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Abstract

We investigate the impact of say-on-pay on 2010 executive compensation, finding affected firms reduced compensation and made it more performance-based, with that decrease being greater for firms that previously overpaid their CEOs. We also find the percentage of votes cast against executive pay is lower when the firm reduced executive compensation in advance of the initial say-on-pay vote, but higher when the firm pays higher total compensation, has a large increase in compensation, has a larger amount of compensation that cannot be explained by economic factors, or has a higher amount of "other compensation," a category which includes perquisites.

JEL Classifications: J33, M41

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The Impact of Say-on-Pay on Executive Compensation

1. Introduction

The Dodd-Frank banking bill imposed the long awaited say-on-pay on American corporations beginning with annual meetings on or after January 21, 2011.[1] This provision required that large, publicly traded corporations provide their shareholders with the opportunity to cast a non-binding vote on executive compensation.[2] This paper examines how companies and shareholders respond to this provision by examining (1) the changes, if any, companies make in their executive compensation programs in advance of the initial say-on-pay vote and (2) voting patterns on say on pay. In particular we are interested in examining whether firms, especially those with highly paid executives, reduced executive pay in 2010 and/or increased the link between pay and performance, AND whether those changes had an impact on the shareholder vote.

The United Kingdom (UK) was the first nation to require say on pay in 2002, with the evidence generally showing that shareholders are satisfied with compensation. For example, Conyon and Sadler (2010) note that typically less than 10% of shareholders abstain or vote against the mandated Directors' Remuneration Report (DRR) resolution. However, the impact of say-on-pay on compensation itself is less clear. Examining say-on-pay practices in the UK, Ferri and Maber (2009) "find no evidence of a change in the level and growth rate of CEO pay

[1] The United Kingdom required corporations give shareholders a say-on-pay in 2002. In the United States the first attempt to give shareholders that right was made in 2006 by Congressman Frank. About the same time shareholder groups began putting proposals in proxy statements asking for the right to vote on executive pay. Beginning in 2007 a number of firms, including Blockbuster, Motorola and Verizon voluntarily gave shareholders the right to vote on executive compensation. The American Recovery and Reinvestment Act of 2009 required say on pay for TARP (troubled asset relief program) recipients, while the Dodd-Frank Wall Street Reform and Consumer Protection Act (Pub. L. No. 111-203) required say on pay for most publicly traded corporations ($75 million float in 2011).

[2] While purely advisory in nature, anecdotal evidence suggests that firms react when the advisory vote is negative (Naik 2003, Flynn and Naik 2003) and take steps to avoid such negative votes (see Dowell and Lublin 2011).

after the adoption of say on pay" although they do find some evidence of "mitigation of rewards for failure." Similarly Conyon and Sadler (2010) "find limited evidence that, on average, 'say on pay' materially alters the subsequent level and design of CEO compensation." In contrast, Carter and Zamora (2009) find some evidence that boards respond to past negative votes (not necessarily rejection, but percentage of negative votes) by reducing excess salary, the dilutive effect of stock option grants, and improving the link between pay and performance, while Alissa (2009) finds that say-on-pay is associated with a reduction in excess compensation and greater CEO turnover.

So while the impact of say on pay in the UK is unclear, there is no research on the impact of say-on-pay in the US.[3] There is however, some evidence on the sensitivity of pay to external pressure. Core et al. (2008) "find little evidence that firms respond to negative press coverage" pertaining to executive compensation by decreasing that compensation. In contrast Ertimur et al. (2011) find that "Firms with excess CEO pay targeted by vote-no campaigns experience a significant reduction in CEO pay ($7.3 million)." The difference in results between these two studies can be attributed to the identity of those applying the pressure, i.e., the press versus shareholders of the company. To that extent the results of Ertimur et al. (2011) may be more relevant to the question of interest here. However the conclusion of Ertimur et al. (2011) is based on a focused sample of 134 firms where shareholders took initiative, and may not be applicable to a plebiscite mandated for all firms.

While the rules in the US are similar to those in the UK, institutional differences between the two countries can lead to a differential impact. For example, there is a greater coordination of institutional shareholders in the UK, as members of Association of British Insurers and the

[3] Burns and Minnick (2011) look at the compensation of US firms who had shareholder proposals that they allow a say-on-pay vote, finding those firms altered the composition of their executive compensation package after the proposal. Our study differs in that we look at compensation changes in advance of the mandated say-on-pay vote.

