Hush Money:
The Impact of Rank and File Stock Options on Employee Whistle-Blowing

Andrew Call
Assistant Professor
Terry College of Business
University of Georgia
Athens, GA
Email: andycall@uga.edu

Simi Kedia
Associate Professor, Finance and Economics
Rutgers Business School
94 Rockefeller Road
New Brunswick, NJ
Email: skedia@rbsmail.rutgers.edu

Shivaram Rajgopal*
Schaefer Chaired Professor of Accounting
Goizueta Business School
Emory University
1300 Clifton Road NE
Atlanta, GA 30322
Email: shivaram.rajgopal@emory.edu

August 2011
Preliminary and Incomplete
Please do not cite without permission

Abstract: The Dodd-Frank Act (2010) seeks to encourage whistle-blowing by offering financial rewards to those who bring corporate fraud to light. We hypothesize that firms can counter this legislative action by giving their employees incentives, via rank and file stock options, to remain quiet about financial irregularities. We examine two samples of firms known to have committed financial reporting violations and find that those that grant more rank and file stock options are more likely to avoid employee whistle-blowing, consistent with our hypothesis. Moreover, firms involved in financial reporting violations grant more rank and file stock options relative to a control sample of non-violation firms, pointing to their efforts to discourage whistle-blowing. An investigation into firms' use of broad based cash profit-sharing programs yields similar conclusions.

---

*Corresponding author. We would like to thank Jonathan Karpoff, Scott Lee and Gerald Martin for graciously sharing their SEC enforcement data. We are grateful for financial support from the J.M. Tull School of Accounting, the Whitcomb Center at Rutgers Business School, and Goizueta Business School.

Hush Money:
The Impact of Rank and File Stock Options on Employee Whistle-Blowing

1.0 Introduction

On July 21, 2010, President Obama signed into law the Dodd-Frank Wall Street Reform and Consumer Protection Act. One of the controversial provisions of the Dodd-Frank Act is Section 922, which directs the Securities and Exchange Commission (SEC) to implement a whistle-blower program by which individuals may report suspected securities violations to the agency. The Dodd-Frank Act further stipulates that whistle-blowers can receive between 10 and 30 percent of any fines, penalties, or repayment of losses resulting from their reports. The SEC received over 950 comment letters following its publication of proposed rules for implementing Section 922. A commonly expressed concern was the potential for disgruntled individuals to make unsubstantiated accusations in an effort to gain financial rewards.

In this paper, we highlight the opposite concern. In particular, we document evidence that employee whistle-blowers are unlikely to come forward when firms make greater use of stock options and hence allow employees to benefit from inflated financial performance. Employees face substantial costs for blowing the whistle including getting fired, difficulty in finding another job, losing a steady stream of income, and being blacklisted and of course, loss of their unvested options. Further, the potential monetary reward from the SEC is uncertain. Therefore, employees may prefer to take small financial incentives from their employers via rank and file stock options rather than blow the whistle when they observe financial reporting violations. Our evidence that firms counter the financial incentives employees have to blow the whistle by sharing the gains from misreporting violations with employees suggests that Section 922 of the Dodd-Frank Act is likely to have limited success.

We examine the incidence of employee whistle-blowing in the revelation of financial misconduct and its relation to stock option granting practices for rank and file employees. We hypothesize that the greater use of rank and file options is associated with a lower likelihood of employee whistle-blowing.

We examine the relation between employee whistle-blowing and use of rank and file options in two separate samples of firms alleged to have committed financial reporting violations.

Our first sample of firms with alleged violations consists of firms subject to class action shareholder litigation, obtained from Stanford Securities Class Action Clearing House over the period 1996 to 2008. As we require compensation data for these firms, we match these litigation data to the ExecuComp database to obtain a final sample of 514 firms with alleged violations. We use the Lexis-Nexis database to hand-collect data on whether these firms were subject to an employee whistle-blowing event. Employee whistle-blowers were present in 51 cases or approximately 10% of the sample. For each firm in this litigation sample, we examine rank and file stock option grants for the period beginning with the start of the misreporting period and ending with the eventual discovery of such violations. During this period, firms that ultimately experienced a whistle-blowing event granted stock options to rank and file employees averaging 1.69% of total shares outstanding. In contrast, misreporting firms with *no* whistleblowers granted rank and file stock options averaging 2.93% of total shares outstanding. The 73% higher usage of rank and file options in misreporting firms without whistle-blowers is both statistically and economically significant. These univariate results hold in a multivariate setting with controls for (i) stock options and other compensation granted to the firm's top-five executives; (ii) other determinants of whistle blowing events as documented by Bowen, Call, and Rajgopal (2010) and (iii) year and industry fixed effects.

Although several prior papers have examined corporate misconduct in firms subject to class action litigation, one concern remains. Lawyers tend to target larger, fast growing and cash rich firms that can pay damages. To address this selection concern, we use a second sample of firms with violations, i.e., firms subject to SEC enforcement actions. The SEC generally pursues only a few fraudulent firms and their target selection criteria differ from that of lawyers in that the SEC also pursues smaller firms. Moreover, given the very limited number of targets usually pursued by the SEC, this SEC enforcement sample is likely to be smaller and consist of the most egregious wrongdoers. We examine 130 SEC

enforcement cases over the period 1992 to 2008 with coverage in ExecuComp.[1] Of these, 13 SEC enforcement cases, or 10% of the sample, are associated with employee whistle-blowing. During the period of wrongdoing, misreporting firms with whistle-blowers granted stock options to rank and file employees averaging 1.55% of shares outstanding, whereas those with no whistle-blowing granted rank and file options averaging 2.68% of shares outstanding. The difference between these two sub-groups of SEC enforcement cases is statistically significant and continues to hold in a multivariate setting with a variety of controls.

Evidence of lower employee whistle-blowing when firms issue large rank and file stock option grants suggests that firms that are considering misreporting would rationally choose to grant more rank and file stock options to reduce the likelihood of revelation by employee whistle-blowers in the future. Hence, we investigate whether misreporting firms grant more rank and file stock options in the violation years, relative to a sample of compliant control firms.

Firms subject to class action litigation (SEC enforcement actions) grant stock options to rank and file employees averaging 2.79% (2.61%) of total shares outstanding during the violation years. This is significantly higher than the stock option equal to 1.56% of shares outstanding that are granted by compliant control firms to their rank and file employees. The higher usage of rank and file options in violation firm years continues to be statistically significant in multivariate estimations with controls for top-five executive compensation, industry, year, location, and firm characteristics that have been shown to impact rank and file option grants. The results suggest that the decision to misreport is associated with a 24% increase in rank and file option grants relative to its unconditional (untabulated) mean of 1.75%.[2]

In summary, we find (i) that misreporting firms that grant more rank and file stock options in the violation years are less likely to experience an employee whistle-blowing event, and (ii) that during violations years, firms grant more rank and file stock options relative to control firms. In general, our

[1] We are grateful to Jonathan Karpoff, Scott Lee and Jerry Martin for graciously sharing the data on SEC enforcement with us. This data has been analyzed in Karpoff, Lee, and Martin (2008a,b).

[2] Our control firms consist of all firms in Compustat that have not been subject to any allegations of wrongdoing. This group potentially includes firms that have committed violations but have not yet been discovered. Inclusion of such firms in our control sample only biases against our hypothesis..

findings suggest that firms use rank and file options to give employees financial incentives to remain silent about financial wrongdoing.

We also explore mechanisms, other than rank and file stock options, through which firms may discourage employee whistle-blowing. In particular, we examine whether firms offer cash profit-sharing programs to their employees to deter whistle-blowing. We use data on the existence of cash profit-sharing programs obtained from the Kinder, Lydenberg, and Domini Research and Analytics, Inc (KLD) database. We find that firms that have cash profit-sharing programs in violation periods are less likely to be subject to employee allegations of wrongdoing. However, we do not find that misreporting firms are more likely to employ cash profit-sharing programs relative to control firms. Although cash profit-sharing programs offer employees financial incentives to remain silent, firms do not appear to use these programs strategically to mitigate whistle-blowing. This result is not entirely unexpected considering that misreporting firms are likely to conserve cash during periods of violation. In fact, a cash shortfall is one of the factors that potentially induces firms to manipulate their financial statements in the first place.

Our study makes three contributions to extant literature. First, we are among the first to point out that managers with discretion over employee compensation can use financial incentives to mitigate employee whistle-blowing and therefore undermine the success of Section 922 of the Dodd Frank Act. Given the high costs employee whistleblowers face and the uncertainty of the payoffs from the SEC, employees may settle for relatively modest financial incentives from firms in exchange for keeping quiet. This result has important policy implications. Along with concerns about excessive and potentially worthless whistle-blowing claims, the SEC might want to pay attention to how firms can counter regulator-provided bounties and subvert meaningful whistle-blowing legislation.

Second, several recent papers have linked executive compensation, in particular the use of equity-linked compensation, with incentives to misreport (Cheng and Warfield 2005, Burns and Kedia 2006, Erickson, Hanlon, and Maydew 2006, Bergstresser and Phillipon, 2006 and Efendi, Srivastava, and Swanson, 2007). We find that the rank and file employee compensation structure can also influence misreporting and its discovery. Because our results obtain after controlling for equity linked

compensation of the top-five executives, the role of rank and file option grants is an additional factor that has hitherto not been discussed as influencing the discovery of misreporting in firms.

Finally, the use of rank and file options remains somewhat of a puzzle. Incentive alignment, an important rationale for granting options to top executives, is a weak argument for rank and file option grants because lower-level employees cannot materially impact firm value (See Oyer 2004). Further, holding options in their employer's stock exposes employees to stock price risk that is highly correlated with the risk in their human capital (Lambert, Larcker, and Verrechhia 1991, Hall and Murphy 2002). Several explanations have been offered in the literature for the use of rank and file stock options such as retention and labor market concerns (Oyer 2004, Kedia and Rajgopal 2009), sorting and sentiment (Oyer and Shaefer 2005 and Bergman and Jenter 2007), and tax considerations and cash constraints (Core and Guay 2001). We find that an employer's desire to lower the likelihood of employees blowing the whistle about reporting irregularities can also explain the widespread usage of rank and file options.

The remainder of the paper is organized as follows. Section 2 discusses the background and hypotheses. Section 3 describes the data and empirical specification. Section 4 presents the results on employee whistle-blowing. Section 5 discusses rank and file option grants of misreporting firms, Section 6 examines the role of cash-profit-sharing programs and Section 7 concludes.

