

Changes in Corporate Governance following Allegations of Fraud against Shareholders versus Fraud against the Government

Lakshmana K. Krishna-Moorthy *

Rutgers University

May 2012

I am deeply grateful to my advisor, Pervin Shroff, for her encouragement and guidance. I am also grateful to the other members of my dissertation committee: Clayton Forester, Frank Gigler, Claire Hill (University of Minnesota Law School), Ramgopal Venkataraman and Ivy Zhang for their support and suggestions. This paper received the 'Best paper prize' at the 8th International conference in Corporate Governance, Birmingham, UK., June 2010. I thank the participants at the 8th International conference in Corporate Governance, 2011 Financial Accounting and Reporting section mid-year meeting and especially Christo Karuna (discussant), Florida Atlantic University, Maastricht University, McMaster University, Michigan State University, University of Minnesota, University of Missouri - Columbia, Suffolk University and Syracuse University for helpful comments and suggestions. I also thank David Farber, Yu Gao, Zhaoyang Gu, Marilyn Johnson, Zining Li, Brian Miller, Alexander Nekrasov, Kathy Petroni and Isabel Wang for their suggestions which have improved the paper. I would like to thank *Taxpayers against Fraud* for providing me access to their library and help in data collection and Woodruff-Sawyer for providing me with the securities litigation database.

* Department of Accounting and Information Systems, Rutgers Business School, Rutgers University, 94 Rockafeller Road, Piscataway NJ 08854. Lakshmana.k@rutgers.edu. 848-445-5107.

Abstract

This paper examines changes in corporate governance subsequent to allegations of fraud against the government under the False Claims Act (FCA) and compares them to governance changes after allegations of fraud in shareholder class action (SCA) lawsuits. While shareholders have clear incentives to bring about changes in top management and improve board independence when they themselves are defrauded by managers, their incentives are not that clear in cases of fraud committed by managers against the government that may result in net gains to shareholders. A particularly interesting finding is that top management turnover and improvement in board independence is significantly greater following SCA lawsuits, where shareholders are the wronged party, relative to FCA lawsuits, where the fraud is committed against the government. The evidence questions shareholder ethics in responding to fraud. It appears that shareholders respond harshly when they have unambiguously suffered a loss, but may condone managerial misconduct when it may provide or promise net benefits to them.

Keywords: corporate governance; fraud; class action lawsuits; government contracts.

1. Introduction

Do shareholders effect changes in top management after allegations of managerial fraud in securities class action lawsuits? Are shareholder reactions to fraud just as severe when fraud is committed against third parties, such as the government? In light of the recent focus on corporate governance following the Sarbanes-Oxley Act (SOX) of 2002, it is interesting to examine whether shareholder responses to fraud allegations differ depending on the parties affected by the fraud.

Fraud drains valuable resources of stakeholders and calls into question the ethics of the company's management. It creates incentives for shareholders to bring about changes in top management to prevent future losses through fraud and to mend the company's reputation. If fraud has occurred due to the failure of external monitoring, it creates incentives for shareholders to tighten governance mechanisms, for example, by increasing the number of independent directors on the board. However, shareholder responses may not be the same if they themselves may benefit from their managers defrauding a third party with whom they are contracting. Are ethical concerns of secondary importance to shareholders in such cases? In this paper, I examine the effect of fraud allegations on subsequent executive turnover and board independence and compare these effects in two fraud settings: fraud against shareholders (securities class action lawsuits) and fraud in government contracts (False Claims Act lawsuits).

Securities class action lawsuits generally allege that managers made misleading disclosures that inflated the stock price and investors suffered losses due to the subsequent stock price decline. In addition to seeking remedy for damages, shareholders may file derivative lawsuits seeking changes in corporate governance. On the other hand, redress to fraud in

government contracts is typically sought by filing lawsuits under the False Claims Act of 1986 (FCA). Allegations are either brought by the Department of Justice (DOJ) or by whistle-blowers. The Act's whistle-blower reward and protection provisions as well as the triple penalty provisions are intended to encourage whistle-blowers to bring fraud cases to light. The FCA aims to unravel and prosecute the various frauds committed by companies in contracts with the government. The allegations commonly involve overbilling, underpayment, delivering low quality products, and other illegal business practices in contracts with the government.

Fraud against shareholders suggests a clear agency problem: managers engage in fraudulent activity that leads to shareholder losses. Fraud against shareholders is unacceptable to shareholders, as there are no perceived benefits to shareholders. It imposes significant costs on shareholders due to direct value destruction and the negative publicity for the firm upon detection. To decrease the likelihood of future managerial fraud and to regain the firm's lost reputational capital, shareholders may have incentives to remove top managers and tighten corporate governance. Thus, I expect to observe turnover in the top executives of the company (CEO and CFO) and an improvement in corporate governance through an increase in the number of independent directors on the board, following allegations of fraud against shareholders. Alternatively, it is not trivial to replace top managers especially in companies that rely on their expertise and reputation in the business. Further, it is plausible that the top management may not be involved or aware of the fraud; it may have been perpetrated by lower-level management and/or due to the failure of internal controls.

Shareholder incentives in the case of fraud in government contracts may differ from those in the case of fraud against themselves. Shareholders stand to gain when managers engage in

fraud in government contracts as long as the costs associated with settlement are less than the overall gains made from the fraudulent activity.¹ The settlement of allegations may be considered part of the risk of doing business with the government and may be acceptable to shareholders. Consistent with this view, Karpoff, Lee and Vendryzk (1999) find that shareholders react less negatively to press reports of fraud, indictments, or suspension of military contracts for the top 100 defense contractors relative to other contractors, since these contractors provide services that cannot be easily substituted by other companies. Also, managers may commit fraud as a value-increasing strategy. As Posner (1986) suggests, the comparative advantage of incumbent managers may derive in part from their willingness to commit or tolerate fraudulent activities. In such a case, the net benefits of managerial termination may even be negative. On the other hand, reputation concerns may be paramount for firms with high political sensitivity. Political pressure may induce firms to take corrective measures upon detection and settlement of fraud similar to the case of fraud against shareholders.² Based on the above arguments, whether shareholders react differently when fraud is committed against their own

¹ The systemic nature of fraud and the observed outcomes of cases of fraud against the government suggest that shareholders may perceive net benefits from such fraud. Anecdotal evidence suggests that FCA lawsuits are generally settled for an amount significantly lower than the original claim. To take just one from many examples, the claim of \$369 million against Northrop Grumman Corporation by the government filed in 2001 was eventually settled in 2005 for \$62 million. Hence, while it is true that the original claim may be inflated, there is a high likelihood that all damages associated with the fraudulent transaction are not recovered by the government in FCA cases. Further, companies rarely acknowledge wrongdoing when negotiating settlements. Thus, while the fraud in transactions that are investigated will likely discontinue in the future, fraudulent activity in other transactions may still continue (e.g., hospitals may continue to overbill for other types of treatments and procedures).

² This is consistent with the findings of Mills, Nutter and Schwab (2010) that firms with large federal contracts are less aggressive in their tax policies if they are politically visible. These types of firms would be more likely to tighten corporate governance in the event of fraud.

selves versus when it is committed against the government is an empirical question that I address.

I collect a sample of FCA lawsuits settled in the years 1994 through 2005, with settlements exceeding one million dollars (to eliminate nuisance lawsuits). FCA lawsuits tend to be concentrated in industries that conduct significant business with the government, in particular, pharmaceuticals, defense, and healthcare industries. To control for industry and the magnitude of settlements, I select a sample of securities class action (SCA) lawsuits from the same industries as firms with FCA lawsuits and with settlements over a million dollars. To control for executive turnover and corporate governance changes of a “normal” firm, I benchmark results of the lawsuit samples with those of a control sample of firms matched on size and industry that were not sued during the sample period. I hypothesize that firms in the SCA lawsuits sample will experience greater top-management turnover and an increase in the number of independent directors on the board relative to firms in the control sample in the period following the lawsuit settlement. Further, I expect the effect of lawsuits on top-management turnover and board independence to be significantly higher for firms in the SCA sample relative to the FCA sample.

Based on univariate analysis, I find significantly greater post-settlement turnover of CEOs and CFOs and increase in independent directors in the SCA sample relative to its matched control sample. The post-settlement CFO turnover is significantly greater for the FCA sample relative to its control sample; however, CEO turnover and change in board independence are not significantly different from that of the control sample. In comparisons of the SCA sample with the FCA sample, I find that CEO turnover and change in board independence are both significantly higher for the SCA sample relative to the FCA sample.

