CORPORATE GOVERNANCE, MONITORING AND LITIGATION AS SUBSTITUTES TO SOLVE AGENCY PROBLEM

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Abstract:

A Securities Class Action lawsuit is initiated by a large class of shareholders against managers whom they suspect of wrongdoing. This paper proposes that Securities Class Action litigation is an ex post substitute for effective ex ante governance and monitoring. To elaborate this idea, I outline a model in which shareholders see a noisy signal of possible managerial fraud. Since the signal is imperfectly informative, and with costly litigation, shareholders' decision of whether to sue or not is based on the signal as well as the governance and monitoring mechanisms in place in the company. If the signal comes from a strong governed, vigilantly monitored company, shareholders are more likely to attribute it to noise. However if it comes from a company with poor controls in place, then the managers are more likely to have committed fraud and the shareholders sue with a higher probability. I test this idea using various measures of governance and monitoring, and find that firms with high total and abnormal compensation are more likely to be sued. I also find that firms with large institutional blockholders are less likely to be sued, suggesting that blockholders play a monitoring role. However my results find no evidence that outsider-dominated boards or small boards provide effective ex ante governance as a substitute to ex post litigation.

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I. Introduction

The primary goal of corporate governance is to solve the agency problem when ownership is separated from management, and to assure investors a return on their investment. As Schleifer and Vishny (1997) put it, “People who sink the capital need to be assured that they get back the return on this capital. Corporate governance mechanisms provide this assurance.” The need to impose mechanisms that enforce the rights of investors is related to the agency problem between managers and shareholders. With the absence of direct control over day-to-day managerial decisions, shareholders have to resort to other mechanisms to make sure that managers act in their interests. With increasing instances in the last few years of corporate wrongdoing and managerial fraud, corporate governance mechanisms have gained more importance and media attention than ever before.

One of the most powerful tools available for small investors today to enforce their rights is Securities Class Action litigation. Securities Class Action lawsuits are initiated by one or more shareholders representing a larger group (the “class”) of shareholders who suffered losses due to managerial actions. These lawsuits involve allegations that managers have disseminated false or misleading information, or engaged in insider trading or earnings manipulation with the result that shareholders have suffered losses or devaluation of their stock.

With the Private Securities Litigation Reform Act of 1995, securities class actions have played an increasing role in disciplining managers. The number of cases and the amounts of settlements have increased dramatically in the last 7 or 8 years. Apart from the famous $2.85 billion settlement in Cendant Corporation; there have been several other large settlements in the past few years. For instance, consider these results:

IKON $100+ million	**Waste Management** $220 million
3Com $259 million	**Rite-Aid** $200 million
Informix $159 million	**Prison Realty** $110 million
Medaphis $102 million	**MicroStrategy** $100 million

The consequences of these suits for management have also been stringent. Strahan(1998) shows that managerial turnover increases after securities class action suits, regardless of the outcome of such suits.

The corporate governance literature has proposed and examined several other ways to align managerial incentives and prevent fraudulent practices including earnings manipulation. Regulators' serious concern about this issue led to the Sarbanes-Oxley Act of 2002 which adds new financial transparency requirements for public companies and sharply increases civil and criminal penalties and sanctions relating to financial fraud. Another solution to bridge the agency gap is to align managers' incentives with that of shareholders using equity-based compensation. However this could backfire as executive stock options have been shown to provide incentives for earnings management (Kedia(2002)). Closer monitoring by shareholders can provide effective deterrence. Since close monitoring can be inefficient for private investors holding small stakes, institutional investors with deep-pocket monitoring capabilities might serve this purpose better. Thus companies with a high proportion of institutional ownership should benefit from closer scrutiny and this should provide a check to earnings manipulation in such companies. By an extension of this reasoning, companies which are followed by a number of analysts should benefit from closer scrutiny, as many analysts collecting and disseminating information would make it easier for shareholders to monitor the managements' activities.

Since securities class action suits impose stricter consequences upon discovery of manipulation and fraud, it is easy to think of securities litigation as part of this overall picture of corporate governance and monitoring. In this paper, I propose that SCAs are substitutes to corporate governance and monitoring variables as a means of keeping management in check and preventing fraudulent practices including earnings manipulation. The key difference is that SCAs are ex post punitive measures whereas all the rest are ex ante measures of control or deterrence. This leads to the conclusion that SCAs should come into force especially in those firms in which the other controls are absent or ineffective – namely, in firms which have poor corporate governance and monitoring mechanisms in place. This is the unique contribution of this paper to the literature.

Since litigation requires a specific claim or suspicion of managerial wrongdoing (and not poor governance alone), a key element to this reasoning is the decision of when to sue. One event that could arouse shareholders' suspicions of managerial wrongdoing is an earnings restatement. There is well-documented evidence that managers sometimes falsely represent earnings to be higher than they are, resulting in inflated share prices. On subsequent discovery of the manipulation, earnings are restated causing a steep drop in stock price. An abundance of literature exists on the negative stock price reactions to (and the losses to shareholders arising from) earnings restatements.[1] As pointed out by Palmrose, Richardson and Scholz (2001), a restatement can trigger an SEC investigation, lead to replacement of top executives, and result in the firm being significantly penalized by investors. Agrawal and Chadha (2003) add that while accounting measures of earnings management are merely academic constructs without a 'smoking gun', "...a mis-statement of earnings is essentially a direct admission by managers of past earnings manipulation."

However not all restatements can be said to be the result of wanton manipulation by managers for their own benefit. Restatements are also caused by a change in accounting practices or genuine errors that are identified and corrected. Ex post, it is difficult to accurately distinguish benign restatements from intentional mis-statements and manipulations[2]. Thus on seeing an earnings restatement, a shareholder has suspicion of wrongdoing – but since not all restating firms are manipulators, I propose that companies with good ex ante governance mechanisms in place are given the benefit of the doubt whereas companies with poor existing governance mechanisms are more likely to be sued. If a strongly governed, vigilantly monitored company restates its financials, shareholders are more likely to attribute it to a genuine error. However if a company with poor controls in place restates, then the managers are more likely to have committed fraud, and the shareholders sue with a higher probability. To further elaborate this idea, I define a model in which shareholders receive a noisy 'signal' of possible managerial

[1] Recent studies include Owens, Lin and Rogers (2002), Wu (2002), GAO (2002), Moriarty and Livingston (2001) and Palmrose et al. (2002).

[2] Even though many of these restatements are investigated by the SEC, a large number of investigations are inconclusive.

wrongdoing. In real terms, this signal could be a restatement, as I have described, or could take other forms, e.g. suspicion of managerial insider trading. Shareholders' decision to sue or not is a function of this signal taken together with the type of governance controls in place in the company. All else equal, a company with poor governance and monitoring systems is more likely to be sued than a company with good systems in place.

