Mandatory Compensation Disclosure, CFO Pay, and Corporate Financial Reporting Practices *

Hongyan Li
Virginia Tech
hongyan@vt.edu

Jin Xu
Virginia Tech
xujin@vt.edu

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*Both authors are at the Department of Finance, Insurance and Business Law, Pamplin College of Business, Virginia Tech, Blacksburg, VA 24060. We thank John Easterwood, Raman Kumar, Ugur Lel, Yinghua Li, Dilip Shome, and seminar participants at Virginia Tech for helpful comments.

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Abstract

We use the SEC's mandated disclosure rule on CFO pay in 2006 to examine the effect of compensation disclosure on executive pay and corporate financial reporting practices. In a panel of S&P1500 firms, we find that total compensation of the CFO increases dramatically relative to the CEO. The effect is the most salient at firms that never or rarely disclosed CFO pay before 2006. The results are consistent with the view that the CFO requires additional compensation for lost private benefits due to more intense monitoring. We also find more negative unexpected earnings and deteriorated financial reporting quality in these firms after 2006. CFO (but not CEO) turnover increases significantly.

Keywords: SEC compensation disclosure mandate; CFO pay; executive labor market; corporate financial reporting

JEL classifications: G38, J33, M52

I. Introduction

Over the last two decades, dramatic increases in top executive compensation have spurred large amounts of discussions among academics, regulators, and news media. Focal in the discussions is whether such increases result from competitive managerial labor market movements (e.g., Murphy, 2002; Gabaix and Landier, 2008; Kaplan and Rauh, 2011) or aggravated managerial entrenchment (e.g., Bertrand and Mullainathan, 2001; Bebchuk and Fried, 2003). Worried about excessive managerial discretion in pay setting, the Securities and Exchange Commission (SEC) adopted new disclosure rules in 2006 intended to provide investors with a clearer and more complete picture of the compensation for top corporate executives. In particular, the rules mandated the disclosure of compensation for the chief financial officer (CFO).[1]

Before the mandate, firms were required to report only the compensation of the top five most highly paid executives. Compensation of a CFO ranked below top five at his firm is not required for disclosure. After the mandate, however, the CFO's compensation must be disclosed regardless of his pay ranking. In our sample of the S&P1500 firms, 15% of the firms never or seldom disclosed their CFOs' pay before the mandate. Although investors could infer the level of CFO pay from the top five executives' pay, details of the compensation contract were not observable. The limited information about CFO compensation impeded investor monitoring.

Better compensation disclosure may facilitate the monitoring role of investors and prevent top managers from setting their own pay (Brickley, Lease and Smith, 1994; Zeckhauser and Pound, 1990). However, executives may utilize the new disclosure rules to justify greater pay for

[1] As stated in both the proposed and final rules of the SEC in release numbers 33-8732A, 34-54302A, and IC-27444A, the regulators "believe that compensation of the principal financial officer is important to shareholders because, along with the principal executive officer, the principal financial officer provides the certifications required with the company's periodic reports and has important responsibility for the fair presentation of the company's financial statements and other financial information."

themselves. For example, Hermalin and Weisbach (2011) argue that enhanced disclosure requirements and the resulted increased monitoring may raise executive pay to compensate for the lost rents of the executives. Consistent with this argument, Faulkender and Yang (2013) find that a mandatory disclosure requirement on compensation peer groups exacerbates the use of high-pay benchmarks.

Better compensation disclosure can also affect corporate financial reporting practices, the main job responsibilities of the CFO. Prior literature suggests that CFOs receiving high equity incentives in pay engage in short-term behavior such as earnings management (e.g., Jiang, Petroni, and Wang, 2010; Feng, Ge, Luo and Shevlin, 2011). Thus, CFO's reporting practices can change as a result of the changes in CFO compensation. In addition, more intensive monitoring by investors increases the threat of turnover to the CFO, which can motivate the CFO to place a heavier emphasis on short-term performance goals (Edmans, 2011; Laux, 2012).

In this paper, we examine how the 2006 CFO pay disclosure mandate affects firms' compensation policies and financial reporting practices. The CFO compensation disclosure mandate presents a unique empirical setting to study the effects of enhanced compensation disclosures. First, the disclosure mandate affects the CFO but not any other top executives. For example, CEO pay has always been required for reporting since the inception of the SEC (Frydman and Saks, 2010). Therefore, we can use compensation of the CEO and other executives to control for confounding factors that influence general pay practices at the firm. Second, the disclosure mandate should have differential impacts on firms depending on whether they were automatically in compliance with the new rule. Firms that never or seldom reported CFO pay (not compliant) should be affected the most; firms that always reported CFO pay (already in compliance) should be affected the least. Thus, we can compare across firm groups and test whether the effect is

specific to the disclosure mandate. These difference-in-difference tests are useful to address omitted variable concerns on our findings.

We examine the S&P1500 firms (past and present) in a balanced panel of 1,003 firms between 1999 and 2013.[2] During the seven years before 2006, about 15% of these firms never or seldom reported CFO pay, 45% of the firms often reported CFO pay, and 40% of the firms always reported CFO pay. Comparisons across these reporting groups suggest that firms that never or seldom reported CFO pay prior to 2006 were larger in assets and sales, more profitable, and valued higher relative to their book values, had lower financial leverage, and made more capital investments but less research and development investment than firms that always or often reported CFO pay. These firms also had lower risk evident by smaller volatilities in sales, cash flow, and stock return. Thus, the results suggest that firms with worse financial standing, lower transparency, and higher risk attach greater importance to the CFO position. Across industries, financial firms are the least likely to report CFO pay before 2006 while transportation and communications firms are the most likely to report CFO pay. The results generally support the contracting theory that cross-sectional variations in CFO pay reflects compensation for job difficulty and productivity.

In the main analysis of the paper, we study the change in CFO compensation following the SEC disclosure mandate. Because CFO pay is unobserved when it is below the top five rank at a firm prior to 2006, we construct a "proxy" CFO pay measure by assigning the lowest reported top five executive's pay to the CFO when CFO pay is not reported. Because unreported CFO pay is actually below the lowest pay among the top five ranks, this method over-estimates CFO pay

[2] We focus on the constant sample in the majority of our analyses to eliminate possible sample compositional effects. However, we confirm that our results are not driven by the use of a constant sample. As we show in Section 3.3, the results are robust when we allow firms to drop out of the sample after 2006, and when we do not place any restriction on firm entry and exit.

before 2006. This strategy should make it more difficult for us to find evidence of CFO pay increases while easier to find evidence of CFO pay declines.[3]

We find results that are consistent with Hermalin and Weisbach (2011). CFO total pay increases after 2006. Such increases in CFO pay are the most salient in firms that never or seldom reported CFO pay previously, while CFO pay remains unchanged in firms that always reported CFO pay. The differential results across firm groups with different pre-2006 reporting status suggest that the increase in CFO pay is an outcome of mandatory disclosure. The average increase in CFO pay in the never-reported firm group is 17% higher than that in the always-reported firm group. To ensure that the result is not driven by omitted factors affecting compensation of all executives, we compare the changes in CFO pay with those in CEO pay and the average pay of the other top three executives. We confirm that there were no significant changes in CEO pay after 2006 in any group of firms and that our results are robust to using the ratios of CFO pay relative to the pay of the CEO or other executives. Overall, the evidence suggests that our results are an outcome of the disclosure mandate on CFO pay.

Because the heterogeneous results across pre-2006 CFO pay reporting groups are an important result, we use several empirical strategies to ensure that the results are not manifestations of the correlation between the pre-mandate disclosure status and firm characteristics. First, we include in the main regression specifications not only firm characteristics (including corporate governance measures) affecting compensation but also their interactions with the post disclosure mandate time dummy. Second, we repeat the analysis in a subsample including firms that never or seldom reported CFO pay before 2006 and their counterparts that always or often reported CFO pay with similar firm characteristics identified through propensity score matching. Third, we

[3] We also check robustness of our results using actual CFO pay in Section 3.3.5. The never reporting group cannot be included due to missing data. Despite this, we find results qualitatively similar to the main results.

employ the Core, Holthausen, and Larcker (1999) model to project CFO pay in the post-2006 period and define excess CFO pay as actual CFO pay minus projected CFO pay. We then test whether excess CFO pay is significantly greater among firms that seldom disclosed CFO pay. Our results are robust under all these strategies.

We also examine changes in the equity incentives of CFO pay around the disclosure mandate relative to changes of CEO pay. This test suffers from a data limitation because CFO equity pay cannot be inferred from the top five executives' pay. We cannot utilize firms that never disclosed CFO pay and have to rely on the comparison between firms that always disclosed CFO pay with firms that often or seldom disclosed CFO pay. The results show that CFO (but not CEO) equity incentives increase more for the seldom-reported firms than the always-reported firms.

The increased CFO equity incentives and the greater threat of turnover that may arise due to more intense monitoring predict more short-term behavior of the CFOs in corporate reporting practices. We consider two sets of tests of the CFO's short-termism. The first is earnings relative to analyst forecasts. Jin and Myers (2006) and Bleck and Liu (2007) argue that corporate managers often hoard bad news which can later lead to large negative realizations of asset values. Because both higher pay and increased shareholder attention make CFOs become more concerned about firm performance, they will engage in more bad news hoarding. This mechanism should lead to more severe outbursts of bad news. We examine earnings surprises (i.e., difference between announced earnings and analysts forecasts) and find that, following the CFO compensation disclosure mandate in 2006, firms have more large negative earnings surprises and that the change is the most salient among firms that never disclosed CFO pay previously.

The second set of tests of the CFO's short-termism consider financial disclosure quality, more specifically, earnings management and accruals quality. We find that after the disclosure

mandate, firms that seldom reported CFO pay before 2006 significantly increase their earnings management, as evident by larger positive accruals and a higher propensity to just beat analyst earnings forecasts. By contrast, firms in the "always" group do not change accruals and are less likely to just beat analyst forecasts. Accruals quality also deteriorates significantly in the "seldom" reporting group of firms, while it improves in the "always" group of firms. Overall, the results on corporate reporting practices suggest that the SEC mandate of CFO compensation disclosure brings about more short-term behavior of the CFO.

We close by investigating the CFO labor market implications of the disclosure mandate. We argue that full compensation disclosure improves the overall transparency in the CFO labor market and contributes to greater CFO mobility. This is because, with limited disclosure of CFO compensation at a firm, the hiring of a CFO from that firm can be difficult due to uninformed pay negotiations.[4] Full wage disclosure avoids this problem. Therefore, after the mandate, we expect to see increased CFO turnover throughout the labor market. Consistent with the hypothesis, we find strong evidence of increased CFO turnover after the CFO compensation disclosure mandate. By comparison, we do not find any change in CEO turnover.

The paper contributes to the literature on the effect of compensation disclosures on executive pay. In general, increased corporate disclosure enhances information availability and discourages fraud, but it also imposes compliance costs and indirect costs such as revealing trade secrets (Leuz and Wysocki, 2008; Healy and Palepu, 2001; Bailey, Li, Mao, and Zhong, 2003; Hermalin and Weisbach, 2012). Enhanced compensation disclosure in particular, may facilitate the monitoring role of investors and prevent top managers from setting their own pay or,

[4] A standard Microeconomics textbook often concludes that asymmetric information about the quality of a product can lead to market failure. For example, used cars always sell much less than new cars because there is asymmetric information about their quality.

conversely, it may lead to higher managerial pay if executives utilize the new disclosure rule to negotiate for greater pay. We show that the SEC's disclosure mandate on CFO pay significantly increases CFO compensation. Thus, our results are consistent with Faulkender and Yang (2013) who find increased CEO pay after mandated disclosures of compensation peer groups.

The paper adds to the literature on the effect of CFO incentives on corporate decisions. Prior studies document a significant relation between CFO equity incentives and earnings management (Jiang, Petroni, and Wang, 2010), stock crash risk (Kim, Li, and Zhang, 2011), and material accounting manipulation (Feng, Ge, Luo and Shevlin, 2011). However, a causal link is yet to be established. We exploit the change in CFO compensation resulting from the SEC disclosure mandate on CFO pay and are able to alleviate many omitted variable concerns and make progress toward a causal interpretation to the corresponding changes in earnings management. We find that, following the compensation disclosure mandate, CFOs receive higher pay which leads to more earnings management and lower earnings quality.

This paper also contributes to our understanding of top executive pay practices by relating the CFO's compensation to the functionality of the position. Our results suggest that executive employment contracting is not "one model fits all", but takes into account the specialties of the positions. We document that in situations where the CFO position is more important or more challenging, the CFO receives greater compensation. Hui and Matsunaga (2015) find positive relations between changes in disclosure quality and changes in bonus for both the CEO and CFO. Hoitash, Hoitash, and Johnstone (2012) document a significant relation between the disclosure of internal control material weaknesses (ICMW) and CFO compensation. In both studies, only firms disclosing CFO pay are included in the analyses. If there are systematic differences in accounting disclosures between firms not disclosing CFO pay and those doing so, their results can be biased.