National Association of Pension Funds who together own about one-third of listed shares, appear to act in consultation. In the US there are no analogous organizations, rather institutional investors seem to rely on proxy statement advisors such as Institutional Shareholder Services Inc. and Glass Lewis & Co. So far the results in the US appear similar to those in the UK. While there have been some well publicized rejections, for example Hewlett Packard, for the most part packages have been approved, with the average vote for approval being between 80 and 90 percent depending on whether we count abstentions or not (see Table 2).[4] Within our sample only 15 of our 981 firms had their executive compensation rejected by shareholders, which is consistent with other studies. For example, Holzer (2011) cites a study of over 2,500 firms by Compensia Inc., showing that 98.5 percent of firms had their executive compensation approved, with 71 percent of the companies receiving a yes vote of over 90 percent.[5]

Since the votes are advisory, firms can choose to ignore them. In the UK there is some anecdotal evidence that at least some firms have made changes based upon the results of the votes (see Appendix 1 of Ferri and Maber 2009). In the US we have anecdotal evidence that presented with recommendations of proxy statement advisors, firms can and have modified their compensation plans to change those recommendations. Examples include household names such as Walt Disney, which removed a tax gross-up provision from the employment agreements of four top executives; General Electric and Lockheed Martin, which added performance conditions to previously granted stock options; and Questcor Pharmaceuticals, which removed the option re-pricing provision from its Equity Incentive Award Plan.

In this paper we find affected firms reduce their compensation, with that decrease being greater for firms that overpaid their CEOs in prior periods. We also find evidence that they

[4] The mean of vote for (against) is 79 (9) percent of total eligible votes. Ignoring abstentions and non-votes this translates into an approval percentage of just under ninety percent.
[5] See also Helyar (2011).

increased their use of performance-based compensation. In our second set of analyses we find that the percentage of votes cast against executive pay varies predictably with the decrease in compensation attributable to say-on-pay, i.e., is lower for firms that decrease their compensation; as well as with measures of high or excessive compensation, in particular total compensation, the change in total compensation, and excess compensation. We also find that the percentage of votes cast against executive compensation is associated with the composition of the compensation package, with the "other compensation" category, which includes perquisites, particularly singled out by shareholders.

This paper continues with Section 2 which develops our hypotheses. Section 3 discusses our sample and data, while Section 4 describes our empirical models. Section 5 provides our results and Section 6 our conclusions.

2. Hypothesis Development

While the say on pay vote is officially non-binding, anecdotal evidence suggests many parties, e.g., politicians, corporations, shareholder advocates, etc…, take the vote very seriously. The say on pay provision of Dodd-Frank was the culmination of five years of political posturing in the United States, with activist investors, including unions, supporting it and most corporations and their executives opposing it (White and Patrick 2007). According to Jones (2009) "CEOs say the legislation would open the door to micromanagement by largely uninformed shareholders, who understand neither the competitive market forces that drive executive pay nor the complex incentives designed by experts to get the best results. The law could drive top talent to private companies and injure the ability of U.S. companies to compete in a global market…" Furthermore, as noted above, anecdotal evidence suggests a number of firms

(e.g., Walt Disney, General Electric, Lockheed Martin, Questcor Pharmaceuticals) modified their plans in advance of the initial shareholder vote, presumably to get a more favorable vote (Dowell and Lublin 2011).

These types of changes are not easy to observe, e.g., they require the monitoring of firms SEC filings such as 8-K's, def 14A's, and in some cases amended def 14A's, which would entail tens of thousands of filings for our sample firms. In addition firms without bright line objectionable provisions (e.g., tax gross-ups) might tweak their executive compensation package without making a public announcement. Consequently at this point, we limit ourselves to an analysis of changes in the level and composition of the CEOs compensation package which we obtain from ExecuComp.

The first question we attempt to answer in this study is whether firms as a group modified or reduced their compensation in advance of the initial say on pay vote. For this to occur two conditions are required. The first is that the individuals who set executive compensation need to care about the say on pay vote, if only to avoid the embarrassment of a rejection or high percentage of votes against. Again the anecdotes above suggest that at least some boards/executives care. The second condition is that these individuals believe that lowering compensation and/or changing the composition of the compensation package will increase the percentage of shareholders voting to approve. Our first hypothesis is:

H1: Firms reduced CEO compensation and/or made it more responsive to firm performance in advance of the initial say on pay vote.

