisions (e.g., Gompers, Ishii, and Metrick 2003, Bebchuk and Cohen 2005, Bebchuck, Cohen and Ferrell 2004). With particular relevance to this study, Brown and Caylor (2006) provide evidence that RMG's summary governance rating (CGQ) is value-relevant in the US market. In addition, Aggarwal and Williamson (2006) show that changes in RMG's CGQ are related to changes in firm value.

A review of the relevant literature in corporate governance and financial fraud is presented in Section two leading to the study's hypotheses. The research method is described in

Section three, followed by the study's results in the fourth section. The final section provides a summary and conclusions from the study.

LITERATURE REVIEW AND HYPOTHESIS

Relationship of Corporate Governance and Financial Fraud

DeFond and Jiambalvo (1991) find that firms restating their annual financial reports are less likely to have an audit committee. While important, this conclusion may not apply to the Sarbanes-Oxley (SOX 2002) regulatory environment where all public companies have audit committees. In the post-SOX regulatory regime the research issue is specific audit committee characteristics, not whether or not an audit committee exists. For example, Abbott et al. (2004) find a significant negative association between financial restatement and audit committee independence as well as committee diligence. The authors also find that committees having at least one director with financial expertise are inversely related to financial restatement.

Agrawal and Chadha (2005) examine whether select governance mechanisms are related to the probability of financial restatement. Unlike prior studies (e.g., Beasley 1996; Dechow et al. 1996; Farber 2005) that document a significant negative relation between the percentage of independent or outside directors on the board and fraud, Agrawal and Chadha find board and audit committee independence to be unrelated to financial restatement. The findings of Agrawal and Chadha (2005), specifically as they relate to board independence, are consistent with other studies (e.g., Vance 1964, Baysinger and Butler 1985, Hermalin and Weisbach 1991) that find no significant relation between board composition and restatement. Further, the requirement of SOX (2002) that audit committees be composed of only independent directors makes it less likely that

there would be significant differences in audit committee or board composition between fraud and non-fraud firms. Thus, we do not examine the director independence factor of governance.

In a more recent study of the relation between board composition and long-term firm performance, Bhagat and Black (2002) find that firms with more independent boards do not improve their profitability. This finding suggests that board independence does not affect the likelihood of an earnings overstatement due to financial fraud. Thus, since we do not expect to find differences in profitability between fraud and non-fraud firms we do not hypothesize on profitability.

A conclusion from the studies noted earlier is that there is no strong relationship between board structure and firm performance. However, a recent study by Aggarwal, Erel, Stulz, and Williamson (2006) finds a strong relation between board independence and firm value. Bhagat and Black (2002) and Hermalin and Weisbach (1991) suggest that firms that restate financial reports to bring them into conformity with accounting rules will react to this event by increasing board independence. Thus, we do not expect to find significant differences in board composition between fraud and non-fraud firms in the fraud year or in the immediate subsequent years since making changes in board composition may take time to implement, particularly in firms with classified or staggered boards.

Research Hypotheses

As reported earlier, prior studies have investigated the relation between specific, individual corporate governance mechanisms with corporate valuation, fraud, and restatements and have reported mixed results. In this study, we investigate the relation between a summary rating of governance (CGQ-Y) from RMG and financial fraud.

The finding of a positive association between financial reporting quality and greater board independence by Beasley (1996), Dechow et al. (1996) and Farber (2005) suggests that board characteristics should be positively related to reporting quality. On the other hand recent theoretical work by Hermalin and Weisbach (2003), Harris and Raviv (2006), and Bhagat and Black (2002) on possible association between board governance and firm performance provides evidence suggesting that board composition does not influence the risk of financial restatement. While board composition could affect financial restatement, there is seemingly little *a priori* reason to believe that independent board members are superior monitors of financial reporting. On this particular point, the evidence reported by Bhagat and Black (2002) suggests that firms with more independent boards may actually be worse financial performers than those with less independent boards, although firms historically react to poor performance by increasing director independence.

We argue that the tenure of board members may be a variable significantly associated with financial fraud. Specifically, we contend that since the directors of staggered or classified boards serve for more than a year, classified or staggered boards are more likely to maintain a level of continuity, expertise, and oversight which may better deter financial fraud than boards where all directors are elected annually. Thus, our first hypothesis is:

H_1: Financial fraud firms have proportionately fewer boards that are staggered or classified in the fraud year (2003) than do control firms.

Some corporate governance mechanisms pertain to the independent audit function and the services (audit and non-audit) provided by the incumbent auditor. For example, Kinney et al. (2004) and Raghunandan et al. (2003) find that firms that restate financial statements to correct errors in the application of generally accepted accounting principles do not purchase significantly

greater amounts of non-audit services from incumbent auditors. This evidence suggests that the proportion of non-audit fees to audit fees would not be expected to be different between fraud and control firms. This premise seems particularly justifiable in the aftermath of SOX (2002) legislation, which proscribes incumbent auditors from supplying several categories of non-audit services. However, some non-audit services (e.g., tax advisory) are still allowed under SOX (2002). In this study, we argue that incumbent auditors who provide non-audit services are more knowledgeable about their client's operations, controls, and processes. In addition, the supply of non-audit services usually corresponds to a greater auditor presence at the client's location, which can be helpful for identifying fraud. This argument leads to the following hypothesis:

H_2: Fraud firms have proportionately less incumbent auditor involvement in "audit-related" and "other" non-audit services, as inferred by total non-audit fees, in the fraud year than control firms.