The remainder of the paper proceeds as the follows. Section II introduces the sample and compares firm characteristics across pre-2006 CFO pay reporting groups. Section III examines the effect of the mandatory compensation disclosure rule on CFO pay. Section IV investigates the effects of the disclosure mandate on firms' financial reporting practices, followed by the examination of CFO turnover in Section V. Section VI concludes.

II. Data and firm characteristics across reporting groups

We obtain the executive compensation information from the ExecuComp database, stock level information from CRSP and financial accounting data from Compustat. We get institutional ownership data from Thomson Reuters Database and board of director information from the ISS database.

Our sample consists of a balanced panel of S&P1500 firms (past and present) in 1999-2013. That is, for inclusion in the sample, we require a firm to exist during the entire 1999 - 2013 period (i.e., 7 years before and 7 years after the disclosure mandate). This sampling strategy has two benefits. First, it ensures that no compositional effects are at play. Second, it allows us to define firm reporting groups based on the number of times CFO pay was disclosed in the 7 years prior to 2006.[5] The final sample consists of 1,003 firms. We classify these firms into four groups according to their CFO pay reporting frequency during the pre-disclosure-mandate period: "never" (firms never reporting CFO pay), "seldom" (reporting 1-3 times), "often" (reporting 4-6 times), and "always" (always reporting). 405 firms belong to the "always" group, 452 firms belongs to the "often" group, 103 firms belong to the "seldom" group, and 43 firms belong to the never group.

[5] We acknowledge that the balanced panel excludes firms that join in or drop from the sample during the sample period. However, we do not think that survivorship bias is a concern in our context because there is no theoretical reason why the CFO pay level or its changes should relate to corporate survivorship. Despite this, we later test the robustness of our results in a non-balanced panel.

This means about 15% of firms never or rarely report their CFO compensation before the disclosure mandate.

In Table 1, Panel A, we compare firm characteristics of firms before the disclosure mandate across different CFO pay reporting groups. Firms that never or seldom reported CFO pay prior to 2006 were larger in assets and sales, more profitable, and valued higher relative to their book values, had lower financial leverage, and made more capital expenditures but relatively less research and development investment. These firms also had smaller risk evident by lower volatilities in sales, cash flow, and stock return. Thus, firms that never or seldom reported CFO pay prior to 2006 (because CFO pay was below top 5) seem to have better financial standing, greater transparency, and lower risk than firms that always or often reported CFO pay. These results suggest that firms with worse financial standing, lower transparency, and higher risk attach greater importance to the CFO position.

We also examine the distribution of the CFO reporting status for different industries. Firms in the Finance and Retail Trade industries are the least likely to report CFO pay while firms in Transportation, Mining, and Construction are the most likely to report CFO pay before 2006. Thus, it seems that CFOs are relatively more important among top executives in industries where they are more likely to contribute greatly to their firms. In sum, the results on firm characteristics and industry distribution generally support the contracting theory that cross-sectional variations in CFO pay reflects compensation for job difficulty and productivity.

III. CFO pay

In this section, we study the change in CFO compensation following the SEC disclosure mandate. A priori, it is unclear how CFO pay should change. On the one hand, after CFO compensation disclosure becomes mandatory, shareholders can observe CFO compensation practices better and exert more efficient monitoring. CFO pay may decline under tighter

shareholder monitoring. On the other hand, firms may want to boost CFO pay to show the importance the board attaches to the position. Meanwhile, low-pay CFOs will fight harder for higher pay because, under mandatory compensation disclosure, their current pay level will directly affect their market wage. This "Lake Wobegon" effect predicts that CFO pay will increase after its disclosure becomes mandatory.

Not all firms are equally affected by the mandatory CFO compensation disclosure rule. Firms that have always disclosed CFO pay, as the CFO is among the top five most highly paid executives, should not be influenced at all. In contrast, firms that largely did not report CFO pay prior to the disclosure mandate should be the most strongly affected. Thus, most of the effect in CFO compensation is likely to show up among these latter firms. Because CFO pay is largely unobserved in these firms before 2006, it is imperative that we find a proxy for the missing CFO pay. Therefore, we construct a CFO proxy total pay measure that assigns the lowest pay among the top five executives to the CFO when CFO pay is not reported. Because the unreported CFO pay is always below the lowest top five pay, this method overestimates CFO pay before 2006. It would thus make it more difficult for us to find evidence of CFO increases while easier to find evidence of CFO declines. Moreover, the "never" and "seldom" firm groups should be under the most influence of such a bias.

3.1. Univariate analysis

Table 2 presents univariate comparisons of executive pay across the CFO pay reporting groups and over time. We report the average total pay of the CFO (using the proxy measure), the CEO, and the other three top executives who are the most highly paid beside the CEO and the CFO. We also report the average ratio of the CFO proxy total pay to CEO total pay and the average ratio of the CFO proxy total pay to the average of other executives' total pay. Panel A presents

statistics over the entire sample period of 1999-2013. Total pay of all the executives increases across the four reporting groups: roughly speaking, firms in the "never" group pay their CFOs, CEOs, and other executives the most, while firms in the "always" group pay their executives the least. However, the extent to which total pay increases across groups is the least for the CFO. Consistent with this, the ratio of CFO pay to CEO pay or to other executives' pay declines almost monotonically across the reporting groups: the ratios are the lowest for firms in the "never" or "seldom" group and the highest for firms in the "always" group. For example, while the average ratio of CFO pay to CEO pay is 0.594 in the "always" group, it is only 0.496 in the "never" group. Thus, in firm groups that pay their top executives more (that are presumably larger firms), the size of CFO pay relative to other executives including the CEO tends to be smaller.

Panel B presents average executive pay before the disclosure mandate in December 2006 and Panel C presents the average executive pay after the disclosure mandate. The average CFO total pay of "always" reporting firms is $1,680 thousand (median=$1,028 thousand) before the mandate. After the mandate, the average CFO pay is $1,936 thousand and the median is $1,415 thousand, respectively. The growth in CFO pay is modest: about $250 thousand on average. For the "never" reporting group firms, CFO proxy pay averages $2,061 thousand with a median of $1,253 thousand before 2006, while the average CFO pay after 2006 is $2,734 thousand with a median of $1,867 thousand. Compared with the "always" group, the growth in CFO pay in the "never" group of firms is much larger: around $700 thousand on average. There is a similarly large increase in CFO pay in the "seldom" group of firms, while the increase in CFO pay is more modest for firms in the "often" reporting group. Given the fact that the proxied CFO pay is overestimated before 2006, it is more difficult for us to find a pay increase particularly for the "never" and

"seldom" groups of firms. Therefore, the actual magnitude of the CFO's pay increase should be even larger for firms that did not always report CFO pay before 2006.

By comparison, the pay growth for the CEO and other executives around 2006 is not very different across the reporting groups. As a result, the ratio of CFO pay to CEO pay or other executives' pay further confirms the pattern in the change of CFO proxy total pay across reporting groups: the size of CFO pay relative to the CEO's and other executives' pay increases dramatically for firms in the "never" reporting group, while it declines for firms in the "always" reporting group. Overall, the results in the univariate comparisons of executive compensation around the CFO compensation disclosure mandate and across the pre-mandate reporting status groups reflect changes in pay unique to the CFO and is most likely the outcome of the disclosure mandate. These results are consistent with the labor market influences hypothesis while inconsistent with enhanced monitoring by shareholders.

We also depict the time series of the ratio of CFO proxy total pay to CEO total pay throughout the sample period to better observe the time trend. Figure 1 compares the means and medians of the ratio overtime between firms in the "always" or "often" group and those in the "seldom" or "never" group. The figure suggests that, while the CFO-to-CEO pay ratio was quite different between the two sets of firms before 2006, it converges after 2006. In particular, the ratio increases significantly among firms in the "seldom" or "never" reporting group. The increase in the mean ratio is about 10% and that in the median ratio is about 5%. The time patterns in CFO pay relative to CEO pay supports the notions that firms with different CFO pay reporting statuses respond to the disclosure mandate differently and that the effects are unique to the CFOs.

3.2. Regression analysis

We next examine the CFO pay in a regression setting. Our primarily regression equation can be described as follows:

$$y_{it} = \alpha + \beta_1 d2006rule + \beta_2 d2006rule * often + \beta_3 d2006rule * seldom + \beta_4 d2006rule * never + \gamma_1 * Controls_{it} + \gamma_2 d2006rule * Controls_{it} + \varepsilon_{it}$$

where y_{it} is the dependent variable to be examined; $d2006rule$ is a dummy variable that equals one for firm-years with fiscal year ends on or after December 15, 2006 (the disclosure mandate effective date) and zero otherwise; $never$ is a dummy variable that equals one if a firm belongs to the "never" group and zero otherwise. $seldom, often, and\ always$ dummies are defined similarly. We are interested in the estimated coefficients $\beta_2 \sim \beta_4$. Such a regression setting allows us to compare the effects of the disclosure mandate on the dependent variable across firm groups. To be more specific, β_2, β_3, or β_4 measures the difference in the effect of the disclosure mandate between the "often", "seldom", or "never" group and the "always" group.

We include in the regression model a host of control variables that may affect executive compensation, including various firm characteristics and corporate governance measures (Fernandes et al. (2013)). This is to address the concern that firm characteristics may change after 2006, leading to apparent differential responses across the CFO pay reporting groups. An additional concern is that firms with different characteristics can respond to the law change differently, which cannot be captured by the control variables alone. Thus, we additionally include in the regression model the control variables interacted with the d2006rule dummy. These control interactions will absorb any differential responses to the disclosure mandate pertaining to each firm characteristic so that β_2, β_3, and β_4 cleanly capture the differential responses by firms with

different CFO pay reporting statuses. Detailed variable definitions can be found in the Appendix. All regressions included industry fixed effects at the two-digit SIC level.

The regression results, presented in Table 3, are consistent with the univariate results. Relative to firms that always reported CFO pay before 2006, CFO pay increases more for firms that often reported CFO pay, but it increases even more among firms that never or seldom reported CFO pay. Column 1 suggests that the "seldom" and "never" groups of firms increase their CFO pay by 18.8% and 16.8% more than the "always" group of firms. When we examine CEO pay as a benchmark, we find no significant difference in changes in CEO pay after 2006 across groups (Column 2). The test using the difference in CFO pay and CEO pay further confirms that, relative to CEO pay, CFO pay increases after 2006 and that such an increase is the greatest in the "never" group (Column 3). Assuming that CEO pay reflects any changes in a firm's general executive compensation policies, these results suggest that the observed large increases in CFO compensation, particularly if the firm is not automatically compliant with the mandatory CFO compensation disclosure, are unique to the financial officers. The economic magnitude of the effect is in line with that from the univariate comparison: the "never" group of firms experience an increase in CFO pay that is 24.1% higher than the "always" group of firms and relative to CEOs. Take an average CFO pay of $2 million, the effect amounts to about half a million dollars. Furthermore, the results are reiterated when we examine the ratios of CFO pay to CEO pay and to other top three most highly paid executives' pay (Columns 4 and 5). All the regression results remain quantitatively similar if we use firm fixed effects instead of industry fixed effects.

There are some interesting results regarding the regression coefficients on the control variables. Larger and better performing firms pay their CFOs and CEOs both more, as one would expect. Firms with greater institutional ownership and larger and more independent boards pay

their executives more, consistent with prior literature (e.g., Fernandes et al. 2013). Not surprisingly, the CEO-chairman duality is associated with significantly greater pay for the CEO but not the CFO. For the most part, the interaction terms between the control variables and the d2006rule dummy do not have significant coefficients, with the exceptions of stock return volatility and institutional ownership. This suggests that the concern about changing sensitivity of CFO pay on firm characteristics is perhaps not too worrisome.

Lastly, we consider a falsification test examining the other three most highly paid executives' average pay. If the effects in executive compensation are specific to the CFO but not any other executive, we should not expect to see a significant increase in the other three top executives' pay. To be comparable with the CFO test, we use the ratio of the other three top executives' average pay to the CEO's pay as the dependent variable and run the same regression specification as in the other columns of Table 3. The result is presented in Column 6. As expected, there is no significant change in the other three executives' pay to CEO pay ratio after the mandate for any group of firms. This result further strengthens the interpretation that the increase in CFO pay is the result of the CFO compensation disclosure mandate.

3.3. Robustness checks

3.3.1. Excluding SOX years

One concern is that the Sarbanes-Oxley Act (SOX) affects CFO pay in a similar direction. To address that concern, we shrink our sample period by excluding years 1999-2001 and 2011-2013. The reduced time period does not contain the pre-SOX period and, thus, is not contaminated by any SOX effect. Column 1 of Table 3, Panel B reports the regression result of the log difference between CFO proxy pay and CEO pay, following the specification in Column 3 of Table 3, Panel A (the base case). The results are highly consistent with those in the base case.