As noted above, the evidence from the UK is mixed on whether say-on-pay had an impact on executive compensation, with the its most likely effect being to reduce compensation for excessively paid executives (Carter and Zamora 2009, Alissa 2009). Analogously we might expect the largest impact in the US to be in firms who had overpaid their executives in previous years. Our second hypothesis is:

H2: Firms who overpaid their CEOs in prior years were more likely to reduce compensation in advance of the initial say on pay vote.

Our second set of hypotheses pertains to the say on pay vote itself. Shareholders are a heterogeneous group of individuals and institutions, with varying degrees of sophistication. Considering the political process surrounding say on pay and executive compensation in general, with the assertions that executive compensation is excessive (see for example Crystal 1991) our expectation is that the percentage of shareholders voting against executive compensation will increase with its perceived excessiveness. Given that we don't know how shareholders measure excess compensation, or how they identify a firm which pays excessive compensation, we use a variety of metrics including (1) the modification in the level of CEO compensation attributable to the say-on-pay vote, (2) the level of CEO compensation, (3) the change in CEO compensation from the prior year, where the prior year compensation serves as a benchmark or reference point, and (4) CEO compensation unexplained by a model incorporating economic factors which have been found by the prior literature to explain compensation (see Core et al. 1999, Balsam and Yin 2005). Our third hypothesis is:

H3: The percentage of shareholders that vote against executive compensation is positively associated with "excess" executive compensation.

In addition to assertions that executive compensation is excessive, it has been asserted that executive compensation is not related to performance (Bebchuk and Fried 2004). If shareholders feel that compensation has not been related to performance, i.e., that executives have not earned their pay, they are more likely to vote to reject.

H4: The percentage of shareholders that vote against executive compensation is associated with the percentage of nonperformance based compensation.

3. Sample and Data

The initial sample consists of all ExecuComp firms with non-zero CEO compensation for 2009 or a total of 1,744 firms. From this initial we delete 131 firms for which we could not find CEO compensation data for 2010 and another 147 firms that changed CEOs between 2009 and 2010. For the remaining firms we manually collect the shareholder vote from 8Ks and 10-Qs that were filed after the annual meetings. We delete 247 firms that do not have annual meetings or do not report results of votes in between January 21, 2011 and our cut-off date of November 4, 2011. This procedure effectively leaves us with a sample of 1,219 firms with mostly December fiscal year ends. We lose an additional 238 firms because of other data requirements, i.e., financial data from Compustat, and institutional ownership from the Thomson Reuters 13F file, leaving us with a sample of 981 affected firms. This sample selection process is detailed in Panel A of Table 1.

We then combine this data set, for purposes of testing our first two hypotheses, with a second data set of unaffected firms. To elaborate, say-on-pay was effective for annual meetings occurring on or after January 21, 2011 for firms with a market value of common equity of $75 million or more, but not effective for smaller firms until January 21, 2013. This set of smaller firms for our purposes will be considered unaffected. As the firms on ExecuComp are relatively large, i.e., S&P 500, Mid-Cap 400, and Small Cap 600, the vast majority are affected. Consequently we draw a set of firms with a market value of less than $75 million by looking at the population of firms on Compustat and then going to Capital IQ to obtain compensation data. This yields a sample of 569 unaffected firms as detailed in Panel B of Table 1.[6]

We also include, for descriptive purposes our industry distribution in Panel C of Table 1. In particular the panel shows the difference in industry composition between affected (market value greater than or equal to $75 million) and unaffected firms. There are some significant differences, for example, Finance, Insurance, and Real Estate (SIC codes 60-67) is underrepresented, while Transportation, Communications, Electric, Gas, and Sanitary Services (SIC codes 40-49) is overrepresented in the affected firm sample. Consequently in our subsequent analyses we utilize industry fixed effects.

[Insert Table 1 here]

The actual voting results are hand collected from 8-K's and 10-Q's filed shortly after the annual shareholders meeting. Those results are presented in Table 2. As shown, voting is broken down into four categories, for, against, abstain, and broker nonvotes. Overall 79 percent (median 83 percent) of eligible votes were voted in favor of the executive compensation package. If we consider only shares voted, i.e., for or against; this percentage increases to approximately 90

[6] We acknowledge that the two samples differ dramatically in terms of size, which is a basic determinant of executive compensation. However a control group of unaffected firms is required to disentangle the effects of say-on-pay from the year effect.

percent in favor. So overall there is little evidence of widespread dissatisfaction with executive compensation. There are pockets of resistance however. As noted earlier Hewlett-Packard saw a majority of shares voted against their executive compensation package, as did 14 other firms out of our sample of 981 firms.

