Are Securities Class Actions "Supplemental" to SEC Enforcement? An Empirical Analysis[1]

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Abstract

We examine the "supplemental" role of securities class action lawsuits with respect to SEC enforcement in terms of targeting and penalties imposed on individual defendants. We find some evidence that the targeting of class actions is adversely affected by the incentives of plaintiff's lawyers, but still takes into account the merit of the cases, as measured by different accounting variables. We find that individual defendants rarely pay in class action lawsuits, but face other ancillary costs. CEOs, CFOs and other officers experience an increased likelihood of turnover, and conditional on leaving the firm, have a lower probability of finding a comparable position in a public company.

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1. Introduction

This paper analyzes the effectiveness of securities class actions as "supplements" to the SEC's enforcement of the securities laws. The securities laws charge the SEC with responsibility for enforcing the laws prohibiting misstatements and omissions in the information that public companies provide to investors. While the original securities statutes of the 1930s provided for limited private enforcement of these prohibitions, a Supreme Court case decided in 1971 opened the way for private enforcement. As a result of this case and others in the 1970s, the often-maligned securities class action was born. Since that time, the Supreme Court, Congress, and the SEC have justified securities class actions as "supplemental" to SEC enforcement and necessary because of constraints on the SEC's resources.[2] On the other hand, legal commentators and the business community have characterized these lawsuits as abusive excesses of the plaintiffs' bar that increase the cost of capital to U.S. companies and deter foreign firms from listing in the U.S. Using a hand-collected dataset containing detailed information on securities class actions and SEC enforcement actions, this paper evaluates the "supplementation" justification for class actions.

We break the supplementation claim down into two empirical questions. First, do securities class actions target serious violations—violations that the SEC would target if it had the resources? Second, do the outcomes of securities class actions impose consequences on corporate officers in a manner consistent with SEC enforcement policy? With respect to the latter question, the SEC has the authority to impose monetary liability

[2] Central Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A. 511 U.S. 164 (1994) , Tellabs, Inc. v. Makor Issues and Rights, Ltd., 127 S. Ct. 2499, 2508 (2007) Stoneridge Inv. Partners LLC. v. Scientific-Atlanta Inc., 128 S. Ct. 761 (2008), Private Securities Litigation Reform Act of 1995 , SEC Statement Concerning Financial Penalties (2006).

on corporate officers and directors, and to bar individuals from further service as officers or directors of public companies. In addition, Karpoff, Lee and Martin (2008a) found that executives frequently lose their jobs in the wake of SEC actions even when they are not barred. In private class actions, officers and directors are potentially subject to personal liability, but they are not subject to being barred from service. In order to compare outcomes, therefore, we look at personal liability and total job losses associated with SEC actions and class actions. If the answer to each of the questions above is yes—that securities class actions are well targeted and impose similar consequences on apparently culpable individuals—then one can conclude that they supplement SEC enforcement in punishing and thereby deterring violations of the securities laws.

One might also raise the possibility that class actions supplement SEC enforcement by providing compensation for shareholder losses. To do so, however, the source of compensation would have to be the executives who engage in misconduct, as opposed to the company or the company's directors' and officers' (D&O) liability insurer. If compensation comes from the company or its insurer, shareholders in effect would be paying shareholders, which in the aggregate at least would not constitute compensation. Therefore, the compensation question is the same as the deterrence question: Do culpable executives pay?

Legal commentators have long argued that the incentives of the parties involved in class actions lead to counterproductive results—results that are inconsistent with the claim that these suits supplement SEC enforcement. The consequence of these incentives, commentators suspect, is first, that plaintiffs' lawyers commonly file securities class actions that are nonmeritorious, and second, that this type of litigation fails to impose costs on individuals who violate the law and therefore does not deter misconduct (Coffee

1986, Macey and Miller 1991). Neither of these claims has been analyzed empirically. If either is borne out, there would be grounds to question whether securities class actions can be justified as supplemental to SEC enforcement. On the other hand, if we find that class actions are well targeted and that they impose costs on individuals who violate the securities laws, then the supplementation justification would be validated.

In this paper, we analyze these claims empirically by (a) modeling and comparing the targeting of SEC enforcement actions and class actions, and (b) comparing the outcomes of SEC actions and class actions with respect to personal liability and employment effects.

By broadening our understanding of class action targeting, this study contributes to the finance and accounting literature, where class actions are often used as an ex post indicator of whether a case of misreporting was serious or not. Some of these studies also use a proxy of litigation risk as a determinant of executive decisions. Therefore it is important to understand whether class actions are well targeted against serious cases of misreporting and what personal costs are imposed executives as a result of litigation.

We find some evidence that the targeting of class actions is adversely influenced by the incentives of plaintiffs' lawyers, but the impact is not as severe as legal commentators fear. With respect to outcomes, we find that, among securities class actions that are not dismissed, the outcome is nearly always a settlement paid by the company and its insurer. Individual defendants of companies rarely pay. On the other hand, we find that CEOs, CFOs and other officers often lose their jobs in the wake of class actions and thus bear those costs—not to the extent that defendants in SEC actions do, but to a substantial extent nonetheless.

2. Background

In 1933 and 1934, Congress enacted the first pieces of federal legislation regulating the issuance and trading of public securities. The Securities Act of 1933 prohibited misstatements made in the context of a public offering, and the Securities and Exchange Act of 1934 prohibited misstatements in any public communication, including for example annual and quarterly financial statements, nonfinancial information in annual and quarterly reports, statements in press releases, and information included in 8-K filings.[3] Congress created the SEC in 1934 and vested it with authority to enforce these laws. In 1990, Congress enhanced the SEC's enforcement powers by providing it with its current arsenal of sanctions for violations of these laws: (a) monetary penalties against either corporate or individual violators; (b) disgorgement of ill-gotten gains from either corporate or individual violators; (c) temporary and permanent bars against individuals serving as officers or directors of public companies; (d) injunctions against future violations; and (e) cease-and-desist orders against future violations.[4]

When a company has violated the securities laws by making a material misstatement, the SEC must decide whether to seek penalties against the company, individuals within the company, or both the company and individuals within it. With respect to monetary sanctions against corporations, the Senate Report accompanying the 1990 legislation stated:

> The Committee believes that the civil money penalty provisions should be applicable to corporate issuers, and the legislation permits penalties against issuers. However, because the costs of such penalties may be passed on to

[3]The primary difference between the two prohibitions lies in the intent required to prove a violation. Proof or intentionality or extreme recklessness is required under the Securities and Exchange Act. Under the Securities Act, simple negligence is sufficient to prove a case against an individual defendant, and for a corporate defendant, all that must be proved is that a misstatement occurred—not even negligence is required.

[4] Securities Law Fraud Enforcement Remedies Act and Penny Stock Reform Act of 1990

> shareholders, the Committee intends that a penalty be sought when the violation results in an improper benefit to shareholders. In cases in which shareholders are the principal victims of the violations, the Committee expects that the SEC, when appropriate, will seek penalties from the individual offenders acting for a corporate issuer. (Senate Report, p. 15)

In 2006, the SEC issued a Statement Concerning Financial Penalties in which it stated:

> "[o]ur view of the appropriateness of a penalty on the corporation in a particular case, as distinct from the individuals who commit a securities law violation, turns principally on two considerations: The presence or absence of a direct benefit to the corporation as a result of the violation. The fact that a corporation itself has received a direct and material benefit from the offense, for example, through reduced expenses or increased revenues, weighs in support of the imposition of a corporate penalty. Within this parameter, the strongest case for the imposition of a corporate penalty is one in which the shareholders of the corporation have received an improper benefit as a result of the violation; the weakest case is one in which the current shareholders of the corporation are the principle victims of the securities law violation.

Thus, absent specific circumstances, the SEC will not impose monetary sanctions on corporations and will instead impose sanctions on the individuals that actually commit violations of the securities laws. As shown below, the SEC's practice is consistent with these policy statements in that it reflects a strong preference for bringing enforcement actions against corporate officers and employees who are responsible for securities violations and for imposing penalties on those individuals.[5]

The original federal securities legislation provided for private enforcement only in the narrow context of a misstatement related to a public offering. It contained no right to sue when a misstatement occurred in other contexts. Only the SEC was given enforcement authority over the general prohibition against misstatements. In 1971, however, the Supreme Court ruled that private enforcement of the general prohibition

[5] The fact that the SEC should seek penalties from culpable individuals has also been emphasized by Richard Breeden in his frequently quoted statement that culpable individuals should be left "naked, homeless and without wheels", and by David Ruder in a letter to the Senate on January 18, 1989 (*Securities Law Enforcement: Hearings on H.R. 975 Before the Subcomm. on Telecommunications and Finance of the House Comm. on Energy and Commerce*, 101st Cong., 1st Sess. 47-48 (1989)). The Treadway Commission Report also emphasizes this.

was implied.[6] This Supreme Court decision is the origin of the securities class action. Since that time, the Supreme Court and the SEC have justified securities class actions as "supplemental" to SEC enforcement and necessary because of constraints on the SEC's resources. Congress as well has recognized these lawsuits as "supplemental" to SEC enforcement and has enacted laws regulating them.

On the other hand, legal commentators and the business community have characterized securities class actions as frequently meritless litigation that adds to the cost of capital in the U.S. and deters foreign firms from listing in the U.S. The core of the criticism lies in the settlement incentives built into these lawsuits.

The plaintiffs in these suits include all shareholders that bought shares at a price allegedly inflated due to a material misstatement or omission. They are represented by a lead plaintiff, but the party in control on the plaintiffs' side is the plaintiffs' lawyer. The lawyer pays all costs of the suit and receives fees only if the plaintiffs recover damages from the defendants. Typical fee awards amount to 25% to 30% of the plaintiffs' recovery.

Defendants in these lawsuits can include the company itself and any officers, directors, or employees that the plaintiffs' lawyer chooses to name. Typically, the plaintiffs' lawyer names the company's CEO, its CFO and perhaps one or two other officers. The company's outside directors are named in a substantial number of cases as well. The plaintiffs' lawyer may also name a third party such as an accounting firm or investment bank so long as the third party is alleged to have participated directly in the misstatement. Finally and most importantly, the lawyer names the company itself. Doing so puts the company in a position to pay the entire settlement.

[6] S*uperintendent of Ins. of N. Y. v. Bankers Life & Casualty Co.*, 404 U. S. 6, 13, n. 9 (1971).

The plaintiffs must prove: (a) that a misstatement occurred and that it was "material," meaning that a reasonable investor would consider it important; (b) that the misstatement caused shareholders' losses; and (c) that the misstatement was either intentional or the result of such extreme recklessness as to be nearly intentional. The plaintiffs must also prove the amount the shareholders lost as a result of the misstatement.

There is strong pressure on the defense side to settle a case rather than go to trial, even if the defendants believe the plaintiffs' case is weak and their prospects at trial are good. The defendant officers and directors face financial ruin if the judge or jury rules against them at trial. The company can also face a devastating blow if it loses at trial and is ordered to pay damages. Moreover, litigation expenses in securities class actions can run into the many millions if a case goes to trial.

The pressure on the CEO and other individual defendants to settle is complemented by an opportunity to settle without dipping into their own pockets, and instead to have the company and its insurer pay. Unless management of the company has changed since the time of the alleged violation, the company's position with respect to settlement is determined, or at least strongly influenced, by the CEO, who in essentially all cases has been named individually as a defendant. The CEO is well positioned to claim that no violation occurred but that the corporation should nonetheless settle in order to avoid litigation costs, distraction to management, reputational damage, and the risk of an erroneous ruling at trial. Such a decision would be framed as a cost of doing business, which the corporation should bear.

Indemnification and directors' and officers' (D&O) liability insurance increase both the pressure to settle and the likelihood that no individual defendant will pay into the settlement. Companies have agreements to indemnify their officers and directors in the

absence of egregious misconduct. They also have insurance policies that cover not only the directors and officers themselves, but also the company for its indemnification payments and for amounts it pays directly to settle a case. These policies do not provide coverage if a defendant is proved at trial to have engaged is serious misconduct. These arrangements heighten the bias for all parties on the defense side toward settlement rather than taking a case to trial.

One might expect the insurer to counteract the bias toward settlement, especially in weak cases. Baker and Griffith (2010), however, report that there are countervailing factors influencing the insurer's decision to settle or go to trial, including a standard term in the insurance policy providing that the insurer's approval of a settlement proposal will not be "unreasonably withheld." As Baker and Griffith explain, insurers may negotiate but they ultimately agree to settle.