Our final hypothesis concerns the issue of changes in corporate governance in the years following the fraud year. Farber (2005) finds that fraud firms improve their governance in the immediate years following fraud detection, and usually gain "buy" and "hold" recommendations from analysts. Also, as noted earlier, firms that restate financial reports to correct accounting errors will respond to this event by strengthening governance, specifically the proportion of independent directors (Bhagat and Black 2002, Hermalin and Weisbach 1991). In light of the prior research, we expect fraud firms to strengthen corporate governance ratings after the fraud year. Also, because some governance mechanisms can take time to implement, we use a three-year, post-fraud period (2004-2006) to examine changes in the governance composite rating (CGQ-Y) as well as changes in incumbent auditor involvement in non-audit services and board election policy. We test this with the following related hypotheses:

H_{3a}: In comparison to control firms, fraud firms improve their RMG Corporate Governance Quotient – Industry (CGQ-Y) in the three years following the fraud year (2003).

H_{3b}: In comparison to control firms, fraud firms improve their corporate governance mechanisms, fees and board-election in the three years following the fraud year.

Model Specification

A binary 1/0 (fraud/control) is used in our study as the dependant variable. The variables of interest are Board-Elect and Fees for which we use binary classifications provided by RMG. Specifically, Board-Elect is coded 1 if classified or staggered and 0 if all directors are elected annually. The variable, Fees, is coded 1 if the sum of "audit-related" and "other" non-audit fees exceeds the sum of audit fees, and 0 otherwise.

In addition to these RMG corporate governance explanatory variables, we include in our model several control variables shown to have effects in prior fraud and restatement research. Consistent with prior studies (e.g., Johnson et al. 2002) we use the natural logarithm of total assets as a proxy for firm size. The literature suggests that companies that restate to correct error tend to be smaller than those that do not restate. Prior studies also indicate inclusion of control variables for financial leverage and return on assets (ROA). For example, Johnson et al. (2002) report significantly higher leverage for restatement firms. Therefore, we include leverage as a control variable and expect fraud firms to have higher leverage than control firms. Similarly, the Altman Z-score is a measure of financial health; thus we expect fraud firms to have lower Z-score levels than control firms (Altman 1968). Conversely, we expect lower levels of ROA for fraud firms than control firms (cf., Johnson et al. 2002).

The literature also suggests executive compensation to be a relevant control variable. Burns and Kedia (2006), Cheng and Warfield (2005), and Bergstresser and Philippon (2006) document a relation between CEO stock-based compensation and earnings management. Other

research finds an association between stock-based executive compensation and earnings management using discretionary accruals (e.g., Bergstresser and Philippon 2006), financial restatements (Burns and Kedia 2006), and future insider trading (Cheng and Warfield 2005). In this study we use executive ownership, defined as the fraction of stock ownership held by top five executives, as a control variable.

We also use in our model the number of audit committee meetings in the fraud year as a control variable. Farber (2005) finds that while audit committees of fraud firms meet less frequently than the control firms in the year of fraud, they meet more frequently than control firms following fraud detection. Thus, we include this variable as a control variable and predict a negative coefficient.

Finally, we include a control variable, EP-Ratio, which represents the earnings-to-price ratio. We include this variable because prior literature suggests it is a measure of growth potential (Lakonishock, Shleifer and Vishny 1994). The resulting logistic regression model is presented in (1) below:

$$\text{Fraud} = \alpha + \beta_1 \text{Leverage} + \beta_2 \text{Fin-Need} + \beta_3 \text{Z-Score} + \beta_4 \text{ROA} + \beta_5 \text{EP –Ratio} + \beta_6 \text{AC-Meetings} + \beta_7 \text{ExeOwnshp\%} + \beta_8 \text{Total assets} + \beta_9 \text{LnAssets} + \beta_{10} \text{Fees} + \beta_{11} \text{Board-Elect} + \varepsilon \quad (1)$$

Where:

Fraud	= 1 if fraud firm, 0 otherwise;
Leverage	= Ratio of total liabilities to total assets in 2003, the fraud year;
Fin-Need	= 1 if Financing Need in 2003, 0 otherwise;
Z-Score	= Altman Z-Score in 2003;
ROA	= Return on assets in 2003;
EP- Ratio	= Earnings to stock price ratio in 2003;
AC-Meetings	= Number of audit committee meetings in 2003;
ExeOwnshp**%**	= Percentage of firm owned by its executives in 2003;
Total assets	= Total assets in millions of dollars in 2003;
LnAssets	= Natural Log of total assets in 2003;
Fees	= 1 if sum of audit-related and other fees exceeds audit fees in 2003, 0 otherwise
Board-Elect	= 1 board is classified or staggered in 2003, 0 if elected annually.