In the empirical part of this paper, I look at three specific measures of governance and monitoring and examine whether they are substitutes for securities class action suits. The first is a measure of management compensation – both total compensation and abnormal compensation measures. In this regard, I find that firms with high CEO compensation and incentive pay (both absolute and adjusted) are more likely to be the defendants of class action suits. The second test looks at institutional ownership and blockholder ownership. I find that firms with high total institutional ownership are more likely to be sued; however firms with one or more blockholders owning at least 5% of the shares are less likely to be sued. This is consistent with the fact that institutions have more often been plaintiffs in class action suits; and also the prediction that blockholders play a monitoring role in the company. Another monitoring variable I look at is analyst coverage. Here, contrary to my hypothesis, I find that firms with high analyst coverage (both absolute and residual) are more likely to be sued. Finally, I also look at board size and composition and find that they are not significantly related to the probability of a suit.

The results in this paper can have an alternative interpretation. The aim of corporate governance being to align managers' incentives with those of shareholders, one may contend that a securities class action suit is clear and direct evidence that such incentives have *not* been aligned. The very basis of filing such a lawsuit is to make a case that managers have not acted in the shareholders' best interests; and a class action lawsuit further emphasizes that this is a widespread grievance and not an individual one. Thus firms with securities class action suits (henceforth SCA) may be examples of those in which governance mechanisms have failed; and this may give us the litmus test of effectiveness of any measure of corporate governance.

II. Hypotheses and Literature review

In order to answer the question "Keeping all else constant, which companies are more likely to be defendants in a securities class action lawsuit?", I have the hypotheses as given below.

Hypothesis 1: Companies that have high total compensation and option grants when compared to other industry-size matched companies are more likely to be targeted by an SCA.

Both high total compensation in absolute terms and 'abnormally' high compensation (adjusted for compensation of firms in the same industry and of similar size) are generally considered a sign of an entrenched manager who may not work in the shareholder's interest. Further, stock option grants have been empirically proven to be linked to earnings and stock price manipulation. Thus our ex ante hypothesis leads us to expect to see more SCAs targeting restating companies whose managers have high absolute and abnormal pay; since these restatements are more likely to come from manipulation rather than error. This is not a foregone conclusion, however, because options and restricted stock are forms of incentive pay which, in theory, are designed to align managerial incentives with those of shareholders. Looking through the lens of a class action suit which is direct evidence of shareholder disapproval will give a better insight into which of these two effects dominates.

Hypothesis 2: Companies with larger boards and more insiders on the board are more likely to be targeted by an SCA.

The NYSE and Sarbanes-Oxley definitions of good boards are synonymous with smaller boards with few insider board members and hence it is probable that companies violating these definitions would be targets. Though the general consensus on board size is that larger boards are worse, the effect is not monotonic. Very large boards may be inflexible, slow moving and bureaucratic, whereas very small boards may lack experience and diversity of opinion. In terms of inside directors, fewer inside directors on the board are considered preferable so that unbiased parties can monitor board proceedings and decisions.

Hypothesis 3: Companies with lower institutional holdings and analyst coverage are more likely to be defendants in an SCA.

Both a large proportion of institutional holdings and high analyst coverage are widely considered to be proxies for how well a firm's performance is 'monitored' in the markets. Hence according to my hypothesis, SCAs should target firms which have poor ex ante monitoring and are hence more susceptible to managerial malfeasance.

Prior Research

This work draws upon and links a number of threads in the corporate governance, accounting manipulation and securities law literature. Several papers have examined the causes and consequences of restatements, fraud and earnings manipulation.[3] Some recent papers have also looked at the relationship between financial, compensation or governance variables and earnings manipulation. Richardson, Tuna and Wu (2002) find that restating firms have higher ex ante financing needs, large total accruals, higher P/E and M/B ratios. Agarwal and Chadha (2003) do not find much of a relationship between the probability of restatement and different measures of board and auditor independence whereas Beneish (1999) and Kedia (2003) argue that stock options generate incentives to manipulate earnings. Summers and Sweeney (1998) also contend that managers who perpetrate fraud tend to sell their stakes in the company and benefit from the stock price manipulation.

In the litigation literature, Niehaus and Roth (1999) look at various measures in order to decide whether SCAs have merit or are just instigated by self-serving lawyers. They conclude that in several of the litigated firms, managers had incentives for delayed disclosure of negative earnings news and that SCAs on average do have justification. Strahan(1998) tests (and concludes) that firms prone to agency problems are more likely to face SCAs. However Strahan does not control for earnings restatements or manipulation which is the link between agency

[3] One of the earliest studies on this topic was Dechow, Sloan and Sweeney (1995). They conclude that the two main incentives to overstate earnings are to avoid debt covenant restrictions and to raise external financing at a low cost.

problems and litigation. Agency problems make firms more vulnerable to manipulation by self-serving managers, and manipulating firms are more likely to be sued.

A few recent papers have looked at the connection between restatements and litigation. Palmrose and Scholz (WP 2003) ask the same questions as I do in evaluating why some restatements are more likely to be followed by litigation than others. However, they do not take into consideration agency problems or other corporate governance controls. Their hypothesis deals with features of the restatement itself (pervasiveness, core elements or non-core elements of the financial statements that are restated) that determines whether a restatement results in litigation or not. One caveat with this approach is that it is often hard to distinguish exact features of a restatement from a Lexis-Nexis news report. Though most reports carry the date of the announcement, the period which is restated and the effect on net income or earnings per share, it often requires plenty of skill and an in-depth knowledge of accounting for an investor to look beyond these and assess how pervasive the restatement is. It is also quite likely that companies may be able to disguise the pervasiveness or ”core”-ness of a restatement. Hence for an investor to make an assessment about the seriousness of the restatement from the restatement announcement alone (and base her legal actions on it) is extremely difficult. Thus it seems more plausible that the investor sees the restatement itself only as a signal of possible wrongdoing; its seriousness is deduced through other controls in place in the company. A company known to have good governance practices that restates its earnings may be given the benefit of the doubt; a company with entrenched overpaid managers and poor monitoring that subsequently restates its earnings raises strong suspicions of misfeasance.

To my knowledge, this is the first paper to ask if Securities Class Action suits are ex post substitutes for ex ante corporate governance and monitoring. I propose that SCAs should come into force especially in those firms in which the other two controls are absent or ineffective – namely, in firms which have unmitigated agency problems and poor corporate governance controls in place. This is the unique contribution of this paper to the literature.

III. The Model

In a model with perfect information, shareholders will always know when a manager is performing fraudulent actions and will take legal action in such a case. Thus any manager who commits fraud is aware that his actions can be seen by the shareholders and that he will be penalized. If we assume there is heterogeneity among managers in terms of their payoffs from fraud, two possible outcomes may result. Some managers who still find it profitable to commit fraud even after paying the penalty they will surely incur, go ahead and do so and are penalized by a suit. To other managers, the cost of a lawsuit makes it not worth their while to commit fraud. In either case their actions are fully observed by the shareholder who then takes action on the basis of his observation of the manager's action. In an ideal world, fraud is always punished with a lawsuit. Further, resources are never wasted on suing a manager who does not commit fraud.