3.3.2. Excluding Great Recession years

To ensure that our results are not driven or biased by the recent financial crisis, we exclude 2008 and 2009 from our sample and repeat the analysis. Column 2 of Table 3, Panel B reports the regression result. The results are almost identical to those in the base case.

3.3.3. Excluding financial and utility industries

We also check robustness by excluding financial and utility industries because pay practices may follow different dynamics in these industries. As the results in Column 3 of Table 3, Panel B show, CFOs in the "never" reporting group of firms experience significantly larger increases in total pay than those in the other groups. The coefficient on d2006rule*never is larger than that in the base case.

3.3.4. Inflation adjustment

To check whether our results are sensitive to inflation adjustments, we adjust the CFO and CEO pay figures by inflation and re-estimate the regression model following the base case specification. As the results in Column 4 of Table 3, Panel B show, the greater increase in CFO pay among the "never" reporting group of firms is largely robust to this adjustment, although the *p*-value of the coefficient is slightly above the 0.10 significance cutoff.

3.3.5. Actual CFO pay

One could wonder whether our results are specific to the use of proxy CFO pay rather than actual CFO pay. To explore this possibility, we conduct an additional analysis using actual CFO pay before 2006. (Note that CFO pay after 2006 is always actual.) Firms that never disclosed CFO pay before 2006 can no longer be included in the analysis because no observation of actual CFO pay is available before 2006 for these firms. Firms that sometimes disclosed CFO pay before 2006, and particularly those that seldom disclosed it, would have relatively few observations compared

with the post-mandate period, which could result in low power in the statistical tests. To alleviate the problem, we interpolate the CFO total pay variable by filling missing observations using the average of the two most adjacent nonmissing observations. Such an interpolation strategy is based on an assumption that total pay (and later, pay structure) does not vary dramatically between two adjacent years, and that even if it does, the sum of the variations over time should not be biased in a particular direction.

Column 5 of Table 3, Panel B shows the results. The never group dummy and its interaction terms drop out of the model due to missing observations, and we focus on the interaction term between the seldom group dummy and the mandate time dummy. We find a significant coefficient on the term, suggesting that firms that rarely disclosed CFO pay experience a significant increase in CFO pay after the mandate. The coefficient of 0.192, which is significant at the 5% level, is larger in magnitude than that using proxy CFO pay (Column 3 of Table 3, Panel A). This is not surprising given that the proxy CFO pay overestimates the pre-mandate CFO pay.

3.3.6. Propensity score matching

In our main regression specifications in Table 3, we control for various firm characteristics and corporate governance measures and their interaction terms with the disclosure mandate time dummy. The strategy is used to parse out any changes in compensation due to its relations with these control variables and the possibility that such relations may vary around the disclosure mandate. We also consider an alternative approach to further address this concern, i.e., the propensity score matching approach. We first estimate the propensity for a firm to be in the "never" or "seldom" group (treated group) and not in the "always" or "often" group (control group) prior to 2006 based on firm characteristics that affect executive compensation (see Table 3) and additional variables that differ across reporting groups (see Table 1). For each firm in the treated

group, we then look for its closest match from the control group by the estimated propensity score, within a caliper of 0.25 times its standard deviation (Rosenbaum and Rubin (1985)). Finally, we re-estimate the baseline regression models from Table 3 in the subsample containing all treated firms for which we find a corresponding control firm and their matched control firms.

The results are summarized in Table 4. Panel A compares the firm characteristics and CFO proxy total pay between the treated firms and their matched control firms in the pre-mandate period. There are no economically or statistically significant differences in any of these variables in either their means or medians, suggesting a good matching quality. Panel B reports the regression results of compensation measures following the specifications in Table 3. These results are consistent with those in Table 3. The results again support the idea that our results are not driven by different firm characteristics between firms with different pay reporting statuses before the disclosure mandate.

3.3.7. Excess CFO pay

To further address the concern of different characteristics between firms with different pay reporting statuses, we employ a methodology that follows the idea of Core, Holthausen and Larcker (1999). We first regress CFO total pay (actual) on its fundamental determinants in years 1999-2006 (December) and generate coefficients on the determinants. We additionally include in the regression model dummies for CFO pay reporting groups and for industries to account for any time-invariant components in CFO pay within each category. Because actual CFO pay data are missing for firms that never reported CFO pay in the pre-2006 period, these firms are naturally absent from the analysis.

In the next step, we apply the regression coefficients to the data after December 2006 and calculate the predicted CFO total pay for each firm and year (except firms in the "never" reporting

group). Finally, we construct the excess CFO pay variable by subtracting the predicted CFO total pay from the actual CFO total pay. We then test whether excess CFO total pay differs across the various reporting groups. Particularly, we check whether, after the disclosure mandate, firms that seldom reported CFO pay before 2006 have larger excess CFO pay than firms that always reported CFO pay.

The results are summarized in Table 5. Excess CFO pay is $318,939 greater among firms that seldom reported CFO pay than firms that always reported CFO pay. Firms that often reported CFO pay also have greater CFO pay than firms that always reported CFO pay, though by a less magnitude. The same results do not hold when we check CEO excess pay (constructed in a similar way). These results confirm our results in the baseline analysis. Thus, we conclude that our results are not driven by different firm characteristics between firms in different pre-2006 pay reporting groups.

3.3.8. Unbalanced panels

Our main sample is a balanced sample consisting of firms that exist during the entire sample period of 1999-2013. One can be curious whether our results still hold in unbalanced panels that allow firms to enter or exit sometime during the sample period. We thus consider two alternative samples. In the first alternative sample, we require the firms to exist in the pre-mandate years during 1999 to December 2006, but allow the firms to disappear afterwards. In this alternative sample, we remain able to classify firms into the four groups based on the frequency in which each firm reported CFO pay among top five executives prior to 2006. We can thus employ the same regression specification as in the main analysis in Table 3 and focus on the interactions between the mandated disclosure time dummy, *D2006rule*, and the reporting group dummies, *often, seldom,* and *never.* Tests in the alternative sample address the concern that surviving firms

have different pay practices from non-surviving firms. In the second alternative sample, we do not impose any restriction and include all firms covered by the ExecuComp database. Because we cannot define the reporting groups, we will focus on just the post-disclosure mandate dummy, *D2006rule* and test whether CFO pay increases are a robust result in the general sample allowing entries and exits of firms.

The results are summarized in Table 6. Panel A corresponds to the results using the first alternative sample and follow the regression specifications in Table 3. Consistent with those of Table 3, the results show that firms in the "never" and "seldom" reporting groups increase CFO pay significantly more than firms in the "always" group. Firms in the "often" group increase CFO pay more than firms in the "always" group, but less than firms in the "never" and "seldom" groups. Again, the results are specific to the CFO, as the change in CEO pay is similar across firm groups. The relative CFO pay measures also produce similar results, confirming the ones in Table 3. Overall, the evidence in the first alternative sample suggests that our main results reported in Table 3 are not specific to the constant sample.

Panel B presents results using the second alternative sample, i.e., all ExecuComp firms without any restriction. Because we cannot divide firms by their pre-2006 reporting groups in this enlarged sample, we no longer have the dummies representing the reporting groups or their interactions with the disclosure mandate time dummy. Similarly, we do not need the interaction terms between the firm control variables and the time dummy. The coefficient on *D2006rule* estimates the average effect of the 2006 CFO compensation disclosure mandate on the dependent pay variable. We confirm that CFO pay increases significantly while CEO pay remains unchanged after 2006, and that the relative size of CFO pay to CEO pay or to other top three executives' pay

increases after 2006 as well. Again, the results in the most encompassing sample are consistent with our results in Table 3 using the constant sample.

3.4. CFO equity incentives

We additionally examine how the equity incentives in CFO pay are affected by the disclosure mandate. We compare the changes relative to those of the CEO and across the reporting groups. This investigation suffers a data limitation. While it is reasonable to use a proxy measure for CFO pay level when actual CFO pay is unobserved, the same cannot be argued about pay-performance sensitivity. Therefore, we have to use actual CFO pay data in this test, and then use the same interpolation strategy to make the number of observations more comparable before and after the mandate and across groups. The term $\beta_4 d2006rule * never$ naturally drops from the regression model.

The first measure of equity incentives we consider is portfolio delta, constructed following Core and Guay (2002). The delta measure reflects the dollar change in an executive's wealth for a 1% increase in the firm's stock price. In columns 1 to 3 of Table 7, we present results from regressions of CFO delta, CEO delta, and CFO delta minus CEO delta. Importantly, the "seldom" group of firms increase delta more after 2006 than the "always" group (the coefficient on the interaction term *D2006rule*seldom* is 37.953 and *p*-value = 0.020). The difference in the change of delta for "seldom" firms and "always" firms is statistically significant and economically nontrivial, considering that the median delta across all firms and years is $42 thousand. The "often" group also increase delta more than the "always" group though the effect is statistically insignificant (the coefficient on the interaction term *D2006rule*often* is 13.496 and *p*-value = 0.145).

We also use the equity incentive ratio described by Bergstresser and Philippon (2006) and Jiang et al (2010). The equity incentive ratio is delta normalized by delta plus salary and bonus. Bergstresser et al (2006) point out that "(the measure) captures the share of a hypothetical executive's total compensation that would come from a one percentage point increase in the value of the equity of his or her company". Since the equity incentive measure is a ratio between 0 and 1, we follow the statistics literature to transform it into ln(incentive/(1-incentive)), which has nicer statistical properties. This is done for both the CFO's and the CEO's equity incentives but not the difference between the CFO and CEO incentives. The results are presented in columns 4 to 6 of Table 7. The results are in line with those using portfolio delta. CFO equity incentives in the "seldom" group of firms significantly increased more after disclosure mandate than those in the "always" and "often" group (the coefficient on the interaction term *D2006rule*seldom* is 0.547 and *p*-value = 0.014). This suggests that the CFO equity incentive in the "seldom" group is increased more than 40% than that of the "always" group after the disclosure mandate.

Overall, the evidence presented in this section suggests that the disclosure mandate leads to increases in both the level and the equity incentives of CFO compensation. Additionally, the effects are stronger in firms that were not automatically compliant with the mandate previously.

IV. Corporate financial reporting practices

In this section, we examine the impact of CFO compensation disclosure mandate on corporate financial reporting practices. Particularly, we test whether these practices depict more short-termism after the mandate, as suggested by theory. We first investigate the level of earnings relative to analyst forecast consensus (i.e., earnings surprises). We then examine financial reporting quality.

4.1. Negative earnings surprises

Jin and Myers (2006) and Bleck and Liu (2007) argue that corporate managers often hoard bad news or hold on to bad projects which can later lead to large negative realizations of asset values. If higher pay makes the CFOs become more concerned about firm performance, they will engage in more bad news hoarding. This mechanism should lead to more severe outbursts of bad news. We examine annual earnings announcements and measure the amount of earnings surprises by the difference between the announced earnings per share (EPS) and the analysts' consensus (median) EPS forecast. We test the prediction that, following the CFO compensation disclosure mandating rule in 2006, firms should have more negative earnings surprises and that the change should be the most salient among firms that did not report CFO pay prior to the mandate.

The results from probit regressions, presented in Table 8, are consistent with our prediction. First, while there is no difference in the probability of negative earnings surprises before and after the 2006 rule for firms that always reported CFO pay, the probability increases for firms in the "seldom" and "never" groups of firms (Column 1). Particularly, the change in the probability of negative earnings surprises increases monotonically across the reporting groups: the marginal effect of the change in the probability of negative earnings surprises around the rule is 0.009 for firms in the "often" group (insignificant with *p*-value=0.646), 0.084 for firms in the "seldom" group (*p*-value=0.012), and 0.099 for firms in the "never" group (*p*-value=0.009). That is, firms in the "seldom" group are 8.4% more likely to have negative unexpected earnings and firms in the "never" group are 9.9% more likely to have negative unexpected earnings after 2006.

We also define several *Large Negative Surprise* dummies to capture large negative earnings surprises. It equals one if 1) the standardized unexpected earnings (SUE) is less than or equal to -1;[6] 2) the SUE is less than or equal to -2; 3) the earnings surprise is in the bottom quintile

[6] Standardized unexpected earnings (SUE) equals the difference between the annual fiscal EPS and the most recent consensus analyst forecast for that fiscal year standardized by the standard deviation of analyst forecast.

in the overall sample; or 4) the earnings surprise is in the bottom quintile in the corresponding year in the sample; and zero otherwise.