METHODOLOGY

RMG Database

The RMG inventory of corporate governance mechanisms and their classification into groups are presented in Exhibit 1. The 61 governance factors are classified by RMG into eight broad governance categories of 1) board, 2) audit, 3) charter/by-laws, 4) state of incorporation, including anti-takeover provisions, 5) executive and director compensation, 6) progressive mechanisms, 7) ownership, and 8) director education. RMG calculates an overall or summary measure based on all 61 factors, called Corporate Governance Quotient (CGQ), which is computed for a given firm's industry (CGQ-Y) as well as its equity class (e.g., Russell 3000). For example, a CGQ-Y of 90 indicates that RMG regards the firm's governance to be better than 90 percent of all others in that firm's industry. RMG combines the eight categories of factors shown in Exhibit 1 into four sub-measures or scores of corporate governance comprising 1) *Board*, 2) *Audit*, 3) *Charter/ Anti-takeover*, and 4) *Compensation and Ownership*. Of these four sub-measures, *Board* is the most influential determinant of RMG's summary score, whether CGQ-Industry or CGQ-Index. According to RMG, the Board sub-score which is based on the individual ratings of Exhibit 1 factors 1-17, 51-56 and 61,[1] contributes about 40 percent to either of the RMG summary scores. We use the CGQ-Y summary measure as well as RMG data related to incumbent auditor fees and board election policy in our study.

Sample Selection

We identified a sample of publicly-held companies with financial fraud from a search of the *Edgar Online* database using the key-words fraud or financial fraud. We also searched AAERs filed between 2002 and 2007 for charges of financial fraud. The search covered the period from January 1, 2002 through December 31, 2007 and was designed to identify firms with

financial fraud in a fiscal year-end that closed between July 1, 2003 and December 31, 2003, although the fraud may have actually commenced in fiscal 2002 or earlier and remained undetected. The six-month period ending December 31, 2003 was chosen because fiscal year-end dates within that time frame would have reflected the corporate governance rankings reported by RMG on July 1, 2003.

Panel A of Table 1 shows that 91 firms were identified as having financial fraud in fiscal 2003. Of this number, 18 firms were excluded since the fraud began before governance changes mandated by SOX (2002) took place, and 20 firms were eliminated from analysis since they were not in the RMG database as of July 1, 2003. We also eliminated nine fraud firms because we could not identify non-fraud control firms for them, and four fraud firms were eliminated from analysis because they were in the financial services that have unique financial characteristics. Additional four firms were eliminated to avoid double counting because these firms appeared in both the *Edger Online* and AAER searches (see Table 1).

Panel B of Table 1 reports the number of restatement firms used in analysis that correspond to each index used by RMG to classify companies within its database. As Panel B shows, the numbers of restatement firms within the CGQ Universe, Russell 3000, S&P 400, S&P 500, and S&P 600 were 12, 9, 2, 6, and 7, respectively. Panel C of Table 1 reports by industry classification the number of fraud firms by industry group. RMG uses Morgan Stanley/S&P's Global Industry Classification Standard (GICS) for industry classification. As Panel C shows, the largest numbers of financial fraud firms in the sample are in the 'software and services' sector.

To limit risks of possible confounding effects, each financial fraud firm was matched with a non-fraud company on the basis of four-digit GICS, auditor (e.g., Big 4, non-Big 4),

comparable size (i.e., total assets), and year (i.e., 2003, the fraud year). Each of the 36 control firms used in analysis was carefully checked to ensure that it had not restated its financial results to correct for financial fraud or been named in an AAER alleging financial fraud.[2]

RESULTS

Descriptive Statistics and Univariate Analysis of Hypotheses

Descriptive statistics (mean and standard deviation) on independent variables for the fraud and control samples are provided in Table 2. The two-sample t-tests of the differences by fraud/control classification are also provided for univariate analysis. The results indicate that among control variables, fraud and control firms in our samples differ significantly by leverage, financing needs, and the Z-score. However, they do not differ by firm size (total assets and LnAssets), ROA or EP-Ratio (see Table 2).

The last two lines in Table 1 present descriptive data on the explanatory variables in our study. As predicted in H_1, fraud firms have proportionately less boards that are staggered (mean = 0.53) than control firms (mean = 0.75) and the difference is significant (T-statistic = -1.99, p = 0.03). Similarly, we find support for H_2, where fraud firms have proportionately less total non-audit fees (0.31) than control firms (0.72), and the difference is highly significant (T-statistic = -3.84, p = 0.00).

Table 3 compares corporate governance ratings (CGQ-Y) between fraud and control firms in the fraud year (2003) and in the following three years (2004-2006). The two-sample, two-tailed, t-tests are used to investigate differences between the two samples in each year. As expected, there is no significant difference in the fraud year, 2003. This is by design because CGQ-Y (summary governance score specific to industry) was used as a matching criterion to

select our control sample. However, we also find no differences between the two samples in the three years (2004, 2005, and 2006) following the year of fraud. As reported in the last two columns of Table 3, analysis of variance (ANOVA) was performed for each of the samples over the four year period. This analysis also failed to detect differences between years with respect to CGQ-Y for fraud and control firms. These results do not provide (univariate) support for H_{3a}. Specifically, in comparison to control firms, fraud firms do not improve their RMG Corporate Governance Quotient – industry (CGQ-Y) significantly in the years following the fraud year (see Table 3).