[Insert Table 2 here]

4. Empirical Models: Analysis of Impact of Say on Pay on 2010 Compensation

Impact on level of compensation

To test our first two hypotheses we compare 2010 executive compensation with that of previous years, to ascertain if changes were made in advance of the initial say on pay vote. Our expectation is that firms may reduce their compensation in 2010 if they are worried about the shareholder vote (Hypothesis 1), and may be more likely to reduce compensation when prior compensation is high or high relative to performance (Hypothesis 2). We test this using a pooled time series, cross sectional data set utilizing compensation data dating back to 1992 from ExecuComp and Capital IQ which allows us to analyze whether there is a 2010 effect and if there is one, whether it is more pronounced for firms that previously overpaid their executives.

We test both hypotheses jointly with an ordinary least squares regression that utilizes the economic determinants of compensation. The dependent variable in our model is the log of compensation, which is alternatively defined as salary, bonus, total cash, or total compensation. The independent variables which we take from Core et al. (1999) are ROA, shareholder returns[7], log of total assets, the market to book ratio, and the standard deviation of ROA and returns. As our expectation is that compensation increases with performance, growth, size, and risk, we

[7] Stock returns are measured as buy-and-hold annual returns including dividends. We also calculate an annual returns measure for a 12-month period ending three-months after the fiscal year and results are the same.

expect the coefficient on all six of our economic determinant variables to be positive. We also add the residual from the model estimated for year t-1 to control for the possibility that compensation unexplained by the model in t-1, may be correlated with year t compensation. This coefficient can be positive, which could represent an omitted variable such as poor governance, that causes compensation to be higher than expected over time, or it could be negative, if compensation reverts to an equilibrium explained by economic factors. We also include an indicator variable for firm with a market value of $75 million or greater. We do so because, say-on-pay is required in 2011 for firms with a market value of common equity of $75 million or more (smaller firms were allowed a two year delay till 2013). We term these firms "affected firms" and create a variable takes a value of 1 for firms with a market value of common equity in excess of $75 million, and zero otherwise. We have no prediction on its coefficient however.

Our test variables are the two way interaction of the 2010 indicator variable with an affected firm variable and the three way interaction of the 2010 indicator variable with the affected firm variable and the residual from 2009. By including firms above and below the threshold we are able to tease out the effect of the initial say-on-pay vote from the macro 2010 year effect. The two way interaction tests whether say-on-pay had an impact on compensation in affected firms (hypothesis one). Our expectation is that the coefficient on the interaction will be negative. We then add the three way interaction to see if this impact is greater (in an absolute sense) for firms that overpay their CEOs (hypothesis two). This coefficient is also expected to be negative, assuming residual is correlated with excess pay **and** that these boards/executives are concerned with getting shareholder approval. We then add to the model, indicator variables for year and industry to control for economy wide and industry effects.

The model is as follows:

$$\text{Log(Compensation)}_{it} = a_0 + a_1\text{ROA}_{it} + a_2\text{Returns}_{it} + a_3\text{Log(Assets)}_{it-1} + a_4\text{Market-to-Book}_{it} + a_5\text{Standard Deviation of ROA}_{it} + a_6\text{Standard Deviation of Returns}_{it} + a_7\text{Residual}_{it-1} + a_8\text{Affected firm}_{it} + a_9\text{Year 2010 indicator*Affected firm}_{it} + a_{10}\text{Year 2010 indicator*Affected firm}_{it} * \text{Residual}_{it-1} + \text{Year Indicator Variables} + \text{Industry Indicator Variables} + e_{it} \quad (1)$$