On the plaintiffs' side, there are also incentives to settle with funds from the company and its insurer. The plaintiffs' lawyer (and others in his law firm) must finance the litigation. If a case goes to trial and the plaintiffs lose, the plaintiffs' lawyer gets nothing—after having spent many millions of dollars prosecuting the case. If the plaintiffs prevail, either by winning at trial or obtaining a settlement, the lead counsel will generally receive between 25% and 30% of the amount paid to the plaintiff class. The plaintiffs' lawyer will therefore favor settlement at the point where an additional dollar spent litigating a case drops below the incremental increase in the expected value of his fee. If he is risk averse, he will settle for less. Moreover, the plaintiffs' lawyer is not concerned about the source of the funds, and has little basis for resisting a settlement coming entirely from the insurer and/or the company. Consequently, the plaintiffs' lawyer's settlement incentives are well aligned with those of the individual defendants.

In sum, as commentators in the legal literature have long maintained, the incentives of the parties involved in securities class actions suggest that these cases may suffer from a number of maladies. First, the logic of these incentives implies that class actions will be settled, not tried. Black, Cheffins and Klausner (2006) confirm this. Second, this logic implies that settlements will tend to be funded by the company and its D&O insurer, and that even officers who have committed violations will rarely pay into a settlement. Third, settlement incentives may lead defendants to over-pay in order to settle, even if a case is weak. Fourth, the incentive to over-pay even in weak cases could well lead plaintiffs' lawyers to file weak cases in the hope of obtaining attractive settlements and therefore an attractive fee.

The presence of these incentives raises doubt regarding the claim that class actions supplement SEC enforcement. For the supplementation claim to by valid, securities class actions must target serious violations—violations that the SEC would target if it had the resources. In addition, they must impose legal sanctions or other costs on those individuals responsible for violations, just as SEC enforcement does. If the dysfunctional incentives described above in fact result in poorly targeted class actions and if they allow individuals who violate the securities laws to avoid any penalty for doing so, then the supplementation justification would be drawn into question.

3. Prior Literature

The issues addressed in this study trace their origin back to a legal literature that began in the 1980s and that remains empirically unresolved today. Coffee (1986), Alexander (1991), Macey and Miller (1991) and other legal academics analyzed the incentives discussed above.

There has been little empirical confirmation of the concerns expressed in the legal literature. With respect to individual liability, Black, Cheffins and Klausner (2006) find that the incidence of outside directors paying into settlements in securities class actions is extremely low—only eight cases out of several thousand filed since the advent of the securities class action. There has been no study, however, of the incidence of personal liability for inside managers, who have less legal protection than outside directors.

With respect to the plaintiffs' lawyers filing non-meritorious lawsuits in the hope of receiving a fee for an unwarranted settlement, there has been no empirical confirmation. Francis, Philbrick and Schipper (1994) find that securities class actions target relatively large firms, which suggests that the prospect of a large settlement is a factor in a plaintiffs' lawyer's decision to file a lawsuit, but this does not mean that meritless cases are filed. Bohn and Choi (1996) look at class actions involving misstatements related to IPOs and find that the size of an IPO and the amount of shareholder loss are important determinants of both whether a company is sued and the size of the settlement if it is sued. Bohn and Choi could not conclude, however, that these factors trump the legal merits of a suit.

In 1995, in response to the concerns over meritless securities class actions, Congress passed the Private Securities Litigation Reform Act (PSLRA). The PSLRA addressed the problem of meritless lawsuits by requiring plaintiffs to allege "with particularity" facts that give rise to a "strong presumption" that the alleged misstatement was the result of either intentional or highly reckless misconduct. Since the PSLRA, cases that do not meet this threshold are dismissed.

A series of papers has analyzed the effect of the PSLRA raising the bar for plaintiffs' lawyers in this manner. Johnson, Nelson and Pritchard (2006), Choi (2007) and

Choi, Nelson and Pritchard (2009) all find evidence that the merits of a case matter more after the PSLRA than before. Specifically, they find that after the PSLRA, plaintiffs' lawyers are more likely to file a case and a case is less likely to be dismissed if a firm restates its financials, if there is a parallel SEC enforcement action, and if management sells shares during the period of the misstatement. Prior to the PSLRA, these factors were not significant determinants of whether a case would be filed. Although these papers find that the merits of a case matter more after the PSLRA than before, they do not analyze the extent to which non-meritorious cases continue to be filed, particular those for which there is no parallel SEC action and which therefore could be supplemental.

The questions raised regarding securities class actions thus remain open. Is there evidence of systemic filing of cases with little merit? Do individuals who are responsible for securities law violations avoid paying into settlements?

An additional question that we address is whether culpable individuals within companies bear costs in the firm of job losses as a result of securities class actions. This part of our study relates to studies in the accounting and finance literature that examine the impact of restatements, SEC enforcement, and securities class action lawsuits on officer and director turnover.

Desai, Hogan and Wilkins (2006) document increased turnover and worsened employment prospects for CEOs of firms that restated their financials. Hennes, Leone and Miller (2008) also document increased turnover for both CEOs and CFOs of these firms, especially if there is indication that the restatement was intentional. Srinivasan (2004) documents increased turnover also for outside directors. None of these papers examines whether the existence of a parallel class action increases turnover.

Karpoff, Lee and Martin (2008) find that managers named as defendants in a SEC enforcement actions are more likely to leave their positions than are executives in a control group, and that the probability of their leaving their positions is associated with the size of shareholder losses. This increased turnover is independent of whether the SEC imposes an officer or director bar. Feroz, Park and Pastena (1991) also find that officers are more likely to be fired following SEC actions. In contrast, Beneish (1999) does not find increased turnover for such firms. The focus of these studies is on SEC enforcement. They do not look at securities class actions.

Using a matched sample, Niehaus and Roth (1999) analyze the effect of securities class actions on CEO turnover following a class action lawsuit. They find that CEOs lose their jobs as a result of these lawsuits. Our study is different from Niehaus and Roth in several respects. First, we use a much larger sample of securities class action lawsuits in a very different time period. Their sample is limited to 46 cases filed between 1988 and 1994, which precedes the PSLRA. To the extent pre-PSLRA cases were viewed as often non-meritorious (and, as discussed above, shown to be less meritorious in retrospect), turnover in the pre-PSLRA environment has no bearing on the current environment. Second, in order to isolate the effect of the lawsuit, we control for a much broader set of misstatement characteristics, using a control sample that includes both SEC enforcement actions and restatements. Third, we examine turnover and employment consequences for a broader set of executives.

A recent working paper, by Baum, Bohm and Chakraborty (2010) documents increased turnover for officers and directors following securities class actions. Their analysis is at the firm level; they do not focus on whether an individual is named as a

defendant in a case. Because our goal is to determine whether culpable individuals incur costs as a result of these lawsuits, we focus on turnover among actual defendants. In addition, we compare turnover in the wake of class actions to turnover in the wake of SEC enforcement actions as well as restatements with neither a class action nor an SEC action. Moreover, we track the employment of executives and board members, to determine whether they obtained a director or principal officer position in another firm and, if so, the downgrade in position they experienced.

4. Hypothesis Development

If class actions in fact supplement SEC enforcement, they would target serious violations of the securities laws. The incentives described above, however, raise the possibility that plaintiffs' lawyers file class actions even where evidence of a violation is weak in order to exploit the incentives of management to settle with company funds and the funds of its insurer. The incentives of plaintiffs' lawyers to engage in such conduct would be stronger where the potential settlement is largest—where the defendant is large and/or shareholder losses are large. Although large shareholder losses are correlated with the size of a corporate defendant, the two factors are somewhat separate. Companies carry D&O insurance policies that are proportionate to their size, and Baker and Griffith (2010) report that settlements paid out of an insurance policy are easier to negotiate than settlements paid by the corporation (which in turn are much easier to negotiate than are settlements paid by individual defendants). This is consistent with Klausner and Hegland (2010) finding that the bulk of settlements are paid out of insurance policies. Thus, even if shareholder losses in a case are relatively low, if the company is large it may be an

attractive target for a plaintiffs' lawyer. This leads to our single hypothesis regarding the targeting of securities class actions:

> H.1: *Class actions are filed when the merits of a case are weak compared to those of SEC actions.*

This should especially be the case where a defendant is large or shareholder losses are large. Support for this hypothesis would be consistent with the concerns raised regarding the dysfunctional incentives surrounding class actions and would undermine the supplementation justification for securities class actions. Conversely, a failure to reject the null hypothesis—a finding that we cannot distinguish class action targeting from SEC targeting—would be consistent with the claim that class actions indeed supplement SEC enforcement.

We next focus on whether class actions impose costs on individuals who violate the securities laws, the second assumption underlying the supplementation claim. Both SEC enforcement actions and class actions can and do name individual officers and directors as defendants along with the company itself. The incentives described above imply, however, that the negotiation of a class action settlement will tend to result in payments from the company and its insurer, rather than from officers or other individuals within the company who were responsible for the violation. Moreover, the incentives described above imply that individuals will avoid personal payments even when a case against them is strong. Thus, our first hypothesis with respect to case outcomes is:

> H.2: *Class actions tend to settle with payments from the company and its insurer, but without payments by individual defendants, even in cases where the merits are strong.*

Support for this hypothesis would be consistent with the dysfunctional incentives described above. Even if personal payments are less common in class actions than in SEC

actions, if they occur with any meaningful frequency, one could conclude that class actions supplement SEC enforcement.

Even if individual payments in class actions are in fact rare, class actions may nonetheless supplement SEC enforcement by imposing ancillary costs on individual defendants. The primary ancillary cost would be job losses and difficulty finding alternative employment. As discussed above, the SEC has the authority to bar defendants from working not only for their current company but for any public company. Thus our third and fourth hypotheses, which are consistent with the supplementation justification, are:

H.3.a. *Corporate officers who are defendants in class actions tend to lose their positions in the wake of these lawsuits.*

H.3.b. *Corporate officers who lose their positions in the wake of securities class actions have difficulty finding employment at other publicly held firms and experience a downgrade in position if they do.*

5. Data

Our sample of securities class actions begins with all cases filed between 2000 and 2011 against public companies and/or officers or directors of public companies for alleged misstatements and omissions. There were 1,987 class actions filed during this period. We selected January 1, 2000 as the starting date for our sample because this is the point at which court filings became available in relatively large numbers on the U.S. government's Public Access to Court Electronic Records (PACER). To identify cases filed during this time period, we used the Stanford Securities Class Action Clearinghouse and selected all cases the Clearinghouse identified as "classic," meaning that the defendant is a public company and the basis of the suit is an alleged material misstatement or omission. We dropped cases that, upon further examination, did not fit

this description. The primary sources of data for each case were court filings and company filings with the SEC. Where data were not available from such sources, we filled gaps with press reports and documents posted on law firm websites.

Our sample of SEC enforcement actions consists of SEC actions filed between 2000 and 2011. Because nearly all class actions target companies whose shares trade on the NYSE, AMEX, or NASDAQ, we limited our sample of SEC actions to those against companies whose shares trade on those markets.[7] This provides us with comparable defendants across class actions and SEC actions. There were 391 cases that meet these criteria.

For our analysis of case targeting, we examine SEC enforcement actions and class actions within the universe of restatements. Thus, we also use a sample of restatements announced between 2000 and 2011. We combine the GAO, Glass Lewis and Audit Analytics restatement databases to identify these restatements. There are a total of 1,738 restatements in our sample. Of these, 207 attracted both SEC enforcement actions and class actions, 308 attracted only class actions, and 25 attracted only SEC actions. There was no litigation associated with 1,189 restatements. Figure 1 shows the relationship between the SEC enforcement actions, class actions, and restatements.

For our analysis of the outcomes of SEC actions and class actions, we hand–collected data from court documents and SEC filings. For executive job losses in the wake of SEC actions and class actions, we rely on a database provided by Audit Integrity containing officer and director turnover from 2000 through 2010. This database uses as

[7] In addition, it is difficult to distinguish some cases involving alleged frauds by small bulletin board companies from pump-and-dump broker-dealer cases or other cases of ordinary fraud.

starting point the Audit Analytics officer and director changes data and supplements it with additional data from various sources. It covers 22,501 firms during this period.[8] We identify all CEOs, CFOs and other officers that served in the company during the misstatement period, and track their positions within the company and within other public companies covered by Audit Integrity during the period. If we are not able to identify the firm's CEO or CFO during the misstatement period, we drop the firm from the respective turnover sample.[9]

[Insert Figure 1 here]

6. Analysis

Our analysis is divided into two parts. The first part looks at targeting, or case selection. It tests hypothesis H.1, which posits that class action targeting is affected by the dysfunctional incentives described above and therefore diverges from SEC targeting. The second part looks at the costs that class actions impose on individuals alleged to have violated the securities laws. It tests hypotheses H.2, H.3.a and H.3.b, which focus on both the direct outcomes of class actions and their effect on CEOs' and other officers' employment.