I also conduct multivariate analysis of the effect of lawsuits on corporate governance after controlling for other determinants of the governance proxies. Based on prior literature, I control for factors that affect executive turnover, such as firm size, CEO age, firm performance, insider holdings, blockholdings, and institutional holdings. After controlling for these factors, I find significantly greater turnover of CEOs and CFOs in both the SCA and FCA samples relative to their respective control samples. Consistent with the findings of prior research, CEO age, firm performance, and size are significant determinants of executive turnover. I further find that CEO turnover is significantly higher in the post-SOX period reflecting the effect of stricter corporate governance procedures instituted by companies after SOX. Overall, the results show greater CEO and CFO turnover subsequent to fraud allegations under class action as well as FCA lawsuits, suggesting that shareholders take a serious view of fraud regardless of the defrauded party (i.e., shareholders themselves or the government).

Further, I examine the effect of lawsuit characteristics on CEO and CFO turnover, for example, magnitude of settlements, number of allegations, federally-initiated investigations (DOJ and SEC investigations), and fraud type. While lawsuit characteristics do not impact CEO turnover following FCA lawsuits, I find that CEO turnover is higher for SEC-initiated investigations and for allegations related to financial reporting in SCA lawsuits. Further, for the SCA sample, I find significantly greater post-lawsuit CEO turnover following the passage of the Private Securities Litigation Reform Act (PSLRA) in 1995 – a legislation which attempted to discourage frivolous lawsuits. The higher CEO turnover that I observe after 1995 is consistent with more severe consequences following (presumably) more meritorious lawsuits post PSLRA.

In comparisons of the SCA and FCA samples, I find that CEO turnover is significantly higher for the SCA lawsuit sample relative to the FCA sample. Further analysis shows that, within the set of allegations which were initiated by a federal agency, CEO turnover is higher when the class action lawsuit is associated with an SEC investigation relative to when an FCA lawsuit is initiated by the DOJ. This is consistent with investors taking a more serious view of SEC-investigated fraud allegations which tend to focus on fewer companies and large magnitude fraud. When I examine the effect of lawsuits on CFO turnover, I find no significant difference between the SCA and FCA samples. One explanation for this finding could be that shareholder efforts to tighten governance are aimed at the CEO rather than the CFO, given the lower position of the CFO in the corporate hierarchy.

In examining changes in board independence, I find a significant increase in the percentage of independent directors on the board after SCA lawsuits but not after FCA lawsuits. Consistently, I find a significantly greater increase in the percentage of independent directors following SCA relative to FCA lawsuits.

The paper contributes to the literature on corporate governance changes following various types of managerial misconduct. Prior research by Agrawal, Jaffe and Karpoff (1999) finds no significant changes in top management and directors following fraud against various stakeholders, including securities fraud and fraud against the government. In contrast, based on a sample from the early nineties, Niehaus and Roth (1999) find significant CEO turnover after SCA lawsuits. More recent evidence by Helland (2006) documents significant director turnover following SCA lawsuits, but only for the more egregious high-profile lawsuits. In comparison, my results show higher executive turnover and board independence following both SCA and

FCA lawsuits.³ Furthermore, I find that these changes in corporate governance are more prevalent in the post-SOX period, consistent with the effect of more stringent legal requirements for corporate governance imposed by SOX.

Overall, my evidence suggests that shareholders react strongly to fraud allegations whether they themselves are the wronged party or the fraud is committed against the government. However, particularly interesting is the finding that their reaction is significantly stronger when the fraud is committed against their own selves. This finding is consistent with shareholders' willingness to look the other way or act less harshly or less swiftly when in their perception the wrongful act provides net benefits to the firm. This paper is perhaps the first to shed light on whether shareholders respond ethically when faced with a conflict of interest in the fraud setting.

The paper is organized as follows. Section 2 discusses related studies and develops hypotheses. Section 3 describes the sample and research design. Empirical results are reported in Section 4 followed by concluding remarks in Section 5.

2. Literature Review and Hypotheses Development

Prior studies have examined the consequences of securities fraud associated with financial restatements, SEC investigations and enforcement actions, and securities class action (SCA) lawsuits. Desai, Hogan and Wilkens (2006) examine turnover in top executives following

³ My results are inconsistent with those reported in Agrawal et al. (1999), perhaps due to the difference in sample periods examined (1981-1992 versus 1994-2005) and the exclusion of nuisance lawsuits from my sample which could potentially reduce the power of the tests in the previous study.

accounting restatements and find that 60% of the restating firms experience turnover in either the CEO or the CFO position. Hennes, Leone and Miller (2008) classify restatements as either accounting irregularities or errors, and find greater turnover of CEOs and CFOs in the one-year period around restatements when the restatements are due to irregularities relative to those due to errors. For a sample of firms against which the SEC brought enforcement actions, Beneish (1999) finds significant turnover in top officers following the enforcement action only for firms that file for bankruptcy within a period of four years subsequent to the SEC action. Farber (2005) finds firms under SEC enforcement action have poor governance relative to a control sample. He also finds that firms under SEC enforcement action improve their corporate governance and have similar characteristics to that of control firms three years from fraud detection.

In general, prior studies have found limited evidence of management turnover following allegations of corporate fraud. Using a sample identified from news reports during 1981-1992, Agrawal, Jaffe and Karpoff (1999) examine different types of fraud – specifically, fraud against government, fraud against stakeholders, financial reporting fraud and regulatory violations. They find no significant changes in turnover of top officers and directors for any of these fraud types. Niehaus and Roth (1999) examine turnover of CEOs following settlements of SCA lawsuits and find higher CEO turnover relative to matched firms that experienced large stock price declines. Using a recent sample, Helland (2006) examines director turnover following SCA lawsuits and finds that director changes occur only in the top quartile of settlements or in allegations in which the SEC initiated the investigation.

In contrast with fraud allegations in securities class action lawsuits where shareholders are the injured party, fraud allegations under the False Claims Act relate to fraud perpetrated by companies against the government as opposed to shareholders themselves. Since the time of the civil war, the government has made combating fraud in government contracts a priority. The False Claims Act, enacted in 1863, covers all non-tax related fraud that results in losses to the Treasury. The Act was strengthened in 1986 with various provisions – important among them are increased penalties, provision for triple penalties, and whistle-blower reward and protection. Cases under the Act are pursued by the Department of Justice (DOJ) based on recommendations from supervising agencies, such as Department of Health and Human Services, Department of Defense, Department of Interior, etc. and through assistance from other agencies such as the Federal Bureau of Investigations (FBI).

FCA is considered to be a model piece of legislation. Fraud uncovered under FCA, involve sophisticated schemes brought to the notice of the government by whistle blowers. In other instances the regulators of the specific industries uncover the fraud and file the case in a court through the Department of Justice. The whistle blower reward and protection provisions in FCA have also been adopted by the IRS via the provisions of the Tax Relief and Health Care Act of 2006. The uncovering of the UBS fraud by whistle blower Bradley Birkenfeld who provided details of illegal tax shelters run by UBS has been attributed to these provisions. Recently, the Dodd-Frank Wall Street Reform and Consumer Protection Act has whistle blower reward and protection provisions for providing information to the SEC. SEC is currently formalizing the rules on whistle blower reward and protection provisions and is expected to announce the details in mid year 2011.

The three major industry sectors covered under the False Claims Act are pharmaceutical, healthcare and defense. Common allegations in healthcare involve overbilling by charging for services not rendered, charging more for a different service than the one rendered to a patient, charging for a bundle of tests when a single test is requested, charging for brand name drugs when generic alternatives are provided, and issuing fraudulent cost reports that are used by the government to determine reimbursement rates. In the past, pharmaceutical firms have been charged with paying kickbacks and bribes, failure to provide the government with the lowest wholesale price of prescription drugs and off-label marketing of drugs for purposes not approved by the Federal Drug Administration (FDA). Defense firms have been charged with cross-charging where the company shifts its cost on a fixed price contract to another project that is on a cost-plus contract thereby overcharging the government, providing the government with inferior products, improper cost allocation for government jobs so as to provide cheaper quotes to commercial customers to gain competitive advantage, false reporting of test results, and violations of the Truth-in-Negotiations Act (TINA), where the company who is a sole supplier fails to disclose all the relevant information. In other industries, allegations involve falsifying natural resources production records, such as in the petroleum industry, where the firm pumps more natural resources from public lands than is reported to the government, and ‘yield burning’, where financial firms skim off the profits from the sale of municipal bonds.