The results, presented in Columns 2-5, are also consistent with our prediction. Firms in the "never" group show the greatest increase in the likelihood to have a large negative earnings surprise, while the effect is weaker for the "seldom" group and disappears for the "often" group of firms. Therefore, the evidence suggests that firms are more likely to have large negative earnings surprises after the disclosure of their CFOs' compensation becomes mandatory, particularly if the firm was not automatically in compliance with the disclosure mandate previously. This is consistent with the notion that increased incentives prompt the CFOs to withhold bad news which in turn leads to negative earnings surprises.[7]

4.2. Financial reporting quality

We compare the changes in financial reporting quality across different reporting groups after the 2006 CFO compensation disclosure mandate. Jiang et al. (2010) show that greater CFO equity incentives are associated with more earnings management by the firm. Because mandated compensation disclosure leads to higher CFO equity incentives, we expect to see worsened financial reporting quality following the CFO compensation disclosure mandate. We measure financial reporting quality along three dimensions: accruals management, the likelihood of meeting or narrowly beating analyst forecasts, and accruals quality.

We use six accruals management measures: the absolute value of total accruals, positive total accruals, negative total accruals, the absolute value of discretionary accruals, positive discretionary accruals, and negative discretionary accruals. Total accruals are calculated as the difference between earnings before extraordinary items and cash flows from operations, scaled by

[7] Motivated by prior literature, we also checked whether stock crash risk increases significantly for firms most affected by the disclosure mandate, but did not find such evidence.

the previous year's total assets. The positive and negative accruals measures are used to further test whether firms manage their earnings more upward or downward.

Since not all accruals are manageable in terms of earnings management, we follow Jiang et al. (2010) to use Dechow, Richardson and Tuna (2003) procedure to measure the discretionary accruals. We first run the following regression to get the coefficients to estimate the non-discretionary accruals:

$$Total\ Accruals_{it} = \alpha + \beta_1\left((1+k)\Delta Sales_{it} - \Delta REC_{it}\right) + \beta_2 PPE_{it} + \beta_3 Total\ Accruals_{it-1} + \beta_4 SalesGrowth_{it+1} + \varepsilon_{it}$$

where k is the coefficient obtained by regressing changes in accounts receivable (ΔREC_{it}) on changes in sales ($\Delta Sales_{it}$) for each 2-digit SIC-year grouping. PPE stands for the gross amount of property, plant and equipment scaled by average total assets. Discretionary accruals are then estimated as the difference between the total accruals and the estimated nondiscretionary accruals (fitted value of the above regression).

The control variables are selected following Jiang et al. (2010). For example, Standard deviation of cash flows from operations (StdCashflow) and the standard deviation of revenues (StdRev) are included to control for firm-specific volatility. The regression Results are shown in Table 9.

The "always" group of firms do not change their accruals after the CFO compensation disclosure mandate, as evidenced by the insignificant estimated coefficients using all measures of accruals management (*p*-values range from 0.153 to 0.839). The "often" group of firms do not change their total accruals, but increase their discretionary accruals, particularly positive discretionary accruals. The "seldom" group of firms significantly increase their positive total accruals, absolute discretionary accruals, and positive discretionary accruals. Consistent with our expectations, the magnitude of the increase in the accruals is larger for firms in the "seldom" group,

which are more affected by the compensation disclosure mandate, than for firms in the "often" group. For example, in the regression of absolute discretionary accruals, the marginal effect of the interaction term D2006rule*seldom is 0.719 (*p*-value=0.043) and the marginal effect of the interaction term D2006rule*often is 0.492 (*p*-value=0.090). The results suggest that, after the 2006 mandatory disclosure rule and other things equal, the "seldom" group of firms increase their discretionary accruals by about 71.9 basis points more than the "always" group of firms. Across the board, it also seems that firms are managing their accruals upward more after the compensation disclosure mandate as the results mainly concentrate in positive accruals.

To our surprise, firms in the "never" group do not experience large increases in accruals. One potential explanation for this is that firms in this group are highly visible and under constant monitoring for misconduct. As a result, these firms do not significantly increase their earnings management activities. The coefficients on the control variables are largely as expected. For example, the standard deviations of cash flows and of sales growth are associated with more accruals, both positive and negative, which is consistent with more earnings management in a more volatile environment. Overall, the evidence in this table suggests that the mandated CFO compensation disclosures are associated with more accruals management.

Degeorge, Patel, and Zeckhauser (1999) suggest that a small earnings surprise over analysts' earnings forecast suggests a tendency of earnings management of a firm. We measure the small earning surprise over analysts' forecast using two measures. Following Liu and Xuan (2016), we compare a firm's actual annual EPS with its latest consensus (median) analyst forecast before the end of the fiscal year. Our first measure, the dummy variable "Meet", equals one if the actual EPS is exactly the same as forecast or just above the forecast by one cent and zero otherwise. Our second measure, the dummy variable "JustBeat", is equal to one if the EPS is exactly one cent

above consensus forecast and zero otherwise. The probit regression results about small surprise over analyst forecast are presented in Table 10.

The results show that the likelihood of earnings meeting or just narrowly beating analyst forecast significantly decreases in the post SOX years and after the CFO compensation disclosure mandate. However, there is no significant difference across the reporting groups in the change of the probability to meet analyst forecasts. Consistent with the discretionary accruals results, the "JustBeat" regression shows that the "seldom" reporting group of firms are more likely to narrowly beat financial analyst forecast after the 2006 disclosure mandate, compared with the "always" reporting group of firms. The result suggests a higher tendency of earnings management in these firms after the 2006 new disclosure rule.

We consider a third dimension of financial reporting quality following the accruals quality measures in Billett and Yu (2015). Billett and Yu (2015) find that opaque firms (i.e., with lower accruals quality) experience positive abnormal returns twice the magnitude of transparent firms after controlling for earnings management, governance and firm characteristics. The accruals quality measures, Opacity and Opac3, are based on the variability of unpredicted accruals. Specifically, Opacity is calculated as the standard deviation of firm's residuals from year t-4 to year t by running the following regression equation for each industry-year separately:

$$TCA_{i,t} = \alpha + \beta_1 CFO_{i,t-1} + \beta_2 CFO_{i,t} + \beta_3 CFO_{i,t+1} + \beta_4 \Delta Sales_{i,t} + \beta_5 PPE_{i,t} + \varepsilon_{i,t}$$

Where $TCA_{i,t}$ is total current accruals for firm *i* in year *t* and is defined as follows.

$$TCA_{i,t} = \Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STDEBT_{i,t}$$

CA is the current asset (ACT). CL is the current liabilities (LCT). Cash is the cash and short-term investment (CHE) and STDEBT is the debt in current liabilities (DLC). And Δ indicates the change from year *t*-1 to *t*. CFO is firm *i'* s cash flow from operations in year *t* and is defined

as the firm's net income before extraordinary items (IB) minus total current accruals (TCA) defined above and add depreciation and amortization (DP). Opac3 is calculated similarly as Opacity except it is based on the 3-year (t-2 to t) standard deviation of regression residuals instead of 5 years to minimize loss of observations.

We report the accruals quality regression results in Table 11. Using both opacity measures, we find that opacity significantly increases after the CFO compensation disclosure mandate among those firms that rarely reported CFO pay before 2006, compared with the "always" group of firms. The estimated coefficients are 0.007 (P=0.035) in the opacity regression, and 0.005 (P=0.079) in the Opac3 regression, respectively. Similarly as in previous tests of financial reporting quality, we do not find significant increases of opacity for firms that never reported CFO pay before 2006.

In sum, the evidence presented in this subsection suggests that the mandated CFO compensation disclosure is associated with more earnings management and deteriorated financial reporting quality, particularly for firms that rarely disclosed CFO pay and were under influence of the new compensation disclosure rule.

V. CFO turnover

Lastly, we examine whether there is any significant change in CFO turnover around the CFO compensation disclosure mandate in 2006. In standard microeconomic theory, mandated compensation disclosures for the CFOs should result in a more transparent and competitive labor market. The more intense competition in the CFO labor market is likely to lead to more CFO turnovers.

In this test, we only examine CFO turnover among firms that always reported CFO pay. This is because we rely on the ExecuComp data to identify turnovers. For the CFO before 2006, however, disappearance from the database does not necessarily mean departure. Considering the

integration of the managerial labor market, the implication of CFO turnover should apply to the firms that always reported CFO pay. We also conduct a parallel analysis for CEO turnover to address a potential concern that some confounding event drives greater turnover of all executives.

We report the turnover probit regression results in Table 12. Columns 1 and 2 correspond to the CFO turnover. Column 1 includes all common control variables for turnover except CFO age. Including age reduces the number of observations in the test and the result is presented in Column 2. In both regressions, there is a significant increase in the likelihood of CFO turnover after the 2006 disclosure mandate. For example, the likelihood of CFO turnover increases by 4.8 percentage points (*p*-value=0.0001) after 2006 (Column 2). Columns 3 and 4 present the results from the parallel tests on CEO turnover. There is no significant change in the likelihood of CEO turnover between the pre- and post- mandate periods regardless if CEO age is included as a control variable. Therefore, the results on executive turnovers corroborate our hypothesis that the CFO compensation disclosure mandate leads to greater transparency and more competition in the CFOs' labor market, which is manifested as greater CFO turnover. The results are not driven by a confounding event that affects turnovers of all executives, but are unique to the CFOs.

The regression coefficients on the control variables are as expected. Most notably, executive age is significantly positively related to executive turnover, because older executives are more likely to retire. Firm performance is significantly and negative associated with CEO and CFO turnovers, which reflects turnover for poor performance on average.

VI. Conclusion

In this paper, we examine the SEC's disclosure mandate of CFO compensation in December 2006. Theoretically, better compensation disclosure can reduce executive pay as enhanced investor monitoring limits discretionary pay. However, the executive may also require additional compensation for the lost private benefits due to more intense monitoring. We find that

firms on average increase CFO pay after 2006, consistent with the latter hypothesis. We also find cross-sectional variations in the result according to whether a firm was automatically in compliance with the mandatory disclosure rule when it was implemented. We show that firms in which the CFOs were always among the top five most highly paid executives, which were automatically in compliance, hardly change CFO pay. By contrast, firm in which the CFOs were below top five (and who had to comply to the new rule after 2006 and disclose CFO pay) increase CFO pay significantly. In a conservative estimate, the increase in CFO pay is about $700,000 for firms that never disclosed CFO pay previously. Meanwhile, CEO pay hardly changes after 2006 in any firm group. These results are robust to a host of robustness checks ensuring that the effects are unique to firms not automatically compliant with the disclosure mandate and to the CFOs.

Our results suggest that enhanced compensation disclosure from mandatory disclosure rules can lead to higher executive compensation. Thus, our paper casts doubt on the proposition that better compensation disclosure can overcome managerial discretion and potentially avoid further rises in U.S. top executives' pay. By using the disclosure mandate as a shock to CFO compensation, we also find evidence for a causal impact of CFO incentives on corporate reporting practices.

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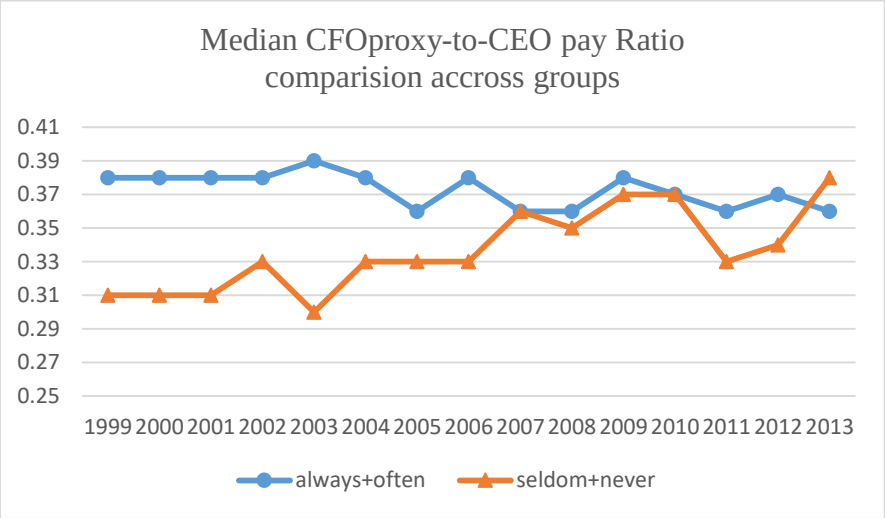
Figure 1



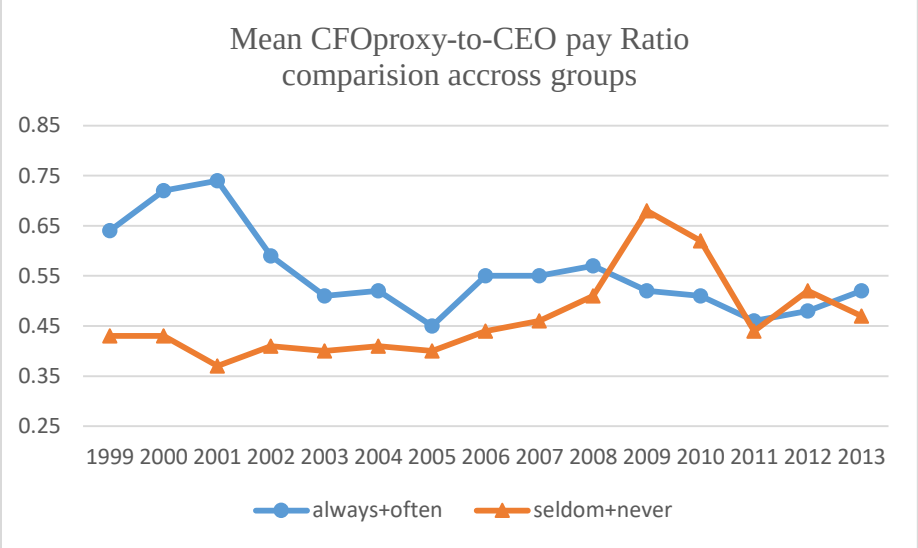


Figure 1: The ratio of CFO proxy total pay to CEO total pay across groups overtime
Proxy total pay is the lowest pay among the top five executives when CFO pay is unreported. We classify firms into four groups according to their CFO pay reporting frequency during the pre-disclosure-mandate period: "never" (firms never reporting CFO pay), "seldom" (reporting 1-3 times), "often" (reporting 4-6 times), and "always" (always reporting).