where

Log(Compensation) = natural logarithm of salary, bonus, total cash compensation or total compensation.
Salary = CEO salary as reported in ExecuComp or CapitalIQ;
Bonus = CEO bonus as reported in ExecuComp or CapitalIQ;
Cash Compensation = Salary+Bonus
Total Compensation = CEO total compensation as reported in ExecuComp or CapitalIQ, includes salary, bonus, nonequity incentives, stock options, restricted shares, pensions, and other compensation;
ROA = income before extraordinary items deflated by lagged value of assets;
Returns = buy and hold annual returns to shareholders, i.e., capital appreciation plus dividends;
Log(Assets)=natural logarithm lagged total assets;
Market to book = market value of equity divided by book value of equity;
Standard Deviation of ROA =standard deviation of annual ROA for the prior five years;
Standard Deviation of RET = standard deviation of returns for the prior five years;
Residual= residual from the following equation: $\text{Log(Total Compensation}_{it}) = b_0 + b_1\text{ROA}_{it} + b_2\text{RET}_{it} + b_3\text{Log(ASSETS}_{it}) + b_4\text{Market to Book}_{it} + b_5\text{Standard Deviation of ROA}_{it} + b_6\text{Standard Deviation of RET}_{it} + \text{Industry Indicator Variables} + e_{it}$. This model is estimated annually for the years 1992-2009;
Affected firm=indicator variable taking the value of 1 if the market value of common equity is $75 million or greater, and zero otherwise;
Year Indicator Variables=matrix of indicator variables taking the value of 1 if year of observation is equal to year X and zero otherwise, where year X is 1992, 1993, 1994…..2010; and
Industry Indicator Variables=matrix of indicator variables taking the value of 1 if industry of observation is equal to industry X and zero otherwise, where industry X is 01, ...99 based upon two digit SIC codes;

To reiterate, Model (1) explains the level of compensation. Our expectation is that after controlling for the basic determinants of compensation, i.e., performance, size, growth, risk, we can isolate the effect of say-on-pay. If say-on-pay has a dampening effect on compensation of affected firms, we expect the coefficient on Year 2010 indicator*Affected firm to be negative

(Hypothesis 1). Based upon prior literature in the UK we expect that say-on-pay would have its biggest impact on CEO compensation in firms that overpaid their CEO. If say-on-pay has a larger impact on compensation of affected firms that overpay their CEOs, we expect the coefficient on Year 2010 indicator*Affected firm*Residual to be negative (Hypothesis 2).

Impact on compensation mix

Our first hypothesis also predicts that firms will make their compensation more responsive to performance. Using the same pooled time series, cross sectional data set as above, we investigate if firms increased the amount of performance-based compensation in 2010, as well as whether that increase was more likely to occur in affected firms. For this analysis, because our dependent variable is bounded by zero and one, we use a Tobit model, where the dependent variable in our model is the performance mix, measured by the ratio of performance-based compensation to salary, and the independent variables are derived primarily from Bryan et al. (2000). The independent variables are research and development expenditures (R&D), leverage, CEO age, free-cash flow, marginal tax rate, and an indicator variable for whether the firm beat its consensus analyst forecast (Beat), as well as an affected firm indicator, the residual from the prior year's total compensation, and the lagged performance mix. Our expectation is that performance based compensation increases with research and development expenditures, i.e., growth firms use more performance based compensation (see Smith and Watts 1992, Gaver and Gaver 1995). We also expect a positive coefficient on Beat, as beating consensus analyst forecasts is expected to be associated with, ex post increases in performance based compensation (Balsam et al. 2012, Mergenthaler et al. 2008).[8] In contrast, following Bryan et al. (2000) we expect a negative coefficient on CEO age. Leverage is also expected to be negatively associated

[8] We note that while equity compensation is but a component of our dependent variable, unless the increase in equity incentives are offset by a decrease in non-equity incentives, performance-based compensation will increase.

with performance-based compensation, because equity incentives may exacerbate agency problems, as they provide executives the incentive to transfer wealth from debtholders to shareholders (Sundaram and Yermack 2007). We also expect a negative coefficient on free cash flow, as firms with liquidity constraints tend to substitute equity for cash compensation (Yermack 1995, Core and Guay 2001). Similarly we expect a negative coefficient on marginal tax rate, as firms with high tax rates tend to prefer currently deductible cash compensation, which is less likely to be performance-based. Our test variable is the two way interaction of the 2010 indicator variable with the Affected firm variable.[9] Our expectation is that the coefficient on the interaction will be positive (hypothesis one), as affected firms are more likely to increase performance-based compensation in 2010 to achieve a more favorable shareholder vote.