The DOJ also vets cases brought by whistle-blowers before either accepting or rejecting to pursue the case. Roughly 60% of allegations settled under the FCA in my sample are brought by whistle-blowers. This is consistent with Dyck, Morse and Zingales (2007) who find that a

significant percentage of all fraud allegations come from employees (19%). These authors attribute this finding to the whistle-blower protection and reward provisions of the FCA.

Penalties comparable to class action lawsuits have been imposed in settlements of allegations under the False Claims Act of 1986. However, while research on the consequences of allegation settlements in SCA lawsuits is abundant, equal attention has not been paid to examine the consequences of settlements of FCA allegations. One exception is the paper by Bowen, Call and Rajgopal (2010) which examines a sample of all allegations made by whistle-blowers including allegations of overbilling in 19% of the sample (presumably under the FCA). These authors collect whistle-blower allegations from press reports and from the Occupational Safety and Health Administration and find that firms with whistle-blower allegations are poorly governed and are more likely to make changes in governance following the allegation.

Given the loss of reputation, the severity of penalties, and costly settlements, one would expect shareholders to take a serious view of allegations of fraud under the FCA similar to securities fraud and to take actions to tighten corporate governance following such allegations. Specifically, I examine three aspects of corporate governance changes: CEO turnover, CFO turnover and percentage change in independent directors on the board.⁴

I test the following hypotheses, stated in alternative form:

⁴ While it is interesting to examine other proxies of corporate governance, such as audit committee turnover and independence of audit committee, data availability constraints drastically reduces the size of the SCA and FCA lawsuit samples by about 82%.

H1: Relative to a control sample with no fraud allegations, firms that settle allegations of securities fraud in FCA lawsuits improve corporate governance following settlements.

H2: Relative to a control sample with no fraud allegations, firms that settle allegations of fraud under the SCA improve corporate governance following settlements.

I also examine the effect of regulation shifts and gravity of allegations on changes in corporate governance. I use a dummy variable for the post SOX period to account for the difference in governance structures in the pre and post SOX periods. I expect higher turnover in top management in the post SOX period reflecting tighter corporate governance. I also expect a positive relation between top-management turnover and the magnitude of settlement and the number of allegations against the same firm. Finally, I examine whether top-management turnover is impacted differentially by the context and nature of allegations, such as initial public offerings (IPO), financial reporting improprieties, and insider trades in the SCA sample, and by industry, i.e., pharmaceuticals, healthcare or defense, in the FCA sample.

Shareholders' incentives to respond to fraud may be weaker when they believe the fraud provides or promises net benefits to them as in the case of government fraud. If shareholders react more severely and swiftly when they themselves are defrauded by managers, I expect greater governance changes following settlements of shareholder-initiated SCA lawsuits relative to lawsuits under the FCA. Thus, I test the following hypothesis:

H3: Firms that settle allegations of securities fraud in SCA lawsuits experience greater improvement in corporate governance after settlements compared to firms that settle allegations of fraud under the FCA.

I also examine whether regulation shifts (pre and post SOX) and allegations initiated by a federal agency (i.e., SEC for SCA lawsuits and DOJ for FCA lawsuits) have a differential effect on corporate governance changes for SCA lawsuits vis-a-vis FCA lawsuits. In the next section, I discuss sample selection and variable measurement and explain the methodology used to test the above hypotheses.

3. Data and Research Design

3.1 Sample selection

I collect a sample of FCA lawsuits from the years 1994 through 2005 with settlements of more than a million dollars (to eliminate nuisance lawsuits). This is the first study to systematically collect and analyze the FCA lawsuits. I use legal reviews, original court documents, and news reports to identify and collect details of the lawsuits. This results in 152 allegation settlements, involving 118 firms that have coverage on Compustat and CRSP. Roughly 20% of sample firms faced multiple FCA allegations during the twelve-year sample period (Table 2, Panel A). To control for industry and magnitude of settlements, I select a sample of SCA lawsuits from the same industries as firms with FCA lawsuits and with settlements over a million dollars. Data on SCA lawsuits is obtained from the Woodruff-Sawyer & Co. shareholder action database. The final sample includes 258 SCA lawsuit settlements

involving 241 firms. Only 7% of sample firms had multiple lawsuits settled during the twelve-year sample period (Table 2, Panel A). To control for executive turnover and corporate governance changes of a “normal” firm, I benchmark results of the individual lawsuit samples with those of a control sample of firms that were not sued during the sample period. Control firms are matched with sample firms on size and industry using the 4-digit SIC code; if a match is not found, I use the 3-digit SIC code and then the 2-digit SIC code.

3.2 Variables

CEO (CFO) turnover is recorded if there is a change in CEO (CFO) either in the year of the settlement announcement or in the subsequent two years.⁵ I collect information on CEOs and CFOs from proxy statements, 10-K filings, and the Corporate Affiliations database. I collect information on the board of directors from the Risk Metrics database. Percentage change in independent directors on the board is measured from the year of settlement to one year thereafter.

Previous studies on determinants of CEO turnover have documented that CEO age (which approximately differentiates forced terminations from retirements) and the preceding year’s firm performance have a significant effect on turnover (Weisbach 1988, Gibbons and Murphy 1990, Jensen and Murphy 1990). Prior studies have also examined whether institutional holdings, blockholdings, and insider holdings have an effect on CEO turnover. Institutional

⁵ I examine CEO turnover starting from the year of settlement rather than the year the suit is filed, because the CEO is less likely to be terminated until the allegation is proven to be meritorious. In SCA lawsuits, I find that the median time between suit filing and settlement is 2.32 years. In the FCA sample, 71 firms simultaneously announce the suit filing and settlement; for the remaining 81 allegations, the median time between suit filing and settlement is 2.21 years. My results remain substantially the same when I also include the year prior to the settlement to measure CEO turnover.

investors and block holders, acting as external monitors, can influence corporate behavior by actively participating in corporate control and decision making processes such as replacement of CEOs (Warner, Watts and Wruck 1988, Denis and Serrano 1996). On the other hand, insiders with significant shareholdings may exercise their influence to maintain the status quo and refrain from making changes in corporate governance. I control for these factors in examining the turnover of CEO and CFO. In addition, I include total assets to control for the size of the firm. I use security returns and (price-scaled) earnings of the settlement year as measures of firm performance. Data on insider holdings, institutional holdings, and blockholdings (proportion of holdings by individuals who own at least 5% of shares outstanding) at the beginning of the year of settlement is obtained from Compact Disclosure discs.⁶

I also examine the effect of lawsuit characteristics on changes in executive turnover and board independence, namely federally-initiated investigations, number of allegations, settlement magnitude, industry type in the case of FCA lawsuit and fraud type in the case of SCA lawsuit.⁷ I obtain data on DOJ-initiated investigations under the FCA by examining lawsuit details. Roughly 40% of all FCA lawsuits are initiated by the DOJ. In relation to SCA lawsuits, 10% of allegations are initiated by the SEC. Further, 10% of SCA lawsuits involve fraud related to IPOs, 70% involve financial reporting fraud, and 38% involve insider trading.⁸ All variable definitions are laid out in Table 1.

⁶ I adjust for mistakes in blockholdings data recorded on the Compact Disclosure database by winsorizing, as suggested by Dlugosz, Fahlenbrach, Gompers and Metrick (2005).

⁷ The nature of fraud under FCA are varied, however most fraud types are industry specific, e.g., ‘yield burning’ in the financial sector, underpayment of royalties in the oil and gas industry, and overbilling by hospitals.

⁸ Note that several SCA lawsuits include allegations of multiple types of fraud.