6.1 *Targeting of Alleged Violations*

[8] Officer and director changes are coded based on 8-K filings. Item 5.0.2 of form 8-K requires disclosure when directors or a company's Principal Executive Officer, President, Principal Financial Officer, Principal Accounting Officer, Principal Operations officer or any persons performing similar functions abandon that position or are appointed.

[9] Given that the database contains all director and officer changes, if we are not able to find any entry for a CEO/CFO position in between 2000 and 2010 for a company covered by Audit Integrity and if the misstatement period is between 2000 and 2010 it must mean that the CEO/CFO that served the company during the period did not turnover. This assumption allows us to increase our sample size. In untabulated analysis, we rerun all our tests using this larger sample. Our results are qualitatively unchanged.

In order to test hypothesis H.1, we look at the universe of observed misstatements: restatements, SEC actions and class action lawsuits. We examine which misstatements resulted in cases being filed—SEC actions, class actions, or both—and which misstatements did not. We begin with the population of all restatements announced during the period 2000 to 2008, some of which resulted in SEC actions and/or class actions. We add to this pool of restatements SEC actions and class actions that allege material financial misstatements.[10] This approach omits from the analysis SEC actions and class actions that do not involve financial misstatements or omissions—for example, cases involving misstatements related to the success of a product. Figure 2 describes the subsample of cases used in this part of the analysis and the relationship between SEC enforcement actions, class actions and restatements.

[Insert Figure 2 here]

To analyze the targeting of class actions, we use the SEC's targeting of enforcement actions as a benchmark and ask whether class actions tend to be targeted against less serious violations, especially where companies or shareholder losses are relatively large. We use the SEC's targeting as a benchmark under the assumption that the SEC is a neutral and effective enforcer, choosing to file cases against companies and their management that, after investigation, it concludes have violated the securities laws. An important justification for this assumption is that the SEC, on average, spends roughly two years investigating a company and its management before deciding whether to file an enforcement action. During its investigation, the SEC has the power to subpoena documents and witnesses and often has the cooperation of the company. Of course, it is

[10] There can be a number of reasons for the absence of restatements in these cases, including bankruptcy or delisting of the defendant company, an acquisition of the company, or a mistake by the SEC or the plaintiffs' lawyer regarding whether there was in fact a material misstatement.

possible that the SEC has biases. Correia (2012), for example, has shown that politics can influence the SEC's prosecution decisions. We are aware of no SEC bias, however, that brings into question the use of SEC targeting decisions as a benchmark against which to evaluate whether class actions tend to target meritorious cases—especially because our ultimate objective is to evaluate the claim that class actions supplement SEC enforcement.

Our analysis of targeting focuses primarily on two sets of variables. One set relates to the merits of a potential case—the likelihood that a violation actually occurred. Because a key determinant of whether a legal violation occurred is whether the defendant acted with intent, observable measures of the merits of a potential lawsuit are inevitably imperfect. There is no way, for example, to identify misstatements that will turn out to be accompanied by a "smoking gun"—say, an email from the CFO to the CEO stating: "As we discussed, our efforts to channel stuff have been successful so that our revenues are overstated for this quarter by 25%." The existence of such evidence is not observable from the outside. Moreover, in a class action, the email will be discovered only after a case is filed, and even then only if the plaintiff succeeds in defeating the defendants' motion to have the case dismissed.

Within the realm of the possible, we use three main observable measures of merit (the calculation and sources of data for each variable are described in more detail in the Appendix): accounting quality (proxied by the Audit Integrity Accounting Score, discretionary accruals and the net income effect of the restatement), the frequency with which the company just meets or beats analyst forecasts and insider sales. We use the mean Audit Integrity Accounting Score as our main measure of accounting quality. This measure is computed quarterly by Audit Integrity, Inc. based on over 100 relationships in

a company's financials. Audit Integrity computes scores for over 7,000 public companies on a quarterly basis. We use Audit Integrity's rank scoring, which reflects a comparison of companies' raw scores for each quarter within their industries. Correia (2012) and Price, Sharp and Wood (2011) tested the reliability of the Audit Integrity score against standard measures of accounting quality used in the accounting literature and found that it was a better predictor of SEC enforcement actions and securities class actions. We test the robustness of our findings to using the minimum level of this score (meaning the most aggressive accounting) during the period of a company's misstatement, the mean discretionary accruals during this period, estimated using the Modified Jones Model (Dechow, Sloan and Sweeney 1995) and the change in a firm's reported income that occurred as a result of a restatement. Our second main measure of merit is the portion of quarters in which the company just met or barely beat by less than 1 cent analysts' forecasted earnings per share in each quarter during the period in which is financials were misstated. The rationale here is that a company that has met its forecasts by misreporting is more likely to have done so intentionally than a company that has barely missed its forecasts. We use just meet or beat as a measure of the likelihood that an actual violation occurred—that a potential case would be meritorious. Prior research has documented an abnormal number of firms just meeting or beating certain targets, such as analyst forecasts, and how accruals management are one of the tools used to just meet or beat these targets (e.g. Dechow, Richardson and Tuna 2003). Our final main measure of merit is a measure of insider stock sales during the period of the misstatement. Following John and Lang (1991) and Beneish (1999), we use the number of shares sold by insiders minus the number of shares bought by insiders scaled by the sum of the total shares bought and sold by insiders. Where a company's financials are intentionally misstated, they will

likely be misstated in a way that increases share value, and hence insiders are more likely to sell shares than at other times, including when they are unaware that the company's shares are misstated. Class action plaintiffs' lawyers commonly rely on the patterns in the sale of shares by insiders as a way to persuade a judge that a misstatement was intentional and that a case should therefore not be dismissed. Because the SEC undertakes a full investigation before filing an enforcement action, it is not as reliant on insider sales as an indication of intent. On the other hand, if the SEC in fact pursues cases of deliberate fraud, large volumes of insider sales could be present as well.

In addition to proxies for merit we include variables related to potential settlement size and plaintiffs'' attorneys' fees, in particular the market capitalization prior to violation, maximum loss (percent) which is the difference between a company's highest share price during the period of its misstatement and its share price the day after the possibility of restatement is initially announced, scaled by the maximum market capitalization during the violation period[11], the dollar amount of the maximum loss and abnormal returns. These are cumulative size adjusted abnormal returns, measured from one day before a company first announces the possibility of a restatement and one day after the announcement. In addition, we include in our analysis control variables that may influence the variables of interest or otherwise affect the likelihood that a company will attract the attention of either the SEC or a plaintiffs' lawyer. These include return on assets and growth, both of which have been shown to be associated with discretionary accruals (e.g. McNichols (2000), Dechow, Sloan and Sweeney (1995)) and with SEC

[11] We identify the announcement date as the first date in which we identify the accounting problem as being public. For SEC actions with no accompanying restatement this measure can be problematic, as the SEC filing date could be (but is not necessarily) after the announcement of the misstatement. We re-run all analysis focusing just on the restatement sample, for which we can observe announcement dates more accurately, in robustness tests. All results are consistent with those for the full sample.

enforcement decisions (e.g. Feroz, Park and Pastena (1991), Beneish (1999)). We also control for the number of times a company has been cited in the Wall Street Journal. The number of Wall Street Journal cites is often used in the literature as a measure of firm visibility (e.g. Baker, Nofsinger and Weaver (2002)). We control for firm visibility for two reasons: first, Feroz et al. (1991) identify the financial press as one of the sources of information used by the SEC to select potential enforcement targets; second, given that the SEC has limited resources it may choose to target highly visible firms to maximize the deterrence effect of its actions. The latter explanation is consistent with findings in Choi, Pritchard and Weichman (2012) regarding the SEC's targeting of options backdating cases.

6.1.1 *Univariate Analysis*

Table 1 presents univariate comparisons of SEC enforcement actions, class actions, and restatements with no litigation. For purposes of these comparisons, we focus on class actions for which there are no parallel SEC actions—that is, class actions that are potentially supplemental to SEC actions. Table 1 groups variables related to the legal merits of a potential lawsuit, some of which are accounting-based and some not, and variables related to shareholder losses, which influence settlement size and therefore plaintiffs' lawyers' fees, independent of legal merits.

For each accounting-based measure of legal merits, companies that the SEC targets tend to have the most aggressive accounting, at both the mean and median. Companies targeted by class actions tend to have less aggressive accounting, but they have more aggressive accounting than companies with restatements that attracted no litigation. For example, both mean and minimum Audit Integrity scores are lower—that

is, accounting is more aggressive—among companies that are targets of SEC actions than among companies that are targets of class actions, which in turn have mean and minimum Audit Integrity scores that are lower than those of companies with restatements but no litigation. Each of these differences is statistically significant with respect to both means and medians, but some are at borderline of significance. The comparison of discretionary accruals in SEC actions and class actions is consistent with these results, but the difference in means is not statistically significant, and the difference in medians is only borderline significant. The comparison of Change in Income shows no significant difference between class actions and SEC actions. However, the comparison of class actions with unlitigated restatements, across nearly all accounting-based indicators, shows that accounting quality is a significant factor in the targeting of class actions.

[Insert Table 1 here]

Univariate comparisons of Just Meet or Beat and Insider Sales, our two other measures of the merits of a potential lawsuit, differ somewhat from our accounting-based comparisons. Just Meet or Beat is significantly higher for companies that are targets of SEC actions than for companies that are targets of class actions, but there is no significant difference between class actions and restatements with no litigation. Insider Sales, on the other hand, are significantly higher for companies with class actions than for companies with SEC actions, which in turn are higher than for companies with restatements with no litigation. This is consistent with our expectation that plaintiffs' lawyers in class actions rely on insider sales as a basis for creating a reasonable presumption of intent at the complaint-dismissal stage. As explained above, because the SEC does a complete investigation before filing an enforcement action, it is not as reliant on insider sales as an indicator of intent.

Univariate comparisons of SEC actions and class actions with respect to settlement size-related variables are mixed. The mean market capitalization of companies that the SEC targets is significantly larger than the mean market capitalization of those targeted by class actions. But the medians are reversed; the median class action target is significantly larger than the median SEC target. The maximum loss percentage is not significantly different between companies the SEC targets and those that are targets of class actions. Not surprisingly, however, the total maximum loss is significantly larger for SEC targets than class action targets. This is consistent with the differences in market capitalization between SEC targets and class action targets. On the other hand, abnormal returns are much larger for companies that are targets of class actions. For all settlement-size related variables, the means and medians of companies with restatements but no litigation are significantly smaller than those of companies that were targets of either SEC actions or class actions.

To shed further light on these comparisons of SEC targets and class action targets Table 2 divides sample companies into quintiles for each variable. If the targeting of class actions or SEC actions were unrelated to these variables, we would observe 20% of each in each quintile. For our accounting-based measures of merit, we find that SEC actions and class actions tend to be concentrated toward the lower-quality quintiles—meaning more aggressive accounting. This is more true of SEC actions than class actions. For mean Audit Integrity score, 47% of class actions fall in the two lower-quality quintiles, compared to 32% in the two higher-quality quintiles. SEC enforcement actions exhibit a stronger concentration toward companies with lower accounting quality, with 52% in the two lower-quality quintiles, compared to 29% in the two higher-quality quintiles. The minimum Audit Integrity score shows a somewhat different pattern in that

while SEC actions are weighted toward lower-quality accounting, class actions are distributed relatively equally across quintiles. Mean discretionary accruals show no difference between SEC actions and class actions. The difference between SEC actions and class actions is statistically significant only when measured by the minimum Audit Integrity score.[12]

[Insert Table 2 here]

For settlement size-related variables, class actions are generally weighted more toward the higher quintiles than SEC actions. This is most pronounced with respect to company size. A total of 55% of class actions target top two quintile firms, with 33% targeting the top quintile. This compares to 42% and 27% respectively for SEC actions. Furthermore, 10% of class actions target firms in the lowest market capitalization quintile, while 20% of SEC actions target these firms. The difference in the distribution of SEC actions and class actions across ranks of settlement-size variables is statistically significant.