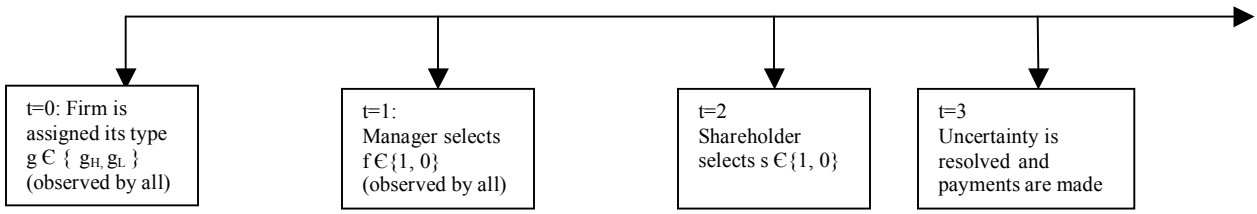
However these are not the outcomes we observe in the real world. Instead of observing whether a firm has committed fraud or not, we observe whether a firm has restated its financial statements or not. The occurrence of a restatement is at best a noisy signal of fraud, since a restatement could result either from fraud having been committed or from a genuine accounting error. Thus when an investor observes a restatement, he or she has to deduce whether it is coming from a fraud or an error, and accordingly decide whether to sue or not. In my model, the investor bases this decision on two observables: the type of governance in the firm (weak or strong) and the occurrence of a restatement. This can be explained as follows: a strictly governed firm will have many hindrances in place that deter a manager from committing fraud. Thus the probability of a strictly governed firm committing fraud is lower; and the restatement is more likely to come from an accounting error than from fraud. However if it is a weakly governed firm, then there are not many checks in place that prevent its manager from committing fraud, and therefore on seeing a restatement from such a firm, a shareholder is more likely to sue.

This model assumes incomplete information at the outset between shareholder and manager, and also that the legal system establishes the manager's guilt or innocence beyond all doubt. A manager guilty of fraud is punished with a monetary penalty and a wrongly accused manager is cleared and released. However the shareholder bears a cost of suing a manager

suspected of fraud. This cost can be thought of as the money spent on procuring lawyers and the time and energy involved in filing a claim; and is incurred whether the suit is successful (upon which the shareholder earns damages - a cash award) or not. This cost attached to suing prevents a shareholder from indiscriminately suing every firm in the economy, regardless of observables, thus making sure that only legitimate cases come to trial.

A. The baseline perfect information model

The timeline of the model is as follows:



The manager's payoffs and the shareholder's payoffs are described in the table below.

Shareholder's decision

Manager's decision	s=1	s=0
f=1	B-g-c, A-d	B-g, 0
f=0	0, -d	0, 0

Payoffs in cells are (manager's payoff, shareholder's payoff).

The variables are:

B = Benefit the manager gets from committing fraud.

g = Governance variable. Manager's payoffs from fraud is lower for a high g company (strictly governed company).

c = Penalty manager pays if he is discovered (proven by law) to have committed fraud.

A = Shareholders' benefit from winning the lawsuit (could be = c but is left general).

D = Shareholders' cost of launching a lawsuit (incurred regardless of the outcome of the suit).

For any interesting conclusions, we must assume A-d > 0 (the shareholder gets a positive benefit by suing if the manager is discovered to have committed fraud). The value of B, g, c, A, d are known to both parties. In this perfect information model, the shareholder can perfectly observe the action the manager has taken, i.e. whether f=0 or 1.

This model can be solved by backward induction.

i) The shareholder's decision at t=2 is as follows: Since f is perfectly observable, the shareholder's decision can be directly conditioned on it.

s(f) = 1 if f=1

0 if f=0

ii) The manager's decision at t=1 now can be written as:

f = 1 if B – g – c.1 > 0

0 otherwise

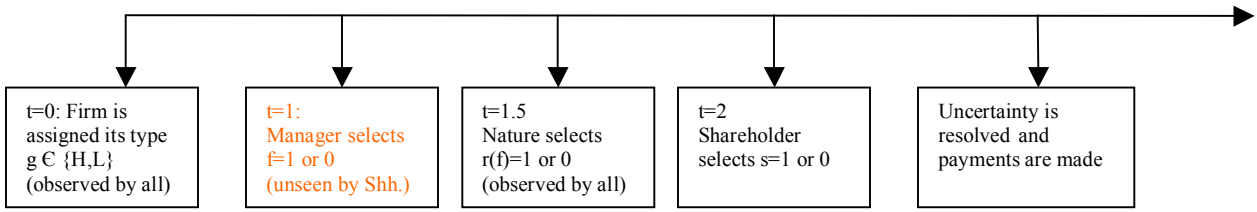
Thus if we have a situation where $B - g_L - c < 0$ and $B - g_H - c > 0$ then we can have a separating equilibrium where L firms (good governance firms) do not commit fraud and are not sued and the H firms do commit fraud and are sued.

However in real life, the variable f=0 or 1 is not directly observed by the shareholders. Instead, what they observe is a poor signal of fraud, namely whether the firm has restated its financial statements or not. This is incorporated into the shareholder's decision in the following imperfect information model.

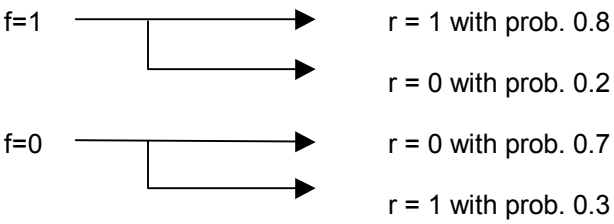
B. Imperfect information model

With the introduction of information asymmetries into this model, we have a new variable r, the restatement variable, which takes the value 1 or 0 based on f but with some noise thrown in.

The timeline here is as follows:



Let us assume[4] that the value of r is determined at t=1.5 in the following way:



The manager's payoffs and the shareholder's payoffs remain the same and are described in the table below.

Manager's decision

Shareholder's decision

	s=1	s=0
f=1	B-g-c, A-d	B-g, 0
f=0	0, -d	0, 0

Existence of mixed strategy equilibria: I propose that there exist two kinds of equilibria in this model.

Equilibrium 1: Sue if restate =1, mixed strategy if restate=0

Denote the initial (unconditional) probability that a manager commits fraud by m. Note that this is unconditional and unrelated to the value of r. Consider first the case where the shareholder sees that restate=0. In this case, suppose she chooses s=1 with a probability of α and s=0 with probability (1-α). The posterior probability[5] in terms of m is Pr (f=1/r=0) = $\frac{2m}{7-5m}$. For this to be a mixed strategy equilibrium, the following two conditions must hold:

1) The shareholder is indifferent between choosing s=1 and s=0, given the mixed strategy employed by the manager. This gives us

[4] These values are selected arbitrarily for illustrative purposes; any values will do. The only restriction on them is that for r to be a meaningful (albeit imperfect) signal, it should have more than a 50% chance of being correct.

[5] See Appendix A for details of calculations.

$$m = \frac{7d}{2A+5d} \quad (1.1)$$

2) The manager is indifferent between choosing f=1 and f=0, given the mixed strategy employed by the shareholder. This gives us the value of α[7].

$$\alpha = \frac{B-g}{c} \quad (1.2)$$

The shareholder's payoffs in this case are:

If s=1, $U_s = \frac{8m}{3+5m}$ (A-d) + (1 - $\frac{8m}{3+5m}$) (-d)

If s=0, $U_s = 0$.