3.3 Research design

I examine the effect of fraud (both SCA and FCA) on subsequent CEO turnover by estimating a logistic regression separately for each of the litigation samples and its corresponding control sample (Hypotheses H1 and H2):

$$\text{Prob}[\text{CEO turnover} = 1] = \text{Logit} [\alpha_0 + \alpha_1 \text{FCA (SCA)} + \alpha_2 \text{Size} + \alpha_3 \text{CEO age} + \alpha_4 \text{Earnings} \\ + \alpha_5 \text{Return} + \alpha_6 \text{Post-SOX} + \alpha_7 \text{Insider holdings} + \alpha_8 \text{Institutional holdings} + \varepsilon] \quad (1)$$

CEO turnover equals one if there is a change in CEO from the year of the settlement up to two years from the year of settlement, zero otherwise. FCA (SCA) equals one if the firm belongs to the sample of securities class action (False Claims Act) lawsuits, and zero if it belongs to the control sample. Firm size is measured by the log of total assets at the beginning of the settlement year. CEO age is a dummy variable that equals one if the age of the CEO is between 62 and 66 in the year of the settlement. Earnings equal earnings before extraordinary items of the settlement year scaled by price at the beginning of the year. Return is the settlement-year stock return minus the CRSP value-weighted index. Post-SOX equals one if the settlement is in the year 2002 and after. Insider holdings are measured as the shareholdings of all officers and directors of the firm at the beginning of the settlement year. Institutional holdings are measured as the shareholdings by institutions at the beginning of the settlement year.⁹

I estimate the effect of SCA (FCA) lawsuits on CFO turnover by estimating a logistic regression similar to (1):

⁹ I conduct all analyses with blockholdings instead of institutional holdings and get qualitatively similar results. I do not report these results in tables in the interest of brevity.

$$\begin{aligned} \text{Prob}[\text{CFO turnover} = 1] = & \text{Logit} [\beta_0 + \beta_1 \text{FCA (SCA)} + \beta_2 \text{Size} + \beta_3 \text{Earnings} \\ & + \beta_4 \text{Return} + \beta_5 \text{Post-SOX} + \omega] \end{aligned} \quad (2)$$

Consistent with prior literature on CFO turnover, I do not include CFO age, institutional holdings, or insider holdings as control variables.¹⁰

I estimate the effect of FCA (SCA) lawsuits on the percentage change in independent directors by estimating the OLS regression:

$$\begin{aligned} \% \Delta \text{IndDir} = & \gamma_0 + \gamma_1 \text{FCA (SCA)} + \gamma_2 \text{Size} + \gamma_3 \text{Earnings} + \gamma_4 \text{Return} \\ & + \gamma_5 \text{Post-SOX} + v \end{aligned} \quad (3)$$

where $\% \Delta \text{IndDir}$ equals the change in the ratio of independent directors to total directors on the board from the settlement year to one year after.¹¹

I use the same research design as described above to test hypothesis H3, except that the regressions are estimated using a pooled sample of SCA as well as FCA firms and the dummy variable (SCA) equals one if the firm belongs to the SCA sample, and zero if it belongs to the FCA sample. Hence, the dummy variable captures the differential effect of SCA lawsuits relative to FCA lawsuits on changes in corporate governance.

¹⁰ The average age of CFOs in my litigation and control sample is 48.11 years, with only nine CFOs between ages 62 and 65. Hence CFO age is not included as a control variable since it does not explain turnover due to retirement.

¹¹ Due to lack of coverage on Risk Metrics, the sample size reduces by 70% for the analysis of director independence. I calculate the percentage change over two years (settlement year and one year after) instead of three years due to the sample size constraint.

3.4 Descriptive statistics

Table 2, Panel B, reports FCA and SCA allegations by year. I observe an increasing trend over time in both FCA and SCA lawsuits, with larger settlements in later years. Table 2, Panel C, reports FCA and SCA sample allegations by industry. The allegations in the FCA sample are concentrated in pharmaceuticals (10%), healthcare (24%), and defense (32%). The SCA sample in comparison has greater allegations in the Pharmaceutical (14%), Defense (28%) and Services (21%). The SCA sample has comparatively lower number of allegations in the healthcare sector (8%).

Table 3 reports median firm characteristics for the SCA and FCA samples and their corresponding control samples. I find that the median settlement amounts are comparable for both samples at around \$9 million. The FCA sample firms are significantly larger than the SCA sample firms and also larger than their control sample (based on total assets as well as sales). The requirement of a close industry match accounts for the difference in firm size of the FCA versus its control sample.¹² Median performance in terms of earnings and returns is higher for the FCA sample relative to the SCA sample. In fact, the median returns of the SCA sample are negative, consistent with the common belief that class action lawsuits are most often triggered by a significant decline in prices. Further, SCA lawsuit firms have higher blockholdings but lower

¹² The weak match on firm size arises due to the concentration of large-sized firms in the FCA sample (e.g., Boeing in the defense industry) for which it is difficult to find a close size match in the same industry. To compensate for the relatively weak size matching of the control firms, I include firm size as an additional control variable in all my analyses.

institutional holdings compared to firms in the FCA lawsuit sample. Firms in the FCA sample have smaller insider holdings relative to firms in the SCA sample.

4. Empirical Results

4.1 Univariate analysis

From the results of univariate analysis reported in Table 4, I find that CEO turnover is significantly higher for the SCA sample compared to its control sample, while the difference in turnover is insignificant for the FCA sample relative to its control sample. Consistent with H3, there is significantly greater CEO turnover in the SCA sample than in the FCA sample. In relation to CFO turnover, I find significantly greater turnover in both the FCA lawsuit sample and the SCA lawsuit sample when compared to their respective control samples. However, I find insignificant difference in CFO turnover between the FCA and SCA samples. I reserve making a conjecture about why this occurs until after the results of the multivariate analysis. Percentage change in independent directors is weakly significant in the SCA sample compared to its control sample, while it is insignificant in the FCA sample compared to its control sample. The t-test of difference in means between the percentage change in independent directors in the FCA and SCA sample is significant at the 1% level. Overall, the univariate results suggest greater tightening of corporate governance subsequent to SCA lawsuit settlements relative to settlements under the FCA.

4.2 Multivariate analyses

4.2.1 CEO turnover

Using logistic regressions, I compare the lawsuit samples, FCA and SCA, with their respective control samples to understand if there is a significant difference in CEO turnover between the two samples. Based on prior literature, I also control for other factors that affect turnover, such as firm size, CEO age near retirement, if the settlement is after passage of SOX, stock price performance as well as earnings performance of the firm, holdings of insiders (directors and officers), blockholdings, and holdings by institutional investors. Table 5, Panel A, reports results of the determinants of CEO turnover. I find 8.7% greater probability ($p < 0.10$) of turnover of CEOs in the FCA sample relative to its control sample holding other variables constant. Consistent with prior research, CEO age is positively related and earnings performance is negatively related to CEO turnover. Interestingly, I find that insider holdings and institutional holdings are not significant determinants of CEO turnover for these firms. Further, CEO turnover is significantly higher in the post-SOX period consistent with greater tightening of corporate governance after the passage of SOX. Overall, the results show greater CEO turnover subsequent to fraud allegations under FCA, suggesting that shareholders do take a serious view of such fraud allegations and settlements.¹³ This result is in contrast to the insignificant effect of government fraud on CEO turnover reported for an earlier time period (1982-94) in Agarwal, Jaffe, and Karpoff (1999). One reason for the difference could be that firms' response to fraud is more severe in recent years due to the increasing magnitude of settlements and stricter

¹³ Note that although the univariate results show insignificant difference in CEO turnover between the FCA sample and its control sample (Table 4), I obtain significant difference between the two samples after controlling for other determinants of CEO turnover.

enforcement under the FCA with larger penalties starting around 1994 (besides sample selection and sample period differences).

For the sample of SCA lawsuits, I find the probability of CEO turnover to be 14% ($p < 0.01$) higher relative to its control sample holding other variables constant. For this sample, I find that CEO age and firm size are positively related to CEO turnover and that CEO turnover is significantly higher in the post-SOX period.¹⁴ Other variables are not significantly related to CEO turnover. Overall, consistent with Niehaus and Roth (1999), a change in CEO appears to be a consequence of fraud allegations and settlements of class action lawsuits.