To investigate H_{3a} further, we present the data from Table 3 in Figure 1. A pattern emerges. First, the CGQ-Y of control firms improved monotonically in the four year period. Second, the CGQ-Y of fraud firms shows variation over the four year period. Specifically, in the fraud year (2003), fraud firms scored a bit below control firms (57.88 vs. 61.21). By 2004, the fraud firms improved their CGQ-Y by 10.45 points (18 percent) to reach 68.33, which is a bit higher than CGQ-Y of 65.66 for control firms. However, for years 2005 and 2006, the CGQ-Y of fraud firms dropped below that of the control firms. As reported earlier, we do not find statistical significance for these differences. However, as explained in the final section the results may be due to the sample size limitation imposed by the fact that the inventory of cases of financial fraud to investigate in any year is limited (see Figure 1).

Regarding H_{3b} we compare the fraud firms and control firms with respect to Fees and Board-Elect over the four year period. The results are presented in Table 4. Panel A presents Fees over the four-year period (2003-2006) by fraud vs. control firms. There is a significant drop in the proportion of companies that report "audit-related" and/or "other" non-audit fees that exceed the sum of audit fees for both control firms (Pearson $\chi^2 = 94.451$, $p < 0.001$) and fraud

firms (Pearson $\chi^2 = 24.110$, $p < 0.001$). This is expected due to the requirements of SOX (2002). The overall difference between control and fraud firms (Pearson $\chi^2 = 4.185$, $p = 0.030$) is in support of H_2 and is due to the large difference in 2003, the year of fraud. Thus, both control and fraud firms moved to reduce purchasing non-audit services from their incumbent auditors as required by SOX (2002) (see Table 4).

Panel B in Table 4 presents comparative data on board election. As reported in the bottom of the panel, there are significant differences between fraud and control firms in all four years (Pearson $\chi^2 = 11.582$, $p < 0.001$). This result is consistent with H_1. However, neither the fraud nor the control firms changed their practice of board election significantly over the four-year period. This result indicates, as expected, that board election practices are long term.

Multivariate Analysis

Table 5 presents a correlation matrix between the independent variables as specified in Model (1). Pearson correlation coefficients are shown in Table 5 and the statistically significant coefficients that approach, equal to or exceed 0.50 are highlighted. As shown, leverage is highly correlated with the Z-score (-0.56) and LnAssets (0.42). Thus, we drop leverage from our multi-variate analysis to avoid multicolinearity. We drop EP-Ratio for the same reason because it is highly (0.75) correlated with ROA (see Table 5).

A logistic regression to test Model (1) is presented in Table 6. The results are highly significant and consistent with the univarite tests. Specifically, the regression model is highly significant ($\chi^2 = 39.927$, $p < 0.001$), with a reasonable 77.8 percent classification accuracy and a Nagelkerke pseudo R^2 of 56.8 percent. Regarding specific variables, we find Fin-Need, Z-score, and AC-Meetings to be statistically significant and in the direction expected from the literature.

However, similar to the univariate tests, ROA and ExeOwnshp% are not significant (see Table 6).

Regarding tests of H_1 and H_2, the multivariate tests indicate statistical support. Specifically, Board-Elect is significant as expected (Wald = 3.269, p = 0.036, one-tailed). Similarly, the Fees variable is highly significant (Wald = 14.935, $p < 0.001$).

Additional Analysis

The results reported in the previous section are robust to alternative variable specifications in the model. For example, we replaced Z-score with leverage and performed analysis of Model (1). With the exception of minor changes to statistics (e.g., the Nagelkerke pseudo R^2 dropped from 56.8 percent to 53.2 percent, and classification accuracy dropped from 77.8 percent to 75 percent), the results stayed largely the same. Similarly replacing ROA with earning-price ratio (EP-Ratio) did not significantly change the nature or of the results.

SUMMARY AND CONCLUSIONS

Thirty six firms were identified as having had financial fraud in 2003. We matched each of these fraud firms with a non-fraud, control firm on the basis of RiskMetric Group's Corporate Governance Quotient for industry (CGQ-Y). We examined differences between these firms with respect to board election practices and fees paid to auditors (as a proxy for audit involvement and presence at the client). We hypothesize and find evidence that relatively more fraud firms have boards that are elected annually, as compared with control firms where more firms provide for staggered terms for their directors. We also hypothesize and find evidence that significantly fewer fraud firms in 2003 (the fraud year) purchase audit-related and other non-audit services from incumbent auditors than do the control firms. We trace changes in summary corporate

governance ratings (CGQ-Y) as well as detailed governance mechanisms over the period of 2003-2006 to identify differences by fraud/control firms. We find a pattern that indicates that while the CGQ-Y ratings of control firms improve monotonically over the four years, the CGQ-Y ratings of fraud firms demonstrate high variation. Specifically, fraud firms improve their CGQ-Y in the year (2004) after the fraud year, but have ratings lower than those of the controls in the years 2005 and 2006.