Given our earlier assumption A-d>0 and (1.1), we get $U_s(s=1) > 0$ i.e. $U_s(s=1) > U_s(s=0)$. Thus under this equilibrium, if the shareholder sees r = 1, in equilibrium she will choose s=1.

(1.3)

Equilibrium 2: Don't sue if restate=0, mixed strategy if restate=1

Once again we consider first the mixed strategy case where the shareholder sees that restate=1. In this case, suppose she chooses s=1 with a probability of β and s=0 with probability (1-β). Denote the unconditional probability that the manager commits fraud by m.

We get Pr (f=1/r=1) = $\frac{8m}{3+5m}$. For this to be a mixed strategy equilibrium, we need:

$$m = \frac{3d}{8A+5d} \quad (2.1)$$

$$\beta = \frac{B-g}{c} \quad (2.2)$$

When the value of r=0 is realized, we again get a pure strategy response described below.

The shareholder's payoffs are:

If s=1, $U_s(s=1) = \frac{2m}{7-5m}$ (A-d) + (1 - $\frac{2m}{7-5m}$)(-d). If s=0, $U_s(s=0) = 0$.

Substituting the value of m from (2.1), we get $U_s(s=1)=\frac{-53Ad-20d^2}{56A+20d}$

Given A-d>0, we get $U_s(s=1) < 0$, i.e. $U_s(s=1) < U_s(s=0)$. Thus the shareholder will choose s=0 if she sees r = 0. (2.3)

C. Comparitive Statics: Value of observed governance variables

I now introduce into this model two types of firms based on their values of the exogenous (to the suit decision) governance variable g, g_H and g_L. Firms with the value g_H are denoted 'High' firms and are well (strictly) governed whereas those with the value g_L are denoted 'Low' firms and are poorly (loosely) governed. Thus by definition, $g_H > g_L$.

The value of g for each firm is public information and is observed by both shareholders and managers. Thus now the shareholder's decision can be conditioned on both r as well as g. Since $g_H > g_L$, the manager of a H firm has a lower utility from choosing f=1 than the manager of a L firm. Thus in either of the two equilibria proposed above, the shareholder's probability of choosing s=1 (for any value of r) is higher for an L firm than for an H firm[6].

This extension of the model takes into consideration that different types of firms may have different governance structures which could affect the ability of their managers to commit fraud, and their payoffs if they do. The g variable is here considered exogenous and could represent size of a firm, CEO compensation structure, monitoring, board size and composition, etc. I contend that these variables could be incorporated into the shareholders' decision of whether or not to sue a firm that restates its financial statements. If a firm that is strictly governed restates its financial statements, the shareholders may be more likely to attribute the restatement to a simple accounting error rather than malicious intent by the manager to defraud, and the probability of a suit is lower. This model explains the empirical finding that not all restating firms are sued; and likewise that not all firms that did not restate are not sued.

[6] See Appendix A for an analytical description of the equilibrium.

IV. Data Description

The base sample of firms in this study consists of all the firms in the Compustat database on WRDS from the period 1997 to 2001. This sample is then further reduced to firms for which I could find board, analyst and compensation information as described below. Of this set of firms, I identify the firms that have experienced restatements and SCA suit firms from two separate lists.

The data on securities class action suits is sourced from the Stanford Securities Class Action Clearinghouse and consists of all securities class action suits from 1/1996 to 7/2003, numbering about 1180 observations. It is to be noted that I include only securities class action observations that took place after the securities law reform (PSLRA)[7] in 1995 and before the implementation of the Sarbanes-Oxley Act of 2002 in order to exclude any impact of regulatory and legal changes and to minimize structural breaks in the data.

The data on earnings restatements is primarily from the General Accounting Office database of restatements and consists of 963 companies that have announced earnings restatements in the period from 1/1997 to 6/2002. Additional information relating to the specifics of each of these restatements has been added through a keyword search of the Lexis-Nexis business news database. According to the GAO report, the data "excludes routine restatements and those resulting from changes in accounting policies. It focuses only on restatements that indicate accounting irregularities, including so-called aggressive accounting practices, intentional and unintentional misuse of facts applied to financial statements, oversight or misinterpretation of accounting rules, and fraud."

On merging the restating and suit firms with the data available on Compustat and Execucomp, there remain 775 restating firms and 485 SCA suit firms in the sample. For test purposes, the characteristics of these firms are compared to those of the remaining firms in the database (coded with a value of 0 for restated and for suit, respectively) during the period 1997-2001.

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[7] The Public Securities Litigation Reform Act (PSLRA 1995) was designed to discourage frivolous securities litigation. Among other measures, it transfers the defendant's legal fees to the plaintiff for claims lacking substantial legal and factual support and imposes limits on attorneys' fees.

The rest of the variables used in this study are broadly categorized as compensation, monitoring, board and control variables. The CEO compensation variables including proportion of shares held by management (SHROWNPC), Total current compensation including options (TDC1) and Black-Scholes value of option grants (BS_VALU) are obtained from the Execucomp database. Among the monitoring variables, analyst coverage information (number of forecasts and standard deviation of forecasts) is obtained from I/B/E/S and Institutional investors' holdings are obtained from 13f filings through Thomson Financial on WRDS. The number of total and inside directors the Board of Directors of a company is available for a smaller subset of the firms in our sample from the Compact Disclosure database.

The timeline of the data matches is as follows. For any class action suit in year t+1, I look for a restatement within one year prior, i.e. year t. This is because the federal limitations period for class actions has been set at one year: action must be brought within one year after discovery of the facts constituting the violation (or within one year after they could reasonably have been ascertained). Any subsequent or future restatement may not be closely related to the subject matter of the lawsuit. In order to compare corporate governance characteristics of these firms with or without SCA suits in year t+1(controlling for a restatement in year t), I look at compensation, board and monitoring data for *the year prior to* the year of restatement, or two years prior to the class action suit. In this case that would be year t-1. This is in line with my claim that governance and monitoring should be ex ante deterrents to earnings manipulation, and substitutes to the ex post measure of securities litigation. Looking at board composition and other variables in the year of the restatement can be flawed as the discovery of the earnings manipulation and subsequent restatement itself may have caused substantial changes in the board composition, executive compensation and other measures. At the same time, it is not clear if looking further back in the firm's history can be reasonably justified as being related to an event happening years later. [8]

[8] For instance, Strahan(1998) looks at measures of agency problems in firms in the year 1990 and then looks up to 8 years in the future for indications of shareholder-manager conflict in the form of lawsuits.

VI. Methodology and Results

The main sample consists of all listed Compustat sample firms in the period 1996-2001. It is a panel data set in which each observation is a combination firm-year. Some of these firm-years have experienced restatements, some of them have experienced suits, and there are also observations in which both (or neither) event has occurred. Table I has summary statistics for the number of observations which have data on each of these variables and Table II lists the number of restatements and suits by year.