2.0 Institutional Background, Literature Review and Hypotheses

2.1 The Evolution of Section 922 of the Dodd-Frank Act

Section 922 of the Dodd-Frank Act provides a significant new monetary incentive for individuals to file whistle-blower reports to the SEC and also enacts retaliation protection for the employee. The monetary awards, ranging from 10 to 30 percent, are payable only to those who contribute original information that leads to recoveries of monetary sanctions of $1,000,000 or more in criminal and civil proceedings.

Section 301 of the Sarbanes Oxley Act (SOX) also enacted a whistle-blowing program by requiring audit committees to implement mechanisms for recording, tracking and acting on information provided by employees confidentially and anonymously. However, the Dodd-Frank Act further elevated

the importance of whistle-blowing programs by enabling employees, vendors, and customers, among others, to bypass companies' internal control systems and report accusations directly to the U.S. Government.[3]

Prior to Dodd-Frank and SOX, whistle-blowing was potentially covered under three separate statutes. The first program was set up by the Federal False Claims Act (FFCA) in 1863 and offers incentives to report fraud against the government. These claims (also referred to as "qui tam" lawsuits) are typically related to two industries (health care and defense). As amended in 1986 and 2009, the FFCA offers financial incentives to whistle-blowers of up to 30 percent of any recoveries stemming from such tips. FFCA also includes anti-retaliation provisions against employees such as reinstatement to the older position, payment of damages, and double back pay for workers who blow the whistle on their employers. The parallels between section 922 of the Dodd-Frank Act and FFCA are obvious. We control for "qui tam" cases in our empirical analyses.

The second statute, known as the Informant Claims Program (ICP) and implemented under Section 7623 of the Internal Revenue Code, has been in effect since 1867. Under the ICP, an individual may report a taxpayer who understates his tax liabilities, and the whistle-blower could receive a bounty in return for the report.[4] The third program was set up by the SEC to uncover tips on insider trading. Section 21A(e) of the Securities Exchange Act of 1934 (Exchange Act) authorizes the SEC to award a bounty to a person who provides information leading to the recovery of a civil penalty from an insider trader. However, an audit conducted by the Office of the Inspector General (2010) found that (i) the SEC has not received a large number of applications from individuals seeking a bounty over the 20 years covering 1989-2009; (ii) very few payments have been made under this program; and (iii) the program is not widely recognized inside or outside the SEC.

[3] Section 806 of SOX also protects employees are against discrimination when they have blown the whistle on their employer. The employee who felt discriminated against may file, within 90 days of the alleged discrimination, a complaint with the Occupational Safety and Health Administration (OSHA). However, such whistle-blowing activity under SOX carries no opportunity for financial bounties. Bowen, Call and Rajgopal (2010) evaluate the efficacy of whistle-blowing complaints filed with OSHA and generally conclude that these complaints are mostly frivolous. Hence, we do not employ OSHA related whistle-blowing events in our data analysis.

[4] If the Internal Revenue Service (IRS) successfully uses the whistle-blower's information against an individual with adjusted gross income of at least $200,000 or a firm with underpayments of at least $2 million, the whistle-blower is entitled to a bounty of up to 30 percent of funds collected.

2.2 Literature Review

This study is related to many different strands of literature. The immediate connection relates to the recent and emerging literature on whistle-blowing. Bowen, Call, and Rajgopal (2010) study firm characteristics associated with incidences of employees whistle-blowing. We follow their methodology in collecting our sample of whistle-blowing events and use their control variables to estimate our model of whistle-blowing. Dyck, Morse, and Zingales (2010) study the role of different mechanisms in discovering corporate fraud, such as analysts, auditors, media, and employees, and find a significant role for employee whistle-blowing. Because employee whistle-blowing in an important mechanism for the revelation of fraud, misreporting firms are likely to adopt measures to increase the likelihood of employee silence.

Our study is also related to the recent and rapidly growing literature on the link between equity-based compensation and corporate fraud. Several papers find that the likelihood of financial misrepresentation increases as top executives get more equity-linked compensation (see for instance, Burns and Kedia (2006), Bergstresser and Philippon (2006), Peng and Roell (2008) and Johnson, Ryan, and Tian (2009)). These studies use a variety of empirical proxies for corporate wrongdoing, including SEC enforcement actions, class action lawsuits, earnings restatements and abnormal accruals.

Finally, the paper is related to the literature that examines why employee stock option plans exist. It has been argued that stock options are limited in their ability to align incentives for rank and file employees on account of free rider problems. However, Hochberg and Lindsey (2011) find evidence suggesting that employee stock options increase firm value due to better incentive alignment. Oyer (2004) shows theoretically and Kedia and Rajgopal (2009) document empirically that labor market conditions and retention are an important rationale for rank and file option grants. In addition to these reasons, Oyer and Shaefer (2005) and Bergman and Jenter (2007) document the importance of sorting and investor sentiment for rank and file option grants. In this paper, we find a completely different, if perverse, rationale for the grant for the rank and file options. Firms may grant rank and file options to

share inflated profits with employees and to give them financial incentives to stay silent about financial misrepresentation.

2.3 Hypotheses

Miceli and Near (1992) define whistle-blowing as disclosure by organizational members of illegal, immoral, or illegitimate organizational acts or omissions to parties who can correct the wrongdoing. In this study, we focus on employee whistle-blowing of financial misreporting practiced by the employer.

Our hypothesis, that whistle-blowing is likely to be negatively associated with rank and file option grants, is predicated on three premises: (i) whistle-blowing is costly to the employee; (ii) the prospect of bounty awards from the SEC is uncertain; and (iii) blowing the whistle lowers the value of an employee's stock options. We discuss these premises in detail below.

Although whistle-blowers play a useful role in unearthing fraud, they face significant costs. Whistle-blowers often face retaliation from employers, lose their job and report difficulty in finding a new job. Dyck, Morse, and Zingales (2010) report that in 82 percent of the employee whistle-blowing cases where they could find an employee name, the individual alleges that they were fired, quit under duress, or had significantly altered responsibilities as a result of bringing the fraud to light. Many of them are quoted saying, "If I had to do it over again, I wouldn't."[5] Although section 922 provides some retaliation protection against employees, it also clarifies that only in the event of successful claims do protections related to possible reinstatement, double back pay with interest, expert witness fees, and attorney fees become effective. Given these sizeable costs and substantial uncertainties, a natural question is why an employee would volunteer to blow the whistle?

Moreover, the monetary rewards from whistle-blowing are uncertain. As mentioned earlier, the SEC's track record in rewarding whistle-blowers under the existing program related to insider trading cases has not been very generous. During its 20-year existence, the SEC's whistle-blower program

[5] Other employers are reluctant to hire whistle-blowers because their action is seen as a breach of loyalty. Some employees report name-calling from their erstwhile colleagues such as "snitches," "traitors" and "troublemakers." Whistle-blowers also potentially face a heavy financial burden as a result of loss of employment and/or potential legal bills if the whistle-blowing effort is unsuccessful.

related to insider trading has paid just over $1 million to only six participants (Holzer and Johnson 2010).[6] Similarly, section 922 of Dodd-Frank clearly specifies that the whistle-blower is eligible for a bounty payment only if the SEC decides to investigate the case and is successful in extracting fines and penalties from the accused firm. Hence, the employee has to contend with several probabilistic outcomes before he/she can expect to collect a bounty from the SEC. Dickins and Anwer (2011) argue that Section 922 of the Dodd-Frank act is unlikely to be effective at encouraging whistle-blowing. Based on an analysis of two analogous federal bounty programs, the FFCA and the ICP, they contend that although rewards under these programs are substantial, the general use of the programs is not high. Moreover, they anticipate lack of adequate federal funding to pursue reported claims, rendering payouts from the whistle-blower's point of view to be highly uncertain.

When employee wealth is more sensitive to changes in firm value, employees have less incentive to uncover any wrongdoing that may be helping the firm report inflated profits and therefore pump up the firm's stock price. Bowen, Call, and Rajgopal (2010) find an immediate 2.8% drop in stock price when an employee's whistle-blowing allegations become public, and that these negative returns can continue for at least 3 years. As a result, employees with large quantities of stock options are less likely to blow the whistle and lower the value of their personal option holdings. Moreover, the act of whistle blowing is likely to get the employee fired, which would, in turn, lead to the loss of his/her unvested options as well.

In summary, whistle-blowers face significant costs and uncertain monetary rewards. Therefore, employees may be willing to accept small financial incentives from the firm and stay silent. By granting stock options to their employees, firms give these employees financial incentive to remain silent about misreporting practices, as voicing these concerns would dampen the firm's stock price and reduce the value of the employees' options. Allowing employees to participate in cash profit-sharing programs may be another way for firms to discourage whistle-blowing, as the revelation of wrongdoing likely deflates future profits and therefore employees' proceeds from these programs (we examine this in Section 6).

[6] The Office of the Inspector General (2010) reviewing the program found that (i) five applications for bounties in the period 1989-2009 had been denied; and (ii) from 2005 to 2010, the SEC received approximately 30 other bounty applications but did not formally take action. Although the SEC filed or initiated a total of 204 insider trading cases in the period 2005–2008, the SEC only approved three payments under the bounty program.

Violation firms likely have the greatest motivation to grant stock options to employees when the threat of whistle-blowing is strongest. As a result, we measure option grants during the period starting with the beginning of the violation period and ending with the public discovery of the wrongdoing. Note that discovery of misrepresentation need not happen immediately after the end of the violation period. In our litigation (SEC) sample, we find that, on average, 6 months (2 months) elapses between the end of the violation period and the filing of the lawsuit (SEC enforcement trigger date or the date when the violation is made public). In this period, even though the misrepresentation has ended, it is not public, and the threat of an employee blowing the whistle remains. Therefore, we expect rank and file options grants, not only in the violation period but also in years after the violation until discovery, will impact the incidence of employee whistle-blowing. This leads to our first hypothesis.

H1: The probability of employees blowing the whistle for questionable financial reporting practices is lower at firms that grant more rank and file stock options during the violation period leading up to discovery.

Firms are likely to incur significant reputational and legal costs when employees blow the whistle to external parties such as the press or to a regulatory agency. As mentioned previously, Bowen, Call, and Rajgopal (2010) find that such allegations are associated with a negative 2.8% market-adjusted five-day stock price reaction, and this reaction is especially negative for allegations involving earnings management (-7.3%). Moreover, such allegations reliably predict future lawsuits and regulatory intervention. Hence, it is cheaper and easier for the misreporting firm to simply pay employees to keep quiet than to deal with whistle-blowing allegations, should the employees choose to go public. Therefore, misreporting firms are likely to grant more rank and file options in the violation years and in the years until discovery in order to reduce the likelihood of misreporting. This leads to our second hypothesis

H2: Firms that employ questionable financial reporting practices are likely to grant more rank and file stock options in the violation years leading up to discovery.