Table 1: Firm Characteristics before disclosure mandate (1999 - December 15, 2006)

This table compares firm characteristics across firms with different pre-2006 CFO pay reporting status. Detailed definition of variables can be found in Appendix. Variables are winsorized at [1%, 99%]. ***, **, and * stand for the 1%, 5%, and 10% significance level for the test of the difference in mean (median) between the indicated group and the "always" group.

Panel A. Firm characteristics

	Mean				Median			
	always	often	seldom	never	always	often	seldom	never
Assets	7,151	13,908***	20,293***	32,602***	1,686	1,900**	4,569***	3,382***
Sales	4,128	5,638**	9,876***	10,907***	1,397	1,514*	3,924***	2,783***
MarkettoBook	2.034	2.154***	2.234***	2.348***	1.464	1.516**	1.658***	1.828***
Book_leverage	0.221	0.230*	0.237**	0.193***	0.212	0.221	0.226*	0.155***
Market_leverage	0.160	0.160	0.162	0.131***	0.129	0.129	0.125	0.090***
ROA	0.130	0.125***	0.147***	0.153***	0.128	0.121***	0.138**	0.154***
R&D	0.023	0.028***	0.023	0.018	0.000	0.000***	0.000	0.000
CAPEX	0.048	0.047	0.051***	0.059**	0.036	0.035	0.041***	0.043**
StdSaleGrowth	0.236	0.231	0.179***	0.175***	0.149	0.144	0.104***	0.127**
StdCashFlow	0.049	0.046***	0.041***	0.041***	0.038	0.035***	0.031***	0.034**
StdRev	0.147	0.138***	0.119***	0.126***	0.105	0.100*	0.086***	0.088**
Number of firms	405	452	103	43	405	452	103	43

Panel B. Industry distributions

		Number of firms					% in all	
Industry	SICs	All groups	always	often	seldom	never	always+often	never+seldom
Agriculture, Forestry, And Fishing	01-09	1	0	1	0	0	100%	0%
Mining	10-14	44	12	27	2	3	89%	11%
Construction	15-17	17	11	4	1	1	88%	12%
Manufacturing	20-39	447	180	210	43	14	87%	13%
Transportation, Communications, Electric, Gas, and Sanitary Services	40-49	120	59	49	8	4	90%	10%
Wholesale Trade	50-51	30	15	10	4	1	83%	17%
Retail Trade	52-59	87	38	29	16	4	77%	23%
Finance, Insurance and Real Estate	60-67	115	33	56	17	9	77%	23%
Services	70-89	138	55	65	12	6	87%	13%
Public Administration	91-99	4	2	1	0	1	75%	25%
Total		1,003	40%	45%	10%	5%	85%	15%

Table 2 Executive Compensation around Disclosure Mandate

The sample consists of 1,003 firms spanning a balanced panel of S&P1500 firms in 1999-2013. Variables are winsorized at the 1% and 99% value. Variables definitions are in the Appendix. ***, **, and * stand for the 1%, 5%, and 10% significance level for the test of the difference in mean (median) between the indicated group and the "always" group.

Panel A: All years	Mean				Median			
	always	often	seldom	never	always	often	seldom	never
Proxy CFO Total Pay	1813	1987***	2311**	2419***	1237	1307***	1705***	1521***
CEO Total Pay	5305	6004***	7778***	7108***	3413	3839***	5221***	4701***
Other Three Executive Pay	2027	2463***	3124***	3831***	1346	1536***	2357***	2370***
Proxy CFO Pay/CEO Pay	0.594	0.598***	0.448***	0.496***	0.382	0.362***	0.333***	0.361***
Proxy CFO Pay/Other Three Executive Pay	1.083	0.958***	0.843***	0.706***	0.995	0.897***	0.771***	0.666***

Panel B: Pre-mandate years	Mean				Median			
	Always	often	seldom	never	always	often	seldom	never
Proxy CFO Total Pay	1680	1753	1957***	2061***	1028	1044	1337***	1253**
CEO Total Pay	4916	5694***	7894***	7034***	2673	2977***	445***	3948***
Other Three Executive Pay	1888	2386***	3182***	3777***	1093	1318***	2169***	2181***
Proxy CFO Pay/CEO Pay	0.755	0.641***	0.416***	0.400***	0.394	0.364***	0.310***	0.324***
Proxy CFO Pay/Other Three Executive Pay	1.107	0.898***	0.707***	0.612***	0.989	0.825***	0.673***	0.637***

Panel C: Post-mandate years	Mean				Median			
	Always	often	seldom	never	always	often	seldom	never
Proxy CFO Total Pay	1936	2197***	2626***	2734***	1415	1580***	2096***	1867***
CEO Total Pay	5661	6280***	7675***	7176***	4110	4629***	5866***	5602***
Other Three Executive Pay	2150	2533***	3070***	3880***	1550	1706***	2461***	2650***
Proxy CFO Pay/CEO Pay	0.448	0.560	0.482	0.580	0.373	0.360***	0.347**	0.374
Proxy CFO Pay/Other Three Executive Pay	1.062	1.012***	0.964***	0.791***	1.003	0.963***	0.880***	0.747***

Table 3: Regressions of Pay levels

In Panel A, the dependent variable in columns 1 and 2 is the natural log of CFO proxy total pay and CEO total pay. The dependent variable in column 3 is the difference between ln CFO proxy total pay and CEO total pay. The dependent variable in column 4, 5 and 6 is the ratio of CFO proxy total pay to CEO total pay, CFO proxy total pay to other three executive pay and the other three executive pay to CEO total pay. D_logsale indicates the interaction between the d2006rule dummy and logsale. Other interaction variables are defined similarly. In Panel B, the dependent variable is the difference between ln CFO proxy total pay and CEO total pay. Column 1 shows results during 2002 - 2010 period to remove the SOX effect if any. Column 2 excludes year 2008 and 2009 data. Column 3 excludes financial and utility firms. Column 4 reflects the inflation adjusted amount. Column 5 shows results using CFO actual pay. All regressions in Panel B include the interaction of d2006rule and the firm level control variables. These coefficients are not reported for ease of presentation. All regressions include industry fixed effect. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Variables definitions are in the Appendix.

Panel A Regressions of Pay levels (1999-2013)

	Ln_Proxy CFO Pay	Ln_CEO pay	Ln(CFO Proxy) – Ln (CEOPay)	Proxy CFO pay/CEO pay	Proxy CFO pay/other three	Other three /CEO pay
	(1)	(2)	(3)	(4)	(5)	(6)
D2006rule	0.430***	0.734***	-0.304*	-0.208	-0.038	-0.899
	(0.003)	(0.000)	(0.054)	(0.783)	(0.778)	(0.386)
D2006rule_often	0.115***	0.021	0.093***	0.158	0.154***	0.147
	(0.000)	(0.587)	(0.003)	(0.152)	(0.000)	(0.275)
D2006rule_seldom	0.188***	0.044	0.144***	0.203	0.282***	0.059
	(0.000)	(0.476)	(0.006)	(0.134)	(0.000)	(0.757)
D2006rule_never	0.168*	-0.073	0.241**	0.278*	0.201***	-0.011
	(0.055)	(0.459)	(0.012)	(0.064)	(0.001)	(0.962)
often	-0.113***	-0.077*	-0.036	-0.018	-0.197***	0.098
	(0.000)	(0.059)	(0.248)	(0.893)	(0.000)	(0.522)
seldom	-0.234***	-0.064	-0.170***	-0.261*	-0.339***	-0.100
	(0.000)	(0.327)	(0.001)	(0.068)	(0.000)	(0.547)
never	-0.295***	-0.081	-0.213***	-0.225**	-0.416***	0.266
	(0.000)	(0.515)	(0.009)	(0.016)	(0.000)	(0.311)
logsale	0.384***	0.424***	-0.039***	0.094	-0.012	0.151*
	(0.000)	(0.000)	(0.002)	(0.116)	(0.209)	(0.051)
book_leverage	-0.027	0.078	-0.106	0.705	0.126	0.491
	(0.787)	(0.553)	(0.411)	(0.504)	(0.119)	(0.649)
MarkettoBook	0.118***	0.117***	0.001	0.163	-0.022**	0.231
	(0.000)	(0.000)	(0.937)	(0.179)	(0.014)	(0.116)
stdReturn	7.712***	6.140***	1.572	11.487	-0.007	12.657*
	(0.000)	(0.000)	(0.232)	(0.103)	(0.994)	(0.069)
preyearreturn	0.161***	0.178***	-0.018	0.030	0.040*	0.045
	(0.000)	(0.000)	(0.440)	(0.808)	(0.097)	(0.768)
inst_own_pct	0.526***	0.846***	-0.320***	-0.834*	0.053	-1.120**
	(0.000)	(0.000)	(0.000)	(0.054)	(0.434)	(0.045)
boardsize	0.022***	0.028***	-0.006	-0.063*	-0.008*	-0.088**
	(0.000)	(0.001)	(0.382)	(0.054)	(0.089)	(0.022)

idpt_pct	0.004***	0.007***	-0.003***	0.000	0.002**	-0.002
	(0.000)	(0.000)	(0.002)	(0.954)	(0.042)	(0.640)
ceochair	-0.012	0.094**	-0.105***	0.016	-0.052*	0.056
	(0.718)	(0.028)	(0.001)	(0.824)	(0.094)	(0.501)
D_logsale	-0.015	-0.040**	0.025*	-0.002	-0.010	0.050
	(0.238)	(0.030)	(0.086)	(0.965)	(0.366)	(0.504)
D_book_leverage	0.109	0.190	-0.081	-0.735	-0.045	-0.758
	(0.278)	(0.147)	(0.528)	(0.436)	(0.626)	(0.432)
D_MarkettoBook	-0.034*	-0.041	0.008	-0.020	0.016	0.012
	(0.094)	(0.100)	(0.725)	(0.891)	(0.269)	(0.951)
D_stdReturn	-8.196***	-11.072***	2.875*	-0.274	-0.163	8.245
	(0.000)	(0.000)	(0.073)	(0.976)	(0.876)	(0.506)
D_preyearreturn	0.032	0.069**	-0.037	-0.041	-0.003	-0.133
	(0.230)	(0.034)	(0.197)	(0.688)	(0.935)	(0.280)
D_inst_own_pct	-0.189**	-0.241**	0.052	0.410	0.008	0.369
	(0.024)	(0.019)	(0.543)	(0.254)	(0.922)	(0.455)
D_boardsize	0.005	0.002	0.003	0.041	0.000	0.061*
	(0.496)	(0.819)	(0.673)	(0.103)	(0.958)	(0.067)
D_idpt_pct	0.001	0.001	-0.001	-0.004	0.000	-0.005
	(0.614)	(0.317)	(0.409)	(0.298)	(0.944)	(0.386)
D_ceochair	-0.002	-0.075	0.073**	0.022	0.030	0.008
	(0.950)	(0.106)	(0.043)	(0.758)	(0.401)	(0.929)
N	12203	12203	12203	12203	11691	11686
Adj R-square	0.562	0.511	0.077	0.036	0.069	0.040