The restatements included in this sample are largely material restatements and have received overwhelmingly negative responses from the market. In order to confirm the negative impact of these restatements announcements previously documented, I calculate cumulative abnormal returns for the restating firms on the restatement announcement date. CAR results are reported in Table III for approximately 945 firms in the restating sample. Returns immediately around the announcement date are very negative and significant at a high 0.1% level. There also appears to be a mild leakage of the news to the market in the days prior to the announcement and returns continue to be negative in the days after the announcement.

Table IV lists the variables used in the study along with the correlations between them. As expected, a class action suit is very highly correlated with the occurrence of a restatement in the prior year. It is useful here to look at correlations between variables of the same category in order to avoid multicollinearity in the regressions. For instance, the total number of directors and the number of inside directors are very highly related. However simple transformations such as using LN(Total Dirs.) or Percent(Inside Dirs.) do not solve the problem – on the contrary, they increase the correlation to as high as 86% (not reported here). Hence these could cause problems if used in the same regression. Other than these, I also use two different proxies to measure analyst coverage. The first (NumEst 1) is the average number of analyst estimates for the firm through the year. The second (NumEst 2) is the maximum number of analysts that covered the firm in the last year. The first variable is an average of the number of estimates for the four quarters and the second variable is the maximum over the four quarters. Similarly the

first standard deviation (Stdev est 1) measure is the average and the second (Stdev est 2) is the maximum. Of course these alternate measures are highly correlated with each other. Also since option grants form a large proportion of total CEO pay, the Black-Scholes value of option grants and the Total Compensation variables are highly correlated (with a coefficient of 0.84).

Table V divides the sample of observations into subsamples depending on their value of the 'Suit' variable and conducts Wilcoxon tests to determine if there are significant differences between the means of the samples. Column 1 contains averages for firms which have never had an SCA suit during the sample period. Column 2 consists of average values for firms which have had an SCA suit sometime in the sample period (from 1997 to 2001); however the averages are computed including all years for this subset of firms, not just the year in which there was a suit. Column 3 contains averages for firms which have had an SCA, only in the year in which they had an SCA. In other words Column 3 consists of averages of firm-year observations for the 'Suit=1' firm-years. The timing for these follows the convention discussed earlier. A suit in year t+1 is matched up with a restatement within one previous year, and the explanatory variables are computed one year before the year of the restatement. It is clear that there is a strong trend in these values as we progress from Column 1 to Column 3. The firms which are targeted by SCA suits usually have higher sales and lower margins, and are highly likely to have had a restatement in the previous year. In line with my prediction in Hypothesis 1, these firms also have high CEO Total Compensation as well as a high value of CEO option grants. All of these differences are significantly different at the 1% level or below. One exception is the Abnormal Total Compensation, calculated as the residuals from the regression of actual compensation on Fama-French 48 industry dummies and the size variable (measured by Net Sales). In other words, the abnormal compensation can be seen as the difference between Actual compensation and Predicted compensation, where predicted compensation is the average industry-size adjusted compensation standard for that firm. Thus abnormal compensation can be positive or negative. We see that on average the CEOs of firms in Column 1 are underpaid (have a negative abnormal compensation) whereas CEOs of firms in Column 3 are highly overpaid, though this difference is not statistically significant. The abnormal incentive pay, however, is significantly

higher for the suit firms (both in general and in the suit years) than the non-suit firms. It can also be seen that both the institutional ownership percent and the number of analyst estimates, i.e. both the 'monitoring' variables, are significantly higher for the suit firms (especially in the suit years) than the non-suit firms, inconsistent with Hypothesis 3. The director variables do not seem to be significantly different across columns, whereas the dividend yield appears to be marginally lower for suit firms.

Table VI takes this reasoning further by reporting the results of multivariate logistic regressions of suit (1/0) on these variables in combination. Results on the whole are consistent with those in Table V. Restated, of course, has a highly positive significant coefficient. The compensation variables are also strongly positive and significant, lending strong support to Hypothesis 1. Even adjusting for predicted compensation (according to a firm's size and industry) does not change the results as the suit firms have abnormally high predicted compensation as well. Among the monitoring variables, both institutional holdings and analyst estimates are positively related to the incidence of a suit, and in case of analyst estimates, very significantly different from zero. The relationship remains strong with the use of either of the two analyst variable proxies. The directors' information, on the other hand, does not appear to be related to the probability of a firm being sued after controlling for a restatement. This may or may not be a result of restating firms having larger boards in themselves and hence there is no additional effect after controlling for restatements. The use of transformations of these variables common in the literature, including logs and percent, does not change the results (not reported here). On the whole this table provides strong support for hypothesis 1, none for hypothesis 2 and strongly contradicts hypothesis 3.

In Table VII I report results of an ordered probit regression that looking at whether the levels of the explanatory variables increase with 'levels of egregiousness'. The dependent variable RESTSUIT takes a value of '0' for companies which have neither restated nor experienced an SCA suit in my sample period, 1 for companies which have either restated or had a suit, and 2 for companies which have had both. The idea here being that one may expect to find a trend in the compensation, governance and monitoring variables as RestSuit increases.

The use of this technique would pick up any effect of the explanatory variables on restating firms as well. Hence if, as discussed in the previous table, the size and composition of the board of directors was related to the probability of restating, this would be seen in Table VII. However the results here are not very different from those in Table VI. The size and composition of the board does not appear to play a role in either the probability of restating or the probability of a suit. On the other hand, the compensation variables are still significantly positively related to the Restsuit variable, providing support for Hypothesis 1. Institutional ownership still has a positive and mostly significant coefficient and analyst coverage is still significantly positive, providing evidence against Hypothesis 3. The standard deviation of analyst estimates now has a negative sign and is significantly different from zero. The results of analyst coverage and standard deviation in this table could be driven by the theory that managers face strong pressure to meet estimates especially when there are a large number of analyst estimates in mostly the same range (with a low standard deviation). This pressure could lead managers to overstate earnings (resulting often in a subsequent discovery and restatement). However this still does not explain why analyst coverage is so positively related to an SCA suit in Table VI.

Table VIII uses a duration/hazard model to describe the occurrence of an SCA suit. Values in the table are the coefficients of covariates that are related the 'hazard' of a suit. This specification has the advantage of correcting for possibly censored data (we do not see the firms with suits prior to or subsequent to the sample period and some of these firms could be wrongly coded as 'zero', biasing the previous analysis. Results here are largely similar to previous results regarding compensation variables, analyst coverage and board size.

VII. Conclusion

Securities Class Actions, in which large groups of shareholders band together to seek recompense for managerial misconduct, are arguably the most clear and direct indicator of firms with agency problems that have gotten out of hand. I take firms which have experienced this form of litigation and look back in their history to see whether such firms are characterized by loose monitoring, high CEO compensation or poor corporate governance in the past. The first research

question asks whether CEO pay packages differ for such companies. I find that controlling for restatements, securities class action suits target companies with high (both in absolute and in adjusted terms) executive compensation. This hypothesis is strongly supported in the data, in univariate, multivariate logit and ordered probit specifications. This finding strikes a chord at a time of widespread unease and concern about the size of CEO pay packages, and tells us that the concern is to a large extent justified.