3.0 Data and Empirical Specification

3.1 Sample of Corporate Misconduct

To study whether compensation practices, and in particular, the use of rank and file stock options, impact employees' incentives to blow the whistle, we begin by identifying two samples of firms alleged

to have engaged in financial misrepresentation. First, we investigate the Stanford Securities Class Action Clearinghouse database to identify class action lawsuits filed between 1996 and 2008. Peng and Roell (2008) and Dyck, Morse, and Zingales (2010) also use class action litigation to capture financial misrepresentation. We extract the company name and exchange ticker symbol to match these to firm level data obtained from Compustat and compensation data from ExecuComp. We also collect data on the lawsuit filing date and the class period (the period over which the firm is alleged to have committed the violations). We refer to the period beginning with the start of the official violation period and ending with the filing date as the violation period.[7] In Table 1 we report a sample of 514 class action litigations across 443 unique firms over the sample period.

Because the litigation sample potentially suffers from the possibility that lawyers target certain types of firms (large, growing, with enough cash to pay damages), for robustness, we also study a second sample of firms – those subject to SEC enforcement actions. Because the SEC does not have the resources to investigate all wrongdoers, this sample is smaller than the litigation sample but more likely to have firms with egregious reporting violations. Use of both the litigation and the SEC enforcement datasets has the advantage of covering both public (SEC) and private (shareholder litigation) enforcement of financial violations. Several studies, including Johnson, Ryan, and Tian (2009), and Karpoff, Lee, and Martin (2008a, b), use SEC enforcements to capture financial misrepresentation. This sample represents all firms for which the SEC initiated an enforcement action from March 1978 through December 2009.[8] We examine all SEC enforcement actions initiated through December 2008, and include all violations periods for these firms after 1992.[9] We match the SEC enforcement sample with ExecuComp and obtain a final sample that consists of 130 SEC enforcement actions for 125 unique firms (see Table 1).

[7] Our sample consists of all class action lawsuits filed after 1996 with data availability on ExecuComp. Because the violation years when financial statements are misrepresented fall prior to discovery of the wrongdoing and the filing of the lawsuit, these violation years can occur before 1996. We include all violation years after 1992 for which we have compensation data.

[8] We are very grateful to Karpoff, Lee, and Martin for sharing their data on SEC enforcement actions. The reader is referred to Karpoff, Lee, and Martin (2008a, b) for further details on the data.

[9] We only include SEC enforcements initiated through December 2008 to be consistent with the end of the lawsuit sample, which ends in 2008.

As mentioned earlier, our hypothesis is that larger rank and file option grants in violation years through the discovery date of the violation is associated with lower incidence of employee whistle-blowing. In many instances, formal SEC enforcement actions are initiated well after discovery of the misrepresentation. Hence, we use the trigger date (the date the misrepresentation was made public) as the end of the period in which firms are likely to issue large rank and file option grants. However, we expect the association between rank and file options and employee whistle-blowing to be smaller for the SEC enforcement action sample than for the litigation sample for two reasons. First, the SEC enforcement sample has fewer observations, especially whistle blowing events, relative to the litigation sample. Second, when financial misrepresentation is egregious, as in SEC enforcement actions, the ethical and moral pressures faced by employees may compel them to blow the whistle, and financial incentives offered by firms may not be enough to keep them quiet. Nevertheless, we examine the SEC enforcement sample for robustness.

Studies such as Burns and Kedia (2006) and Agarwal and Chadha (2006), among others, have used financial restatements to capture firms that engage in financial misreporting. We do not use this measure for two reasons. First, many of the restatements identified by the GAO do not represent actual intentional misrepresentations of financial statements, and while Hennes Leone, and Miller (2008) distinguish between "errors" and "irregularities," one of the criteria used in doing so is based on the existence of class action litigation and SEC enforcement, both of which we already examine directly. Second, the dataset of "irregular" restatements compiled by Hennes, Leone, and Miller (2008) does not include data on the years of violation, which is critical to our examination, since it during this period that we expect firms to be motivated to give large stock option grants to its employees.

There is also a large literature that relies on discretionary accrual measures to capture earnings manipulation. However, these measures do not distinguish between earnings management that is within GAAP and outright fraud and misrepresentation. Our sample, consisting of class action lawsuits and SEC enforcement actions, is more likely to capture financial misrepresentation.

3.2 Whistle-Blowing Sample

We use a Lexis-Nexis search to construct our sample of whistle-blowing firms. In particular, we search for instances when the press reports some type of financial wrongdoing that was uncovered by an employee whistle-blower. We follow Bowen, Call, and Rajgopal (2010) to identify this sample and search every combination of the following two search terms: (1) "whistle," "whistle-blowing," "whistle-blower," and "whistle-blower," and (2) "financial," "accounting," and "fraud."[10] We perform this search over the calendar years 1992 through 2010. We augment this sample with the employee-based whistle-blowing events identified by Dyck, Morse, and Zingales (2010), yielding a total of 153 whistle-blowing events. As reported in Table 1, 51 of the class action litigation cases or about 10% of the sample experienced a whistle-blowing event after the start of the violation period. Similarly, we find that 13 of the 130 SEC enforcement cases (10% of the sample) were subject to whistle-blowing allegations.

3.3 Measuring Rank and File Stock Option Grants

We use ExecuComp to obtain compensation data of top executives and employees. As ExecuComp does not report the number of stock options granted to rank and file employees, we estimate this by computing the difference between the total number of options granted by the firm and the number of options granted to the firm's top-five highest-compensated executives. We derive the total options granted by the firm from the number of options granted to the executive (NUMSECUR) and the executive's share of total option grants (PCTTOTOPT). An estimate of the total options granted can similarly be obtained from the other top four executive's share of total options granted. We discard observations where these estimates of total options granted are not within 1% of each other, as such data are likely not reliable, and we use the average value from all remaining executives as our measure of total options granted by the firm. After 2006, ExecuComp no longer reports the percentage of total options

[10] Bowen, Call, and Rajgopal (2010) also study whistle-blowing samples based on discrimination cases filed with the Occupational Health and Safety Administration (OSHA). However, as Bowen, Call, and Rajgopal (2010) conclude that press-based whistle-blowing events better reflect allegations of actual financial wrongdoing, we do not analyze the OSHA sample.

granted to an executive (PCTTOTOPT). Therefore, starting in 2007 we use Compustat to determine the total number of options granted by the firm (OPTGR).[11]

We scale the number of stock options granted to rank and file employees by the total shares outstanding to get our measure of rank and file options, which we refer to as RF_OPTIONS.[12] To capture stock option grants to the firm's executives, we also scale the total number of options granted to the top-five executives by the number of shares outstanding (TOP5_OPTIONS).

4.0 Incidence of Whistle-blowing

In this section, we discuss the results of testing Hypothesis 1. Specifically, we examine whether the probability of employee whistle-blowing is lower at firms that grant more rank and file stock options during the violation period (and leading up to discovery). We separately analyze our litigation and SEC enforcement samples.

Our explanatory variable, whistle-blowing (WB), takes the value one if the litigation/SEC firm was subject to whistle-blowing event after the beginning of the violation period and is set to zero otherwise. Our main variable of interest is RF_OPTIONS. As the unit of observation is a class action filing (financial misrepresentation allegation), we average RF_OPTIONS over all fiscal years beginning with the start of the violation period and ending with the discovery date. This process captures the average rank and file option grants in the years of misreporting and prior to discovery, when employees may weigh the costs of blowing the whistle (and likely damaging the value of their stock options and losing their unvested options should they get fired due to the whistle-blowing) with the gains from uncovering the wrongdoing.

[11] For the years 2003-2005, total options granted by firms is available through both ExecuComp and Compustat. We are able to calculate rank and file options grants using both methods 2,646 firm-year observations during this period. For most firms, the two values are within 2% of each other. However, to ensure that this does not impact our results, we have re-estimated our regressions using only the ExecuComp measure of rank and file options and find qualitatively similar results to those reported in the paper.

[12] To ensure that the numerator of RF_OPTIONS (options granted) drives our results, we verified that there is no difference between shares outstanding (the denominator of RF_OPTIONS) during the violation period vs. non-violation periods for either the lawsuit or SEC enforcement samples. We found no statistically significant difference in shares outstanding between the violation periods relative to non-violation periods in our sample.

We begin by investigating the average rank and file option grants for misstatement firms that experienced whistle-blowing events relative to those that had no whistle-blowing. As seen in Panel A of Table 2, the 51 firms subject to litigation that had a whistle-blowing event granted stock options to rank and file employees averaging 1.69% of total shares outstanding. This proportion is significantly lower than the 2.93% granted to rank and file employees in firms that did not have an employee whistle-blower. The higher rank and file option grants in non-whistle-blowing firms are not only statistically significant at the 1% level but is also economically significant, as it represents a 73% increase in rank and file option grants relative to the whistle-blowing sample.

A similar, albeit weaker, result is seen in Panel B of Table 2 when we study the SEC enforcement sample. Option grants to rank and file employees in the 13 firms subject to whistle-blowing represent 1.55% of shares outstanding relative to 2.68% for firms that avoided a whistle-blowing event. Though the mean difference in rank and file option grants is significant, the median difference is not. This is perhaps attributable to the lower power of the SEC dataset stemming from the small size of the sample, as discussed earlier.

4.1 Multivariate Model

Next, we estimate a model of whistle-blowing that controls for a variety of potential determinants of employee whistle-blowing. We begin by controlling for the compensation structure of top executives in the firm. In particular, we control for the option grants (TOP5_OPTIONS) and other non-option compensation (TOP5_OTHER) given to the top five executives of the firm. These variables account for potential firm characteristics that may be associated with higher option usage and other compensation, and like RF_OPTIONS, are averaged over the years in the violation period. For other control variables, we follow Bowen, Call, and Rajgopal (2010). In summary, we estimate the following regression

$$\begin{aligned} WB_{it} = {} & \beta_0 + \beta_1 RF\_OPTIONS_{it} + \beta_2 TOP5\_OPTIONS_{it} + \beta_3 TOP5\_OTHER_{it} + \\ & \beta_4 CM\_PRESSURE_{it-1} + \beta_5 SALES\_GROWTH_{it-1} + \beta_6 PAST\_PERF_{it-1} + \\ & \beta_7 REPUTATION_{it-1} + \beta_8 COMMUNICATION_{it-1} + \beta_9 DOWNSIZING_{it-1} + \\ & \beta_{10} QUITAM_{it-1} + \beta_{11} SIZE_{it-1} + \beta_{12} ICW_{it-1} + Year + Industry + \varepsilon_{it,} \end{aligned} \quad (1)$$

Note that each lawsuit/SEC event represents a single observation in model (1), and Hypothesis 1 predicts a negative β_1 coefficient. We also include year and industry fixed effects, and cluster the standard errors by both firm and year.