Investigation of fees and board election over time indicates an expected pattern. Specifically, following the passage of SOX (2002), the number of cases where the sum of audit-related and "other" non-audit fees exceeded total audit fees for both control and fraud firms dropped almost entirely in years 2004-2006. For board election practices, fraud firms had proportionately lower amount of staggered elections (as compared with annual elections) than the control firms in 2003, a practice that continued over the three years after the year of fraud.

With regards to control variables, we find no significant differences between fraud and control firms with respect to ROA, the proportion of executive ownership of the firm, and total assets. However, we find fraud firms to have significantly more financial need, lower Z-scores, and more audit committee meetings in the fraud year than control firms.

We hypothesized and found that relatively fewer fraud companies, compared to the control firms, purchased "audit-related" and "other" non-audit services in 2003. The difference between the two samples in purchases of non-audit services all but disappeared in the years 2004-2006 as both samples of firms were likely influenced by the constraints of SOX (2002) with respect to incumbent auditor supply of such services. Specifically, while SOX (2002) allows incumbent auditors to provide certain non-audit services (e.g., tax advisory services), audit committees of public companies may be reluctant to approve significant auditor

involvement with non-audit work in the aftermath of recent accounting scandals (e.g., Enron, WorldCom). Our results suggest that non-audit services supplied by incumbent auditors may have positive effects on reducing the incidence of financial fraud. This argument is consistent with the knowledge *spillover* argument in Kinney et al. (2004) that auditors who provided tax services likely gained a better understanding of the client's operations, contributing to better audit work, which in turn is associated with lower likelihoods of restatement.

Another result from our study is that more fraud firms provide for the annual election of all directors than control firms. This result is consistent with the argument that by staggering (i.e., a classified system) the election of directors a certain level of continuity, skill, and oversight of management is maintained. Thus, our finding suggests that a classified board system, with continuity of director oversight, reduces the risk of financial fraud.

Given the relatively small number of fraud cases, our sample was small. Thus, our results should be interpreted cautiously due to the limitation imposed by our small sample size. However, we observe an interesting pattern of change in corporate governance after the year of fraud that may explain behavior of financial analysts. Specifically, Farber (2005) finds that financial analysts continue to be skeptical about the credibility of fraud firms three years after the year in which fraud occurred. In our study, we matched fraud and control firms on the basis of CGQ-Y in the fraud year (2003). We then compared the two samples based on changes made to corporate governance over the following three-years (2004-2006). Fraud firms improved their governance in the year after the fraud year, which is consistent with Farber (2005) and Richardson's (2005) finding of governance changes in response to restatement announcements. However, our sample of fraud firms, in the years 2005 and 2006, have lower summary governance ratings (CGQ-Y) than the sample of control firms. This finding may provide an

explanation for Farber's (2005) results indicating that fraud firms' credibility in the eyes of analysts is still low three years after the year of fraud. Since we did not investigate financial analysts' reaction to changes in corporate governance, we cannot be sure about this conclusion. Future studies may be needed to provide further evidence on this matter.

REFERENCES

Abbott, L.J., S. Parker, and G.F. Peters. 2004. Audit committee characteristics and restatements. *Auditing: A Journal of Practice & Theory* 23 (March): 69-87.

Altman, E. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance* Vol 23, (No 4): 589-609

Aggarwal, R., I. Erel, R. Stulz, and R. Williamson. 2006. Do U.S. firms have the best corporate governance? A cross-country examination of the relation between corporate governance and wealth. Working Paper, Georgetown University.

Aggarwal, R. and R. Williamson. 2006. Did new regulations target the relelevant corporate governance attributes? Working paper, Georgetown University.

Agrawal, A., and S. Chadha. 2005. Corporate governance and accounting scandals. *Journal of Law and Economics* 48 (2): 371-406.

Aier, J., J. Comprix, M. Gunlock, and D. Lee. 2005. The financial expertise of CFOs and accounting restatements. *Accounting Horizons* (September): 123-135.

Bhagat, S. and B. Black. 2002. The non-correlation between board independence and long-term firm performance. *Journal of Corporation Law* 27: 231-273.

Baysinger, B. and H. Butler. 1985. Corporate governance and the board of directors: Performance effects of changes in board composition. *1 Journal of Law, Economics, and Organization* : 101-134.

Beasley, M.S. 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review* 71 (October): 443-465.

Bebchuk, L. A. and A. Cohen. 2005. The costs of entrenched boards. *Journal of Financial Economics* 78: 409-433.

Bebchuk, L. A., Cohen, A., and A. Ferrell. 2004. What matters in corporate governance? Discussion Paper No. 491, John M. Olin Center for Law, Economics, and Business, Harvard Law School.

Bergstresser, D. and T. Philippon. 2006. CEO incentives and earnings management. *Journal of Financial Economics* (June): 511-529.