Panel B Robustness Checks

	Ln(CFO Proxy) – Ln (CEOPay) *Sample period 2002-2010 (NO SOX EFFECT)	Ln(CFO Proxy) – Ln (CEOPay) *Year 2008 and 2009 excluded	Ln(CFO Proxy) – Ln (CEOPay) *Financial and Utility Industry excluded	Ln(CFO Proxy) – Ln (CEOPay) *Inflation adjusted	Ln (CFO pay) – Ln (CEO pay) *Actual CFO Pay
	(1)	(2)	(3)	(4)	(5)
D2006rule	-0.197	-0.301*	-0.287	-0.395	-0.311
	(0.213)	(0.058)	(0.105)	(0.159)	(0.118)
D2006rule_often	0.088***	0.079**	0.093**	0.126***	0.044
	(0.007)	(0.015)	(0.011)	(0.006)	(0.218)
D2006rule_seldom	0.100*	0.144***	0.155***	0.152**	0.192**
	(0.083)	(0.007)	(0.005)	(0.021)	(0.050)
D2006rule_never	0.237**	0.243***	0.310***	0.504	
	(0.034)	(0.009)	(0.003)	(0.123)	
often	-0.020	-0.034	-0.052	-0.009	0.022
	(0.540)	(0.271)	(0.139)	(0.843)	(0.534)
seldom	-0.133**	-0.169***	-0.205***	-0.188***	-0.231**
	(0.014)	(0.001)	(0.000)	(0.001)	(0.025)
never	-0.211**	-0.214***	-0.238**	-0.200**	
	(0.016)	(0.008)	(0.011)	(0.034)	
logsale	-0.044***	-0.038***	-0.049***	-0.026	-0.053***
	(0.001)	(0.002)	(0.000)	(0.251)	(0.002)
book_leverage	-0.160	-0.107	-0.096	-0.196	-0.116
	(0.144)	(0.407)	(0.530)	(0.258)	(0.453)
MarkettoBook	0.001	-0.000	-0.004	-0.012	-0.013
	(0.947)	(0.997)	(0.823)	(0.605)	(0.526)
stdReturn	1.504	1.669	1.369	2.256	2.634
	(0.236)	(0.204)	(0.332)	(0.202)	(0.106)
preyearreturn	-0.017	-0.013	-0.005	0.039	-0.021
	(0.611)	(0.553)	(0.846)	(0.463)	(0.435)
inst_own_pct	-0.284***	-0.321***	-0.360***	-0.416***	-0.257**
	(0.001)	(0.000)	(0.000)	(0.000)	(0.022)
boardsize	0.001	-0.005	-0.002	-0.010	-0.008
	(0.911)	(0.437)	(0.768)	(0.367)	(0.353)
idpt_pct	-0.003**	-0.003***	-0.002**	-0.003**	-0.001
	(0.010)	(0.002)	(0.022)	(0.016)	(0.279)
ceochair	-0.116***	-0.104***	-0.079**	-0.079**	-0.092**
	(0.002)	(0.001)	(0.020)	(0.026)	(0.016)
N	6707	10549	9836	12203	11668
Adj - Rsq	0.086	0.079	0.082	0.050	0.070

Table 4 Propensity Score Matching Results

The table presents the propensity score matching results. "Treated" firms are firms in the "seldom" or "never" reporting group. "Matched" firms are firms with the nearest propensity score in the "always" or "often" group within the same industry. Propensity score is estimated using data in the before disclosure mandate period. When identifying the match, a caliper of 0.25 standard deviation of the estimated propensity score is applied and replacement is not allowed. Panel A presents the comparison of firm characteristics used in the matching between the treated firms (with matches) and their respective matched control firms. ***, **, and * stand for the 1%, 5%, and 10% significance level for the test of the difference in mean (median) between the treated group and the control group. Panel B presents the results from regressions of pay variables. Treat is a dummy variable that equals to 1 if the firm is a "treated" firm and 0 if the firm is a matched control firm. All regressions include industry fixed effect. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Variables definitions are in the Appendix.

Panel A Firm Characteristics for the treated and control firms before the disclosure mandate

	Mean			Median		
	Treated (No. firms =91) (1)	Matched (No. firms =91) (2)	*P*-Value for testing the difference	Treated (No. firms =91) (3)	Matched (No. firms =91) (4)	*P*-Value for testing the difference
Proxy CFO Total Pay	1483	1938	0.145	1179	1290	0.415
logsale	7.777	7.615	0.388	7.872	7.567	0.208
book_leverage	0.211	0.234	0.310	0.206	0.212	0.824
MarkettoBook	0.146	0.162	0.323	0.115	0.145	0.415
Std return	0.027	0.027	0.524	0.024	0.023	0.711
preyearreturn	0.158	0.154	0.835	0.129	0.132	0.824
inst_own_pct	0.687	0.682	0.682	0.716	0.707	0.505
boardsize	9.990	10.153	0.771	10	10	0.533
Idpt_pct	0.652	0.641	0.511	0.665	0.635	0.335
ceochair	0.786	0.781	0.716	1.000	0.875	0.604
logat	8.079	8.016	0.722	7.989	8.105	0.604
ROA	0.140	0.136	0.560	0.137	0.137	0.941
RandD	0.028	0.024	0.650	0.000	0.000	0.826
CAPEX	0.049	0.051	0.533	0.044	0.042	0.335

Panel B Regression of Pay levels between treated and control firms

	Ln_Proxy CFO Pay	Ln_CEO pay	Ln(CFO Proxy) – Ln (CEOPay)	Proxy CFO pay/CEO pay	Proxy CFO pay/other three
	(1)	(2)	(3)	(4)	(5)
D2006rule	0.062	-0.055	0.117**	0.043	0.058
	(0.216)	(0.379)	(0.023)	(0.173)	(0.146)
treat	-0.243***	-0.152**	-0.091	-0.056	-0.268***
	(0.000)	(0.040)	(0.152)	(0.140)	(0.000)
D2006rule*treat	0.170***	0.011	0.159**	0.106**	0.200***
	(0.009)	(0.893)	(0.023)	(0.038)	(0.001)
logsale	0.376***	0.415***	-0.039	0.013	-0.056***
	(0.000)	(0.000)	(0.218)	(0.554)	(0.000)
book_leverage	0.245	0.452**	-0.207	-0.089	0.062
	(0.119)	(0.026)	(0.197)	(0.396)	(0.539)
MarkettoBook	0.114***	0.120***	-0.006	0.011	-0.028*
	(0.000)	(0.005)	(0.805)	(0.377)	(0.065)
stdReturn	3.875**	1.292	2.583*	1.817*	1.193
	(0.018)	(0.473)	(0.071)	(0.068)	(0.350)
preyearreturn	0.193***	0.215***	-0.023	0.018	0.044*
	(0.000)	(0.000)	(0.453)	(0.520)	(0.080)
inst_own_pct	0.556***	1.060***	-0.504***	-0.340***	-0.085
	(0.000)	(0.000)	(0.002)	(0.005)	(0.289)
boardsize	0.034***	0.020	0.014	-0.007	0.017**
	(0.004)	(0.219)	(0.296)	(0.373)	(0.049)
idpt_pct	0.004***	0.008***	-0.004**	-0.003***	0.003***
	(0.006)	(0.000)	(0.012)	(0.000)	(0.000)
ceochair	-0.114***	0.025	-0.139***	-0.038	-0.050
	(0.008)	(0.628)	(0.006)	(0.161)	(0.274)
N	2364	2364	2364	2364	2316
Adj - Rsq	0.610	0.568	0.159	0.115	0.137

Table 5. Regression of Pay levels –Excess CFO Pay after mandate (Dec 2006 -2013)

Excess CFO pay is defined as the difference between actual CFO pay and the predicted CFO pay. Excess CEO pay is defined similarly. Predicted CFO pay is estimated by applying the estimated confidents of regressing actual CFO pay on the determinants of CFO pay during the 1999 to Dec 2006 (the pre-mandate period). Since we use actual CFO pay, the "never" reporting group drops out of the sample. The table presents the excess pay results after mandate period (Dec 2006-2013). All regressions include industry fixed effect. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Other variables definitions are in the Appendix.

	Excess CFO Pay	Excess CEO Pay
	(1)	(2)
Intercept	2334.022	1414.119
	(0.218)	(0.600)
Often	139.270*	253.329
	(0.083)	(0.303)
Seldom	318.939**	225.474
	(0.024)	(0.544)
logsale	96.700**	60.978
	(0.025)	(0.649)
book_leverage	-261.919	693.439
	(0.376)	(0.377)
MarkettoBook	-201.434***	-607.870***
	(0.000)	(0.000)
stdReturn	-24081.41***	-87401.18***
	(0.000)	(0.000)
preyearreturn	85.919*	591.754***
	(0.091)	(0.001)
inst_own_pct	-135.192	8.670
	(0.527)	(0.989)
boardsize	8.177	39.004
	(0.697)	(0.539)
idpt_pct	1.087	8.146
	(0.681)	(0.332)
ceochair	10.669	-204.579
	(0.853)	(0.234)
N	6432	6427
Adj- Rsq	0.120	0.130

Table 6: Regressions of Pay levels, alternative samples

The dependent variable in columns 1 and 2 is the natural log of CFO proxy total pay and CEO total pay. The dependent variable in column 3 is the difference between ln CFO proxy total pay and CEO total pay. The dependent variable in column 4 and 5 is the ratio of CFO proxy total pay to CEO total pay and CFO proxy total pay to other three executive pay. All regressions include industry fixed effect. Regressions presented in Panel A include the interaction of d2006rule and the firm level control variables. These coefficients are not reported for ease of presentation. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Variables definitions are in the Appendix.

Panel A. Alternative sample 1: Require firms to exist during years 1999-2006

	Ln_Proxy CFO Pay	Ln_CEO pay	Ln(CFO Proxy) – Ln (CEOPay)	Proxy CFO pay/CEO pay	Proxy CFO pay/other three
	(1)	(2)	(3)	(4)	(5)
D2006rule	0.413***	0.610***	-0.197	-0.039	-0.074
	(0.001)	(0.000)	(0.162)	(0.951)	(0.559)
D2006rule_often	0.109***	-0.009	0.118***	0.163*	0.133***
	(0.000)	(0.801)	(0.000)	(0.088)	(0.000)
D2006rule_seldom	0.191***	-0.002	0.193***	0.230**	0.270***
	(0.000)	(0.977)	(0.000)	(0.042)	(0.000)
D2006rule_never	0.162**	-0.055	0.217**	0.273*	0.196***
	(0.048)	(0.576)	(0.022)	(0.058)	(0.001)
often	-0.121***	-0.071**	-0.050*	0.003	-0.176***
	(0.000)	(0.047)	(0.065)	(0.981)	(0.000)
seldom	-0.221***	-0.023	-0.198***	-0.245**	-0.331***
	(0.000)	(0.703)	(0.000)	(0.022)	(0.000)
never	-0.293***	-0.129	-0.163**	-0.187**	-0.408***
	(0.000)	(0.263)	(0.028)	(0.021)	(0.000)
logsale	0.385***	0.432***	-0.047***	0.077	-0.014*
	(0.000)	(0.000)	(0.000)	(0.135)	(0.055)
book_leverage	-0.019	0.099	-0.119	0.541	0.063
	(0.816)	(0.357)	(0.249)	(0.509)	(0.344)
MarkettoBook	0.117***	0.109***	0.007	0.158	-0.026***
	(0.000)	(0.000)	(0.620)	(0.116)	(0.001)
stdReturn	7.712***	6.130***	1.582	10.215**	-0.107
	(0.000)	(0.000)	(0.146)	(0.074)	(0.890)
preyearreturn	0.155***	0.193***	-0.038**	0.001	0.041**
	(0.000)	(0.000)	(0.049)	(0.990)	(0.040)
inst_own_pct	0.557***	0.709***	-0.152**	-0.540	0.050
	(0.000)	(0.000)	(0.048)	(0.198)	(0.362)
boardsize	0.021***	0.020***	0.001	-0.054**	-0.005
	(0.000)	(0.006)	(0.865)	(0.049)	(0.284)
idpt_pct	0.003***	0.006***	-0.003***	-0.002	0.001*
	(0.000)	(0.000)	(0.002)	(0.559)	(0.053)
ceochair	0.003	0.087**	-0.084***	0.059	-0.059**
	(0.914)	(0.017)	(0.003)	(0.385)	(0.026)
N	14926	14926	14926	14926	14290
Adj - Rsq	0.557	0.508	0.073	0.031	0.065

Panel B. Alternative sample 2: No restriction

	Ln(CFO Proxy total pay)	Ln (CEO total pay)	Ln CFO Proxy pay – Ln CEO Pay	CFO Proxy total pay/CEO total pay	CFO Proxy total pay/ other three executive
	(1)	(2)	(3)	(4)	(5)
D2006rule	0.103***	0.022	0.081***	0.128***	0.033**
	(0.000)	(0.249)	(0.000)	(0.002)	(0.023)
logsale	0.381***	0.421***	-0.039***	0.103*	-0.021***
	(0.000)	(0.000)	(0.000)	(0.055)	(0.000)
book_leverage	0.031	0.190***	-0.158**	0.107	0.048
	(0.582)	(0.008)	(0.010)	(0.800)	(0.276)
MarkettoBook	0.102***	0.099***	0.003	0.145**	-0.025***
	(0.000)	(0.000)	(0.785)	(0.027)	(0.000)
stdReturn	3.233***	1.076	2.157***	7.960***	-0.482
	(0.000)	(0.149)	(0.000)	(0.008)	(0.246)
preyearreturn	0.163***	0.207***	-0.044***	-0.047	0.033***
	(0.000)	(0.000)	(0.001)	(0.481)	(0.002)
inst_own_pct	0.441***	0.653***	-0.212***	-0.455*	0.076**
	(0.000)	(0.000)	(0.000)	(0.072)	(0.046)
boardsize	0.015***	0.017***	-0.002	-0.042**	-0.011***
	(0.001)	(0.003)	(0.596)	(0.028)	(0.001)
idpt_pct	0.003***	0.006***	-0.003***	-0.004	0.002***
	(0.000)	(0.000)	(0.000)	(0.169)	(0.000)
ceochair	0.019	0.077***	-0.058***	0.044	-0.032**
	(0.226)	(0.000)	(0.000)	(0.230)	(0.016)
N	19775	19775	19775	19775	18692
Adj R-square	0.533	0.486	0.058	0.021	0.034

Table 7: Regressions of Equity Incentives

This table includes the subset of firm-years with observable CFO pay. The dependent variable in columns 1 and 2 is the portfolio delta of CFOs and CEOs, respectively. The dependent variable in column 3 is the difference between CFO delta and CEO delta. The dependent variables in columns 4 and 5 are the CFO and CEO equity incentives transformed as ln(equity incentive/(1-equity incentive)) so that the dependent variable is linear. The dependent variable in column 6 is the difference between CFO equity incentive and CEO equity incentive. D_logsale indicates the interaction between the d2006rule dummy and logsale. Other interaction variables are defined similarly. All regressions include industry fixed effect. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Variables definitions are in the Appendix.