4.2 Whistle-blowing Controls

We follow Bowen, Call, and Rajgopal (2010) in including several variables expected to be associated with the likelihood of an employee whistle-blowing event. We briefly motivate and describe each control variable here, and provide detailed data descriptions in the Appendix. It is worth noting that consistent with Bowen, Call, and Rajgopal (2010), all control variables are scaled ranks of the underlying firm characteristics that are measured in the year prior to beginning of the violation period.

Whistle-blowing is more likely in growth firms that outgrow their controls and where responsibility is spread across numerous individuals (Baucus and Near 1991). We use sales growth (SALES_GROWTH) over the three years prior to the violation period as a proxy for growth. Employees are also more likely to whistle blow if they have recently been laid off or feel insecure about their job (Luthans and Sommer (1999)). We use the change in the number of employees over the three years prior to the violation period as our proxy for downsizing (DOWNSIZING). High monetary rewards from whistle-blowing will lead more employees to uncover the misreporting. As discussed in section 2, under the FFCA, these monetary incentives are high in *qui tam* cases. As 85% of *qui tam* cases deal with the healthcare or defense industry, our proxy for *qui tam* (QUITAM) is an indicator variable set equal to one if the firm is in these two industries.

Large firms (SIZE) and those with higher reputation (REPUTATION) are more likely to be subject to whistle-blowing because the media may consider such allegations more news worthy. We proxy for firm size with revenues and for firm reputation with an indicator variable that is set to one if the firm is listed on either the "Most Admired Companies" list or the "Best Companies to Work For" list in any of the five years prior to the violation period. Whistle-blowing may also be more likely if the past performance of the firm appears high relative to employee's perception of its true performance (which is

of course, unobservable). To control for this we include stock returns (PAST_PERF) in the year prior to the violation period.

We control for the internal control structure and governance characteristics of the firm. An internal control weakness is "a significant likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected" (PCAOB 2004). Employees are more likely to blow the whistle externally when the firm has poor internal controls. We capture the firm's internal control environment (ICW) based on the fitted value from a model of the determinants of internal control weaknesses, as outlined by Doyle, Ge, and McVay (2007). Further details on the estimation of ICW are available in the Appendix.

Unclear communication channels, where employees are unaware who within the organization they should report their concerns to will lead to a higher incidence of whistle-blowing as employees turn to external sources with these concerns (Rothschild and Miethe 1999; Miceli and Near 1994). We use the average scaled rank of (1) firm age, (2) Herfindahl-Hirschman index for the firm's geographic segments, and (3) Herfindahl-Hirschman index for the firm's business segments to construct our measure of unclear communication channels (COMMUNICATION).

Finally, firms that face higher capital market pressure are more likely to engage in earnings management or other questionable practices. Therefore, such firms may witness a higher incidence of whistle-blowing. We use the average scaled rank to three variables (1) free cash flows, (2) merger and acquisition activity, and (3) earnings management to construct our variable of capital market pressures (CM_PRESSURE). The Appendix provides a detailed description of the construction of this variable.

4.3 Results

Table 3 reports the results from the estimation of model 1. As seen in Panel A, the coefficient on RF_OPTIONS is negative and significant. Consistent with Hypothesis 1, large option grants to rank and file employees are associated with a lower incidence of employee whistle-blowing. The effect of RF_OPTIONS on the incidence of whistle-blowing is also economically significant. In particular, a one standard deviation increase in rank and file options, from its mean, decreases the probability of whistle-

blowing by 21%.[13] The impact of RF_OPTIONS is obtained after controlling for other determinants of whistle-blowing, options grants to top executives, other compensation to these executives, as well as year and industry membership.

We find that both the coefficient on option grants and other compensation paid to executives are not statistically significant. The control variables that are significant are firm size and downsizing. Larger firms have a significantly higher likelihood of a whistle-blowing event. Not surprisingly, the coefficient of downsizing is negative and significant. Employees that have been laid off are more likely to blow the whistle. These results are consistent with the evidence in Bowen, Call, and Rajgopal (2010).

Panel B displays the results for the SEC enforcement sample. As noted before, this is a much smaller sample of firms and is likely to consist of egregious wrongdoers. It is quite likely that whereas small financial rewards from the firm may lead employees to be silent in cases of more mild financial misrepresentation, this incentive is less effective for more egregious cases such as those likely targeted by the SEC. In other words, with blatant fraud, ethical and moral pressures may dominate, rendering whistle-blowers less responsive to incentives created by rank and file option grants. As seen in Panel B, we continue to find a significantly negative coefficient of RF_OPTIONS in the SEC enforcement sample.[14]

In sum, we find significant evidence that higher grant of rank and file options is associated with a lower incidence of whistle-blowing in both samples of misreporting firms, consistent with Hypothesis 1.

5.0 Rank and File Option Grants and Misreporting

If the granting of rank and file options mitigates the incidence of employee whistle-blowing in misreporting firms, firms that misreport should rationally choose to grant more rank and file options in order to reduce the likelihood of discovery via whistle-blowing. Greater reliance on rank and file options

[13] The marginal effect of RF_OPTIONS, not reported in the table, is -0.822. Because the standard deviation of RF_OPTIONS is 0.028, a one standard deviation increase in RF_OPTIONS implies a change of -0.023 in the probability of whistle-blowing. As the unconditional probability of whistle-blowing is 11% (51/463), this implies a 21% decrease in the probability of whistle-blowing.

[14] Though the coefficient is statistically significant at the 5% level, the estimated marginal effect is very small.

should continue in the years after violation and until discovery, as the threat of whistle-blowing persists in these years. In this section, we test Hypothesis 2 to evaluate whether misreporting firms grant more rank and file options in the violation years leading to discovery relative to control firms that do not misreport.

Until now we have only analyzed firms that misreported (i.e., firms subject to class action litigation or SEC enforcement actions). To test our second hypothesis we include a sample of control firms, specifically, all firms with available data in ExecuComp that are never included in the litigation or the SEC enforcement sample. Table 4 provides firm characteristics for the control sample, as well as the litigation and SEC enforcement sample.

As reported in Panel A of Table 5, firms subject to class action litigation grant rank and file options averaging 2.79% of shares outstanding in violations years and leading up to the discovery date. This is significantly higher than the 1.56% granted to rank and file employees by the sample of control firms with no financial misrepresentation. Similarly, as seen in Panel B of Table 5 firms subject to SEC enforcement also grant significantly more options (2.61%) to rank and file employees relative to control firms (1.56%).

Rank and file option grants in violation years are not only greater than those of control firms but also higher than the grants given by misreporting firms in non-violation years. As displayed in Panel A of Table 5, rank and file option grants of 2.79% for the litigation sample in violation years is significantly greater than 2.15% granted by these firms in non-violation years. Similarly, firms subject to eventual SEC enforcement grant 2.61% of their shares as rank and file options in violation years relative to 1.91% in non-violation years (Panel B). This difference in rank and file option grants between violation and non-violation years suggests the results are unlikely to be attributable to omitted firm characteristics that cause higher option grants for reasons other than the financial reporting irregularities.

Though these univariate differences are highly significant they do not account for industry membership and other firm characteristics that are known to affect rank and file option grants. We control for such characteristics in the following model:

$$RF\_OPTIONS_{it} = \beta_0 + \beta_1 VIOLATION_{it} + \beta_2 TOP5\_OPTIONS_{it} + \beta_3 TOP5\_OTHER_{it} + \beta_4 CASH\_SHORT_{it-1} + \beta_5 INT\_BURDEN_{it-1} + \beta_6 R\&D_{it-1} + \beta_7 BMR_{it} + \beta_8 LT\_DEBT_{it} + \beta_9 LOW\_TAX_{it-1} + \beta_{10} HIGH\_TAX_{it-1} + \beta_{11} SALES_{it} + \beta_{12} EMP_{it} + \beta_{13} RET_{it-1} + \beta_{14} VOL_{it-1} + \beta_{15} LOSS_{it} + MSA + Year + Industry + \varepsilon_{it} \quad (2)$$

The dependent variable, RF_OPTIONS is the number of rank and file options granted in the year scaled by number of shares outstanding.[15] Our main variable of interest is VIOLATION, which is an indicator variable equal to one for years in which the firm committed a violation and all years until discovery of the misconduct. All other years for the misreporting firms, and all years for firms that do not misreport (e.g., the control sample) take the value of zero.

We control for the use of option grants and overall compensation structure in the firm by including option grants (TOP5_OPTIONS) and all other compensation (TOP5_OTHER) given to the top-five executives of the firm. It has been proposed that firms facing financial constraints are more likely to grant options (Core and Guay (2001) and Yermack (1995)). Typical empirical proxies for financial constraints include CASH_SHORT and INTEREST_BURDEN. Consistent with Core and Guay (2001), CASH_SHORT is the three year average of dividends + cash flow from investing – cash flow from operations scaled by total assets. INTEREST_BURDEN is the three year average of interest expense scaled by operating income before depreciation.

The greater is the firm's need to align employee incentives with those of shareholders, the greater will be the stock option compensation. The need to align incentives will be larger in firms with valuable growth opportunities. Consistent with prior literature (see Bizjak, Brikley and Coles (1993) and Smith and Watt (1992)), we include R&D and book to market (BMR) ratio to capture growth opportunities. We also control for leverage (LT_DEBT) as John and John (1993) propose that firms with large debt outstanding will reduce the grant of options to reduce incentives for shareholder alignment.

We control for the marginal tax rate as a potential determinant of rank and file option grants (Yermack, 1995, Core and Guay (2001)). The use of stock-based compensation is expected to be less costly for firms with low marginal tax rates. It is advantageous for firms with lower marginal tax rates to

[15] Note that the unit of observation in model (2) is the firm-year. We do not average RF_OPTIONS (and other variables) over the years in the violation period because in this analysis we are comparing misreporting firms to non-misreporting firms, and there is no violation period for non-misreporting firms.

trade off an immediate tax deduction from cash compensation with a deferred tax deduction arising from option grants. To capture variation in firms' marginal tax rates, we use two indicator variables, LOW_TAX and HIGH_TAX. LOW_TAX is an indicator variable equal to one if the firm has negative taxable income and net operating loss carry-forwards in each of the three years prior to the option grant, and equal to zero otherwise. HIGH_TAX is an indicator variable equal to one if the firm has positive taxable income and no net operating loss carry forward in each of the prior three years, and equal to zero otherwise.