Table 5, Panel B, reports results examining the effect of lawsuit characteristics on CEO turnover for both SCA and FCA samples separately. For the FCA sample, while CEO age and earnings performance are significant determinants of CEO turnover (consistent with Panel A), I do not find other lawsuit-related variables, namely magnitude of settlements, number of allegations, DOJ investigations and industry types, to have a significant effect on turnover. The analysis of the SCA sample reveals some interesting results. I find that CEO turnover is higher for SEC-initiated investigations and allegations related to financial reporting. Further, I find significantly greater CEO turnover following the passage of SOX in 2002 and the passage of the Private Securities Litigation Reform Act in 1995 (PSLRA). Given that PSLRA aimed at

¹⁴ In contrast, Hennes, Leone, Miller (2008) and Burks (2010) do not find a significant increase in turnover of CEO or CFO after restatements in the post-SOX period. Both studies attribute the insignificant result to the lower number and severity of restatements in the post-SOX period.

reducing the number of frivolous lawsuits, my finding is consistent with more severe consequences following more meritorious lawsuits post PSLRA.¹⁵

In Panel C, I report results of a logistic regression examining the effect of fraud allegations on CEO turnover for SCA versus FCA lawsuits. The results indicate that the probability of CEO turnover is 16% ($p < 0.01$) higher for the SCA lawsuit sample relative to the FCA sample, holding other variables constant, consistent with hypothesis H3. Further, the positive relation between CEO turnover and firm size, post-SOX period, earnings performance, and CEO age continues to be significant for this litigation sample. In addition, I find that higher institutional holdings also lead to higher CEO turnover for this sample, consistent with institutions acting as an external monitoring mechanism.¹⁶

Further analysis shows that, within the set of allegations which were initiated by a federal agency, CEO turnover is higher when the class action lawsuit is associated with an SEC investigation relative to when an FCA lawsuit is initiated by the DOJ. This is consistent with investors taking a more serious view of SEC-investigated fraud allegations which tend to focus on large magnitude fraud committed by fewer companies. Also, consistent with the results in Panel B, CEO turnover is higher for the SCA sample in the post-SOX period, but not for the FCA sample.

¹⁵ Consistent with the Act's objective, Johnson, Nelson and Pritchard (2002), find evidence that accounting and insider trading variables explain the filing of post-PSLRA SCA lawsuits but are insignificant in the pre-PSLRA period, suggesting that PSLRA discouraged frivolous lawsuits. In examining the details of the lawsuits post-PSLRA, Perino (2003) finds the overall case quality improvement to be statistically significant.

¹⁶ I arrive at similar conclusions when I estimate this regression including the two control samples along with the litigation samples and introduce a dummy variable that equals one if a firm belongs to either of the two litigation samples, zero otherwise, and a second dummy variable that equals one if a firm belongs to the SCA sample, and zero otherwise.

Overall, the findings in Table 5 suggest that CEO turnover following settlements of fraud allegations is higher for the sample of class action lawsuits as well as the sample of FCA lawsuits relative to their respective control samples. However, compared to the FCA sample, CEO turnover is higher for the SCA sample consistent with shareholders taking a harsher view of fraud committed against themselves relative to fraud committed against the government from which they may in fact benefit.

4.2.2 CFO Turnover

In Table 6, Panel A, I examine the turnover of CFOs in the litigation samples compared to their respective control samples. I find 12% greater probability ($p < 0.05$) of CFO turnover in the FCA sample relative to its control sample. Poor earnings and return performance also result in CFO turnover. Similarly, I find 12% higher probability ($p < 0.01$) of CFO turnover for the SCA sample relative to its control sample. I also find greater CFO turnover for large firms and firms experiencing poor earnings and return performance. Overall, the results suggest that firms involved in fraud and firms with poor earnings and return performance impose heavy penalties on CFOs as reflected in their turnover. Unlike the results for CEOs, I find no significant differential turnover of CFOs following fraud allegations in the post-SOX period even though the Act increased the accountability of both CEOs and CFOs.

Table 6, Panel B, reports results examining the effect of lawsuit characteristics on CFO turnover for both SCA and FCA samples separately. For the FCA sample, earnings and return performance are significant determinants of CFO turnover (consistent with Panel A). In contrast with the CEO results, I find greater CFO turnover when the allegation is investigated by the DOJ

and results in large settlements. The results also show significantly lower CFO turnover in the pharmaceutical industry, perhaps because the nature of fraud committed in this industry may not be directly related to the firm's financials, for example, off-label marketing of drugs is a fraudulent marketing practice. For the SCA lawsuit sample, I find significant CFO turnover for firms with poor earnings performance, poor return performance and when the allegation involves financial reporting improprieties.

In Panel C, I report results of a logistic regression examining the effect of fraud allegations on CFO turnover for SCA versus FCA lawsuits. Inconsistent with H3, I find that CFO turnover is not significantly higher following fraud allegations in class action lawsuits versus FCA lawsuits. Additional analysis shows that, when fraud allegations are investigated by a federal agency (i.e., DOJ or SEC), CFO turnover is higher for the FCA sample relative to the SCA sample.

Overall, I find that CEO turnover is higher after SCA lawsuits relative to FCA lawsuits, but this is not true for CFO turnover. I conjecture that shareholder penalties are aimed at CEOs as the primary accountable party and that CFO terminations may perhaps reflect management's use of them as scapegoats.¹⁷ This also suggests that, since the CFO's role in the corporate governance hierarchy is lower than that of the CEO, if shareholders make serious efforts to tighten corporate governance, these efforts will be aimed at the CEO rather than the CFO.¹⁸

¹⁷ Consistent with this argument, Feng, Ge, Luo, Shevlin (2010), who examine material accounting manipulations, find that CFOs succumb to CEO pressure to manipulate earnings. These authors also find greater likelihood of accounting manipulation when CEO power is high.

¹⁸ One of the reasons for finding lower CEO or CFO turnover is because the fraud may have occurred in a subsidiary, and the turnover in top officers may be experienced by the subsidiary and not the parent company. To

4.2.3 Percentage change in independent directors

In Table 7, Panel A, I examine the change in percentage of independent directors on the board in the litigation samples compared to their respective control samples. I do not find significant increase in independent directors in the FCA sample relative to its control sample. I find that institutional holdings in the FCA sample are significantly positively related to the increase in independent directors, emphasizing the role of institutional investors as external monitors. Further, I find that board independence is greater in the post-SOX period. In contrast with the FCA sample, I do find significant increase in independent directors after class action lawsuit settlements.¹⁹

Table 7, Panel B, reports results examining the effect of lawsuit characteristics on the change in independent directors for both SCA and FCA samples separately. For the FCA sample, I find that lawsuits characteristics do not have a significant impact on board independence. For the SCA lawsuit sample, my results show that higher settlement amounts lead to higher board independence. This finding is consistent with Helland (2005) who documents an increase in turnover of directors following settlements in the highest quartile.

In Panel C, I report results of an OLS regression examining the effect of fraud allegations on percentage change in independent directors for SCA versus FCA lawsuits. Consistent with

address this concern, I perform separate analysis with an indicator variable if the fraud is by a subsidiary and get qualitatively similar results.

¹⁹ In related research, Srinivasan (2005) finds an increase in independent directors on the audit committee following accounting restatements in the pre-SOX period.

H3, I find that increase in independent directors is significantly greater following fraud allegations in class action lawsuits versus FCA lawsuits.

Overall, my results show significant improvement in corporate governance, as indicated by top-management turnover and degree of board independence, following settlements of fraud allegations in both class action lawsuits and lawsuits under the FCA. Thus, in general shareholders appear to take actions to tighten corporate governance when they see weaknesses. However, what I find interesting is that changes in corporate governance are significantly greater when the fraud is committed against shareholders themselves than when it is committed against the government. While it is possible that this selective response to fraud may be a value-maximizing strategy for shareholders, it does raise the issue of shareholder ethics. Should wrongdoers not be penalized if the wrongful act provides net benefits to shareholders? My study provides some indirect evidence that sheds light on shareholder behavior in responding to fraud.

5. Conclusion

This paper examines top executive turnover and other corporate governance changes following fraud allegations in shareholder class action lawsuits and lawsuits filed under the FCA. The results show higher CEO and CFO turnover after the settlement of fraud allegations both in the case of SCA and FCA lawsuits. This suggests that shareholders penalize managerial misconduct harshly and institute changes in order to prevent such occurrences in future and to salvage the firm's reputation. Further, CEO turnover and improvement in board independence are found to be significantly greater for the SCA sample relative to the FCA sample consistent with shareholder penalties and corrective actions being more stringent when they themselves

have been defrauded by managers relative to when the fraud is committed against a third party (i.e., the government). In examining CFO turnover, the results indicate insignificant difference between the SCA and FCA samples, consistent with shareholders' efforts being leveled at the CEO rather than the CFO who is lower in the corporate governance hierarchy.