	CFO delta	CEO delta	CFO delta-CEO delta	CFO equity incentive	CEO equity incentive	CFO –CEO equity incentive
	(1)	(2)	(3)	(4)	(5)	(6)
D2006rule	85.498**	1165.432*	-1079.934*	-0.045	-0.529	0.073
	(0.036)	(0.050)	(0.065)	(0.904)	(0.224)	(0.212)
D2006rule_often	13.496	21.385	-7.890	0.179***	0.002	0.003
	(0.145)	(0.861)	(0.948)	(0.009)	(0.985)	(0.812)
D2006rule_seldom	37.953**	-458.212	496.165*	0.547**	-0.266*	0.039**
	(0.020)	(0.118)	(0.094)	(0.014)	(0.072)	(0.046)
Often	-19.526**	-128.925	109.399	-0.305***	0.004	-0.013
	(0.048)	(0.349)	(0.414)	(0.000)	(0.962)	(0.250)
Seldom	-30.784	200.416	-231.200	-0.688***	0.261*	-0.041*
	(0.116)	(0.516)	(0.451)	(0.002)	(0.094)	(0.061)
Logsale	48.223***	494.073***	-445.850***	0.187***	0.227***	-0.011**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.010)
Book_leverage	-19.779	-1086.049**	1066.270**	-0.195	-0.952***	0.158***
	(0.499)	(0.040)	(0.041)	(0.402)	(0.002)	(0.000)
MarkettoBook	36.363***	284.990***	-248.626***	0.228***	0.226***	-0.012***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
StdReturn	362.988	5712.531	-5349.543	2.819	5.659*	-0.252
	(0.163)	(0.254)	(0.280)	(0.266)	(0.063)	(0.522)
Preyearreturn	8.908	277.548**	-268.640**	0.007	-0.044	0.008
	(0.222)	(0.012)	(0.011)	(0.868)	(0.383)	(0.163)
Inst_own_pct	22.165	-997.347***	1019.512***	0.988***	-0.353	0.109***
	(0.373)	(0.007)	(0.004)	(0.000)	(0.104)	(0.000)
Boardsize	3.560	-15.850	19.411	0.008	-0.082***	0.011***
	(0.119)	(0.647)	(0.566)	(0.578)	(0.000)	(0.000)
Idpt_pct	-0.210	-18.919***	18.709***	-0.002	-0.013***	0.002***
	(0.404)	(0.001)	(0.001)	(0.360)	(0.000)	(0.000)
CEOChair	2.658	422.668***	-420.010***	-0.044	0.336***	-0.057***
	(0.762)	(0.000)	(0.000)	(0.609)	(0.000)	(0.000)
D_Logsale	-6.437	-241.881***	235.444***	-0.001	-0.034	0.002
	(0.151)	(0.000)	(0.000)	(0.980)	(0.367)	(0.685)
D_Book_leverage	-4.599	1025.818*	-1030.418**	0.182	0.996***	-0.149***
	(0.855)	(0.053)	(0.050)	(0.466)	(0.002)	(0.000)
D_MarkettoBook	2.590	44.461	-41.871	0.173***	0.210***	-0.017**
	(0.698)	(0.591)	(0.606)	(0.000)	(0.000)	(0.014)
D_StdReturn	-915.487***	-9082.503*	8167.016	-9.382***	-11.448***	0.260
	(0.001)	(0.085)	(0.116)	(0.001)	(0.001)	(0.541)
D_Preyearreturn	7.461	-126.287	133.748	0.148***	0.138**	-0.005
	(0.359)	(0.273)	(0.227)	(0.004)	(0.027)	(0.490)
D_Inst_own_pct	-9.631	298.487	-308.118	-0.689***	-0.104	-0.006
	(0.657)	(0.328)	(0.303)	(0.001)	(0.650)	(0.827)
D_Boardsize	-3.529	-7.307	3.778	-0.019	0.013	-0.003
	(0.161)	(0.834)	(0.912)	(0.293)	(0.544)	(0.305)
D_Idpt_pct	-0.317	7.372	-7.689	-0.002	-0.001	-0.000
	(0.302)	(0.207)	(0.184)	(0.392)	(0.718)	(0.610)
D_CEOChair	11.720	-102.560	114.280	0.218**	0.067	0.019
	(0.197)	(0.358)	(0.293)	(0.018)	(0.468)	(0.108)
N	11340	11340	11340	11340	11340	11340
ADJ R-square	0.268	0.200	0.185	0.192	0.256	0.169

Table 8: Negative Earnings Surprises

The dependent variable in columns 1 is a dummy variable that equals one if the actual EPS is lower than the most recent consensus forecast for that fiscal year and zero otherwise. The dependent variable in columns 2 is a dummy variable that equals one if SUE is less than or equal to -1 and zero otherwise. The dependent variable in columns 3 is a dummy variable that equals one if SUE is less than or equal to -2 and zero otherwise. The dependent variable in columns 4 is a dummy variable that equals one if the difference between earnings and forecast of a firm is in the bottom quintile in the overall sample. The dependent variable in columns 5 is a dummy variable that equals one if the difference between earnings and forecast is in the bottom quintile in the year in the sample. The number reported are average marginal effects for the probit model. All regressions include industry fixed effect. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Other variables definitions are in the Appendix.

Dependent variable:	D(Earnings < Forecast)	DSUE1	DSUE2	Large Neg Surp_All	Large Neg Surp_Year
	(1)	(2)	(3)	(4)	(5)
d2006rule	0.023	-0.003	0.009	0.038***	-0.021
	(0.153)	(0.797)	(0.398)	(0.005)	(0.111)
d2006rule_often	0.009	0.014	-0.003	0.010	0.015
	(0.646)	(0.391)	(0.800)	(0.554)	(0.356)
d2006rule_seldom	0.084**	0.042	0.009	0.056**	0.052*
	(0.012)	(0.156)	(0.680)	(0.045)	(0.061)
d2006rule_never	0.099***	0.092**	0.064*	0.098**	0.106***
	(0.009)	(0.027)	(0.089)	(0.022)	(0.008)
Dsox	-0.023	-0.010	-0.011	-0.016	-0.012
	(0.100)	(0.437)	(0.259)	(0.171)	(0.281)
Often	-0.014	-0.017	0.000	-0.002	-0.010
	(0.352)	(0.214)	(0.964)	(0.873)	(0.474)
Seldom	-0.068***	-0.044*	-0.006	-0.046*	-0.041*
	(0.006)	(0.076)	(0.757)	(0.066)	(0.080)
Never	-0.077**	-0.062*	-0.030	-0.087**	-0.105***
	(0.024)	(0.068)	(0.313)	(0.015)	(0.002)
Size	-0.001	-0.012*	0.001	0.022***	0.027***
	(0.927)	(0.066)	(0.808)	(0.002)	(0.000)
Salesgrowth	-0.067***	-0.088***	-0.088***	-0.073***	-0.077***
	(0.007)	(0.000)	(0.000)	(0.008)	(0.005)
Shares	-0.006	0.001	-0.012**	-0.025***	-0.036***
	(0.519)	(0.873)	(0.040)	(0.003)	(0.000)
NOA	0.011	0.015**	0.016***	0.017**	0.018***
	(0.138)	(0.018)	(0.003)	(0.014)	(0.007)
Litigation	-0.056**	-0.018	-0.026*	-0.041*	-0.019
	(0.013)	(0.370)	(0.074)	(0.056)	(0.342)
Implicit claims	-0.056***	-0.021	0.010	-0.043**	-0.034*
	(0.006)	(0.267)	(0.479)	(0.024)	(0.066)
Analyst Following	-0.006***	-0.005***	-0.004***	-0.007***	-0.006***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Forcast Dispersion	-0.008	-0.090**	-0.058*	-0.003	-0.025
	(0.873)	(0.031)	(0.072)	(0.955)	(0.596)
Book_Leverage	0.060	0.016	0.012	0.058	0.048
	(0.126)	(0.618)	(0.643)	(0.101)	(0.196)
Inst_Own_Pct	0.003	0.033	0.023	0.005	-0.003
	(0.919)	(0.258)	(0.302)	(0.865)	(0.913)
Boardsize	-0.002	0.000	-0.000	0.001	0.001
	(0.435)	(0.852)	(0.833)	(0.559)	(0.709)
Idpt_Pct	-0.001	-0.000	0.000	-0.000	0.000
	(0.136)	(0.929)	(0.793)	(0.998)	(0.466)
CEOChair	-0.009	-0.011	-0.007	-0.010	-0.007
	(0.406)	(0.208)	(0.348)	(0.248)	(0.422)
N	10,741	9,909	9,909	10,741	10,741
Pseudo-Rsq	0.039	0.032	0.031	0.058	0.051

Table 9: Accruals Management

Positive_total_accrual equal total accrual if total accrual is positive, and zero otherwise. Negative_total_accrual equal total accrual if total accrual is negative, and zero otherwise. Positive_discretionary equals discretionary accrual if discretionary accrual is positive, and zero otherwise. Negative_discretionary equals discretionary accrual if discretionary accrual is negative, and zero otherwise. Dependent variables are multiplied by 100 for ease of presentation. Variables definitions are as defined in Appendix. Regressions include industry fixed effect. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Abs_ total_accrual (1)	Positive_ total_accrual (2)	Negative_ total_accrual (3)	Abs_ discretionary (4)	Positive_ discretionary (5)	Negative_ discretionary (6
D2006rule	0.225	-0.046	-0.292	0.047	0.096	0.092
	(0.252)	(0.454)	(0.153)	(0.839)	(0.588)	(0.511)
D2006rule_often	-0.078	0.096	0.163	0.492*	0.580***	0.078
	(0.772)	(0.187)	(0.557)	(0.090)	(0.007)	(0.651)
D2006rule_seldom	0.290	0.225**	-0.020	0.719**	0.520*	-0.220
	(0.450)	(0.020)	(0.959)	(0.043)	(0.071)	(0.454)
D2006rule_never	-0.141	-0.027	0.118	-0.473	-0.473	-0.047
	(0.762)	(0.862)	(0.812)	(0.404)	(0.243)	(0.869)
Dsox	-0.543***	-0.200***	0.360*	-0.692***	-0.997***	-0.286**
	(0.003)	(0.001)	(0.052)	(0.000)	(0.000)	(0.046)
Often	0.360	-0.086	-0.422	-0.290	-0.366**	-0.108
	(0.154)	(0.197)	(0.109)	(0.195)	(0.031)	(0.451)
Seldom	-0.214	-0.139*	0.038	-0.670**	-0.336	0.286
	(0.499)	(0.056)	(0.909)	(0.016)	(0.167)	(0.101)
Never	0.527	0.105	-0.447	0.072	0.209	0.142
	(0.377)	(0.474)	(0.471)	(0.868)	(0.573)	(0.497)
Stdcashflow	30.335***	7.885***	-20.730***	30.066***	11.681***	-16.449***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Stdrev	1.386	0.246	-1.076	3.533***	0.436	-2.664***
	(0.138)	(0.395)	(0.248)	(0.001)	(0.533)	(0.000)
Oldfirm	-1.181***	0.016	1.196***	-0.128	0.276**	0.354***
	(0.000)	(0.731)	(0.000)	(0.436)	(0.033)	(0.002)
Stdsalegrowth	3.764***	0.197	-3.454***	2.555***	0.370	-2.076***
	(0.000)	(0.253)	(0.000)	(0.000)	(0.292)	(0.000)
Size	-0.130	0.002	0.138	-0.024	-0.083*	-0.042
	(0.120)	(0.897)	(0.111)	(0.701)	(0.087)	(0.352)
Book_Leverage	0.261	0.016	-0.188	-0.745	-0.291	0.418
	(0.673)	(0.925)	(0.768)	(0.160)	(0.496)	(0.245)
Inst_Own_Pct	0.280	0.091	-0.209	0.146	-0.373	-0.573*
	(0.567)	(0.501)	(0.685)	(0.740)	(0.269)	(0.056)
Boardsize	-0.042	-0.029***	0.008	-0.098***	-0.056*	0.036
	(0.317)	(0.006)	(0.854)	(0.009)	(0.052)	(0.163)
Idpt_Pct	0.004	-0.000	-0.003	0.005	0.004	0.000
	(0.494)	(0.895)	(0.604)	(0.291)	(0.327)	(0.943)
CEOChair	-0.477***	-0.085*	0.376**	-0.129	0.145	0.262**
	(0.003)	(0.058)	(0.024)	(0.419)	(0.236)	(0.011)
N	10,614	10,614	10,614	10,319	10,319	10,319
Adj R-square	0.167	0.087	0.141	0.186	0.178	0.063

Table 10: Meeting or Just Beating Analyst Forecasts

The number reported are average marginal effects for the probit model. All regressions include industry fixed effect. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Variables definitions are as defined in Appendix.