We include SALES, the log of firm sales and EMP, the log of number of employees, to control for firm size. To control for stock performance, we include stock returns in the prior fiscal year (RET) and VOL, which is the standard deviation of stock returns in the prior fiscal year. Firms with operating losses are also more likely to grant options as such firms would rather not award cash compensation that needs to be expensed through their income statements.[16] Therefore, we include LOSS a dummy that takes the value one if the firm reported negative earnings for the year in question.

Kedia and Rajgopal (2009) document that location is as important as industry in explaining rank and file option grants. Therefore we also include dummies for the Metropolitan Statistical Areas (MSA) in which the firm is located.[17] Prior literature (Core and Guay 2001, Ittner, Larcker, and Lambert 2003 and Oyer and Schaefer 2005) also documents that industry membership is one of the key factors correlated with the intensity of rank and file option usage. Consequently, we include industry dummies using Fama-French's 17 industry classification. We also include year controls in model (2).

The results of estimating model (2) are reported in Table 6. The coefficient on VIOLATION is positive and significant at the 1% level when we use firms subject to litigation as our proxy for misreporting (see Panel A). Consistent with Hypothesis 2, misreporting firms grant more rank and file options in violation years leading to discovery relative to control firms. The decision to misreport in a year is associated with an increase in rank and file stock option grants of 0.43% of shares outstanding.

[16] Note that our sample consists of firm-year observations as early as 1992, when firms were not required to report stock option expense on the income statement.

[17] For all firms in our sample we obtain zip codes for firm headquarters from Compustat. These zip codes are used to assign firms to their MSAs.

Given that the unconditional rank and file option grants is about 1.76% (averaging across all firms), this coefficient suggests an approximately 24% increase in the rank and file option grants during violation years.

The results for the other control variables are in line with expectations. The coefficient of TOP5_OPTIONS is positive and significant suggesting that firms that are heavy grantors of rank and file options are also generous with top executive option grants and are less likely to use cash compensation. Note, however, that the impact of rank and file options is incremental to that of option grants to the top five highly compensated employees. Consistent with John and John (1993), more levered firms grant fewer rank and file options and those with negative earnings grant more stock options. In line with the findings in prior literature, the coefficient of HIGH_TAX is negative and significant suggesting that firms with low marginal tax are more likely to grant rank and file options. The coefficient of CASH_SHORT is negative and significant, contrary to expectations.

We find similar results when we use SEC enforcement actions to proxy for misrepresentation. As seen in Panel B, the coefficient on VIOLATION is positive and significant. The estimated value of the coefficient is 0.0043 similar to that seen for litigation firms. This implies that the decision to misreport, as proxied by SEC actions, is associated with a 27% increase in the use of rank and file options relative to its unconditional mean for this sample.

In sum, consistent with Hypothesis 2, the results support the notion that firms that choose to misreport grant significantly more stock options to rank and file employees after controlling for industry effects, year effects, MSA effects and firm characteristics likely to associated with more rank and file option grants. This result, along with the finding from the prior section that higher rank and file options are associated with a lower incidence of whistle-blowing, suggests that firms engaged in wrongdoing grant more options to employees to mitigate the likelihood of whistle-blowing. These findings have important implications for existing and future regulation on whistle-blowing. Firms can (and do) provide financial incentives to discourage employees from blowing the whistle – incentives that are potentially more compelling than those provided by regulators.

6.0 Cash Profit-Sharing Programs and Whistle-blowing

In addition to examining stock option grants to rank and file employees, we explore other mechanisms through which firms may give financial incentives to their employees to stay silent about wrongdoing at the firm. Specifically, we examine whether firms provide their employees with cash profit-sharing programs in an effort to deter whistle-blowing. Cash profit-sharing programs allow employees to receive cash payments, usually determined by a formula based on company profits. Employees of firms with cash profit-sharing programs are less likely to blow the whistle on financial misdeeds because such misdeeds likely assist the company in reporting higher profits, and hence allow the employee to receive more compensation through the cash profit-sharing program.

We obtain data on cash profit-sharing programs from the Kinder, Lydenberg, and Domini Research and Analytics, Inc. (KLD) database. KLD provides social research data on seven dimensions related to corporate social responsibility.[18] The KLD data has been employed in a variety of disciplines, including finance, accounting, and strategy (Hong and Kostovetsky 2010; Kim, Park, and Wier 2011; Watson 2011; Chatterji, Levine, and Toffel 2009), and is the most widely used database on corporate social responsibility. When evaluating firms on the basis of employee relations, KLD collects data on cash profit-sharing programs. Specifically, KLD codes an indicator variable based on whether "the company has a cash profit-sharing program through which it has recently made distributions to a majority of its workforce." It is worth emphasizing that KLD only reports the firm as having a cash profit-sharing program if (1) it actually makes cash distributions as a result of this program, and (2) a majority of the workforce participates in the program (rather than the program being reserved for senior executives). We employ this variable as our measure of the existence of cash profit-sharing programs.

KLD began reporting information about cash profit-sharing programs in 1991. KLD's coverage of cash profit-sharing (and KLD coverage in general) has expanded over time. Whereas in 1991 cash

[18] These dimensions include: community, corporate governance, diversity, employee relations, environment, human rights, and product. KLD also provides information about involvement in controversial business issues, such as alcohol, gambling, firearms, military, nuclear power, and tobacco. These ratings are used by institutions and other investors who wish to invest in socially-responsible firms.

profit-sharing data was available for 647 firms (S&P 500 and Domini 400 Social Index), it grew to 2,965 firms in 2010 (S&P 500, Russell 2000 Index, and Broad Market Social Index).

We begin by understanding the relation between rank and file option grants and cash profit-sharing programs. We have data on both rank and file options (RF_OPTIONS) and cash profit-sharing programs (CPS) for 14,121 firm-year observations. The correlation between these two variables is only 0.051. As rank and file options is a continuous variable, while cash profit-sharing program is an indicator variable, we convert rank and file options data to a high rank and file option usage indicator variable. This high rank and file options indicator variable takes the value one if rank and file options grants are greater than the median value for this sample. The correlation between CPS and this high rank and file options indicator is still low at 0.063. Such low correlations imply that firms that use rank and file option grants may not use cash profit-sharing programs, and vice versa. Hence, a study of cash profit-sharing programs represents an analysis that is distinct from the tests related to rank and file options presented earlier.

Do firms that choose to misreport use cash profit-sharing programs to mitigate whistle-blowing? To examine this question we replicate our previous analyses, substituting rank and file options (RF_OPTIONS) with the cash profit-sharing indicator variable (CPS) obtained from KLD. Consistent with Hypothesis 1, we expect β_1 in equation (1) to be negative, suggesting that firms whose employees participate in cash profit-sharing programs during the violation period are less likely to blow the whistle. We also predict, consistent with Hypothesis 2, that firms engaging in financial violations are more likely to employ cash profit-sharing programs than other control firms. As such, we predict that β_1 will be positive in equation (2).

We first investigate whether the presence of cash profit-sharing programs has an impact on whistle-blowing in our two samples of misreporting firms. In the sample of firms that are subject to litigation, the coefficient on cash profit-sharing programs is negative and significant (See Panel A in Table 7), as expected. In other words, misreporting firms with cash profit-sharing programs experience a lower incidence of employee whistle-blowing. Panel B shows a similar and significantly negative effect of cash profit-sharing programs on employee whistle-blowing in the SEC enforcement sample. In short,

similar to rank and file option grants, cash profit-sharing programs give employees financial incentives to keep silent about wrongdoing at the firms and therefore are associated with less incidence of whistle-blowing.

However, we do not find evidence that firms use cash profit-sharing schemes to reduce employee whistle-blowing. As shown in Table 8, the decision to misreport is not associated with cash profit-sharing programs in the litigation sample. In the SEC enforcement sample, the coefficient is actually negative implying that misreporting firms are less likely to have cash-profits sharing programs. This ultimately may not be surprising as firms that misreport may choose to use rank and file options rather than share cash profits. Such an arrangement not only serves the purpose of giving financial incentives to employees to remain silent but also avoids cash payouts at a time when the firm is not performing well and has to resort to accounting misrepresentation to deliver its expected profits.

7.0 Conclusions

We document that when firms share profits with their employees, both via grants of rank and file options as well as cash profit-sharing programs, employees have an incentive to keep silent about financial wrongdoing to maintain the inflated profits that increases their personal wealth. In a sample of firms subject to class action litigation as well as a sample of firms subject to SEC enforcement actions, higher grants of rank and file stock options are associated with lower incidence of employee whistle-blowing. Moreover, firms that misreport grant larger rank and file option grants in violations years relative to control firms that do not misreport.

We make several contributions to the literature. First, we provide empirical support for the notion that the prospect of an uncertain bounty from a regulator can be effectively offset by providing employees with incentives, such as rank and file options, that allow the employee to financially benefit from continued financial reporting shenanigans. Second, while several studies argue that stock options owned by senior executives are associated with misreporting, we show that options given to lower-level employees can affect timely revelation of misreporting. Finally, we offer an additional explanation for

the puzzling existence of broad based rank and file option plans; namely, that employers offer rank and file options in an effort to deter employee whistle-blowing about financial irregularities.

These findings are particularly relevant and timely given recent regulation aimed at providing financial incentives to encourage employees to blow the whistle on corporate misdeeds. While the Dodd-Frank Act and other regulations offer whistle-blowers rewards of up to 30 percent of recovered damages and penalties, our findings suggest that firms can effectively skirt the consequences of these reforms by offering employees competing incentives to remain silent about corporate wrongdoing.

References

Beresford, D. R., N. deB. Katzenbach, and C. B. Rogers, Jr. 2003. Report of Investigation by the Special Investigative Committee of the Board of Directors of WorldCom, Inc. Athens, GA.

Bergman, N. and D. Jenter. 2007. Employee Sentiment and Stock Option Compensation. Journal of Financial Economics 84(3): 667-712.

Bergstresser, D. and T. Philippon. 2006. CEO Incentives and Earnings Management. Journal of Financial Economics 80: 511-529.

Bowen, Robert, A. Call and S. Rajgopal. 2010. Whistle-Blowing: Target Firm Characteristics and Economic Consequences, The Accounting Review 85(4): 1239-1271.

Bizjak, J, Brickley, J, and Jeffery Coles, 1993, Stock Based Incentive Compensation and Investment Behavior, Journal of Accounting and Economics 16, 349-372.

Burns, N. and S. Kedia. 2006. The Impact of Performance-Based Compensation on Misreporting. Journal of Financial Economics 79: 35-67.

Bushman, R., Q. Chen, E. Engel, and A. Smith. 2004. Financial Accounting Information, Organizational Complexity and Corporate Governance Systems. Journal of Accounting and Economics 37: 167–201.