Blue Ribbon Committee (BRC), 1999. *Report and recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees* (Stamford, CT, BRC).

Brown, L.D. and M.L. Caylor. 2004. Corporate governance and firm performance. Working Paper, Georgia State University.

Burns, N. and S. Kedia. 2006. The Impact of performance-based compensation on misreporting. *Journal of Financial Economics* (January): 35-67.

Cheng, Q. and T. Warfield. 2005. Equity incentives and earnings management. *The Accounting Review* (April): 441-476.

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 (Spring): 1-36.

DeFond, M. 1992. The association between changes in client firm agency costs and auditor switching. *Auditing: A Journal of Practice & Theory* 11 (Spring): 16-31..

DeFond, M. L. and J. Jiambalvo. 1991. Incidence and circumstances of accounting errors. *The Accounting Review* (July): 643-655.

Farber, D.B. 2005. Restoring trust after fraud: Does corporate governance matter? *The Accounting Review* 80 (April): 539-361.

Gompers, P., J. Ishii and A. Metrcick. 2003. Corporate governance and equity prices. *Quarterly Journal of Economics* 118 (February): 107-155.

Harris, M. and A. Raviv. 2006. A theory of board control and size. *Review of Financial Studies* available at http://rfs.oxfordjournals.org/cgi/content/hhl030.

Hermalin, B. E. and M. S. Weisbach. 1991. The effect of board composition and direct incentives on firm performance. *Financial Management* (Winter): 101-112.

Johnson, V.N., I.K. Khurana and J.K. Reynolds. 2002. Audit-firm tenure and the quality of financial reports. *Contemporary Accounting Research* 19 (2, winter): 637-60.

Kinney, W. R., Jr., Z-V. Palmrose, and S. Scholz. 2004. Auditor independence, non-audit services, and restatements: Was the U.S. government right? *Journal of Accounting Research* 42 (3): 561-588.

Klein, A. 2002. Economic determinants of audit committee independence. *The Accounting Review* 77 (April): 435-452.

Lakonishok , J. A. Shleifer, and R. Vishny. 1994. Contrarian investment, extrapolation, and risk. *Journal of Finance,* 49: 1541-1578.

Myers, J.N., L.A. Myers and Z.V. Palmrose. 2004. Mandatory auditor rotation: Evidence from restatements (paper presented at the mid-year meeting of the Auditing Section of the American Accounting Association, Clearwater, FL, January).

Palmrose, Z-V. 1988. An analysis of auditor litigation and audit service quality. *The Accounting Review* 1 (January): 55-73.

Raghunandan, K., W. J. Read, and J. S. Whisenant. 2003. Initial evidence on the association between non-audit fees and restated financial statements. *Accounting Horizons* (September): 223-234.

Richardson, S. 2005. Discussion of consequences of financial reporting failure for outside directors: Evidence from accounting restatements and audit committee members. *Journal of Accounting Research* 43 (2): 335-342.

SOX. 2002. Sarbanes-Oxley Act. Public Law No: 107-204. (Washington, DC, GAO).

Srinivasan, S. 2005. Consequences of financial reporting failure for outside directors: Evidence from accounting restatements and audit committee members. *Journal of Accounting Research* 43 (2): 291-334.

Vance, Stanley C. 1964. *Board of Directors: Structure: Structure and Performance*. Harvard Business School Press. Boston, MA. 36.

Wu, M. 2002. A review of earnings restatements. Working paper, New York University, Stern School of Business.

Exhibit 1
Listing of RMG Ratings Criteria

Board

1 Board Composition

2 Nominating Committee

3 Compensation Committee
4 Governance Committee
5 Board Structure
6 Board Size
7 Changes In Board Size

8 Cumulative Voting

9 Boards Served On – CEO
10 Boards Served On – Other Than CEO
11 Former CEO's

12 Chairman/CEOs Separation

13 Board Guidelines
14 Response To Shareholder Proposals
15 Board Attendance
16 Board Vacancies
17 Related Party Transactions

Audit

18 Audit Committee

19 Audit Fees
20 Auditor Rotation
21 Auditor Ratification

Charter/Bylaws

22-27 Features of Poison Pills

28-29 Vote Requirements
30 Written Consent
31 Special Meetings
32 Board Amendments
33 Equity Structure

State of Incorporation

34-40 Takeover Provisions Applicable Under State Law – Has Company Opted Out?