These results are consistent with our finding that the median company size among class action targets is larger than for SEC targets, even though the relationship is reversed with respect to the means. A similar patter emerges with respect to provable loss percent, although the difference between class actions and SEC actions is not as pronounced. Among class actions, 61% are targeted at firms in the top two quintiles of loss and 19% are in the bottom two quintiles. For SEC actions, there are 59% in the top two quintiles

[12] The test statistic is computed as follows: $\sum_{k=1}^{K} {(O_k - E_k)^2}/{E_k}$, where k is a cell of the frequency table, O_k is the observed frequency in cell k and E_k is the frequency that would be expected in that cell if the distribution of cases across quintiles was independent of the type of case. This test statistic follows a Chi-square distribution with degrees of frequency equal to (1-number of rows)*(1-number of columns), in our case, 4.

and 25% in the bottom two quintiles. Abnormal returns show a more substantial targeting of class actions toward higher-loss firms relative to SEC actions. All of these differences are statistically significant.

In sum, univariate comparisons across companies with misstatements suggest that, on the whole, the SEC tends to target companies for which indicators of a legal violation are strongest. Among remaining misstatements, class actions target cases where indications of merit are not as strong as those the SEC targets but stronger than those with no litigation. This alone is not surprising in light of the fact that the SEC investigates a case before filing an enforcement action, and a class action lawyer must file a lawsuit with relatively little investigation. With respect to company size and shareholder losses, both of which relate to potential settlement size, independent of the merits of a case, the evidence is mixed, but there is some basis in these univariate comparisons for inferring, not only that class actions target cases that are less meritorious than SEC actions but that class action plaintiffs' lawyers may sacrifice merits for potentially large settlements. Both the SEC and class actions target relatively large companies and companies with relatively large shareholder losses when compared to other companies with restatements that attract no litigation. Class actions, however, tend to target larger companies and companies with larger shareholder losses—and therefore greater potential settlements—than does the SEC. These findings thus lend at least tentative support for hypothesis H.1.

6.1.2 Multivariate Analysis

In order to better identify the effects of merit-related factors and settlement size-related factors in determining the targeting of class actions, we now estimate a bivariate probit model with two dependent variables: the filing of an SEC action and the filing of a

class action. We use a bivariate probit model because the decisions to file a SEC action and a class action, while made by different actors, are likely interrelated. The bivariate probit model allows for correlation in the error terms of the SEC and class action regressions. We compute marginal effects following Greene (1996) and test for differences in coefficients across the two regressions.[13]

Panel A of Table 3 presents the results of three models. The first is a basic model containing mean Audit Integrity score and insider sales as merit-related variables and company size, maximum percentage stock drop and abnormal return as settlement size-related variables. We do not include the Just Meet or Beat variable here because doing so substantially reduces the number of usable observations. That variable is included in the third model. The second model adds controls for growth, return on assets and number of Wall Street Journal citations. Across all models we observe that there is positive correlation in the residuals of the SEC and CA regressions.[14]The likelihood ratio test reveals that the bivariate probit model fits the data better than would separate models.

[Insert Table 3 here]

The results across all models are similar. With and without controls, the coefficients and marginal effects for the mean Audit Integrity score are larger for SEC actions than for class actions, although the difference between the coefficients is statistically significant only in the first model and there it is borderline significant. In contrast, the coefficients on the settlement size-related variables in all pairs of models are larger for the class action model than in the SEC model, and in each case the differences are highly significant. Company size, the maximum shareholder loss and abnormal

[13]Results are consistent with separately modelling the probability of a SEC action and the probability of a class action with no accompanying SEC case.

[14]This could either be the case if there is correlation in the "actual" decision process or if there are unobserved factors driving both the decision to bring an SEC action and the decision to bring a class action.

returns are all more important factors in the targeting of class actions than in the targeting of SEC actions. Panel B presents the marginal effects of the variables of interest.

A decrease of 10 points in the Audit Integrity score increases the probability of SEC enforcement by 1 percentage point.[15] This appears to be economically significant given that the average probability of a SEC action ranges from 7.80% to 9.61% across the three model specifications. In contrast, across the three models, the marginal effect of the mean Audit Integrity score on the probability of a class action conditional on there being no SEC enforcement is not significant. Although a low Audit Integrity score is associated with class actions in two of the three models in Panel A, that association is apparently driven by class actions that are parallel to SEC actions. Among class actions that have no parallel SEC action, the Audit Integrity score is not significantly related to the targeting decision. Meet-or-beat, our nonaccounting-based measure of merit, is significantly associated with a higher likelihood of a SEC enforcement action. It does not, however, significantly affect the probability of a class action—whether parallel to an SEC enforcement or not. These results support an inference that class actions that have no parallel SEC action and that are therefore potentially supplemental to SEC enforcement, tend to be weaker on the merits than SEC actions.

The marginal effects of the settlement-size-related variables are essentially the same for all models in Table 3. Focusing on the third model, the marginal effect of the log of market capitalization is .06, which means a 10% increase in market capitalization increases the probability of a class action, conditioned on their being no parallel SEC action, by 0.6%. The marginal effect of the maximum share price decline is 0.6275. Thus,

[15]The Audit Integrity Score ranges from 0 to 99, and averages 43.23 in the full sample.

if maximum shareholder loss increases by 1 percentage point, the probability of a class action, conditioned on their being no SEC action, increases by 0.63 percentage points.

In order to analyze more specifically whether class actions sacrifice the merits of a case when the possibility of a settlement is large—that is, where a defendant company is large—we compare the targeting of class actions for small and large firms using the predicted SEC targeting function as a benchmark. For each model, we split the sample into two subsamples of equal size based on market capitalization before the beginning of the violation period. We estimate a logit model of SEC targeting using the models in Table 3 to estimate the probability that the SEC will bring an enforcement action against a company. We rank the cases that the SEC did not target within each size group according to the predicted probability of SEC targeting. A large percentage of class actions in the top quintiles of this predicted probability would suggest that class actions target cases that the SEC would be more likely to target. If, by contrast, targeting of class actions is independent of SEC targeting, class actions should be distributed equally across quintiles.

Hypothesis H.1. predicts that class actions are more likely to target large defendants irrespective of merits. Targeting of class actions against large firms, therefore, should be less correlated with the SEC targeting function than are class actions against smaller firms. The results of this analysis, which are presented in Table 4, are consistent with this prediction. Across the three models, we find that for small firms 55.56 to 63.48% of class actions fall into the highest quintile and that 77.78% to 80.60% of class actions fall into the two highest quintiles of predicted probability of SEC enforcement. For large firms, these percentages are significantly smaller, ranging from 35.03% to 36.02% in the top quintile and from 56.86% to 60.86% in the top two quintiles.

Untabulated analysis documents that the predicted probability of SEC targeting is similar across the two groups. Assuming that the SEC targeting function would remain the same if the SEC had more resources, this would suggest that, while class action targeting is correlated with SEC targeting criteria for both large and small firms, it departs from the SEC's implicit targeting criteria when large firms are involved more than when smaller firms are involved. These results support hypothesis H.1.

[Insert Table 4 here]

The analysis above supports the hypothesis that plaintiffs' lawyers select cases with worse merits where then defendant corporation is large than when the defendant corporation is small. We would confirm this result if we find that large firms with class actions tend to have better accounting than do small firms with class actions. We therefore rank cases according to the Audit Integrity score within each size group and examine the percentage of class actions falling within each rank. The results of this analysis are in Panel B of Table 4. Among class actions against large firms, we find 45.17% firms in the two lowest-quality quintiles of the accounting score and 34.72% in the two highest-quality quintiles. In contrast, among class actions against small firms, 51.1% of firms are in two lowest-quality quintiles and 28.57% of firms in the two highest-quality quintiles. This appears to suggest that plaintiffs' lawyers place less weight on the merits of a case when considering a case against a large firm than when considering a case against a small firm. The differences, however, are not statistically significant.

6.1.3 Robustness tests

Restatement Sample

In the above analysis we have focused on the universe of known misstatement cases. One possible shortcoming of this analysis is that this universe is endogenously determined. Restatements announcements precede class action lawsuits and securities enforcement actions in most of the cases in our sample. This suggests that may restatements are likely independent of SEC and securities lawyers decisions to prosecute the firm. Moreover, it is easier to accurately identify the first announcement date within the restatement sample. This advantage comes at a cost, given that it may be the case that restatement SEC and class action cases are systematically different on an unobserved dimension from the non- restatement cases. We re-run our analysis using the restatement sample. Our findings are consistent with the findings for the full sample discussed above. We document a higher focus on merits by the SEC and a higher alignment between the SEC and the class actions targeting functions for small firms.

Alternative measures of merit

We use three alternative measures of accounting quality: Minimum Audit Integrity Score, Mean Discretionary Accruals and Change in Income. Like in Table 3 we find evidence that plaintiff lawyers take into account merits, as proxied by Mean Discretionary Accruals and Change in Income in targeting cases. Also consistent with Table 3 we find that differences in coefficients of these accounting quality variables are not significant at conventional levels. However, unlike in Table 3, the marginal effect of these two variables on the probability of a class action conditional on no parallel SEC action is significant. This suggests that plaintiff lawyers take these dimensions of merit in consideration in their targeting decisions.

We also check the robustness of our results to alternative insider trading measures that take into account the value of purchases and sales, rather the number of shares purchased and sold. Findings are consistent to this alternative measure.

6.2 Outcomes of Class Actions and SEC Actions

We now analyze the outcomes of class actions and compare those outcomes to the outcomes of SEC enforcement actions. We examine outcomes in two respects. First, we look at how a case was resolved. What, if any, penalty or liability was imposed? Second, we look at whether defendants lost their jobs in the wake of either a class action or an SEC enforcement action.

6.2.1 *SEC Penalty and Class Action Liability Outcomes*

Table 5 presents descriptive statistics regarding the outcomes of SEC actions and class actions. As shown in Panel A, SEC actions frequently result in penalties for individual officers. For example, out of 297 SEC cases in our sample, 205 resulted in monetary penalties against an individual defendant, and 101 resulted in a permanent bar from serving as an officer or director of a public company. (The SEC can impose multiple penalties—for example, a monetary penalty and a bar against the same defendant or a monetary penalty against one and a bar against another.) The mean monetary penalty is over $29 million while the median is $265,000. Those figures refer to the sum of monetary penalties imposed on all individual defendants in a case.[16] The mean per person penalty is $307,655 and the median is $75,000. In contrast, class

[16] A "case" in this context refers to either a single enforcement action or a group of legally separate enforcement actions against different defendants related to the same company and the same course of conduct that constituted a violation of the securities laws.

actions rarely result in payments by individual defendants. Out of a total of 878 cases that settled with funds paid by the corporation and its insurer, individual defendants contributed to the settlement in only 43 cases. This simple descriptive statistic seems to support Hypothesis H.2

[Insert Table 5 here]

Table 5, Panel D confirms this point by examining pairs of parallel SEC and class actions. There are 219 pairs in our sample for which we could obtain data on both SEC penalties and class action settlements. For each parallel pair, the conduct resulting in a legal violation is the same; both the SEC and a class action seek redress. We compare the outcome of the class action to the outcome of the SEC action and find that out of 196 pairs of cases in which the SEC imposed a penalty on individual defendants, only 24 parallel class actions resulted in an individual paying into a settlement. That is, in there are 172 pairs of parallel cases in which one or more individuals either paid monetary penalties or were barred from public company service and yet no individual paid into the settlement of the class action. The company and/or its D&O insurer paid those settlements.

The data thus clearly support hypothesis H.2, which will come as no surprise to the legal commentators who have been worrying about settlement incentives for many years. We therefore go on to analyze the other way in which class actions can impose costs on individuals who cause their firms to violate the securities laws: job losses.

6.2.2 *Management Job Loss*

To test hypothesis H.3.a., we use as benchmarks job losses in the wake of SEC actions and job losses following restatements that did not result in litigation. Table 6 presents descriptive statistics for CEO and CFO job losses during key phases of class actions and SEC actions: (i) the period during which a company's financials were allegedly misstated; (ii) the period beginning at the end of the misstatement period and extending until the date on which a legal action was filed; (iii) the period from the date on which a legal action was filed until the date on which it was resolved; and (iv) a period of 90 days following resolution. We add the additional 90 days in order to capture job losses that were related to the legal action but that did not occur until after the legal action was resolved.