Chatterji, A.K., D.I. Levine, and M.W. Toffel. 2008. How Well Do Social Ratings Actually Measure Corporate Social Responsibility? Working paper, Duke University, University of California at Berkeley, and Harvard Business School.

Cheng, W. and T.D. Warfield. 2005. Equity Incentives and Earnings Management. The Accounting Review 80: 441-476.

Core, J. and W. Guay. 2001. Stock Option Plans for Non-Executive Employees. Journal of Financial Economics 61(2): 253-87

Dechow, P., R. Sloan, and A. Sweeney. 1996. Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC. Contemporary Accounting Research 13: 1–36.

Dickins, D. and J.L. Awner. 2011. Will There Be Whistle-blowers? (July 7). Available at SSRN: http://ssrn.com/abstract=1881131.

Doyle, J., W. Ge, and S. McVay. 2007. Determinants of Weaknesses in Internal Control Over Financial Reporting. Journal of Accounting and Economics 44: 193–223.

Dyck, A., A. Morse and L. Zingales. 2010. Who Blows the Whistle on Corporate Fraud? Journal of Finance, 65(6): 2213–2253.

Efendi, J., A. Srivastava and E.P. Swanson. 2007. Why Do Corporate Managers Misstate Financial Statements? The Role of Option Compensation and Other Factors. Journal of Financial Economics 85: 667-708.

Erickson, M., M. Hanlon and E. Maydew. 2006. Is There a Link Between Executive Equity Incentives and Accounting Fraud? Journal of Accounting Research 44: 113-143.

Hall, B.J., and K.J. Murphy. 2002. Stock Options for Undiversified Executives. Journal of Accounting and Economics 33: 3–42.

Hennes, K., A. Leone, and B. Miller, 2008, The Importance of Distinguishing Errors from Irregularities in Restatement Reseach: The Case of Restatements and CEO/CFO Turnover," Accounting Review, Vol. 83,

Holzer, J. and F. Johnson. 2010. Larger Bounties Spur Surge in Fraud Tips. Wall Street Journal, September 7.

Hochberg, Y., and L. Lindsey, 2010, Incentives, Targeting and Firm Performance: An Analysis of Non-Executive Stock Options, Forthcoming Review of Financial Studies

Hong, H. and L. Kostovetsky. 2010. Red and Blue Investing: Values and Finance. Working paper, Princeton University and University of Rochester.

Ittner, C., D. Larcker and R. Lambert. 2003. The Structure and Performance of Equity Grants to Employees of New Economy Firms. *Journal of Accounting and Economics* 34: 89–127.

John, T., and K. John, 1993, Top Management Compensation and Capital Structure, Journal of Finance 48, 949-974.

Johnson, S., H. Ryan, and Y. Tian, 2009, Managerial Incentives and Corporate Fraud: The Sources of Incentives Matter, Review of Finance, Vol. 13, 115-145.

Jones, J. 1991. Earnings Management During Import Relief Investigations. Journal of Accounting Research 28(2): 193–228.

Karpoff, J., Lee, D., Martin, G. 2008a. The Consequences to Managers for Financial Misrepresentation. Journal of Financial Economics 88: 93-215.

Karpoff, J., Lee, D., Martin, G. 2008b. The Cost to Firms of Cooking the Books. Journal of Financial and Quantitative Analysis, 43: 581-612.

Kedia, S. and S. Rajgopal, 2009. Neighborhood Matters: The Impact of Location on Broad Based Stock Option Plans. Journal of Financial Economics 92: 109-127.

Kim, Y., M.S. Park, and B. Wier. 2011. Is Earnings Quality Associated with Corporate Social Responsibility? The Accounting Review, forthcoming.

Lambert, R., D. Larcker and R. Verrecchia. 1991. Portfolio Considerations in Valuing Executive Compensation. Journal of Accounting Research 29(1): 129-49.

Liang, N. and S. Weisbenner. 2001. Who Benefits from a Bull Market? An Analysis of Employee Stock Option Grants and Stock Prices. Working paper, University of Ilinois at Urbana Champaign.

Luthans, B. C., and S. M. Sommer. 1999. The Impact of Downsizing on Workplace Attitudes. Group and Organization Management 24(1): 46–70.

Miceli, M., and J. Near. 1992. Blowing the Whistle. New York: Lexington Books.

Miceli, M, and J. Near. 1994. Whistle-blowing: Reaping the benefits. The Academy of Management Executive 8(3): 65–73.

Miller, G. 2006. The Press as a Watchdog for Accounting Fraud. Journal of Accounting Research 44(5): 1001–1033.

Office of the Inspector General, Office of Audits, SEC. 2010. Assessment of the SEC's Bounty Program, report no. 474, March 29. Available at http://www.sec-oig.gov/Reports/AuditsInspections/2010/474.pdf.

Oyer, P. 2004. Why Do Firms Use Incentives That Have No Incentive Effects? Journal of Finance 59: 1619-1649.

Oyer, P. and S.Schaefer. 2005. Why Do Some Firms Give Stock Options to All Employees?: An Empirical Examination of Alternative Theories. Journal of Financial Economics 76(1): 99-133.

Peng, L. and A. Roell, 2008, Executive Pay and Shareholder Litigation, Review of Finance, Vol. 12, 141-184

Rothschild, J., and T. D. Miethe. 1999. Whistle-blower Disclosures and Management Retaliation: The Battle to Control Information about Organization Corruption. Work and Occupations 26(1): 107–128.

Smith, C., and R. Watts, 1992, The Investment Opportunity Set and Corporate Financing, Dividend, and Compensation policies, Journal of Financial Economics 32, 263-292.

Watson, L. 2011. Social Influences on Aggressive Accounting: The Impact of Corporate Social Responsibility on Tax Aggressiveness. Working paper, The Pennsylvania State University.

Yermack, D., 1995, Do Corporations Award CEO Stock Options Effectively?, Journal of Financial Economics, Volume 39, Issues 2-3, October-November 1995, Pages 237-269

Appendix
Variable Definitions

1. Capital Market Pressure (CM_PRESSURE) is the the average scaled rank of Free Cash Flows, Merger and Acquisition Activity, and Earnings Management. Each variable is coded such that higher values are consistent with greater capital market pressure. This measure of capital market pressure is averaged over the number of variables with non-missing data.
    - Free Cash Flows = an indicator variable coded as 1 if the firm's free cash flow in the year prior to the violation period is less than -0.1, and 0 otherwise. Similar to Dechow, Sloan, and Sweeney (1996), we calculate free cash flow as cash flow less the average capital expenditure (CAPX) over the last three years, deflated by average total assets.
    - Merger and Acquisition Activity = an indicator variable coded as 1 if the firm was involved in a merger or acquisition (AQS_FN) in the three years prior to the violation period, and 0 otherwise.
    - Earnings Management = the absolute value of discretionary accruals based on the modified Jones (1991) model for the year before the violation period. Discretionary accruals are calculated as the fitted values from the following regression (2): $TOTACC = \beta_0 + \beta_1 \Delta REV + \beta_2 PPE + \beta_3 CFO + \beta_4 ROA + error$. This regression is estimated each year for every two-digit SIC code conditional on having at least 10 firms in an industry. Note that TOTACC = total accruals, defined as income before extraordinary items minus cash flow from operations plus extraordinary items (IB – OANCF + XIDOC), ΔREV = the change in revenue (SALE), PPE = plant, property, and equipment (PPEGT), CFO = cash from operations (OANCF). ROA = return on assets (IB). We scale each variable in regression (2) by total assets (AT) at the beginning of the period.
2. SALES_GROWTH is the scaled rank of sales growth, defined as the average growth in sales (SALE) over the three years prior to the violation period.
3. PAST_PERF is the scaled rank of market-adjusted buy-and-hold returns for the 12 months prior to the violation period.
4. REPUTATION is an indicator variable coded as 1 if the firm has appeared on Fortune's "Best Companies to Work For" list or on Fortune's "Most Admired Companies" list in any of the five years prior to the violation period, and coded as 0 otherwise.
5. COMMUNICATION is the average scaled rank of Age, Geographic Concentration, and Business Concentration. We reverse the sign of the rank of Geographic and Business Concentration such that higher values are consistent with worse internal communication channels. This measure of unclear communication channels is averaged over the number of variables with non-missing data.
    - Age is the number of years the firm has been listed on CRSP as of the start of the violation period.
    - Geographic Concentration = the Hirfindahl-Hirschman index based on the revenue for each of the firm's geographic segments, calculated as the sum of squares of each geographic segment's revenue as a percentage of total firm revenue. This variable is calculated for the year prior to the violation period. See Bushman, Chen, Engel, and Smith (2004).
    - Business Concentration = the Hirfindahl-Hirschman index based on the revenue for each of the firm's industry segments, calculated as the sum of squares of each industry segment's revenue as a percentage of total firm revenue. This variable is calculated for the year prior to the violation period. See Bushman, Chen, Engel, and Smith. (2004).
6. DOWNSIZING is the scaled rank of employee growth, defined as the average growth in the total employees (EMP) over the three years prior to the violation period. Because of limited data availability, we assume employee growth is zero when it is unavailable from Compustat.
7. QUITAM is an indicator variable coded as 1 if the firm (1) is in the healthcare industry (2-digit SIC code = 80), or (2) appeared on the "100 Companies Receiving the Largest Dollar Volume of Prime Contract Awards" list in any of the three years prior to the violation period, and 0 otherwise.
8. SIZE is the scaled rank of total sales revenue (SALE) for the year before the violation period.
9. Internal Control Weaknesses (ICW) is the scaled rank of the fitted value from the following model, as

estimated by Doyle, Ge, and McVay (2007): $ICW = ß_0 + ß_1MVE + ß_2AGE + ß_3LOSSES + ß_4SEGMENTS + ß_5FOREIGN + ß_6EXTREME\_SG + ß_7RESTRUCTURE + \varepsilon$, where MVE is the log of the firm's market value of equity, AGE is the log of the number of years the firm has CRSP data, LOSSES is an indicator variable equal to 1 if earnings before extraordinary items in the two most recent years sum to less than zero, and 0 otherwise, SEGMENTS is the log of the number of operating and geographic segments reported by the Compustat Segments database, FOREIGN is an indicator variable equal to 1 if the firm has non-zero foreign translation, and 0 otherwise, EXTREME_SG is an indicator variable equal to 1 if year-over-year industry-adjusted sales growth falls into the top quintile, and 0 otherwise, and RESTRUCTURE is the aggregate restructuring charge in the two most recent years, scaled by the firm's market capitalization. ICW is measured in the year immediately before the violation period. We use coefficient values as reported in Doyle, Ge, and McVay (2007). Because of limited data availability, we set SEGMENTS equal to 0 if the necessary data is not available.