I also analyze the effects of certain lawsuit characteristics on changes in corporate governance. An examination of all federally-initiated fraud allegations reveals greater corporate governance changes when the investigation is instituted by the SEC relative to when it is initiated by the DOJ. Further, executive turnover in SCA lawsuits is higher when the fraud relates to financial reporting improprieties. I also find significantly higher executive turnover following both SCA and FCA lawsuits in the post-SOX period, consistent with shareholders paying more attention to corporate governance after the passage of SOX. Following SCA lawsuits, I find significantly higher executive turnover in the post-PSLRA period, consistent with more stringent actions taken after meritorious lawsuits. Indirectly, this finding implies that PSLRA did achieve its stated purpose of mitigating frivolous lawsuits, since stricter penalties and corrective actions are taken following lawsuit settlements in the post-PSLRA period.

To my knowledge, this is the first study to contrast the influence of shareholders in bringing changes to the governance of a firm based on how the fraud affects them. My evidence questions shareholders' ethics in responding to fraud committed against third parties when shareholders themselves are the beneficiaries. While the passage of SOX has tightened corporate governance in organizations in general, it appears that shareholder self-interest still dictates the extent to which corporate governance is improved after allegations of managerial fraud.

References:

- Agrawal, A., J. F. Jaffe, and J. M. Karpoff. 1999. Management turnover and governance changes following the revelation of fraud. *Journal of Law and Economics* 42 (1): 309-342.
- Beneish, M. 1999. Incentives and penalties related to earnings overstatements that violate GAAP. *The Accounting Review* 74 (4): 425-57.
- Bowen, R., A. Call, and S. Rajgopal. 2010. Whistle-Blowing: Target firm characteristics and economic consequences. *Accounting Review* 85 (4): 1239-1271.
- Burks, J. J. 2010. Disciplinary measures in response to restatements after Sarbanes-Oxley. *Journal of Accounting and Public Policy* 29: 195-225.
- Denis, D., and J. Serrano. 1996. Active investors and management turnover following unsuccessful control contests. *Journal of Financial Economics* 40 (2): 239-66.
- Desai, H, C. E. Hogan, and M. S. Wilkins. 2006. The reputational penalty for aggressive accounting: Earnings restatements and management turnover. *Accounting Review* 81 (1): 83-112.
- Dlugosz, J, R. Fahlenbrach, P. Gompers, and A. Metrick. 2006. Large blocks of stock: Prevalence, size, and measurement. *Journal of Corporate Finance* 12 (3): 594-618.
- Dyck, A., A. Morse, and L. Zingales. 2007. Who blows the whistle on corporate fraud? NBER Working paper
- Farber, D. 2005. Restoring trust after fraud: Does corporate governance matter? *Accounting Review* 80 (2): 539-561.
- Feng, M., W. Ge, S. Luo, and T. Shevlin. 2010. Why do CFOs Become Involved in Material Accounting Manipulations? *Journal of Accounting and Economics*: 1-16..
- Gibbons, R., and K. J. Murphy 1992. Does executive compensation affect investment? *Journal of Applied Corporate Finance* 5 (2): 99-109.
- Helland, E. 2006. Reputational penalties and the merits of Class-Action securities litigation. *The Journal of Law and Economics* 49 (2): 365-95.
- Hennes, K. M., A. J. Leone, and B. P. Miller. 2008. The importance of distinguishing errors from irregularities in restatement research: The case of restatements and CEO/CFO turnover. *Accounting Review* 83 (6): 1487-519.
- Jensen, M., and K. J. Murphy. 1990. Performance pay and top-management incentives, *Journal of Political Economy* 98 (2): 225-264.

- Johnson, M. F., K. K. Nelson, and A. C. Pritchard. 2002. Do the Merits Matter More? Class Actions under the Private Securities Litigation Reform Act. Stanford Law and Economics Working paper, Stanford University.
- Johnson, M. F., K. K. Nelson, and A. C. Pritchard. 2007. Do the Merits Matter More? The Impact of the Private Securities Litigation Reform Act. *Journal of Law, Economics, and Organization* 23: 627-652.
- Karpoff, J., Lee, D.S., and Vendryzk, V., 1999. Defense procurement fraud, penalties and contractor influence. *Journal of Political Economy*, 107(4): 809-842.
- Mills, L., Nutter, S. and Schwab, C. 2010. The effect of political sensitivity and political power on tax avoidance: Evidence from federal contractors. Working paper, University of Texas at Austin.
- Niehaus, G, and G. Roth. 1999. Insider trading, equity issues, and CEO turnover in firms subject to securities class action. *Financial Management* 28 (4): 52-72.
- Perino, M. 2003. Did the Private Securities Litigation Reform Act Work? *University of Illinois Law Review* 913: 913-977.
- Posner, R. A. 1986. *Economic Analysis of Law*. (Little Brown, Boston, MA).
- 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.
- Warner, J., R. Watts, and K. Wruck. 1988. Stock prices and top management changes, *Journal of Financial Economics* 20: 461-492.
- Weisbach, M. 1988. Outside directors and CEO turnover, *Journal of Financial Economics* 20: 431-460.

Table 1**Variable definitions**

CEO (CFO) turnover	CEO (CFO) turnover is one if there is change in CEO (CFO) from the year of the settlement to two years from the year of settlement, zero otherwise
CEO age	CEO age is one if the age of CEO is between 62 years and 66 years in the year of the settlement, zero otherwise
Percentage change in independent directors (%ΔIndDir)	Change in the ratio of independent directors to total directors on the board from the settlement year to one year after
Earnings	Earnings before extraordinary items of the settlement year scaled by price at the beginning of the year
Return	Settlement-year stock return less the CRSP value-weighted index
Size	Log of total assets of the firm at the beginning of the settlement year
IPO	SCA allegations pertaining to Initial Public Offering
Financial Reporting	SCA allegations pertaining to GAAP violations, restatements, misrepresentation or disclosure
Insider trading	SCA allegations pertaining to insider trading, stock price manipulation, executive compensation issues, timing of stock grants
Healthcare	FCA allegations against hospitals (SIC code 80), drug stores (59), and insurance (63)
Pharmaceutical	FCA allegations against firms in the pharmaceutical industry (SIC code 28)
Defense	FCA allegations against firms in the defense industry (SIC codes 35, 36, 37, 38)
Post-SOX	Period after the passage of the Sarbanes Oxley Act – 2002-2005
Post-PSLRA	Period after the passage of the Private Securities Litigation Reform Act – 1996-2005

Table 1 (continued)

DOJ	Equals one if the primary case in FCA lawsuits is investigated by the Department of Justice (DOJ), zero otherwise
SEC	Equals one if the fraud allegation is investigated by the SEC
Settlement magnitude	Deciles of the cumulative value of current and prior settlements made by the firm under SCA/FCA lawsuits, scaled by total assets (winsorized at 1% tails)
Number of allegations	Number of years in the sample period in which the company settled one or more SCA/FCA lawsuits
Insider holdings	Percentage shareholdings by officers and directors of the company at the beginning of the settlement year
Institutional holdings	Percentage shareholdings by institutions at the beginning of the settlement year
Blockholdings	Percentage shareholdings by individuals who own at least 5% of the shares outstanding at the beginning of the settlement year

Table 2**Sample Description**

Panel A: Frequency of fraud allegations in FCA and SCA lawsuits

	FCA sample	FCA control	SCA sample	SCA control
Number of allegations	152	152	258	258
Number of firms in sample	118	122	241	244
Firms with multiple allegations	23		17	

Panel B: Allegations by industry

SIC code	Industry Name	FCA sample	%	SCA sample	%
13	Oil and gas extraction	3	2.0 %	4	1.6%
28	Pharmaceutical	15	9.9%	35	13.6%
35	Machinery and equipment	12	7.9%	12	4.7%
36	Electrical and electronic equipment	7	4.6%	40	15.5%
37	Transportation equipment	15	9.9%	5	1.9%
38	Instruments and related products	16	10.5%	15	5.8%
59	Retail - drug stores	5	3.3%	5	1.9%
63	Insurance	4	2.6%	4	1.6%
73	Business services	9	5.9%	54	20.9%
80	Health services	28	18.4%	10	3.9%
87	Services - management consulting	4	2.6%	4	1.6%
	Other industries	34	22.4%	70	27.1%
	Total	152	100%	258	100%