The model is as follows:

$$\begin{aligned}\text{Compensation Mix}_{it} = {} & a_0 + a_1\text{R\&D}_{it} + a_2\text{Leverage}_{it} + a_3\text{CEO Age}_{it} + a_4\text{Free Cash Flow}_{it} + \\ & a_5\text{Marginal Tax Rate}_{it} + a_6\text{Beat}_{it} + a_7\text{Affected firm}_{it} + a_8\text{Year 2010 indicator*Affected firm}_{it} + a_9\text{Residual}_{it-1} + a_{10}\text{Year 2010 indicator*Affected firm}_{it}\text{*Residual}_{it-1} + a_{11}\text{Compensation Mix}_{it-1} + \text{Year indicator variables} + \text{Industry indicator variables} + e_{it} \qquad (2)\end{aligned}$$

where

Compensation mix = (Total direct compensation – salary – other annual – all other compensation - change in pension value and nonqualified deferred compensation earnings) / salary;
R&D = research and development expenditure scaled by firm's market value (measured as the sum of market value of equity and book value of total liabilities);
Leverage = book value of total liabilities scaled by firm's market value;
CEO Age = CEO's age in years;
Free Cash Flow = free-cash flow scaled by firm's market value, where free cash flow is measured as cash inflows from operating activities minus cash used in investing activities;
Marginal Tax Rate = the Graham (1996) simulated marginal tax rate;
Beat = 1 if actual EPS is greater than the median of the last I/B/E/S consensus forecasts before the fiscal year end, and 0 otherwise; and
all other variables are as defined above.

[9] While we include the three way interaction of the 2010 indicator variable with the affected firm variable and the residual from 2009, we do so only for completeness.

Analysis of voting patterns

To test our last two hypotheses we regress the percentage of shares voted against executive compensation on a series of variables we expect will affect that vote. In hypothesis three we predict that the percentage of votes against a plan will increase with "excess" compensation. However we don't know that shareholders can identify "excess" compensation when they make their voting decision. Consequently we incorporate a variety of compensation variables we believe may influence their decisions.[10] We begin with our estimate of the change in compensation attributable to say-on-pay from Model (1). This variable, which we call Compensation Modification, is computed by summing the coefficient on the two way interaction (from Model 1), with the product of the coefficient on the three way interaction and the lagged residual. As shown in Table 5, the mean of this variable is negative (-0.067), which indicates that affected firms, on average reduced their compensation in advance of the say-on-pay vote.

Our second test variable is the log of total compensation. Assuming shareholders are influenced by the total amount, we expect that as this amount increases, the percentage of shares voted against the plan will increase. Our next test variable is the percentage change in total compensation. Implicitly assuming that shareholders benchmark against prior compensation, we expect that as this percentage increases so will the percentage of shares voted against the plan. Our fourth test variable assumes that shareholders are more sophisticated and control for expected compensation using a model that incorporates firm performance, size, growth and risk, i.e., the residual we incorporate in Model (1) although in this model we use the contemporaneous not the lagged residual. Our expectation is that the percentage of votes against the plan will increase with this variable, i.e., increase as the extent of overpayment increases.

[10] Because of multicollinearity among the variables we test them one at a time.

To test our fourth hypothesis we actually use a set of variables. That is we decompose total compensation into salary, bonus, nonequity incentive compensation, stock options, restricted stock, pension, and other, deflating by total compensation. Our expectation is that certain components will be more objectionable to shareholders than others. In particular certain perquisites such as private jets (Yermack 2006) and tax gross ups (Sasseen 2007) have been found to be particularly objectionable. Unfortunately information on individual perks is not available in a machine readable database, but rather are included in the "other compensation" category. All else equal our expectation is that the percentage of votes against executive compensation will increase with the percentage of other compensation in the compensation package (we make no predictions on the other components of the compensation package).

We include a variety of other explanatory variables as well. We expect that shareholders will be more likely to vote to approve when performance is good. Consequently we expect negative coefficients on both ROA and returns (we use two measures of performance). We also include dilution associated with CEO compensation plans (options + restricted shares outstanding) with the expectation that the greater the dilution, the more likely shareholders will vote against the plan.[11] We include CEO duality and institutional holder concentration (Hartzell and Starks 2003), as proxies for CEO and shareholder power respectively. We include an indicator variable that takes the value of one if there was a separate shareholder vote on one or more compensation plans and zero otherwise. Finally we include leverage, growth, size, and industry indicators as control variables without predicting the signs of their coefficients.[12]

Our third model, which is a Tobit due to the bounded distribution of the dependent variable, is:

[11] We use the dilution associated with CEO compensation to be consistent with the remainder of our analyses. If we use dilution associated with top 5 executives, our results remain the same.
[12] We do not need a year indicator since all the observations are in 2011.