Periods (ii) and (iii) differ between SEC actions and class actions and are thus not directly comparable. Before filing a case in court, the SEC conducts an investigation that on average spans two years. The SEC does not publicly announce investigations; it only announces the filing of a case. During the period of investigation, however, the defendants are aware of the investigation and often begin settlement negotiations. Consequently, when the SEC finally files an enforcement action, it often settles with a defendant simultaneously or shortly thereafter, with the filing of the lawsuit simply serving the purpose of having the court approve the settlement. In contrast, class actions are typically filed within weeks or even days after an alleged violation comes to light. The plaintiffs' lawyer cannot obtain evidence through the discovery process until later—if the case survives the defendant's motion to have itdismissed. Therefore, in comparing job losses across SEC actions and class actions, we look at the cumulative period from the end of the misstatement period until 90 days following resolution of the case.

For restatements without litigation, we define the time periods slightly differently. We begin again with the period of the misstatement. We then isolate the period between the end of the misstatement period and the first announcement of the restatement. We then add a period of 1,000 days so that job losses following restatements are comparable to job losses following SEC actions and class actions. For both SEC actions and class actions, the period from the end of the misstatement period until 90 days following resolution is 1,182 and 1,082 days, respectively. Adding 1,000 days following a restatement announcement creates a cumulative period that is comparable in length to the period between the end of a misstatement and 90 days following resolution of an SEC action or a class action. We use this entire period when we compare job losses associated with restatements to those associated with SEC actions or class actions.

As shown in Panel A of Table 6, 64% of CEOs who were named defendants in SEC actions left their position between the end of the misstatement period and 90 days following the resolution of the SEC action—a period that averaged 1,182 days. Nearly all of these CEOs left before the SEC actually filed its enforcement action. As explained above, this is the period in which the SEC investigates a violation and typically begins negotiating a settlement with the defendants. This figure includes 47% of CEOs that left the firm. The remaining 17% of CEOs abandoned their position but kept other positions within the company. Among these, most remained only as directors. Of the CEOs who left their firm, 7% found positions as executives with other public companies within 1 year, and a remaining 3% (10%-7%) found outside (non-executive) board positions. Among CEOs named in settled class actions, the numbers are somewhat lower, but job losses were substantial. A total of 56% left their positions, 37% left their firms, and of those, 23% found positions at other public companies , 12% of which were executive

positions and the rest outside (non-executive) board positions. Among CEOs of firms with restatements, only 34% changed their position and 21% left the firm within 1,000 days following the announcement of a restatement, and of those 23% (10%) found other (executive) positions. Among CFOs, job losses are greater than among CEOs, but the pattern is otherwise the same. Job losses are greatest following SEC actions, followed by class actions, and then restatements. In untabulated results, we find the same pattern with other officers as well.

[Insert Table 6 here]

Figure 2 shows the Kaplan Meier failure function for CEOs and CFOs that left their positions. As in Table 6, we include all CEOs and CFOs of firms targeted by the SEC or class actions along with CEOs and CFOs of firms with restatements but no litigation. The Kaplan Meier analysis (Kaplan and Meier (1958)) has the advantage of allowing estimation of survival (or failure) over time with censoring of the data. We have right censoring in our data since we are not able to observe CEOs that turned over after the end of 2010. We do not have left censoring given that we are only studying job losses starting from the end of the violation period. We plot the failure function starting at the end of the misstatement period. The horizontal axis is the number of months. The ordering of failure functions is consistent with the results of Table 6. CEOs and CFOs named in SEC actions tend to lose their jobs more quickly than CEOs and CFOs of firms named in class actions; and CEOs and CFOs of firms targeted in settled class actions tend to lose their jobs more quickly than CEOs of firms with restatements but no litigation. Using both the Mantel-Haenszel Log Rank test and the Fisher exact test to assess statistical significance, we find that each of these differences is statistically significant, with the exception of the difference between CFOs named as defendants in

settled class actions and CFOs in restatement firms. The Fisher exact test has the advantage of being based on actual data, but the disadvantage of not taking into account right censoring of the data.[17]

[Insert Figure 2 here]

It thus appears that both SEC enforcement actions and class actions impose costs on defendants in the form of job losses, with the former leading to a higher likelihood of job losses and more immediate job losses than the latter. It is possible, however, that these job losses would occur without legal action. As shown above, the SEC and class action lawyers tend to target misstatements that are associated with indicia of misconduct such as aggressive accounting and insider stock sales. It is possible that CEOs of these companies would lose their jobs regardless of whether they become targets of legal actions once their companies' misstatements come to light. Since case targeting is related to apparent misconduct, it is difficult to separate the effect of legal action from the effect of the underlying misconduct.

In Table 7, we attempt to separate these effects on CEO and CFO job loss using a multivariate Cox Proportional Hazard Model. In the simplest specification of the model, we include two independent variables of interest: the occurrence of an SEC action naming the CEO/CFO[18] and the occurrence of a class action naming the CEO/CFO as a defendant. We control for whether a class action was dismissed. In addition, because class actions and SEC actions may be associated with financial distress, which in itself can result in job loss, we follow Karpoff et al. (2008) in controlling for bankruptcy in this

[17] In order to minimize right censoring of the data, we compute the Fisher test statistic only for cases with a misstatement period ending before December 31st, 2007.

18 When we substitute simply the occurrence of an SEC action regardless of whether the CEO is named, the coefficient remains statistically significant and positive. Since class actions nearly always name the CEO as a defendant, when we substitute the occurrence of a class action regardless of whether the CEO was named, the coefficient is substantially the same.

and other models.[19] We find that the probability of CEO (CFO) job loss is 2.10 (2.51) times greater than otherwise where there is an SEC enforcement action, and 1.54 (1.26) times greater where there is a class action. In the simplest specification, these results are highly significant. When we control for underlying factors associated with the initiation of an SEC action or a class actions, the effect of class actions on CEO job loss remains consistently significant, while the effect of class actions on CFO job loss becomes insignificant in some specifications. This is consistent with the finding in Table 6 showing that CFOs lose their jobs following a restatement more frequently than do CEOs.

[Insert Table 7 here]

We can conclude, therefore, that both SEC actions and class actions against a CEO increases the likelihood of the CEO losing his job above and beyond what might be expected as a result of the underlying factors that suggest misconduct leading to a class action. SEC actions, however, are associated with a greater increase in job losses than are class actions. The results in Table 7 support similar conclusions for SEC actions against CFOs, but for class actions against CFOs, we cannot conclude that the departures associated with class actions in the simplest model are attributable to class actions themselves rather than to factors related to the underlying conduct associated with the class action being initiated. When we control for these factors, only the maximum loss percent during the misstatement period has a statistically significant impact consistently across the models. Since class actions are highly correlated with this variable (Pearson

[19] All results, however, are the same irrespective of controlling for bankruptcy.

and Spearman correlation coefficients of .41), its inclusion in the model may at least partially explain the lack of a significant result for class actions.[20]

Executives that leave their positions may stay in the firm (a departing CEO may stay on the board of the company, for example), or they may leave the company. This second outcome is potentially more serious than the first, especially if the set of outside opportunities of ousted CEOs are relatively unattractive. In order to examine this, we run two sets of analyses. First, we re-estimate the four models in Table 7, focusing now on whether CEOs and CFOs leave their firm. Table 8, Panel A presents these results. For simplicity, we tabulate only the coefficients on the two variables of interest: whether a CEO/CFO was an SEC defendant and whether he was a class action defendant. Consistent with our earlier analysis, we find that, even when controlling for factors associated with the initiation of an SEC action, SEC defendants have a higher likelihood of leaving their firms. In contrast to the analysis above, however, when we control for those variables, in most specifications we do not find a significant effect of class actions on the probability of an executive leaving the firm. This suggests that class actions may impose less serious costs on CEOs and CFOs than do SEC actions in that while they lead to an increased probability of losing their position, they may not lead to a greater likelihood that they will leave their firm.

In order to test H.3.b., we analyze the set of CEOs and CFOs that leave their positions. We estimate a logistic regression where the dependent variable is equal to 1 if the CEO/CFO found a C-level or director position within 365 days of abandoning the

[20] We performed this analysis as well with a matched sample—firms with class actions matched with firms that had restatements and not litigation, but with a similar propensity to have litigation (where this propensity was estimated based on the models in part I). The results were the same. When controls were included, the effect of a class action was insignificant, as were the effects of the underlying factors other than the stock price drop.

firm (Table 8, Panel B). We find that CEOs who are SEC defendants are less likely to find a position outside of the firm. Once we control for case characteristics, however, SEC actions do not seem to impose this type of costs on CFOs. We find that class actions are not associated with lowered likelihood of finding another position for either CEOs or CFOs.

[Insert Table 8 here]

Panel C1 examines all executives that left their original position but did not leave their original firm. We estimate a ordered logit model where the dependent variable is the downgrade of the executive within the firm, where downgrade is defined as the difference between the tier of the highest ranked position he keeps within the firm and the tier of his original position. Positions are ranked as follows: tier 1 includes CEOs, tier 2 includes CFOs, COOs, Presidents, Co-Presidents and General Counsel, tier 3 includes other C-level positions and VP positions, tier 4 includes other executive positions and tier 5 includes directorships. We find that SEC defendants experience a larger downgrade within their firms following turnover, controlling for case characteristics. This is not the case for CFO defendants nor for CEO/ CFO defendants in securities class action lawsuits. In panel C2, we focus on CEO/CFOs that leave their original firms. We find that departing CEOs who are SEC defendants experience a larger downgrade in positions as they move to new firms. CFOs who are SEC defendants do not experience a significant downgrade, but those who are class action defendants do.

6.2.2.1. Robustness Tests

Logit Estimation

We use separate logit models to replicate the four hazard models in Table 2. We code the dependent variable over four different periods: three months following the end of the misstatement period, six months following the end of the misstatement period and so on up to two years. The results of these models, which are untabulated, are consistent with the hazard models of Table 2. In particular, a CEO/ CFO named in an SEC action has a substantially increased likelihood of losing his job during the longer periods tested, regardless of whether we control for the factors related to the underlying misconduct. This is also the case for CEOs named in class actions over the 6 months and 1 year periods. It is unclear whether class actions lead to increased CFO job losses controlling for case characteristics; as with the hazard analysis, our results are not robust across the different models.

Matched Sample Analysis

One potential criticism of our main analysis in Table 7, is that it could be hard to attribute the observed increase in job loss to the class action itself, as opposed to the underlying factors that led to the initiation of the class action, without specifically taking into account the time frame of the case. In order to address this criticism, we focus on the restatement sample, and exclude all SEC enforcement actions from the sample. We match each restatement that led to a class action with another restatement announced at the same time that did not lead to a class action. For each case we calculate job loss in two periods: the "pre-litigation period," which extends from the beginning of the restatement period to the date the litigation is announced, and the "litigation period," which extends from the date the litigation is announced to 90 days after the resolution of the case. We calculate job loss over the same periods for each standalone restatement

(using the dates from the matched class action). We then run two logistic regressions where the dependent variable is equal to 1 if the CEO/CFO changed position within each of these two periods. Our main focus is on the first period, after the litigation is announced. We use the earlier period as a control. A finding of increased job loss for class actions in the post litigation period and no difference in job loss between class actions and restatements in the pre period would be suggestive of increased job losses being attributed to the case itself. Consistent with the previous analysis, we find that class actions are systematically associated with an increased in CEO job losses in the "Litigation period", controlling for case characteristics (Table 4). This result, combined with the absence of a significant difference in job losses in the "Pre-litigation period" (untabulated), suggests that class actions result in increased CEO job loss. This is not the case, however for CFO job losses. This may reflect the relative frequency, seen in Table 1, with which CFOs lose their jobs following restatements.

Other executives and directors

We examine changes in firm for all other C-level executives and directors named as SEC or class action defendants (untabulated). We find that other executives and directors who are SEC defendants are more likely to leave the firm. This is also the case for class actions defendants. However, similar to our CFO analysis, we find that the increased job loss for class actions is as likely explained by underlying case characteristics rather than by the class action itself.

Office and director bars in SEC actions

In order to test whether the increased likelihood of leaving the firm and the decreased likelihood of finding a new position for SEC defendants is explained by officer and director bars, we re-run the analysis in Tables 2 and 3 excluding SEC defendants who

were either permanently or temporarily barred. We find that the increased CEO and CFO job losses are not fully explained by officer and director bars. In contrast, officer and director bars do seem to explain the impact SEC actions have on the likelihood that a defendant CEO or CFO will find a job at another publicly held firm. In fact, when we exclude barred CEOs from Table 3, the coefficient on SEC defendants is no longer significant.