The second research question asks if there exist significant differences between board size and composition for SCA and non-SCA firms after controlling for restatements. In my analysis, I could find no difference in board size and number of insiders on the board between SCA and non-SCA firms. The nonlinear relationship that has been previously hypothesized between board size and firm performance could account for the lack of significant findings in this regard. It is possible that there is an 'optimal' board size or a range of optimal board sizes and anything above or below this range is inefficient. Hence very high and very low board sizes could have the same impact on the probability of an SCA. A similar explanation could exist for the number of insiders on the board as well. However this alternate theory needs to be tested. If my finding is true and there is no relationship between board size/composition and exacerbation of agency conflicts (including earnings manipulation), then this may require a rethink about what we perceive as optimal board size and composition. The limits set by the NYSE listing requirements and the Sarbanes-Oxley Act of 2002 both presuppose that number of insiders is strongly related to the possibility of fraud and manipulation, for which I find no support in this data.

My third research question connects monitoring by institutional investors and analysts with the ex-post probability of a lawsuit. I proposed that these two measures should be substitutes for each other. However it looks like lawsuits are commonly targeted towards firms with *higher* values of institutional investor holdings and analyst coverage. This puzzling finding appears to be robust through several specifications of the test. One explanation could be that it is the institutions themselves that are initiating the securities class actions, a form of lawsuits that were initiated to empower the small individual investor. The results with analyst coverage could come from the fact that large firms are more likely to be sued (see Table III). However it appears

that analysts do not play much of a monitoring role. At the very least, analysts are not able to pre-empt earnings manipulation by managers or play a role in reducing information asymmetry between managers and shareholders.

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Appendix A: Imperfect Information model

Equilibrium 1: Sue if restate =1, mixed strategy if restate=0

Probability that a manager commits fraud = m. When the shareholder sees that restate=0, she chooses s=1 with a probability of α and s=0 with probability (1-α).

We can now get the following posterior probability in terms of m as :

$$\Pr \quad (f=1/r=0) \quad = \quad \frac{\Pr(r=0/f=1).\Pr(f=1)}{\Pr(r=0/f=1).\Pr(f=1)+\Pr(r=0/f=0).\Pr(f=0)}$$

$$= \quad \frac{\frac{2}{10}m}{\frac{2}{10}m+\frac{7}{10}(1-m)} = \frac{2m}{7-5m}$$

The probabilities with which the agents undertake each action can be incorporated into the payoff table as follows:

Shareholder's decision

Manager's decision	**r = 0 case**	s=1 w/ prob α	s=0 w/ prob. (1-α)
	f=1 w/ prob. $\frac{2m}{7-5m}$	B-g-c, A-d	B-g, 0
	f=0 w/ prob. 1- $\frac{2m}{7-5m}$	0, -d	0, 0

Given these probabilities, there are 2 conditions both of which have to be fulfilled for this to be a mixed strategy equilibrium.

3) The shareholder is indifferent between choosing s=1 and s=0, given the mixed strategy employed by the manager.

$\frac{2m}{7-5m}$ (A-d) + (1-$\frac{2m}{7-5m}$)(-d) = $\frac{2m}{7-5m}$ (0) + (1-$\frac{2m}{7-5m}$)(0)

This gives us the condition

$$m = \frac{7d}{2A+5d} \qquad (1.1)$$

4) The manager is indifferent between choosing f=1 and f=0, given the mixed strategy employed by the shareholder.

α (B-g-c) + (1- α)(B-g) = α (0) + (1- α) (0)

This gives us the value of α.

$$\alpha = \frac{B-g}{c} \qquad (1.2)$$

To completely define the equilibrium, we also need to specify what happens when the value of r=1 is realized. The value of m is the same in this case, as 'm' denotes the unconditional probability of committing fraud. We can thus derive the posterior probabilities once again in this case as

i.e. Pr (f=1/r=1) = $\frac{8m}{3+5m}$

Thus the shareholder's payoffs in this case are:

If s=1, U_s = $\frac{8m}{3+5m}$ (A-d) + (1 - $\frac{8m}{3+5m}$) (-d)

If s=0, U_s = 0.

Substituting the value of m from (1.1), we get $U_s(s=1) = \frac{50Ad-50d^2}{6A+50d}$

Given our earlier assumption A-d>0, we get $U_s(s=1) > 0$

i.e. $U_s(s=1) > U_s(s=0)$

Thus under this equilibrium, if the shareholder sees r = 1, in equilibrium she will choose s=1.

(1.3)

Equilibrium 2: Don't sue if restate=0, mixed strategy if restate=1

Once again we consider first the mixed strategy case where the shareholder sees that restate=1. In this case, suppose she chooses s=1 with a probability of β and s=0 with probability (1-β). Denote the unconditional probability that the manager commits fraud by m. We get

$$\Pr(f=1/r=1) = \frac{8m}{3+5m}$$

The table of payoffs can be rewritten as:

Shareholder's decision

Manager's decision	**r = 1 case**	s=1 w/ prob β	s=0 w/ prob. (1-β)
	f=1 w/ prob. $\frac{8m}{3+5m}$	B-g-c, A-d	B-g, 0
	f=0 w/ prob. 1- $\frac{8m}{3+5m}$	0, -d	0, 0

The 2 conditions both of which have to be fulfilled for this to be a mixed strategy equilibrium are given below.

1) The shareholder is indifferent between choosing s=1 and s=0, given the mixed strategy employed by the manager.

$$\frac{8m}{3+5m}\,(\text{A-d}) + (1-\frac{8m}{3+5m})(-\text{d}) = \frac{8m}{3+5m}\,(0) + (1-\frac{8m}{3+5m})(0)$$

This gives us the condition

$$\text{m} = \frac{3d}{8A+5d} \qquad (2.1)$$

2) The manager is indifferent between choosing f=1 and f=0, given the mixed strategy employed by the shareholder.

β (B-g-c) + (1- β)(B-g) = β (0) + (1- β) (0)

This gives us the value of β .

$$\beta = \frac{B-g}{c} \qquad (2.2)$$

When the value of r=0 is realized, we again get a pure strategy response described below.

The shareholder's payoffs are:

If s=1, $U_s(s=1) = \frac{2m}{7-5m}$ (A-d) + (1 - $\frac{2m}{7-5m}$)(-d)

If s=0, $U_s(s=0) = 0$.

Substituting the value of m from (2.1), we get $U_s(s=1)=\frac{-53Ad-20d^2}{56A+20d}$

Given A-d>0, we get $U_s(s=1) < 0$

i.e. $U_s(s=1) < U_s(s=0)$

Thus the shareholder will choose s=0 if she sees r = 0. (2.3)

(2.1), (2.2), (2.3) together define this equilibrium.