Executive and Director Compensation

41 Cost of Option Plans
42-43 Option Re-pricing
44 Shareholder Approval of Option Plans
45 Compensation Committee Interlocks
46 Director Compensation
47 Pension Plans For Non-Employee Directors
48 Option Expensing
49 Option Burn Rate
50 Corporate Loans

Progressive Factors

51 Retirement Age for Directors
52 Board Performance Reviews
53 Meetings of Outside Directors
54 CEO Succession Plan
55 Outside Advisors Available to Board

56 Directors resign upon job change

Ownership

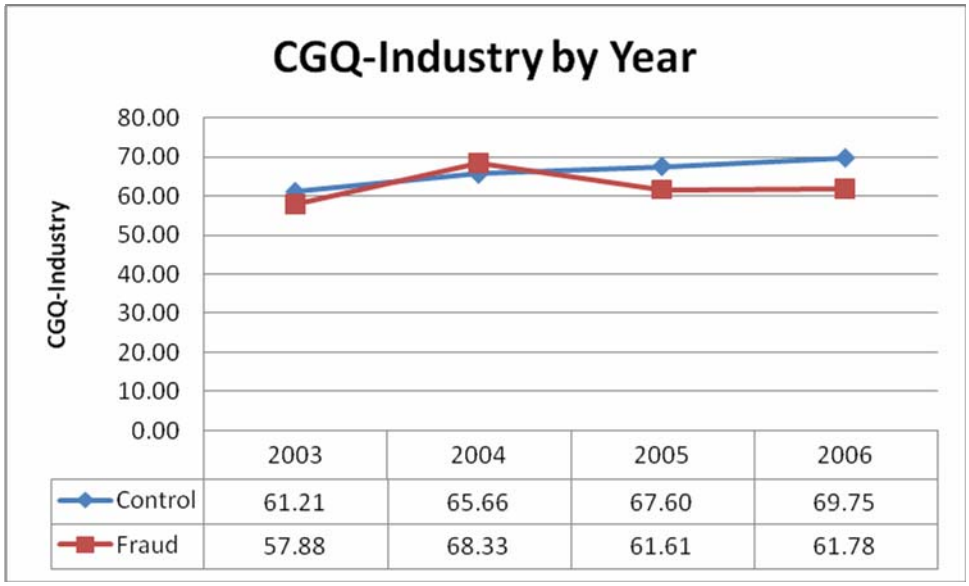
57 Director Ownership
58 Executive Stock Ownership Guidelines
59 Director Stock Ownership Guidelines
60 Officer and Director Stock Ownership

Director Education

61 Director Education

Note: Some factors also are looked at in combination under the premise that corporate governance is enhanced when selected combinations of these criteria are adopted.

Figure 1
Average CGQ-Index
Control vs. Fraud Firms



	2003	2004	2005	2006
Control	61.21	65.66	67.60	69.75
Fraud	57.88	68.33	61.61	61.78

Table 1
Financial Fraud Sample Details

Panel A: Sample Selection Details

Number of firms disclosing between 2002 and 2007 a restatement of 2003 financial reports due to accounting fraud:	38
Plus: AAERs alleging fraud in 2003 filed between 2002 and 07:	53
Sub-total	91
Less: (i) Firms not identified in RMG proprietary database	20
(ii) Firms with accounting fraud pre-dating 2001	18
(iii) Firms for which no match-mate was identified	9
(iv) Firms identified in both above sources	4
(v) Financial institutions (banks, S&Ls)	4
Number of financial fraud firms in analysis	36

Panel B: Sample Index

Index	**Number of Firms**
CGQ Universe (RMG proprietary)	12
Russell 3000	9
S&P 400	2
S&P 500	6
S&P 600	7
	36

Panel C: Sample Industry

Industry	**Number of Firms**
Automobiles & Components	2
Capital goods	4
Food & Staples Retailing	3
Health care equipment & services	4
Materials	3
Pharmaceuticals & Biotechnology	2
Semiconductors & Semiconductor Equipment	3
Software & services	6
Technology hardware & equipment	3
Others*	6
	36

- Six other industries each had one observation.

Table 2
Descriptive Statistics
For Fraud Year (2003)
Independent Variables

	Fraud Firms (N = 36)		Control Firms (N = 36)		Two-Sample	
Variable	**Mean**	**Std. Dev**	**Mean**	**Std. Dev**	**T-Stat.**	**Sig.**
Leverage	0.23	0.24	0.15	0.17	1.57	**0.06***
Fin-Need	0.11	0.32	0.03	0.17	1.39	**0.09***
Z-Score	2.40	6.59	5.03	3.87	-2.06	**0.02***
ROA	-3.83	16.21	-0.52	17.66	-0.83	0.21*
EP- Ratio	-0.12	0.33	-0.06	0.32	-0.71	0.23*
AC-Meetings	8.92	4.56	7.17	2.88	1.95	**0.06**
ExeOwnshp%	0.10	0.18	0.07	0.09	0.89	0.19*
LnAssets	6.41	1.96	6.35	1.94	0.13	0.90
Total Assets (in millions)	3,357	6,687	3,051	6,330	0.20	0.84
Fees	0.31	0.47	0.72	0.45	-3.84	**0.00**
Board-Elect	0.53	0.51	0.75	0.44	-1.99	**0.03**

* indicates one-tailed test
Significant results are highlighted

Leverage = Ratio of total liabilities to total assets in 2003, the fraud year;
Fin-Need = 1 if Financing Need in 2003, 0 otherwise;
Z-Score = Altman Z-Score in 2003;
ROA = Return on assets in 2003;
EP- Ratio = Earnings to stock price ratio in 2003;
AC-Meetings = Number of audit committee meetings in 2003;
ExeOwnshp**%** = Percentage of firm owned by its executives in 2003;
Total assets = Total assets in millions of dollars in 2003;
LnAssets = Natural Log of total assets in 2003;
Fees = 1 if sum of audit-related and other fees exceeds audit fees in 2003, else 0; and
Board-Elect = 1 board is classified or staggered in 2003, 0 if elected annually.