7. Conclusion

Class actions are justified as a necessary supplement to SEC enforcement of the securities laws prohibiting misstatements by public companies and their management. To supplement SEC enforcement effectively, class actions must target violations and impose costs on violators consistent with SEC practice and policy. We have analyzed both targeting and penalties associated with class actions in comparison to the targeting and penalties associated with SEC enforcement actions. We find evidence that the targeting of class actions diverges from SEC practice. Specifically, we find that class actions targeted against larger firms diverge more from SEC targeting practice than do class actions targeted against smaller firms. We find some evidence that this difference reflects plaintiffs' lawyers' sacrifice of merits for the possibility of a larger settlement and therefore a larger fee. This is consistent with the concerns that legal scholars have raised for many years. On the other hand, the evidence for this conclusion is far from overwhelming.

With respect to the outcomes, the policy and practice of the SEC is to impose penalties on individuals within companies that violate the securities laws. We find, however, that class actions clearly do not do this. Individuals are named as defendants

but they rarely contribute to the settlement of a class action. Instead, the company and its insurer do. But we find that individual defendants do lose their jobs in the wake of class actions. We find that CEOs in particular tend to lose their positions and leave their firms once they are sued in a class action. They do so with probabilities that significantly exceed the probability that a CEO of a firm with a misstatement will leave his firm, though not with as high a probability as a CEO who is sued by the SEC.

The supplementation rationale for class actions thus gets tepid support from this analysis. The targeting of class actions is apparently flawed but not overwhelmingly so, and while direct financial consequences are rarely the result of class actions, job losses are frequent.

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Appendix 1: Variable Definition

Variable name	Variable definition
Merit-related variables	
Mean Audit Integrity Score	Mean value of the Audit Integrity Accounting score during the misstatement period. The Audit Integrity Accounting score is provided by Audit Integrity based on the ranking of predicted misreporting probability within each firm and industry.
Min Audit Integrity Score	Minimum value of the Audit Integrity Accounting score during the misstatement period.
Mean Discr. Accruals	Mean value of discretionary accruals during the violation period. Discretionary accruals estimated using the Modified Jones Model (Dechow, Sloan and Sweeney 1995). They are the residuals from the following regression, estimated cross sectionally each year using all firm-year observations for the same 2-digit SIC code: $WC = \alpha \frac{1}{TA_{t-1}} + \beta \frac{(Sales_t - \Delta Receivables_t)}{TA_{t-1}} + \varepsilon_t$, where TAt-1 are total assets (Compustat data item AT) at the beginning of the year and WC is calculated as$\{(\Delta Current\ assets\ (ACT) - \Delta Cash\ and\ short\ term\ investments(CHE)) - (\Delta Current\ liabilities(LCT) - \Delta Debt\ in\ current\ liabilities(DLC) - \Delta Taxes\ payable(TXP))\}/Average\ TA$ (Compustat data items in parenthesis).
Change in Income	Difference between total restated net income for the restatement period and total originally reported net income scaled by average total assets during the restatement period. This variable is available only when there is a restatement
Just meet or beat	For each firm quarter during the period of a company's misstatement, we compare the outstanding consensus forecasted earnings per share measured at the last IBES statistical period before the earnings announcement to actual earnings per share per quarter. A quarter in which the company just meets the analysts' consensus forecast or beats it by less than 1 cent is coded as a 1. Otherwise the quarter is coded as a 0. We take the mean score for a company across all quarters in the restated period. We construct this variable from data obtained from the IBES unadjusted summary file.
Insider Sales	A measure of insider trading. Following John and Lang (1991) and Beneish (1999), we use the number of shares sold by insiders minus the number of shares bought by insiders, scaled by the sum of the total shares bought and sold by insiders. We obtain data on insider sales from Thomson Reuters and set insider sales and purchases equal to 0 if the firm is covered by the database but has no transactions).
Settlement size-related variables	
Market Capitalization (millions)	Market capitalization prior to the violation. We calculate market capitalization as Price (PRC)* Number of shares outstanding (SHROUT). We use CRSP to obtain this data for the day prior to the first day of the period during which a company's financials are misstated. For companies that are not included in the CRSP database, we use the latest available Compustat data before the beginning of the

	violation period (Compustat data items PRCC_F*CHSO).
Maximum Loss (Percent)	The difference between a company's highest share price during the period of the misstatement and its share price the day after the possibility of restatement is initially announced, scaled by the maximum market capitalization during the misstatement period. Data on share prices were obtained from CRSP. We identify the announcement date as the first date in which we identify the accounting problem as being public.
Maximum Loss (000's)	It is the difference between the maximum of the market capitalization during the period of its misstatement and its market capitalization the day after the possibility of restatement is initially announced, scaled by the maximum market capitalization during the misstatement period.
Abnormal Return	Cumulative size adjusted abnormal return measured from one day before a company first announced the possibility of a restatement and one day after the announcement. Daily returns were obtained from CRSP.
Other	
Growth	Growth in sales, calculated as as the logarithm of Sales (Computat item SALE) divided by Sales for the previous period. We average the growth in sales over the violation period.
Return on Assets	Return on assets. We calculate annual return on assets as the ratio between net income (Compustat item NI) and average total assets (AT). We average ROA over the violation period.
Wall Street Journal Coverage	The number of Wall Street Journal articles citing the company in the year before the beginning of the violation period.
Bankruptcy	Indicator variable equal to 1 if the firm filed for bankruptcy during the period under analysis. We combine bankruptcy data from four main sources: Beaver, Correia and McNichols (2011) (BCM), bankruptcy.com, Mergent FISD and Lynn Lo Pucki's bankruptcy database.

Figure 1: Sample Construction

Figure 1 illustrates the sample construction. Figure 1A shows the composition of the full sample. Figure 1B eliminates class action lawsuits with no accounting allegations. In the analysis of SEC and class action targeting, we use the sample in Figure 1B.

Figure 1A: Full Sample

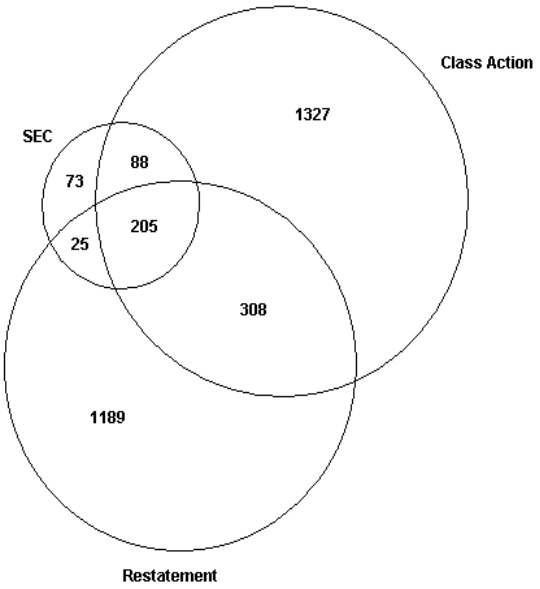


Figure 1B: Final Sample

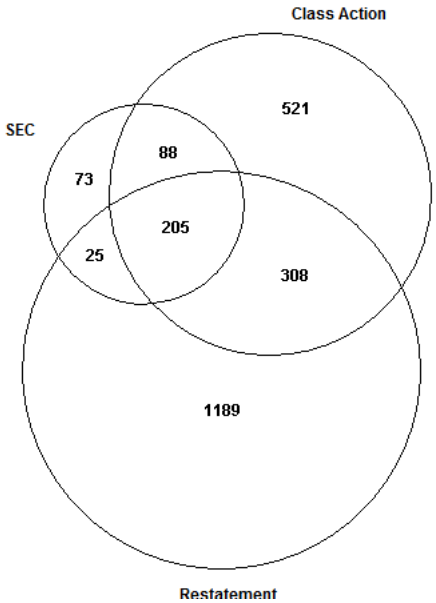
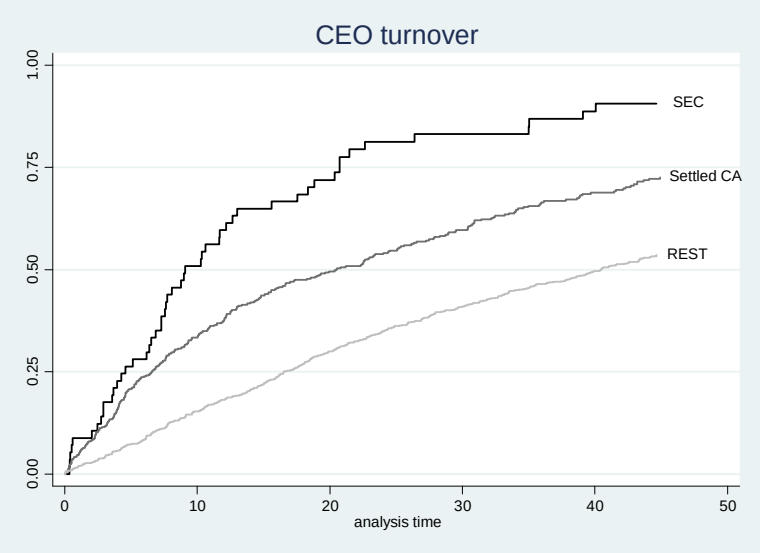


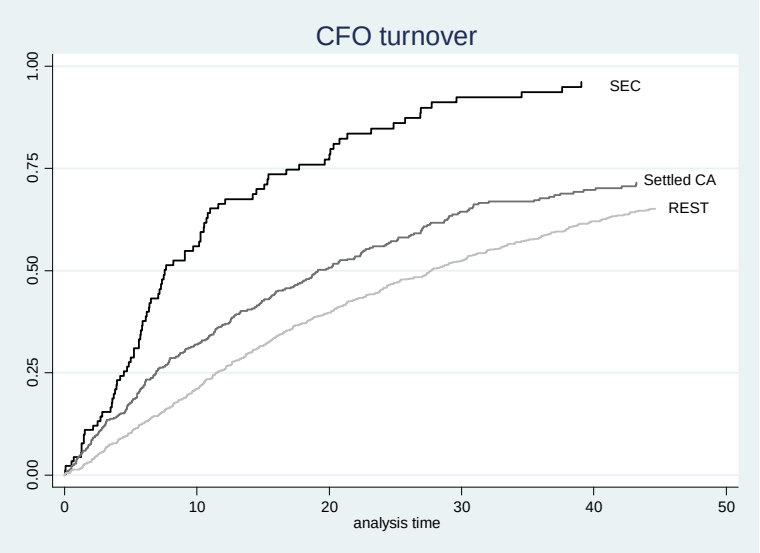
Figure 2: Kaplan Meier Failure Function
This figure presents the Kaplan Meier Failure Function for CEOs and CFOs that are defendants in SEC enforcement actions, Settled class actions with no accompanying SEC action and restatements. The failure event under analysis is a change in position, meaning either a demotion within the firm or a departure from the firm. Below each plot, we present the p-values for the Mantel- Haenzel test of equality in failure function (above diagonal) and the Fisher Exact test (below diagonal)

Figure 1A: CEO turnover



	SEC	Settled class action	Restatement
SEC		<0.001	<0.001
Settled class action	0.027		<0.001
Restatement	<0.001	<0.001	

Figure 1B: CFO turnover



	SEC	Settled class action	Restatement
SEC		<0.001	<0.001
Settled class action	<0.001		<0.001
Restatement	<0.001	0.209	

Table 1: Descriptive statistics for merit-related variables, settlement size-related variables and other control variables
This table shows the mean and median for merit-related variables, settlement size-related variables and control variables across three groups: SEC enforcement actions, class actions with no parallel SEC action and restatements with no litigation. All variables are defined in the Appendix.