Comparitive Statics: Introduction of governance variables

The two equilibria can now be defined as:

Equilibrium 1
For a H firm,

The manager chooses f=1 with probability m = $\frac{7d}{2A+5d}$ (1.1H)

If r = 0, the shareholder chooses s=1 with probability α = $\frac{B-g_H}{c}$ (1.2H)

If r = 1, the shareholder chooses s=1 with probability 1. (1.3H)

For a L firm,

The manager chooses f=1 with probability m = $\frac{7d}{2A+5d}$ (1.1L)

If r = 0, the shareholder chooses s=1 with probability α = $\frac{B-g_L}{c}$ (1.2L)

If r = 1, the shareholder chooses s=1 with probability 1. (1.3L)

Equilibrium 2

For a H firm,

The manager chooses f=1 with probability m = $\frac{3d}{8A+5d}$ (2.1)

If r = 1, the shareholder chooses s=1 with probability β = $\frac{B-g_H}{c}$ (1.2)

If r = 0, the shareholder chooses s=0 with probability 1. (1.3)

For a L firm,

The manager chooses f=1 with probability m = $\frac{3d}{8A+5d}$ (1.1)

If r = 1, the shareholder chooses s=1 with probability β = $\frac{B-g_L}{c}$ (1.2)

If r = 0, the shareholder chooses s=0 with probability 1. (1.3)

Table I: Number of observations of different variables

Execucomp Variables	**N**
Total Comp	8523
Option grants	8523
Abnormal Total pay	8513
Abnormal Incentive pay	8494
Compustat Variables	
Sales	10915
Assets	10922
Margin	8556
SIC/FF industry codes	11409
Restated =1	771
Suit =1	485
Disclosure Variables	
Totdirs	6548
Insdirs	5715
I/B/E/S Variables	
Numest1	8095
Stdev1	7683
Thomson Financial Data	
Instl. Shares	8781

Table II: Restatements and suits by year

Year	**No. of restatements**	**No. of suits**
1997	99	58
1998	126	87
1999	165	91
2000	198	88
2001	152	93
2002	(half year) 31	68
Total	771	485

Table III:
Cumulative Abnormal Returns around restatement announcement date

Panel A: Market Adjusted Returns, Value Weighted Index

Days	N	Mean CAR	t
(-1,+1)	945	-7.87%	-17.198***
(-2,+2)	947	-8.14%	-13.782***
(-30,-2)	948	-3.99%	-2.804**
(+1,+30)	929	-4.39%	-3.036**

Panel B: Market Adjusted Returns, Equally Weighted Index

Days	N	Mean CAR	t
(-1,0)	945	-3.96%	-10.650***
(-30,-2)	948	-6.24%	-4.415***
(+1,+30)	929	-5.77%	-4.011***

Panel C: Unadjusted Raw Returns

Days	N	Mean CAR	t
(-1,0)	945	-3.85%	-10.253***
(-30,-2)	948	-3.32%	-2.319*
(+1,+30)	929	-3.87%	-2.656**

The symbols $,*,**, and *** denote statistical significance at the 10%, 5%, 1% and 0.1% levels, respectively.

Table IV: Correlation coefficients across Variables

The table reports Karl Pearson Correlation coefficients for different explanatory variables used in the regressions. Suit and Restated are Indicator variables. No. directors is the total number of directors on the board and Officer Directors is the number of insider (employee) directors on the board. No. of estimates is the average number of analyst estimates in the year. Total pay CEO is the Total compensation paid to the CEO (TDC1 from Compustat). Incentive pay is the Black-Scholes value of the options granted and the restricted stock grants to the CEO, divided by total pay. Instl. holdings is the total shares held by institutions divided by the total shares outstanding, both numerator and denominator are from Thomson Financial. The Blockholder? Variable is an indicator variable that takes the value of 1 if there are one or more institutional shareholder holding at least 5% of the shares of the company. No. of blkholders denotes the number of institutional blockholders holding 5% or more of the shares of the company.

Pearson Correlations	Suit(1/0)	Restated (1/0)	Market Cap	Total pay CEO	Incentive pay CEO	No. of estimates	Stdev of estimates	Total instl. Holdings	Blockholder (1/0)	No. of blk holders	No. of dirs.	Officer dirs.
Mean of variables	0.09558	0.0860	5072.387	5341.652	0.4198	9.1053	0.1995	0.6392	0.3542	0.8941		
Suit (1/0)	1											
Restated(1/0)	0.0906	1										
Market Cap	0.0154	-0.0390	1									
Total pay CEO	0.0760	0.0249	0.2530	1								
Incentive pay CEO	0.0594	0.0270	0.1154	0.2854	1							
No. of estimates	-0.0673	-0.1449	0.4486	0.2360	0.2422	1						
Stdev of estimates	0.0083	0.0038	0.0614	-0.0053	-0.0241	-0.0161	1					
Total instl. Holdings	0.0021	0.1404	-0.0453	0.0630	0.2166	-0.0583	-0.0130	1				
Blockholder? (1/0)	-0.2137	-0.2225	-0.0151	-0.0556	-0.0605	0.1767	-0.0163	-0.1445	1			
No. of blkholders	-0.1609	-0.1671	-0.0362	-0.0609	-0.0433	0.0778	-0.0156	-0.0580	0.7634	1		
No. directors	-0.0860	-0.0692	0.1435	0.0287	0.0004	0.2112	-0.0230	-0.0534	0.0981	0.0205	1	
Officer directors	-0.0079	0.0053	0.0621	0.0204	-0.0448	0.0182	-0.0035	-0.0337	-0.0091	-0.0254	0.3573	1

Table V: Wilcoxon tests for differences in mean between subsamples

The table describes the values of different variables for firms which have had a securities class action suit filed against them, and for firms which have never had a securities class action suit, to see if there is a substantial difference between these values. Column 1 gives mean values for the set of 2386 firms which have never had a securities class action suit during the period of my data. Values are averaged for these 2386 firms over the 6 years of my sample period giving 11762 observations in total. Column 2 has the mean values for 1467 firms which have had a securities class action lawsuit and for which data is available. Here too, the values are averaged over the entire sample period, and so the averages are over 2118 firm-year observations. In Column 3, I pick only the 1467 firm-years which have had a suit in the following year i.e. these are the firm-years immediately preceding a suit. The Wilcoxon Z statistic in Column 4 is the normal approximation of the Wilcoxon Statistic and includes a continuity correction. Results without the normal approximation are identical. This statistic and the associated P-Value measure the difference in means between Column 1 and Column 3.