Table 2 (continued)

Panel C: Allegations by year

Year	FCA Sample	%	SCA Sample	%
1994	11	7.2%	29	11.2%
1995	10	6.6%	20	7.8%
1996	9	5.9%	13	5.0%
1997	5	3.3%	17	6.6%
1998	12	7.9%	12	4.7%
1999	9	5.9%	12	4.7%
2000	20	13.2%	28	10.9%
2001	15	9.9%	22	8.5%
2002	10	6.6%	27	10.5%
2003	16	10.5%	14	5.4%
2004	18	11.8%	32	12.4%
2005	17	11.2%	32	12.4%
Total	152	100%	258	100%

Table 3

Descriptive statistics (medians) of the FCA sample, SCA sample and their respective control samples

Variables	FCA sample	FCA control ^a	SCA sample ^b	SCA control ^a
Settlement amount (\$ million)	9.00		8.80 (0.1848)	
Total assets (\$ million)	6860.47	2188.46 (0.0000)	400.63 (0.0000)	375.85 (0.3189)
Sales (\$ million)	9087.00	1756.00 (0.0000)	317.44 (0.0000)	236.88 (0.0960)
Earnings	0.04	0.05 (0.0791)	0.02 (0.0000)	0.03 (0.0398)
Return	0.03	0.01 (0.5909)	-0.01 (0.0653)	0.00 (0.9941)
Blockholdings	22.06	28.90 (0.0182)	30.24 (0.0063)	30.76 (0.8764)
Institutional holdings	67.90	62.74 (0.0665)	50.21 (0.0000)	43.00 (0.5421)
Insider holdings	1.10	2.90 (0.0442)	3.91 (0.0000)	5.66 (0.2053)

^ap-values of the test of difference in medians of the FCA/SCA sample and its control sample are reported in parentheses.

^bp-values of the test of difference in medians of the FCA and the SCA samples are reported in parentheses.

Table 4**Descriptive statistics and univariate analysis**

Panel A: CEO turnover, CFO turnover and change in independent directors for different samples

	FCA sample	FCA control	SCA sample	SCA control
CEO turnover percentage	24.82%	21.43%	37.10%	21.36%
CFO turnover percentage	40.00%	29.23%	42.79%	29.27%
% Δ IndDir	2.41%	2.09%	7.66%	3.32%

Panel B: Univariate analysis -- Test of difference in sample means

	FCA sample and control sample	SCA sample and control sample	SCA sample and FCA sample
CEO Turnover	0.4551 (0.5010)	13.1991 (0.0000)	5.9356 (0.0160)
CFO Turnover	3.3889 (0.0600)	8.1835 (0.0040)	0.2619 (0.6490)
% Δ IndDir	0.1421 (0.8870)	1.8629 (0.0650)	2.4647 (0.0150)

Panel B reports the mean difference in variables between the stated samples. P-values reported in parentheses are based on the chi-square test of difference in CEO turnover and CFO turnover and the t-test of difference in percentage change in independent directors.

Table 5**Effect of fraud allegations on CEO turnover**

Panel A – Results of logistic regression estimating the probability of CEO turnover based on fraud allegations in FCA/SCA lawsuits and other turnover determinants

Dependent variable is CEO turnover (0,1)

Variables	Predicted Sign	FCA litigation sample and control sample	SCA litigation sample and control sample
Constant		-1.3274 (0.1440)	-2.5624 (0.0000)
FCA sample	+	0.5430 (0.0635)	
SCA sample	+		0.7466 (0.0020)
Size		-0.0156 (0.8750)	0.1119 (0.0450)
CEO age	+	1.0419 (0.0120)	0.7068 (0.0475)
Post-SOX	+	0.5342 (0.0660)	0.7519 (0.0015)
Earnings	-	-3.6431 (0.0195)	-0.3121 (0.1505)
Return	-	-1.6860 (0.1375)	-0.4181 (0.2905)
Insider holdings	-	-0.0013 (0.4475)	0.0005 (0.5215)
Institutional holdings	+	-0.0057 (0.7585)	0.0035 (0.2535)
N		231	372
Pseudo-R ² (%)		7.17	7.69

Table 5 (continued)

Panel B - Results of logistic regression estimating the probability of CEO turnover in the FCA/SCA sample based on lawsuit characteristics and other turnover determinants

Dependent variable is CEO turnover (0,1)

Variables	Predicted Sign	FCA litigation sample	SCA litigation sample	
Constant		0.2235 (0.9500)	-3.7591 (0.1110)	-4.3094 (0.0770)
Size		-0.1237 (0.6110)	0.1867 (0.1080)	0.1715 (0.1340)
CEO age	+	1.1276 (0.0560)	0.3279 (0.2520)	0.5432 (0.1340)
Post-SOX	+	0.2409 (0.3265)	0.6386 (0.0380)	
Post-PSLRA	+			1.3647 (0.0150)
Earnings	-	-3.7067 (0.0525)	-1.2150 (0.0495)	-0.9030 (0.1045)
Return	-	-1.1685 (0.2840)	-0.3776 (0.3540)	-0.3664 (0.3625)
Insider holdings	-	0.0018 (0.5365)	0.0037 (0.6245)	0.0082 (0.7405)
Institutional holdings	+	0.0067 (0.2910)	0.0083 (0.1570)	0.0103 (0.1030)
Settlement magnitude	+	-0.1789 (0.7455)	0.0664 (0.3775)	0.0206 (0.4605)
DOJ	+	0.3136 (0.2520)		
SEC	+		1.2448 (0.0045)	1.2648 (0.0040)
Number of allegations	+	0.3325 (0.1995)	-0.3448 (0.6965)	-0.4454 (0.7495)
Pharmaceutical		-0.6811 (0.5470)		
Healthcare		-0.2386 (0.7440)		
Defense		0.1947 (0.7090)		
IPO			-0.7804 (0.3120)	-0.7327 (0.3750)
Financial Reporting			1.3671 (0.0005)	1.4390 (0.0005)
Insider trading			-0.3651 (0.3040)	-0.5321 (0.1340)
N		118	197	197
Pseudo-R ² (%)		7.24	16.65	17.70

Table 5 (continued)

Panel C - Results of logistic regression estimating the probability of CEO turnover based on the type of lawsuit (SCA or FCA), lawsuit characteristics and other turnover determinants

Dependent variable is CEO turnover (0,1)

Variables	Predicted Sign			
Constant		-3.7501 (0.0005)	-3.3971 (0.0060)	-3.6558 (0.0020)
SCA sample	+	0.8016 (0.0065)	0.7158 (0.0300)	0.4702 (0.1095)
Size		0.1741 (0.0670)	0.1371 (0.1690)	0.1717 (0.0770)
CEO age	+	0.7770 (0.0275)	0.7434 (0.0345)	0.7195 (0.0335)
Post-SOX	+	0.6109 (0.0115)	0.5414 (0.0260)	-0.02608 (0.5210)
Post-SOX * SCA sample	+			0.9498 (0.0540)
Federal investigation-DOJ & SEC	+		0.2106 (0.3155)	
SEC	+		1.1387 (0.0385)	
Earnings	-	-1.0751 (0.0545)	-1.1841 (0.0390)	-1.1528 (0.0440)
Return	-	0.8643 (0.8360)	-0.7218 (0.2105)	-0.9076 (0.1530)
Insider holdings	-	-0.0013 (0.4460)	0.0007 (0.5280)	-0.0012 (0.4515)
Institutional holdings	+	0.0077 (0.1035)	0.0084 (0.0900)	0.0076 (0.1050)
Settlement magnitude	+	0.0691 (0.1855)	0.0331 (0.3420)	0.0740 (0.1715)
Number of allegations	+	0.6000 (0.4000)	0.0581 (0.4040)	0.1668 (0.2490)
N		315	315	315
Pseudo-R ² (%)		6.96	8.89	7.62

The regressions are estimated using firms in the SCA and FCA lawsuit samples. P-values are reported in parentheses. One-tailed p-values are reported for all directional hypotheses. Values reported in parentheses. Standard errors used in computing p-values are adjusted for heteroscedasticity. Variables are as defined in Table 1.