10. RF_OPTIONS is the options granted to rank-and-file employees, as a percentage of total shares outstanding, as of year *t*. This variable is measured as total number of options granted by the firm minus the number of options granted to the top-5 executives. The total number of options granted by the firm is available on Execucomp (using the executive's option grants and the executive's share of *total* option grants made by the firm) for years 1992 through 2006. For 2007-2009, we obtain the number of options granted by the firm from Compustat. We scale this variable by the number of shares outstanding.
11. TOP5_OPTIONS is the number of stock options granted to the top 5 executives scaled by total shares outstanding
12. TOP5_OTHER is all compensation, other than stock option grants, given to the top 5 executives scaled by market value of equity
13. LOW_TAX is an indicator variable equal to one if the firm has negative taxable income and net operating loss carry-forwards in each of the three years prior to the year options are awarded, and zero otherwise. Consistent with Hanlon, Laplante, and Shevlin (2007), we estimate taxable income as [(federal tax expense + foreign tax expense) / top marginal corporate rate] - ΔNOL carry-forward.
14. HIGH_TAX is an indicator variable equal to one if the firm has positive taxable income and no net operating loss carry-forwards in each of the three years prior to the year options are awarded, and zero otherwise. Consistent with Hanlon, Laplante, and Shevlin (2007), we estimate taxable income as [(federal tax expense + foreign tax expense) / top marginal corporate rate] - ΔNOL carry-forward.
15. RET is return in the prior fiscal year. It is estimated as change in the stock price from prior fiscal year prior scaled by prior fiscal year price.
16. VOL is the standard deviation of monthly stock returns in the prior fiscal year.
17. CASH_SHORT The three-year average of [(common dividends + preferred dividends + cash flow from investing – cash flow from operations)/total assets]. We measure cash shortfall over the three years prior to the year in which options are awarded.
18. INTEREST_BURDEN is the three-year average of interest expense scaled by operating income before depreciation. We measure interest burden over the three years prior to the year in which options are awarded. Negative values and values greater than one are set equal to one.
19. R&D is the three-year average of research and development expenses scaled by sales. We measure this variable over the three years prior to the year in which options are awarded.
20. BMR is the (book value of assets)/(book value of liabilities + market value of equity). We measure this ratio in the year options are granted.
21. LT_DEBT is equal to one if the firm has long-term debt outstanding in the year options are granted, and zero otherwise.
22. SALES is the logarithm of sales, measured in the year options are granted.
23. EMP is the logarithm of the number of employees, measured in the year options are granted.
24. LOSS is an indicator variable equal to one if the firm reports negative operating earnings in the year in which options are awarded, and zero otherwise.

Table 1
Sample Description

The lawsuit sample consists of all firms subject to shareholder class action litigation from 1996 to 2008 with data availability in Compustat and ExecuComp. We include all violation years of these litigation cases beginning in 1992 in our analysis as the compensation data begins in 1992. The SEC sample consists of all firms subject to SEC enforcement through December 2008 and with data availability in Compustat and ExecuComp. We include all violation years of these firms beginning in 1992. The violation period, for this study, is the years the firm misreported and all years until discovery. The years the firm misreported for the Lawsuit sample is the class period and for the SEC sample is the years in violation. The discovery data for the Lawsuit sample is the date of the filing of the lawsuit. The discovery data for the SEC sample is the trigger date. The trigger date is the date the misreporting was made public and precedes the beginning of the SEC regulation. The whistle-blowing (WB) indicator takes the value one if the firm subject to litigation or SEC enforcement experienced whistle-blowing by an employee after the beginning of the violation period.

	Lawsuit	**SEC**
Original events from 1996-2008	514	130
Unique firms from 1996-2008	443	125
Firm-years in violation period	1113	525
Unique events with WB overlap (153 total obs)	51	13

Table 2
Rank-and-File Option Grants Within Lawsuit and SEC Enforcement Samples

This table displays mean and median values of rank and file option grants (RF_OPTIONS). Panel A reports the results for the sample of firms subject to class action litigation while Panel B reports the results for firms subject to SEC enforcement. RF_OPTIONS is the average value of rank and file option granted during the violation years leading to discovery. Rank and file option grants are the number of options granted to rank and file employees scaled by total shares outstanding. The whistle blowing indicator (WB) takes the value of one if the misreporting event experienced employee whistle-blowing. *, **, *** represent significance at the 10 percent, 5 percent, and 1 percent level, respectively. P-values are two-sided. P-values are based on the t-statistic for differences in means, and the Wilcoxon Z-statistic for differences in medians.

	Panel A: Lawsuit		
	Mean	**Median**	**N**
WB = 1	1.69%	1.34%	51
WB = 0	2.93%	2.05%	463
Significance Test[a]	<.001***	0.007***	

	Panel B: SEC Enforcement		
	Mean	**Median**	**N**
WB = 1	1.55%	1.79%	13
WB = 0	2.68%	1.93%	117
Significance Test[a]	0.005***	0.142	

Table 3
Whistle-blowing and Rank-and-File Option Grants

The table reports results from a logit regression for a sample of firms subject to class action litigation (Panel A) and SEC enforcement actions (Panel B) over 1996 to 2008. The dependent variable is WB, an indicator variable that takes the value of one if the misreporting event was associated with employee whistle-blowing. RF_OPTIONS (TOP5_OPTIONS) is the average rank and file (top-five executives) option grants in the violation years leading to discovery. Rank and file (top-five) option grants is the number of options given to rank and file (top-five) employees scaled by total shares outstanding. TOP5_OTHER is the average value of other compensation given to the top-five executives scaled by market equity. CM_PRESSURE captures capital market pressures and is the average scaled rank of free cash flow, an indicator for merger activity, and earnings management. SALES_GROWTH captures sales growth for three years prior to the violation period, PAST_PERF captures stock returns in the year prior to the violation period, REPUTATION captures firm reputation up to five years prior to the violation, and COMMUNICATION captures unclear communication channels within the firm. DOWNSIZING captures changes in the number of employees in the three years prior to violation period, QUITAM captures the health and defense industries that have a predominance of *qui tam* cases, SIZE captures revenues in the year prior to violation, and ICW captures internal control weakness in the firm. All control variables, other than the compensation-based controls, are the scaled rank based on the underlying firm characteristics and are described in detail in the Appendix. *, **, *** represent significance at the 10 percent, 5 percent, and 1 percent level, respectively. P-values are two-sided. Standard errors are clustered by both firm and year.

	Pred. Sign	**Panel A: Lawsuit**		**Panel B: SEC**	
		Coeff.	p-value	Coeff.	p-value
RF_OPTIONS	-	**-27.83**	**0.014****	**-229.90**	**0.049****
TOP5_OPTIONS	?	27.21	0.120	301.60	0.188
TOP5_OTHER	?	-17.69	0.311	-11.34	0.390
CM_PRESSURE	+	-0.03	0.987	10.62	0.123
SALES_GROWTH	+	2.57	0.126	-8.65	0.065*
PAST_PERF	+	-0.92	0.153	10.93	0.040**
REPUTATION	+	0.41	0.744	11.52	0.065*
COMMUNICATION	+	1.18	0.341	-24.04	0.013**
DOWNSIZING	-	-2.59	0.046**	4.85	0.099*
QUITAM	+	1.10	0.369	-1.13	0.828
SIZE	+	5.98	0.001***	12.96	0.419
ICW	+	1.26	0.132	-9.74	0.207
Year Dummies		Yes		Yes	
Industry Dummies		Yes		Yes	
Pseudo-R^2		30.2%		64.4%	
N		N_{WB} = 51, $N_{NO\text{-}WB}$ = 463		N_{WB} = 13, $N_{NO\text{-}WB}$ = 117	

Table 4
Descriptive Statistics

The table reports firm characteristics for three samples. The lawsuit sample consists of firms that are subject to class action litigation from 1996 to 2008 and with coverage in ExecuComp. The SEC enforcement sample consists of firms subject to SEC enforcement actions. The control samples is all firms in ExecuComp that were not subject to class action litigation or SEC enforcement over the 1992 to 2008 period. RF_OPTIONS (TOP5_OPTIONS) is the average rank and file (top-five executives) option grants in the violation years leading to discovery. Rank and file (top-five) option grants is the number of options given to rank and file (top-five) employees scaled by total shares outstanding. TOP5_OTHER is the average value of other compensation given to the top-five executives scaled by market equity. CASH_SHORT is the three-year average of (dividends + cash flow from investing – cash flow from operations) scaled by total assets. INT_BURDEN is the three-year average of interest expense scaled by operating income before depreciation. R&D is the three-year average of R&D expenses scaled by sales. BMR is the book-to-market ratio. LT_DEBT is equal to one if the firm has long-term debt outstanding. LOW_TAX (HIGH_TAX) is an indicator variable for low (high) marginal tax rates. SALES is the log of sales, EMP is log of the number of employees, RET is the prior year stock return, VOL is the standard deviation of monthly stock returns in the prior year, and LOSS equals one if the firm reports negative earnings in the year, and zero otherwise. Detailed descriptions of the variables are in the Appendix.

	Lawsuit		**SEC**		**Control**	
	Mean	Median	Mean	Median	Mean	Median
RF_OPTIONS	0.0226	0.0150	0.0212	0.0128	0.0156	0.0098
TOP5_OPTIONS	0.0069	0.0034	0.0066	0.0030	0.0060	0.0033
TOP5_OTHER	0.0063	0.0024	0.0064	0.0027	0.0071	0.0034
CASH_SHORT	-0.1647	-0.1655	-0.1438	-0.1369	-0.1745	-0.1676
INT_BURDEN	0.2030	0.0902	0.2370	0.1438	0.1834	0.1071
R&D	0.2999	0.0278	0.0467	0.0001	0.0856	0.0000
BMR	0.5728	0.5507	0.6834	0.7031	0.6649	0.6619
LT_DEBT	0.8383	1.0000	0.8674	1.0000	0.8623	1.0000
LOW_TAX	0.0399	0.0000	0.0240	0.0000	0.0210	0.0000
HIGH_TAX	0.4451	0.0000	0.5091	1.0000	0.5272	1.0000
SALES	7.3845	7.3256	7.7615	7.6433	7.0048	6.9633
EMP	1.9590	2.0149	2.1777	2.1576	1.5443	1.5556
RET	2.2862	0.0359	3.5251	0.0496	0.4326	0.0486
VOL	0.1333	0.1124	0.1244	0.1061	0.1080	0.0931
LOSS	0.1428	0.0000	0.0977	0.0000	0.0819	0.0000
N	N = 6,190		N = 1,750		N = 16,301	

Table 5
Rank-and-File Option Grants During Violation Periods

This table reports rank and file option grants for firms subject to class action litigation (Panel A) and SEC enforcement (Panel B) relative to control firms that have no misreporting. Violation years are years the firm misreported and until discovery. "Lawsuit firms – other years" are all years of firms subject to litigation that are not violation years as defined above. "SEC firms – violation years" include all years the firm misreported and until discovery. "SEC firms – other years" are all other years of firms subject to SEC enforcement that are not f violation years as defined above. "Control firm – all years" includes all years of control firms that did not misreport over he 1996 to 2008 time period. The table reports the average of RF_OPTIONS which is the number of options granted to rank and file employees scaled by total shares outstanding. *, **, *** represent significance at the 10 percent, 5 percent, and 1 percent level, respectively. P-values are two-sided. P-values are based on the t-statistic for differences in means, and the Wilcoxon Z-statistic for differences in medians.