Variable	(1) Suit=0	(2) Suit=1 firms; all yrs	(3) Suit=1 firms; yr t-1	Wilcoxon Z stat	P-Value (Col. 1 and 3)
Restated? (1/0)	0.0750	0.0935	0.1643	11.2295	0.0000
Sales	1776.1706	2156.1923	1739.1976	-15.2274	0.0000
Market Cap.	4363.8261	8777.3940	6167.6167	-4.4983	0.0000
Net Profit Margin	-0.1422	-0.0369	-0.2692	-6.9061	0.0000
Div. Yield	1.9399	0.9223	1.1574	-3.6678	0.0002
Op. Income Growth	19.1910	51.9957	-8.6198	-7.2736	0.0000
Total Comp. - CEO	4505.4652	9433.3056	11936.0334	6.3035	0.0000
Incentive pay - CEO	0.4060	0.4900	0.5207	6.0641	0.0000
Total Comp. - Top5	1954.2622	3841.5683	5933.5212	12.3413	0.0000
Incentive pay - Top5	0.5049	0.6113	0.8620	8.3385	0.0000
Abnormal Total Comp. - CEO	-147.3024	3245.5537	5151.5158	0.5370	0.5913
Abnormal Incentive pay - CEO	0.0034	0.0561	0.0730	4.0460	0.0001
No. of meetings	7.0789	8.1292	8.4762	6.5446	0.0000
Number of analysts	8.9963	11.0841	7.8296	-7.6193	0.0000
Stdev. of estimates	0.1982	0.0848	0.3162	16.4293	0.0000
Residual Analyst Cov.	-0.1037	1.3892	-0.7475	-4.3285	0.0000
Institutional share	0.6137	0.7885	0.6452	3.1190	0.0018
Blockholder Exists? (1/0)	0.4198	0.2649	0.0849	-21.9541	0.0000
No. of blockholders	1.0581	0.6670	0.2250	-20.9598	0.0000
Gompers G	9.1313	9.2040	8.7880	-2.6130	0.0090
Total directors	8.1013	7.8518	6.7956	-10.5189	0.0000
Inside directors	2.0585	2.0443	2.0119	-0.0212	0.9831

PC inside directors	0.3417	0.3512	0.3645	5.7189	0.0000

Table VI: Logit regression results of suit on independent variables

The table reports regression results for several specifications all of which have Suit as the dependent variable. Suit takes the value of 1 if the firm-year observation has experienced a securities class action suit and 0 otherwise. Each column represents one regression with the cells containing the Beta coefficients on each variable. The variables are grouped into controls, compensation variables (from Execucomp), monitoring variables (from Thomson Financial and I/B/E/S), board variables (from Compact Disclosure) and the Gompers' Governance Index (from IRRC). Restated takes a value of 1 if the firm has restated its financial statements in the year prior to the suit year, and 0 otherwise. Market Capitalization is a proxy for firm size. Compensation variables relate to the CEO's pay 2 years prior to the year of the (possible) suit and 1 year prior to the year of the (possible) restatement, except for the Total Pay_Top5 variable, which is the average pay of the top 5 executives reported in Execucomp. Abnormal total pay and incentive pay are the residuals from regressing the CEO's pay on industry dummies and size, i.e. it is the abnormal portion of the pay which cannot be predicted with the basic factors. Institutional ownership is measured as (Total shares held by institutions/Total shares of the firm). IsBlock takes a value of 1 if there exist one or more institutional blockholders owning at least 5% of the firm's shares, whereas the NumBlock variable is the total number of such large blockholders. The analyst estimates variable measures the average number of analysts covering the firm during the year prior to the suit year. The last row gives the number of observations used in each regression.
The symbols *,**, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Dep. variable: Suit(1/0)	Independent variables:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Controls	Market Cap.	-0.4490	2.2530	-1.3200	0.259	5.963*	1.435	5.965*	8.499***
	R&D	0.161**	0.268***	0.114	0.161	0.245*	0.157	0.233*	0.225*
	Profitability					-0.00200**		-0.0021*	-0.0021**
	Restated	1.0351***	3.0293***	2.537***	2.5542***	2.500***	2.5307***	2.4544***	2.4562***
Compensation	Total Pay_CEO		7.124***	4.3486**	4.3573**		3.8608*	4.1144*	
	Incentive pay_CEO			0.9922***	1.1095***		1.2796***	1.1116**	
	Total Pay_Top5					29.382***			
	Abnormal Total Pay								4.458**
	Abnormal Incentive pay								0.6609
Monitoring	Number of estimates			0.0444***	0.0307**	0.0422***	0.0331***	0.0384**	0.0446***
	Standard deviation			1.3251***	1.5306*		1.3393		
	Total institutional share				0.8067	2.3292***	-0.0726	1.734*	1.8977**
	IsBlock (1/0)				-0.6908***	-0.9389***		-0.8769***	-0.9014***
	NumBlock						0.0294		
Board & Governance	Total directors							-0.0393	-0.0421
	Inside directors							0.0553	0.0502
	Gompers G Index							-0.0249	-0.0320
N		7344	5493	3760	2204	2245	2204	1456	1456

Table VII:

Ordered Probit regression results of a combination of restated and suit variables

The table reports coefficients of an ordered probit regression in which the dependent variable RestSuit takes a value of 3 if the firm has restated and had a suit, 2 if the firm has not restated but had a suit, 1 if it has restated alone and 0 otherwise. Each column represents one regression with the cells containing the Beta coefficients on each variable. The symbols *,**, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.The purpose of this regression is to identify if there are 'levels of egregiousness' or if corporate governance gets progressively worse as one enters these increasing values of the dependent variable.

Dep. variable: Suit(1/0)	Independent Variables	(1)	(2)	(3)	(4)
Controls	Market Cap.	-0.588	-0.3930	-0.6330	-0.9120
	R&D	0.105*	0.160**	0.162**	0.158**
	Profit growth		-0.00139***	-0.00141***	-0.00134**
Compensation	Total Pay_CEO	2.1162*	2.2091*		
	Incentive pay CEO	0.3111*	0.4342**		
	Abnormal Total Pay CEO			2.273*	
	Abnormal Inc. Pay CEO			0.3317*	
	Total Pay Top5				0.015***
Monitoring	No. of estimates	0.0172***	0.0154**	0.0169**	0.0186**
	Stdev. of estimates		-1.2872	-1.3659	-1.5115
	Total institutional share	0.4813	0.7161**	0.756**	0.6299*
	IsBlock (1/0)	-0.3606***	-0.4184***	-0.4252***	-0.5479***
	NumBlock				-0.0237
Board & Governance	No. of directors		-0.0210	-0.0220	-0.0221
	Inside directors		0.0539	0.0532	0.0490
	Gompers G Index	0.0149	0.0290	0.0268	0.0307

Table VIII: Duration/Hazard model for suit (1/0)

The table reports coefficients for the Cox Proportional Hazard model where an event (=1) is defined as the occurrence of a suit. The hazard of an event's occurrence is modeled as a function of the covariates given below. Hazard models have the added advantage over regular regression in that they correct for censoring in the data. The suit data could possibly be censored since there is no information about firms which have been defendants in Securities Class Action Suits prior to 1996 or subsequent to 2002. The Cox proportional hazard model does not assume a form of the baseline hazard function and thus has the advantage of being a very general model.

Cox Proportional Hazard model

Dependent variable: Suit(1/0)	Independent variables:			
Controls	Market Cap.	0.00	0.00**	0.00***
	R&D		0.00	0.00
	Restated	1.465***	0.894***	1.333***
Compensation	Total Pay_CEO	5.021***		
	Total Pay_Top5			10.882*
	Abnormal Total Pay		0.00***	
Monitoring	Number of estimates	0.053***	0.056***	0.043***
	Standard deviation	0.336		0.531
	Total institutional share	0.044		
	IsBlock (1/0)	-0.295*	-0.482*	-0.366*
	NumBlock			
Board & Governance Variables	Total directors			
	Inside directors			-0.389
	Gompers G Index	-0.077	-0.027	-0.051
	N	2896	1604	1349

The symbols *,**, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.