	SEC Enforcement Actions			Class Actions (With no parallel SEC action)			Restatement (With no litigation)		
	N	Mean	Median	N	Mean	Median	N	Mean	Median
Merit-related variables									
Mean Audit Integrity Score	254	36.29*	33.63*	565	39.63***	37.16***	1129	46.66	46.60
Min Audit Integrity Score	254	19.52***	12.00***	565	25.73	19.00	1129	26.15	18.00
Mean Discr. Accruals	243	0.0182	0.009*	441	0.0013**	0.0083***	799	-0.0235	0.0002
Change in Income+	39	-0.0697	-0.0134	88	-0.1224***	-0.0153***	690	-0.0197	-0.0021
Just Meet or Beat	132	0.2800***	0.2381***	190	0.2111	0.1111	760	0.1958	0.1333
Insider Sales	204	0.3969	0.6329***	257	0.4701***	0.9156***	1184	0.1184	0.1448
Settlement-size related variables									
Market Capitalization (millions)	295	11,716.98*	429.95***	681	8053.46***	788.26***	1137	2,231.42	225.59
Maximum Loss Percent	247	0.5769	0.6345	694	0.583***	0.6122***	1131	0.3268	0.2929
Maximum Loss (000's)	239	12,068,459***	913,032	684	5,344,279***	793,481***	1118	1,265,121	97771
Abnormal Return	253	-0.1077***	-0.0513***	683	-0.1911***	-0.1552***	1136	-0.0086	-0.0061
Other									
Growth	286	0.2514*	0.1356*	574	0.1915***	0.1213***	972	0.0995	0.0607
Return on Assets	290	-0.1194**	0.015	577	-0.0161	0.0151	977	-0.0431	0.0133
Wall Street Journal Coverage	168	57.09*	7	458	36.99***	6***	1058	15.28	2

*** p < .01, ** p< .05, * < .1 Indications in columns for SEC action refer to differences between SEC actions and class actions. Indications in columns for class actions relate to differences between class actions and restatements with no litigation. Two-tailed t-test for difference in means and Wilcoxon Z for difference in medians.

+ Omits class actions and SEC actions that did not involve restatements.

Table 2: Distribution of cases by quintile of accounting quality and settlement size related variables

Accounting quality variables reflect accounting quality during the period of the misstatement. Settlement size-related variables are related to settlement value independent of the merits of a case. Class actions include only cases with no parallel SEC action. All variables are defined in appendix. The Chi-square test statistic is computed as follows: $\sum_{k=1}^{K} (O_k - E_k)^2 / E_k$, where k is a cell of the frequency table,

Ok is the observed frequency in cell k and Ek is the frequency that would be expected in that cell if the distribution of cases across quintiles was independent of the type of case.

Panel A: Accounting quality variables

	Mean Audit Integrity Score		Min Audit Integrity Score		Mean Discretionary Accruals		Change in Income	
	SEC	Class Actions	SEC	Class Actions	SEC	Class Actions	SEC	Class Actions
Low Quality	28.74	25.66	27.17	22.3	25.51	26.3	38.46	42.05
2	22.83	21.24	22.05	19.12	20.99	20.18	17.95	21.59
3	19.69	21.24	22.44	18.76	20.99	18.14	28.21	22.73
4	17.32	15.04	15.75	20.88	19.34	15.87	7.69	9.09
High Quality	11.42	16.81	12.6	18.94	13.17	19.5	7.69	4.55
Chi-square	4.98		10.23**		5.49		1.14	

Panel B: Settlement-size related variables

	Market Capitalization		Maximum Loss (%)		Maximum Loss		Abnormal Returns	
	SEC	Class Actions	SEC	Class Actions	SEC	Class Actions	SEC	Class Actions
High	27.12	33.04	38.06	35.45	39.33	35.96	24.51	47.14
2	14.92	22.03	21.05	25.79	20.92	29.97	23.72	25.77
3	18.64	19.24	15.79	19.88	18.83	19.88	20.95	11.86
4	19.32	15.42	14.57	13.83	8.79	11.26	12.25	5.56
Low	20	10.28	10.53	5.04	12.13	2.92	18.58	9.66
Chi-square	24.19***		12.15**		35.21***		57.38***	

Table 3: Targeting of SEC enforcement actions and securities class actions
Panel A presents results of the estimation of three bivariate probit models explaining the incidence of SEC actions and class actions. The occurrences of an SEC action and a class action are the dependent variables. Columns 3, 6, 9 contain the Chi-square statistic for the difference in the coefficient of each variable across the equation for SEC actions and the equation for class actions. Panel B presents the marginal effects for each of the main variables on the unconditional probability of SEC enforcement and on the probability of a class action conditional on there being no SEC action.

Panel A: Bivariate Probit estimation of the probability of SEC and CA targeting

	Model 1			Model 2			Model 3		
	SEC	CA	Chi-sq	SEC	CA	Chi-sq	SEC	CA	Chi-sq
Intercept	-2.002***	-2.866***		-1.719***	-2.755***		-1.565***	-2.423***	
	(-10.69)	(-14.89)		(-8.73)	(-12.05)		(-6.00)	(-8.79)	
Mean Audit Integrity Score	-0.006***	-0.002	3.26*	-0.007***	-0.004**	1.10	-0.006**	-0.005**	0.13
	(-3.19)	(-1.13)			(-2.09)		(-2.44)	(-2.05)	
Just Meet or Beat							0.559***	0.203	1.69
							(2.62)	(0.89)	
Insider Sales	0.355***	0.902***	23.91***	0.397***	0.893***	15.76***	0.362***	0.937***	15.61***
	(4.13)	(8.46)		(4.15)	(7.46)		(3.29)	(6.73)	
Market Capitalization (log)	0.066***	0.197***	23.46***	0.028	0.177***	24.51***	-0.014	0.138***	15.64***
	(3.08)	(9.80)		(1.15)	(7.41)		(-0.46)	(4.66)	
Maximum Loss Percent	0.796***	1.762***	21.44***	0.767***	1.899***	23.60***	0.682***	1.729***	14.90***
	(4.49)	(10.80)		(4.08)	(10.15)		(3.11)	(8.12)	
Abnormal Return	-0.184	-4.273***	64.91***	-0.092	-4.009***	52.54***	-0.224	-4.456***	38.27***
	(-0.71)	(-8.97)		(-0.33)	(-7.97)		(-0.70)	(-6.93)	
Growth				0.180	0.512**	1.78	0.302	0.395	0.05
				(1.52)	(2.17)		(1.61)	(0.97)	
Return on Assets				0.123	1.006***	10.22***	0.293	0.599*	0.53
				(0.59)	(4.89)		(0.94)	(1.70)	
Wall Street Journal Coverage				0.001***	0.000	1.92	0.001***	0.001	0.79
				(2.95)	(0.66)		(2.78)	(1.24)	
Rho	0.650***			0.651***			0.610***		
	(8.60)			(8.27)			(6.71)		
Nobs	1,669	1,669		1,401	1,401		1,029	1,029	

Panel B: Marginal Effects

	Model 1		Model 2		Model 3	
	Pr(SEC)	Pr(CA|SEC=0)	Pr(SEC)	Pr(CA|SEC=0)	Pr(SEC)	Pr(CA|SEC=0)
Average frequency	7.80%	28.01%	8.85%	27.95%	9.61%	34.88%
Mean Audit Integrity Score	-0.0009***	-0.0003	-0.0011***	-0.0010	-0.0010**	-0.0014*
Just Meet or Beat					0.0952***	0.0421
Insider Sales	0.0517***	0.2989***	0.0637***	0.2924***	0.0617***	0.3404***
Market Capitalization (log)	0.0097***	0.0660***	0.0045	0.0612***	-0.0024	0.0547***
Maximum Loss Percent	0.1161***	0.5782***	0.1229***	0.6270***	0.1161***	0.6275***
Abnormal Return	-0.0269	-1.5066***	-0.0147	-1.4222***	-0.038213	-1.7175***

Table 4: Effect of size on class action targeting

Panel A examines the distribution of class action cases with no parallel SEC action over quintiles of predicted probability of SEC enforcement. We divide each of the samples used in the estimation of models 1-3 in Table 3 into two equal-sized groups based on market capitalization, and we separately estimate the three models for each subsample. Predicted probabilities of SEC enforcement are then ranked and the percentage of class actions falling within each quintile of these probabilities reported.

Panel A: Distribution of class actions by quintile of predicted probability of SEC enforcement

	Model 1		Model 2		Model 3	
	Large	Small	Large	Small	Large	Small
High Probability	36.02	60.45	35.77	63.48	35.03	55.56
4	24.84	20.15	23.08	14.78	21.83	22.22
3	15.84	11.94	16.54	12.17	16.75	11.11
2	11.8	2.24	10.77	4.35	11.68	4.63
Low Probability	11.49	5.22	13.85	5.22	14.72	6.48
Chi-square	28.41***		26.54***		16.24***	

Panel B: Distribution of cases by quintile of accounting quality

	Mean Audit Integrity	
	Large CA	Small CA
Low Quality	25.07	26.37
4	20.1	24.73
3	20.1	20.33
2	15.4	12.64
High Quality	19.32	15.93
Chi-square	2.73	

Table 5: Descriptive Statistics for outcomes of securities class action lawsuits and SEC enforcement

Panel A: SEC Enforcement

Case resolution

	Number
Settled or Tried	291
Dismissed / Dropped	1
Ongoing	5
Total	297

Penalties imposed on individual defendants*

	Mean	Median	Number of Cases**	Total Cases
Monetary Penalties	29,700,000	265,000	205	297
Monetary Penalty, per person	307,645	75,000	205	297
Disgorgement	17,300,000	669,489	171	297
Disgorgement, per person	3,433,326	176,913	171	297
Permanent Bar	NA	NA	101	297
Temporary Bar	NA	NA	106	297
Injunction / Cease Only	NA	NA	13	297

* The SEC can impose multiple penalties against a single defendant or one penalty against one defendant or another penalty against another defendant.
** We define a case as a single or a group of cases against a single firm and members of its management.

Penalties imposed on corporate defendants

	Mean	Median	Number of Cases	Total Cases*
Monetary Penalties	87,200,000	12,000,000	68	237
Disgorgement	44,600,000	35,360	38	237

*Total cases naming the issuer as a defendant

Panel B: Class Actions

Case resolution

	Number
Settled or Tried	878
Dismissed / Dropped	735
Ongoing	345
Total	1,958

Penalties

	Mean	Median	Number of Cases
Total Settlement*	57,600,000	7,500,000	878
Amount Paid By Company	64,400,000	5,000,000	329
Amount Paid By Insurer	14,600,000	6,350,000	640
Amount Paid By Third Party	124,000,000	5,900,000	130
Amount Paid By Individuals	23,100,000	2,940,000	43
Amount Paid By Individuals, per person	15,700,000	1,941,336	43

*Includes 3rd parties, such as auditors and underwriters.

Panel C: Class actions parallel to SEC actions and nonparallel class actions

Class actions parallel to SEC actions

	Mean	Median	Number of Cases
Total Settlement	156,000,000	13,300,000	246
Amount Paid By Company	135,000,000	15,000,000	130
Amount Paid By Insurer	22,200,000	8,950,000	173
Amount Paid By Third Party	226,000,000	9,750,000	68
Amount Paid By Individuals	22,800,000	4,000,000	27
Amount Paid By Individuals, per person	15,800,000	3,333,333	27

Non parallel class actions

	Mean	Median	Number of Cases
Total Settlement	19,500,000	6,675,000	634
Amount Paid By Company	18,400,000	2,600,000	199
Amount Paid By Insurer	11,800,000	5,600,000	467
Amount Paid By Third Party	10,900,000	3,575,000	62
Amount Paid By Individuals	23,500,000	2,304,064	16
Amount Paid By Individuals, per person	15,500,000	775,000	16

Panel D: Outcomes of parallel pairs and SEC class actions

		SEC outcome	
		Individual penalty	No Individual Penalty
Class action	Individual liability	24	1
	No Individual liability	172	22
	Total	196	23

Table 6: Descriptive Statistics: CEO and CFO Job Loss

This table shows the percentage of CEOs (Panel A) and CFOs (Panel B) that lost their positions in the wake of SEC enforcement actions, securities class action lawsuits, and restatements with no litigation. Column 2 shows the percentage of CEOs and CFOs that left their position. Column 3 shows the percentage of CEOs and CFOs that left their firm. Columns 4 (5) shows the percentage of CEOs or CFOs, among those who left their position, found a (executive) position at another firm within the Audit Integrity turnover database within 1 year of leaving their original position . Column 5 shows the average length of each period under analysis. Average downgrade within firm and average overall downgrade are calculated based on the highest ranked position held by the executive within 1 year of leaving his original position. Positions are ranked as follows: tier 1 includes CEOs; tier 2 includes CFO, COO, executive VP of Finance, President, Co-President, General Counsel; tier 3 includes the remaining C-level positions, controllers and VP positions; tier 4 includes all other executive positions and tier 5 includes board positions.