	Panel A: Lawsuit Sample		
	Mean	**Median**	**N**
Lawsuit Firms – Violation Years (1)	2.79%	1.84%	1,113
Lawsuit Firms – Other Years (2)	2.15%	1.44%	5,077
Control Firms – All Years (3)	1.56%	0.98%	16,301
Significance Test – (1) vs. (2)[a]	<.001***	<.001***	
Significance Test – (1) vs. (3)[a]	<.001***	<.001***	
	Panel B: SEC Enforcement		
	Mean	**Median**	**N**
SEC Firms – Violation Years (1)	2.61%	1.74%	525
SEC Firms – Other Years (2)	1.91%	1.06%	1,225
Control Firms – All Years (3)	1.56%	0.98%	16,301
Significance Test – (1) vs. (2)[a]	<.001***	<.001***	
Significance Test – (1) vs. (3)[a]	<.001***	<.001***	

Table 6
Rank-and-File Option Grants – Violation and Control Firms

The table reports results from an OLS regression where the dependent variable is RF_OPTIONS. RF_OPTIONS is the ratio of rank and file option grants to total shares outstanding. VIOLATION is an indicator variable equal to one for all years in the violation period and until discovery. Panel A (B) uses litigation (SEC enforcement) to proxy for misreporting. The control samples is all firms in ExecuComp that were not subject to class action litigation and SEC enforcement over the 1992 to 2008 period. TOP5_OPTIONS is option grants to top-five executives scaled by total shares outstanding. TOP5_OTHER is all other compensation given to the top-five executives scaled by market equity. CASH_SHORT is the three year average of (dividends + cash flow from investing – cash flow from operations) scaled by total assets. INT_BURDEN is the three-year average of interest expense scaled by operating income before depreciation. R&D is the three-year average of R&D expenses scaled by sales. BMR is the book-to-market ratio. LT_DEBT is equal to one if the firm has long-term debt outstanding. LOW_TAX (HIGH_TAX) is an indicator variable for low (high) marginal tax rates. SALES is the log of sales, EMP is log of the number of employees, RET is the prior year stock return, VOL is the standard deviation of monthly stock returns in the prior year and LOSS equals one if the firm reports negative earnings in the year, and zero otherwise. Detailed descriptions of the variables are in the Appendix. *, **, *** represent significance at the 10 percent, 5 percent, and 1 percent level, respectively. P-values are two-sided. Standard errors are clustered by both firm and year.

	Pred. Sign	**Panel A: Lawsuit vs. Control**		**Panel B: SEC vs. Control**	
		Coeff.	p-value	Coeff.	p-value
VIOLATION	+	**0.0043**	**0.001*** **	**0.0043**	**0.012** **
TOP5_OPTIONS	+	0.7919	<.001***	0.7819	<.001***
TOP5_OTHER	-	-0.0172	0.002***	-0.0151	0.006***
CASH_SHORT	+	-0.0093	0.001***	-0.0091	<.001***
INT_BURDEN	+	-0.0000	0.974	-0.0004	0.783
R&D	+	-0.0001	0.286	0.0000	0.919
BMR	-	0.0001	0.948	-0.0004	0.746
LT_DEBT	-	-0.0028	0.023**	-0.0032	0.123
LOW_TAX	+	-0.0006	0.664	0.0006	0.529
HIGH_TAX	-	-0.0012	0.001***	-0.0008	0.184
SALES	+	0.0011	0.010***	0.0005	0.375
EMP	+	-0.0007	0.069*	0.0000	0.932
RET	+	-0.0000	0.325	0.0000	0.777
VOL	+	0.0342	<.001***	0.0267	<.001***
LOSS	+	0.0071	<.001***	0.0072	<.001***
MSA Controls		Yes		Yes	
Year Controls		Yes		Yes	
Industry Controls		Yes		Yes	
R-square		28.8%		23.3%	
N (treatment vs. control)		$N_{lawsuit}$ = 6,190, $N_{control}$= 16,301		N_{AAER} = 1,750, $N_{control}$= 16,301	
N (violation vs. non-violation)		$N_{violation}$ = 1,113 $N_{no\text{-}violation}$=21,378		$N_{violation}$ = 525 $N_{no\text{-}violation}$=17,526	

Table 7
Whistle-blowing and Cash Profit-Sharing Programs

The table reports results from a logit regression in a sample of firms subject to class action litigation (Panel A) and SEC enforcement actions (Panel B) over 1996 to 2008. The dependent variable is WB, an indicator variable that takes the value of one if the misreporting event was associated with employee whistle-blowing. CPS is an indicator variable equal to one if the firm has a cash profit-sharing program through which it has recently made distributions to a majority of its workforce, and 0 otherwise. This variable is averaged over the number of years in the violation period. CM_PRESSURE captures capital market pressures and is the average scaled rank of free cash flow, an indicator for merger activity, and earnings management. SALES_GROWTH captures sales growth for three years prior to the violation period, PAST_PERF captures stock returns in the year prior to the violation period, REPUTATION captures firm reputation up to five years prior to the violation, and COMMUNICATION captures unclear communication channels within the firm. DOWNSIZING captures the change in employees in the three years prior to the beginning of the violation period, QUITAM captures the health and defense industries that have a predominance of *qui tam* cases, SIZE captures revenues in the year prior to violation and ICW captures internal control weakness in the firm. All control variables are scaled rank based on the underlying firm characteristics and are described in detail in the Appendix. *, **, *** represent significance at the 10 percent, 5 percent, and 1 percent level, respectively. P-values are two-sided. Standard errors are clustered by both firm and year.

	Pred. Sign	**Panel A: Lawsuit**		**Panel B: SEC**	
		Coeff.	p-value	Coeff.	p-value
CPS	-	**-1.27**	**0.022****	**-3.46**	**0.017****
CM_PRESSURE	+	-2.19	0.309	22.15	0.003***
SALES_GROWTH	+	3.08	0.136	-3.18	0.397
PAST_PERF	+	0.16	0.840	5.62	0.014
REPUTATION	+	1.16	0.396	-1.21	0.423
COMMUNICATION	+	2.71	0.152	-24.35	0.011**
DOWNSIZING	-	-2.68	0.105	-1.96	0.475
QUITAM	+	-1.19	0.471	-7.87	0.238
SIZE	+	6.83	0.001***	9.22	0.241
ICW	+	0.51	0.779	-21.84	0.002***
Year Dummies		Included		Included	
Industry Dummies		Included		Included	
Pseudo-R^2		33.7%		59.5%	
N		N_{WB} = 36, $N_{NO\text{-}WB}$ = 429		N_{WB} = 10 $N_{NO\text{-}WB}$ = 79	

Table 8
Cash Profit-Sharing Programs – Violation and Control Firms

The table reports results from an OLS regression where the dependent variable is CPS. CPS is an indicator variable that takes the value one if the firm has a cash profit-sharing program in place as identified by the KLD database. VIOLATION is an indicator variable equal to one for all years in violation and upto discovery. Panel A (B) uses litigation (SEC enforcement) to proxy for misreporting. The control samples is all firms in ExecuComp that were not subject to class action litigation or SEC enforcement over the 1992 to 2008 period. TOP5_OPTIONS is option grants to top-five executives scaled by total shares outstanding. TOP5_OTHER is all other compensation given to the top-five executives scaled by market equity. CASH_SHORT is the three year average of (dividends + cash flow from investing – cash flow from operations) scaled by total assets. INT_BURDEN is the three-year average of interest expense scaled by operating income before depreciation. R&D is the three-year average of R&D expenses scaled by sales. BMR is the book-to-market ratio. LT_DEBT is equal to one if the firm has long-term debt outstanding. LOW_TAX (HIGH_TAX) is an indicator variable for low (high) marginal tax rates. SALES is the log of sales, EMP is log of the number of employees, RET is the prior year stock return, VOL is the standard deviation of monthly stock returns in the prior year and LOSS equals one if the firm reports negative earnings in the year, and zero otherwise. Detailed descriptions of the variables are in the Appendix. *, **, *** represent significance at the 10 percent, 5 percent, and 1 percent level, respectively. P-values are two-sided. Standard errors are clustered by both firm and year.

	Pred. Sign	**Panel A: Lawsuit vs. Control**		**Panel B: SEC vs. Control**	
		Coeff.	p-value	Coeff.	p-value
VIOLATION	+	0.04	0.808	-0.78	0.077*
TOP5_OPTIONS	-	-8.99	0.507	-19.49	0.101
TOP5_OTHER	+	-9.71	0.329	-10.36	0.529
CASH_SHORT	-	-1.23	0.052***	-1.23	0.100*
INT_BURDEN	-	-0.42	0.222	-0.47	0.319
R&D	+	0.22	0.008***	0.18	0.021**
BMR	-	-0.14	0.698	-0.23	0.616
LT_DEBT	-	-1.06	<.001***	-0.57	0.043**
LOW_TAX	-	0.14	0.763	-0.61	0.142
HIGH_TAX	+	-0.03	0.791	-0.07	0.639
SALES	+	0.63	<.001***	0.32	0.008***
EMP	+	-0.22	0.019**	0.02	0.868
RET	+	-0.22	0.031**	-0.25	0.003***
VOL	+	0.87	0.476	1.07	0.521
LOSS	-	0.79	<.001***	0.31	0.170
MSA Controls		Yes		Yes	
Year Controls		Yes		Yes	
Industry Controls		Yes		Yes	
Pseudo-R^2		15.2%		28.6%	
N (treatment vs. control)		$N_{lawsuit}$ = 3,448, $N_{control}$= 8,153		N_{AAER} = 857, $N_{control}$= 8,153	
N (violation vs. non-violation)		$N_{violation}$ = 653, $N_{no\text{-}violation}$=10.948		$N_{violation}$ = 264, $N_{no\text{-}violation}$=8,746	