Table 6**Effect of fraud allegations on CFO turnover**

Panel A – Results of logistic regression estimating the probability of CFO turnover based on fraud allegations in FCA/SCA lawsuits and other turnover determinants

Dependent variable is CFO turnover (0,1)

Variables	Predicted Sign	FCA litigation sample and control sample	SCA litigation sample and control sample
Constant		-0.3798 (0.5360)	-1.3861 (0.0000)
FCA sample	+	0.5339 (0.0345)	
SCA sample	+		0.5522 (0.0045)
Size		-0.0565 (0.4810)	0.0711 (0.0665)
Post-SOX	+	0.2641 (0.1745)	0.1115 (0.3095)
Earnings	-	-3.9804 (0.0290)	-0.2826 (0.0580)
Return	-	-1.3820 (0.0635)	-1.3583 (0.0330)
N		263	413
Pseudo-R ² (%)		4.54	2.89

Table 6 (continued)

Panel B - Results of logistic regression estimating the probability of CFO turnover in the FCA/SCA sample based on lawsuit characteristics and other turnover determinants

Dependent variable is CFO turnover (0,1)

Variables	Predicted Sign	FCA litigation sample	SCA litigation sample	
Constant		-4.4762 (0.1070)	-2.1622 (0.2470)	-2.2281 (0.2400)
Size		0.1212 (0.4810)	0.0567 (0.5750)	0.0536 (0.5890)
Post-SOX	+	0.3907 (0.1980)	0.1739 (0.3050)	
Post-PSLRA	+			0.3523 (0.2305)
Earnings	-	-2.8927 (0.0730)	-0.4062 (0.0455)	-0.3689 (0.0570)
Return	-	-1.6262 (0.0490)	-3.4014 (0.0050)	-3.3237 (0.0025)
Settlement magnitude	+	0.3657 (0.0390)	0.0161 (0.4615)	0.0004 (0.4990)
Number of allegations	+	0.0406 (0.4470)	0.5159 (0.1905)	0.4903 (0.1955)
DOJ	+	0.8914 (0.0135)		
SEC	+		0.5592 (0.1255)	0.5694 (0.1205)
Pharmaceutical		-3.0972 (0.0060)		
Healthcare		0.2130 (0.6980)		
Defense		-0.6739 (0.1590)		
IPO			-0.3780 (0.5280)	-0.3723 (0.5270)
Financial Reporting			0.7031 (0.0520)	0.7157 (0.0235)
Insider trading			0.3170 (0.2970)	0.2756 (0.3730)
N		134	208	208
Pseudo-R ² (%)		13.82	8.24	8.33

Table 6 (continued)

Panel C - Results of logistic regression estimating the probability of CFO turnover based on the type of lawsuit (SCA or FCA), lawsuit characteristics and other turnover determinants

Dependent variable is CFO turnover (0,1)

Variables	Predicted Sign			
Constant		-1.8122 (0.0430)	-1.9289 (0.0440)	-1.8019 (0.0460)
SCA sample	+	0.0901 (0.3745)	0.2795 (0.1985)	-0.0820 (0.4025)
Size		0.0858 (0.2760)	0.0665 (0.4150)	0.0865 (0.2800)
Post-SOX	+	0.1767 (0.2395)	0.1574 (0.2695)	-0.1580 (0.6510)
Post-SOX * SCA sample	+			0.5279 (0.1495)
Federal investigation-DOJ & SEC	+		0.7690 (0.0200)	
SEC	+		-0.0014 (0.5010)	
Earnings	-	-0.4579 (0.0425)	-0.4761 (0.0380)	-0.4802 (0.0365)
Return	-	-2.5020 (0.0025)	-2.4944 (0.0030)	-2.5654 (0.0020)
Settlement magnitude	+	0.0773 (0.1135)	0.0733 (0.1345)	0.0812 (0.1050)
Number of allegations	+	0.2478 (0.1145)	0.2366 (0.1295)	0.3056 (0.0765)
N		342	342	342
Pseudo-R ² (%)		3.36	4.97	3.6

The regressions are estimated using firms in the SCA and FCA lawsuit samples. P-values are reported in parentheses. One-tailed p-values are reported for all directional hypotheses. Values reported in parentheses. Standard errors used in computing p-values are adjusted for heteroscedasticity. Variables are as defined in Table 1.

Table 7**Effect of fraud allegations on percentage change in independent directors on the board**

Panel A – Results of OLS regression of percentage change in independent directors (% Δ IndDir) on fraud allegations in FCA/SCA lawsuits and other determinants of % Δ IndDir

Dependent variable is % Δ IndDir

Variables	Predicted Sign	FCA litigation sample and control sample	SCA litigation sample and control sample
Constant		-0.0987 (0.3070)	0.1111 (0.1050)
FCA sample	+	0.0116 (0.3135)	
SCA sample	+		0.0308 (0.1040)
Size		0.0005 (0.9580)	-0.0093 (0.1250)
Post-SOX	+	0.0487 (0.0150)	-0.0211 (0.7495)
Earnings	-	-0.0660 (0.2490)	-0.0154 (0.3915)
Return	-	0.0054 (0.5170)	-0.0266 (0.3880)
Insider holdings	-	0.0020 (0.9875)	-0.0025 (0.0855)
Institutional holdings	+	0.0011 (0.0500)	0.0004 (0.3120)
N		124	113
R ² (%)		9.56	5.94

Table 7 (continued)

Panel B – Results of OLS regression of percentage change in independent directors (% Δ IndDir) on FCA/SCA sample based on lawsuit characteristics and other determinants of % Δ IndDir

Dependent variable is % Δ IndDir

Variables	Predicted Sign	FCA litigation sample	SCA litigation sample
Constant		-0.0360 (0.8640)	-0.5258 (0.0520)
Size		-0.0054 (0.7250)	0.0141 (0.2900)
Post-SOX	+	0.0688 (0.0115)	-0.0863 (0.9730)
Earnings	-	-0.0480 (0.3060)	0.0737 (0.9315)
Return	-	-0.1280 (0.2060)	-0.1552 (0.0865)
Insider holdings	-	0.0003 (0.6245)	0.0004 (0.5620)
Institutional holdings	+	0.0011 (0.0600)	0.0011 (0.1695)
Settlement magnitude	+	-0.0085 (0.7535)	0.0571 (0.0080)
Number of allegations	+	-0.0075 (0.6685)	0.0241 (0.2315)
DOJ	+	0.0307 (0.1425)	
SEC	+		0.0275 (0.2540)
N		67	73
R ² (%)		11.94	19.37

Table 7 (continued)

Panel C - Results of OLS regression of percentage change in independent directors ($\% \Delta \text{IndDir}$) on the type of lawsuit (SCA or FCA), lawsuit characteristics and other determinants of $\% \Delta \text{IndDir}$

Dependent variable is $\% \Delta \text{IndDir}$

Variables	Predicted Sign			
Constant		0.0740 (0.3000)	-0.0893 (0.4010)	-0.1426 (0.1820)
SCA sample	+	0.0414 (0.0335)	0.0374 (0.1010)	0.0733 (0.0085)
Size		-0.0087 (0.1480)	0.0034 (0.7020)	0.0068 (0.4360)
Post-SOX	+	0.0056 (0.4100)	-0.0036 (0.5525)	0.0527 (0.0500)
Post-SOX * SCA sample	+			-0.1228 (0.9945)
Federal investigation-DOJ & SEC	+		0.0301 (0.1655)	
SEC	+		-0.0332 (0.7285)	
Earnings	-	-0.0170 (0.3745)	0.0121 (0.5950)	0.0298 (0.7255)
Return	-	-0.0550 (0.2840)	-0.1122 (0.1280)	-0.1274 (0.0965)
Insider holdings	-	-0.0004 (0.3395)	-0.0007 (0.2785)	-0.0006 (0.2835)
Institutional holdings	+	0.0004 (0.2245)	0.0004 (0.2305)	0.0008 (0.1160)
Settlement magnitude	+		0.0153 (0.0150)	0.0159 (0.0135)
Number of allegations	+		-0.0033 (0.5835)	-0.0107 (0.757)
N		140	140	140
R ² (%)		5.93	10.3	14.33

The regressions are estimated using firms in the SCA and FCA lawsuit samples. P-values are reported in parentheses. One-tailed p-values are reported for all directional hypotheses. Values reported in parentheses. Standard errors are adjusted for heteroscedasticity. Variables are as defined in Table 1.