Panel A: CEOs named defendants

			Position in new firm			
SEC enforcement actions	Left Position	Left Firm	All	Executive position	Length	Obs
During misstatement period	17.44%	11.63%	20.00%	6.67%	1116.31	77
End misstatement to filing date	64.84%	43.96%	10.17%	6.78%	959.04	82
Filing date to resolution date	1.11%	1.11%	0.00%	0.00%	96.84	82
90 days after resolution	0	0	n.a.	n.a.	90	82
Cumulative since misstatement	63.65%	46.77%	10.00%	6.67%	1182.35	
Average downgrade within firm	4.36					
Average overall downgrade	3.91					

			Position in new firm			
Settled class actions	Left Position	Left Firm	All	Executive position	Length	Obs
During misstatement period	18.25%	9.20%	26.40%	13.60%	514.18	688
End misstatement to filing date	9.59%	6.78%	21.54%	10.77%	105.41	687
Filing date to resolution date	44.30%	27.96%	23.30%	12.62%	1177.01	498
90 days after resolution	2.41%	2.19%	36.36%	18.18%	90	688
Cumulative since misstatement	56.30%	36.93%	23.40%	12.40%	1372.42	
Average downgrade within firm	3.15					
Average overall downgrade	2.52					

			Position in new firm			
Restatements	Left Position	Left Firm	All	Executive position	Length	Obs
During misstatement period	26.39%	11.38%	27.70%	15.44%	1146.84	1398
End of misstatement to announcement	4.92%	2.65%	25.00%	9.21%	90.46	1398
1000 days after announcement	29.30%	18.50%	22.96%	10.60%	1000	1398
Cumulative since misstatement	34.22%	21.15%	23.25%	10.40%	1090.46	
Average downgrade within firm	3.07					
Average overall downgrade	2.43					

Panel B: CFOs named defendants

			Position in new firm			
SEC enforcement actions	Left Position	Left Firm	All	Executive position	Length	Obs
During misstatement period	25.98%	12.60%	24.24%	15.15%	1072.44	127
End misstatement to filing date	68.22%	51.94%	14.77%	4.55%	1055.01	130
Filing date to resolution date	1.56%	0.78%	50.00%	50.00%	74.57	130
90 days after resolution	0	0	n.a	n.a	90	130
Cumulative since misstatement	69.78%	52.72%	15.56%	5.56%		
Average downgrade within firm	3.18					
Average overall downgrade	2.72					

			Position in new firm			
Settled class actions	Left Position	Left Firm	All	Executive position	Length	Obs
During misstatement period	24.88%	16.86%	24.34%	13.16%	558.99	680
End misstatement to filing date	10.82%	8.15%	23.08%	10.77%	112.02	679
Filing date to resolution date	41.96%	34.17%	25.75%	15.57%	1175.96	477
90 days after resolution	2.06%	1.80%	12.50%	12.50%	90	680
Cumulative since misstatement	54.83%	44.12%	24.58%	14.17%		
Average downgrade within firm	2.41					
Average overall downgrade	1.80					

			Position in new firm			
Restatements	Left Position	Left Firm	All	Executive position	Length	Obs
During misstatement period	35.32%	25.47%	27.55%	17.86%	1205.08	1696
End of misstatement to announcement	7.02%	5.19%	39.50%	24.37%	87.91	1696
1000 days after announcement	32.55%	25.12%	31.16%	22.28%	1000	1696
Cumulative since misstatement	39.56%	30.31%	32.64%	22.65%		
Average downgrade within firm	2.68					
Average overall downgrade	1.94					

Table 7: Hazard estimation of CEO and CFO turnover

This table presents the results of the estimation of a hazard model of CEO and CFO job loss (where job loss is defined as a change in position within a firm or to another firm—Table 6, column 2). All coefficients are expressed as hazard ratios.

	CEO				CFO			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Bankruptcy	1.69***	1.54***	1.58***	1.36**	1.43***	1.39***	1.26**	1.03
	(7.251)	(4.483)	(4.374)	(2.295)	(4.866)	(3.454)	(2.135)	(0.237)
SEC defendant	2.10***	2.43***	2.73***	2.33***	2.51***	3.23***	3.40***	3.41***
	(5.079)	(4.961)	(5.518)	(3.913)	(8.776)	(9.487)	(8.893)	(8.011)
CA defendant	1.54***	1.30***	1.32***	1.39***	1.26***	1.09	1.17*	1.25**
	(7.649)	(3.036)	(2.908)	(3.015)	(4.281)	(1.080)	(1.819)	(2.331)
Dismissed	0.88*	0.85*	0.87	0.93	1.01	1.04	1.07	1.10
	(-1.900)	(-1.928)	(-1.403)	(-0.628)	(0.147)	(0.442)	(0.767)	(0.975)
Mean Audit Integrity Score		1.00	1.00**	1.00		1.00	1.00	1.00
		(0.630)	(2.202)	(1.444)		(-0.551)	(0.554)	(-0.430)
Just Meet or Beat				1.24				1.07
				(1.215)				(0.464)
Insider Sales		0.98	1.03	0.97		1.08	1.02	1.00
		(-0.293)	(0.406)	(-0.294)		(1.205)	(0.237)	(-0.004)
Market Capitalization (log)		1.01	1.02	1.01		0.99	0.99	0.97
		(0.561)	(1.535)	(0.697)		(-0.952)	(-0.750)	(-1.436)
Maximum Loss Percent		1.60***	1.50***	1.60***		1.32***	1.27**	1.52***
		(4.032)	(3.164)	(3.048)		(2.577)	(2.008)	(2.955)
Abnormal Return		0.81	0.76	0.71		0.82	0.77	1.02
		(-0.949)	(-1.144)	(-1.177)		(-1.040)	(-1.269)	(0.066)
Growth			0.98	1.19			1.08	1.06
			(-0.126)	(1.151)			(0.742)	(0.400)
Return on Assets			0.88	0.84			0.80	0.65**
			(-0.995)	(-1.016)			(-1.638)	(-2.196)
Observations	2,642	1,913	1,568	1,154	2,555	1,855	1,538	1,135

Table 8: Job Market Outcomes of CEO and CFO turnover

This table examines the CEO and CFO job losses. Panel A presents the results of the estimation of a hazard model where the job loss event is defined as an executive leaving his firm. Panel B presents the results of a logit estimation using the sample of CEOs and CFOs that changed their position, where the dependent variable is equal to 1 if the CEO/ CFO that left found a position in another public company in the Audit Integrity turnover database within one year of leaving their original position. Panel C presents the results of a ordered logit estimation where the dependent variable is the downgrade in position. Downgrade in position is defined as the difference between the tier of the best position that the executive keeps after leaving his old position and the tier of his old position. Positions are ranked as follows: tier 1 includes CEOs, tier 2 includes CFOs, COOs, Presidents, Co-Presidents and General Counsel, tier 3 includes other C-level positions and VP positions, tier 4 includes other executive positions and tier 5 includes directorships. C1 includes all executives that left their CEO and CFO positions but kept other positions within the firm, and examines the downgrade for these. C2 includes all executives who left the firm and examines the downgrade in positions obtained within their new firms. Each column represents one of the models estimated in Table 2. Estimation includes the corresponding control variables from Table 7.

Panel A: Hazard estimation of the probability of leaving the firm

		(1)	(2)	(3)	(4)
CEOs	SEC defendant	2.43***	3.09***	3.49***	3.22***
		(7.111)	(6.936)	(7.834)	(6.491)
	CA defendant	1.32***	1.10	1.20*	1.32***
		(4.592)	(1.125)	(1.923)	(2.605)
	Controls		Yes	Yes	Yes
CFOs	SEC defendant	2.41***	2.24***	2.99***	3.30***
		(5.232)	(4.680)	(5.412)	(5.838)
	CA defendant	1.42***	1.54***	1.19	1.16
		(5.774)	(6.175)	(1.576)	(1.187)
	Controls		Yes	Yes	Yes

Panel B: Probability of finding a position in another public firm within 1 year

		(1)	(2)	(3)	(4)
CEOs	SEC defendant	-0.85**	-1.10**	-1.10**	-1.29**
		(-2.475)	(-2.310)	(-2.306)	(-2.111)
	CA defendant	0.01	-0.10	-0.07	-0.03
		(0.069)	(-0.600)	(-0.414)	(-0.132)
	Controls		Yes	Yes	Yes
CFOs	SEC defendant	-0.42*	-0.38	-0.22	-0.18
		(-1.747)	(-1.380)	(-0.773)	(-0.510)
	CA defendant	-0.29***	-0.34***	-0.36**	-0.38**
		(-3.123)	(-2.646)	(-2.537)	(-2.303)
	Controls		Yes	Yes	Yes

Panel C: Downgrade in position

C1: Within the old firm (executives that leave their original position but not their original firm)

		(1)	(2)	(3)	(4)
CEOs	SEC defendant	1.28***	1.22***	1.36***	1.61***
		(5.506)	(3.490)	(3.791)	(4.064)
	CA defendant	-0.04	0.35	0.16	-0.48
		(-0.149)	(1.011)	(0.422)	(-1.236)
	Controls		Yes	Yes	Yes
CFOs	SEC defendant	0.22	0.75*	0.81*	0.24
		(0.773)	(1.896)	(1.811)	(0.448)
	CA defendant	-0.08	-0.27	-0.36	-0.33
		(-0.553)	(-1.302)	(-1.615)	(-1.242)
	Controls		Yes	Yes	Yes

C2: Within the new firm (executives that leave their original position and firm)

		(1)	(2)	(3)	(4)
CEOs	SEC defendant	0.80*	2.44**	2.41**	2.15**
		(1.791)	(2.463)	(2.436)	(2.135)
	CA defendant	0.09	0.03	0.04	-0.03
		(0.616)	(0.158)	(0.195)	(-0.112)
	Controls		Yes	Yes	Yes
CFOs	SEC defendant	0.26	0.21	0.15	0.11
		(1.064)	(0.755)	(0.528)	(0.294)
	CA defendant	0.30***	0.36**	0.38**	0.46**
		(2.853)	(2.484)	(2.468)	(2.453)
	Controls		Yes	Yes	Yes

Table 9: Matched Restatement Analysis

This table presents the results of the estimation of a logistic regression where the dependent variable is equal to 1 if the CEO/ CFO abandoned his position between the beginning of litigation and 90 days after the resolution of litigation. The regression is estimated using a matched sample, whereby each restatement leading to a class action is matched to another restatement without a corresponding class action announced at the same time. Turnover for standalone restatements is calculated using the dates of the matched class action cases.

	CEO				CFO			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Intercept	-1.33***	-0.98	-2.10***	-2.79**	-1.01***	-0.20	-0.88	-1.01
	(-6.846)	(-1.316)	(-2.596)	(-2.451)	(-6.476)	(-0.336)	(-1.348)	(-1.249)
Bankruptcy	0.51	0.89*	1.01*	2.96***	0.19	0.91**	0.88*	2.60***
	(1.418)	(1.787)	(1.763)	(3.467)	(0.597)	(2.195)	(1.946)	(3.472)
CA defendant	0.75**	0.89**	1.16***	1.53***	0.33	0.19	0.19	0.36
	(2.504)	(2.475)	(2.819)	(2.963)	(1.293)	(0.612)	(0.540)	(0.898)
Dismissed	-0.41	-0.90*	-0.91*	-0.56	-0.12	0.03	0.23	0.75
	(-1.160)	(-1.882)	(-1.740)	(-0.969)	(-0.385)	(0.081)	(0.497)	(1.519)
Mean Audit Integrity Score		-0.00	-0.00	-0.02*		-0.00	-0.00	-0.00
		(-0.550)	(-0.053)	(-1.653)		(-0.795)	(-0.108)	(-0.354)
Just Meet or Beat				0.34				0.57
				(0.302)				(0.633)
Insider Sales		0.20	0.23	0.26		0.22	0.15	0.13
		(0.687)	(0.694)	(0.609)		(0.792)	(0.489)	(0.382)
Market Capitalization (log)		-0.12	-0.01	0.13		-0.15**	-0.11	-0.10
		(-1.213)	(-0.125)	(0.996)		(-1.972)	(-1.320)	(-0.985)
Maximum Loss Percent		1.07*	1.22*	0.93		0.45	0.75	0.29
		(1.900)	(1.898)	(1.115)		(0.928)	(1.351)	(0.433)
Growth			-0.27	1.54			0.41	0.77
			(-0.277)	(0.867)			(0.593)	(0.839)
Return on Assets			0.32	-1.42			0.55	-0.06
			(0.432)	(-1.109)			(0.870)	(-0.091)
Observations	319	244	211	163	406	316	271	211