Dependent variable:	Meet	JustBeat
	(1)	(2)
D2006rule	-0.042***	-0.029***
	(0.001)	(0.001)
D2006rule_often	-0.004	0.004
	(0.815)	(0.692)
D2006rule_seldom	-0.001	0.025*
	(0.980)	(0.073)
D2006rule_never	0.015	-0.005
	(0.627)	(0.833)
Dsox	-0.032***	-0.026***
	(0.001)	(0.000)
Often	0.014	0.003
	(0.269)	(0.756)
Seldom	0.012	0.008
	(0.524)	(0.482)
Never	0.055**	0.041***
	(0.036)	(0.009)
Size	-0.032***	0.007*
	(0.000)	(0.091)
Salesgrowth	0.025*	0.006
	(0.078)	(0.407)
Shares	0.036***	-0.015***
	(0.000)	(0.002)
NOA	0.005	-0.001
	(0.433)	(0.776)
Litigation	-0.025	0.013
	(0.162)	(0.215)
Implicit Claims	0.034**	0.027**
	(0.036)	(0.018)
Analyst Following	0.004***	0.002***
	(0.000)	(0.000)
Forecast Dispersion	-0.063**	-0.043***
	(0.027)	(0.003)
Book_Leverage	0.002	-0.016
	(0.953)	(0.414)
Inst_Own_Pct	-0.007	-0.010
	(0.795)	(0.568)
Boardsize	-0.002	-0.003**
	(0.454)	(0.036)
Idpt_Pct	-0.000	-0.000
	(0.120)	(0.537)
CEOChair	0.000	0.000
	(0.970)	(0.970)
N	10,739	10,739
Pseudo R-Square	0.047	0.030

Table 11: Accruals quality (Opacity)

Variables definitions are as defined in Appendix. Regressions include industry fixed effect. All continuous variables are winsorized at the 1% and 99% value. *P*-values based on firm-level clustered standard errors are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable:	Opacity	Opac3
	(1)	(2)
D2006rule	-0.004***	-0.002
	(0.004)	(0.133)
D2006rule_often	-0.002	-0.002
	(0.210)	(0.263)
D2006rule_seldom	0.007**	0.005*
	(0.035)	(0.079)
D2006rule_never	0.001	0.001
	(0.812)	(0.681)
Dsox	0.002*	-0.001
	(0.091)	(0.363)
Often	0.003	0.003
	(0.110)	(0.142)
Seldom	-0.004	-0.003
	(0.127)	(0.268)
Never	-0.005*	-0.006**
	(0.099)	(0.043)
Logsale	-0.001**	-0.001**
	(0.026)	(0.019)
Book_Leverage	-0.001	-0.002
	(0.781)	(0.615)
Markettobook	0.000	-0.000
	(0.792)	(0.611)
Stdreturn	0.543***	0.544***
	(0.000)	(0.000)
Preyearreturn	0.002**	0.001
	(0.017)	(0.530)
Inst_Own_Pct	-0.003	-0.001
	(0.336)	(0.803)
Boardsize	-0.001**	-0.000
	(0.011)	(0.131)
Idpt_Pct	-0.000	-0.000
	(0.106)	(0.183)
CEOChair	0.000	0.000
	(0.913)	(0.740)
N	9,647	9,791
Adj R-square	0.210	0.147

Table 12: CFO Turnover

The Sample only consists of firms that make into the always group due to the lack of CFO data in other groups. CFOTurnover is a dummy variable that equals one if there is CFO turnover during that firm-year. CEOTurnover is a dummy variable that equals one if there is CEO turnover during that firm-year. Age is the age of the CFO (CEO) in previous year. All regressions include industry fixed effect. All continuous variables are winsorized at [1%,99%]. Numbers reported are the average marginal effects from Probit regression. *P*-values are in parenthesis and based on firm-level clustered standard errors. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Other variables are defined as in the Appendix.

Dependent variable:	CFO turnover	CFO turnover	CEO turnover	CEO turnover
	(1)	(2)	(3)	(4)
D2006rule	0.037***	0.048***	0.001	-0.008
	(0.001)	(0.000)	(0.946)	(0.469)
Age		0.007***		0.008***
		(0.000)		(0.000)
Logsale	0.007*	0.005	0.006	0.006
	(0.092)	(0.281)	(0.148)	(0.197)
Book_Leverage	0.051	0.066*	0.029	0.058*
	(0.168)	(0.097)	(0.341)	(0.085)
Markettobook	0.008	0.002	-0.003	0.002
	(0.183)	(0.757)	(0.597)	(0.749)
Stdreturn	0.241	0.570	0.577	0.834**
	(0.593)	(0.211)	(0.108)	(0.023)
Preyearreturn	-0.041***	-0.029*	-0.024**	-0.028**
	(0.005)	(0.055)	(0.027)	(0.011)
Inst_Own_Pct	-0.022	-0.005	-0.023	-0.024
	(0.496)	(0.874)	(0.421)	(0.446)
Boardsize	-0.001	-0.002	0.002	0.003
	(0.708)	(0.397)	(0.299)	(0.221)
Idpt_Pct	-0.000	0.000	-0.000	0.000
	(0.403)	(0.984)	(0.406)	(0.344)
CEOChair	0.010	0.001	0.020*	-0.014
	(0.356)	(0.936)	(0.051)	(0.216)
N	5,046	4,094	5,088	4,784
Pseudo R-square	0.015	0.036	0.014	0.045

Appendix: Definition of Variables

Variable Name	Definition
Firm Characteristic Variables	
Book leverage	=(DLTT + DLC)/AT
CAPEX	Net capital expenditure to assets=(capital expenditure – sale of PPE)/ASSETS =(CAPX-SPPE)/AT
Cash	Cash and short-term investment (CHE) over book value of total assets (AT).
Market leverage	= (DLTT + DLC)/(AT – CEQ + PRCC_F* CSHO)
Market to book	= (AT – CEQ +PRCC_F* CSHO)/ AT
R&D	= Research and development expenditure to assets= max(0, XRD)/AT
ROA	= OIBDP /AT
StdReturn	Stock return volatility, Calculated as the standard deviation of daily stock return over the fiscal year
StdCashFlow	The standard deviation of cash flows from operations(OANCF) deflated by total assets over the current and previous four years;
StdSalesGrowth	StdSalesGrowth is the standard deviation of sales growth over the current and previous four years;
StdRev	StdRev is the standard deviation of sales divided by total assets over the current and previous four years
Compensation, Governance and Related Variables	
D2006rule	D2006rule is a dummy variable that equals one for firm-years with fiscal year ends on or after December 15, 2006 (the disclosure mandate effective date) and zero otherwise;
Always, Seldom, Often, and Never	We classify firms into four groups according to their CFO pay reporting frequency during the pre-disclosure-mandate period: “never” (firms never reporting CFO pay), “seldom” (reporting 1-3 times), “often” (reporting 4-6 times), and “always” (always reporting) ; never is a dummy variable that equals one if a firm belongs to the “never” group and zero otherwise. Seldom, Often, and Always dummies are defined similarly.
D2006rule_seldom	The interaction of D2006rule dummy and seldom dummy; D2006rule_often and D2006rule_never are defined similarly;

Total Pay	TDC1 in ExecuComp database;
CFO Proxy Totalpay	TDC1 for the CFO. It equals the lowest pay among the top five executives when CFO pay is unreported.
Other three executive pay	The mean of the top three mostly paid executives other than CFO and CEO in a firm.
Equity/total	Equity/total is the executives' equity pay scaled by total pay. Equity is defined as the sum of option grant value and stock grant value. Option valued is option_awards_blk_value or option_awards_fv for its appropriate period in ExecuComp. Stock grant value is Rstkgrnt or stock_awards_fv for its appropriate period in Execucomp.
Delta	CFO/CEO's dollar change in wealth for a 1% increase in the firm's stock price following Core and Guay (2002).
Equity Incentive	Equity Incentive Ratio per Jiang et al (2010). It equals Delta/(Delta+CashPay). Cash pay is the sum of salary and bonus.
Inst_own_pct	inst_own_pct is the percentage of shares owned by institutions from Thomson Reuters Database;
Boardsize	Boadsize is the number of board directors from ISS database.
Idpt_pct	Idpt_pct is the percentage of independent board members from ISS database.
CEOChair	CEO Chair is a dummy variable that equals one if CEO is also the chairman and zero otherwise.
DSOX	DSOX is a dummy variable that equals one if a firm's fiscal year is on or after 2002, and 0 otherwise.

Outcome Related Variables

Abs_total_accrual	Abs_total_accrual is the absolute value of total accruals. Total accruals are the difference between earnings before extraordinary items and cash flows from operations, scaled by the previous year's total assets. The definition follows Jiang et al. (2010).
Abs_discretionary	Abs_discretionary is the absolute value of discretionary accruals. Discretionary accruals are the difference between total accruals and estimated nondiscretionary accruals. The estimated nondiscretionary accruals is the fitted value of the regression of total accruals on the annual changes in sales and accounts receivable, gross property, plant and equipment, lagged total accruals, and sales growth. The definition follows Jiang et al. (2010).
Meet	The dummy variable "meet" equals one if the actual EPS is exactly the same as forecast or just one cent above the consensus (median) forecast and zero otherwise.

Justbeat	The dummy variable is equal to one if the EPS is exactly one cent above consensus forecast and zero otherwise.
Opacity	For each Fama-French 49 industry with at least 20 firms in a given year, we run five separate regressions for each of year *t-4* to year *t*. In each regression, total current accruals of a firm is regressed on 1) lagged, contemporaneous, and leading cash flows from operations; 2) change in sales; and 3) property, plant, and equipment. Total current accruals equals change in current assets minus change in current liabilities minus change in cash and short-term investments plus change in current debt. For each firm-year, opacity is the standard deviation computed across the residuals of total current accruals from the five industry-year regressions. The definition follows Billett and Yu (2015).
Opac3	Opac3 is measured similarly as Opacity except it is based on the 3-year (t-2 to t) standard deviation of regression residuals instead of 5 to minimize loss of observations. The definition follows Billett and Yu (2015).
Litigation	Litigation equals one if the firm is in the following industries: pharmaceutical/biotechnology(SICcodes2833–2826,8731–8734), computer(3570–3577,7370–7374), electronics (3600–3674), or retail(5200–5961), and zero otherwise.
ImplicitClaims	ImplicitClaims equals one minus the ratio of gross PPE to total assets(1-PPEGT/AT) measured at the end of year t.
ForcastDispersion	ForecastDispersion is the standard deviation of analyst forecast dividend by the mean of analyst forecast.
AnalystFollowing	Analystfollowing is the number of analyst included in I/B/E/S during that statistical period.
NOA	NOA is the net operating assets scaled by sales at the end of last year.
Turnover	Dummy variable that equals one if there is a CFO(CEO) turnover during that firm-year.
Age	The age of CFO in the previous year.
Oldfirm	Dummy variable equals one if a firm is listed on Compustat for More than 20 years, and zero otherwise.
Size	The natural logarithm of logged total assets.
Shares	The natural logarithm of common shares outstanding measured at the end of year t.