Table 3
Mean (Standard Deviation) of Relative Industry Corporate Governance Score
For the Fraud Year (2003) and the Following Three Years
N = 36

Sample	**2003**	**2004**	**2005**	**2006**	**F-stat.**	**Sig.**
Control	61.21 (26.74)	65.66 (26.14)	67.60 (25.31)	69.75 (22.96)	0.735	0.53
Fraud	57.88 (28.66)	68.33 (25.65)	61.61 (28.03)	61.78 (26.80)	0.910	0.44
Two-sample T-stat. (P-value)	0.51 (0.61)	-0.44 (0.66)	0.95 (0.35)	1.34 (0.19)		

Table 4
Fees and Board Election Changes over the 2003-2006

Panel A: Sum of audit-related and other fees exceeds audit Fees

Firms	Year 2003	2004	2005	2006	Total (n = 143)	Pearson χ^2 Significance
Control	26 72.2%	0 .0%	0 .0%	0 .0%	26 18.2%	94.451 (<0.001)
Fraud	11 30.6%	2 5.6%	1 2.8%	0 .0%	14 9.8%	24.110 (<0.001)
Pearson χ^2 (Significance)	4.185 (0.030)					

Panel B: Board is classified or staggered

Firms	Year 2003	2004	2005	2006	Total (n = 143)	Pearson χ^2 Significance
Control	27 75.0%	25 69.4%	25 69.4%	25 69.4%	102 71.3%	0.362 (0.948)
Fraud	19 52.8%	20 55.6%	20 55.6%	15 42.9%	74 51.7%	1.541 (0.673)
Pearson χ^2 (Significance)	11.582 (<0.001)					

Table 5
Correlation Matrix -- Significant Pearson correlations are highlighted

		1	2	3	4	5	6	7	8	9	10
1	Leverage	1.00									
2	Fin-Need	0.15	1.00								
3	Z-Score	**-0.56**	-0.05	1.00							
4	ROA	0.01	-0.02	0.34	1.00						
5	EP-Ratio	0.05	0.08	0.19	**0.75**	1.00					
6	AC-Meet	0.19	0.07	-0.10	-0.18	-0.23	1.00				
7	ExeOwnship%	0.19	-0.03	-0.13	-0.09	-0.14	-0.11	1.00			
8	LnAssets	**0.42**	0.11	-0.12	0.19	0.14	0.31	-0.25	1.00		
9	Fees	0.18	-0.05	-0.03	-0.01	0.04	0.02	-0.04	-0.04	1.00	
10	Board-Elect	0.00	0.10	-0.15	-0.11	-0.12	0.05	-0.13	0.09	-0.22	1.00

Correlations approaching or exceeding 0.50 are highlighted. Leverage and EP-Ratio are excluded from Model (next table) to avoid multicolinearity.
Variables as defined in Table 2

Table 6
Regression Model for the Restated Year

Fraud = $\alpha + \beta_1$Fin-Need + β_2Z-Score + β_3ROA + β_4AC-Meetings + β_5ExeOwnshp% + β_6LnAssets + β_7Fees + β_8Board-Elect + ε

Variable	Expected Sign	B	Wald	Significance
Fin-Need	+	2.250	1.815	**0.089***
Z-Score	-	-0.294	3.682	**0.028***
ROA	-	0.014	0.269	0.302*
AC-Meetings	-	0.357	8.699	**0.002***
ExeOwnshp**%**	+	3.036	1.537	0.108*
LnAssets	-	-0.239	1.130	0.288
Fees	_	-3.318	14.935	**0.000***
Board-Elect	_	-1.286	3.269	**0.036***
Constant		1.851	0.968	0.325
χ^2 (Significance)	39.927 (<0.001)			
Classification Accuracy	77.8%			
Pseudo (Negelkerke) R^2	56.8%			

Significant results highlighted (* one-tailed)

Variables as defined in Table 2

Endnotes

[1] The sub-measure, anti-takeover provisions, combines factors 22-33 under the category of charter/bylaws as well as factors 34-40 within the category: state of incorporation. The compensation sub-measure incorporates factors 41-50 in the executive and director compensation category and factors 57-60 listed in the category: ownership. The sub-measure, audit, reflects factors 18-21 within the category: audit.

[2] We considered using in analysis the entire sample of non-restatement firms in the RMG database. However, the matched-pairs design allows us to include, and control for, company-specific variables (e.g., audit committee characteristics, CEO/CFO compensation) for which we had to hand-collect data from proxy statements.

The opinions of the authors are not necessarily those of Louisiana State University, the E.J. Ourso College of business, the LSU Accounting Department, Roosevelt University, the Senior Editor, or the Editor.