$$\text{Percentage of Votes Against}_{it} = a_0 + a_1\text{Test variable (or variables)} + a_2\text{ROA}_{it} + a_3\text{Returns}_{it} + a_4\text{Dilution}_{it} + a_5\text{Log(Assets)}_{it-1} + a_6\text{CEO Duality}_{it} + a_7\text{Institutional holder concentration}_{it} + a_8\text{Leverage}_{it} + a_9\text{Market-to-book}_{it} + a_{10}\text{Shareholder Vote on Compensation Plans}_{it} + a_{11}\text{Industry indicator variables} + e_{it} \quad (3)$$

Where

Percentage of Votes Against = number of votes against executive compensation divided by total shares eligible to vote;

Test variable = alternatively the estimated change in CEO compensation associated with say-on-pay; the log of total CEO compensation; the change in total CEO compensation; the residual from a model predicting CEO compensation from its economic determinants; or series of variables representing salary, bonus, nonequity incentive, options, restricted shares, pensions, and other, as a percent of total compensation;

Dilution= (number of unexercised exercisable options + number of unexercised unexercisable options + number of restricted shares held by CEO) / total common shares outstanding**;**

CEO Duality=an indicator variable taking the value of 1 if the same individual is both CEO and chair of the Board and zero otherwise;

Institutional holder concentration= a Herfindahl index of institutional investor ownership concentration, calculated as the percentages of institutional holdings by all 13-f institutions;

Leverage=long term debt divided by common equity;

Shareholder Vote on Compensation Plans= indicator variable taking the value of 1 if there was a separate shareholder vote on one or more compensation plans and zero otherwise;

and all other variables are as defined above.

5. Results

Level of Compensation

Table 3 provides descriptive statistics (panel A) and correlations (panel B) for the variables in Model (1). Please note that while the number of firms in our sample is 1,550 (981+569) the number of observations is far larger, 12,115, because the pooled time-series cross-sectional regressions utilize all observations for each of these firms over the years 1992-2010. Of interest we see that the amounts for total compensation are substantial, mean (median) $3.7 ($1.9) million per year for a CEO, and that cash compensation makes up less than half of that amount, mean (median) $1,071 ($800) thousand. We also observe across the pooled sample that market returns far exceed accounting returns, mean (median) of 13.4 (9.2) percent versus 3.7

(4.0) percent. The correlation matrix in Panel B indicates that there is significant correlation amongst the independent variables in Model (1). However the largest VIF in any of our models is 4.9, indicating that multicollinearity is not a problem.

Panel C of Table 3 provides the results for our model, with the columns only varying by dependent variable. All of our models are highly statistically significant with adjusted R^2 ranging from 39.86 to 82.02 percent. Our first hypothesis predicts that the coefficient for the interaction between the Year 2010 indicator and the affected firm indicator will be negative and significant. In all four columns the coefficient is negative and statistically significant. Our second hypothesis predicts that the three way interaction between the Year 2010 indicator, the affected firm indicator, and the residual will also be negative and significant, i.e., that affected firms that overpay their CEOs relative to what can be predicted using economic determinants, will cut their compensation more in advance of the first say on pay vote. Here we observe that in three of the four columns the coefficient on the interaction is negative and significant, consistent with our expectations.

Looking at our control variables briefly, we observe that performance and size are generally associated with higher compensation, as only the coefficient on ROA in the salary regression is not significant. Similarly we find the coefficient on the standard deviation of ROA is positive and significant in three of four regressions, although surprisingly the coefficient on the standard deviation of returns is only significant when total compensation is the dependent variable.[13] Likewise, the coefficient on the market to book ratio is only significant when total compensation is the dependent variable. With respect to some of our less traditional controls, we find that the coefficient on the lagged residual positive and significant in all four regressions,

[13] In interpreting these results the reader is to be cautioned that they are not independent of one another. That is salary and bonus are components of cash compensation, while cash compensation itself is a component of total compensation.

indicating that firms that tend to overpay (or have omitted variables) tend to do it consistently. Similarly the coefficient on the affected firm variable is positive and significant in three of the four regressions, even after controlling for firm size.

[Insert Table 3 here]

Compensation Mix

Table 4 provides descriptive statistics (panel A) and correlations (panel B) for the variables in Model (2). The number of observations in Table 4 (10,777) is lower than that in Table 3, because we require additional variables, i.e., the Marginal Tax Rate, and the consensus analyst forecast., Of interest we see that in most firms performance based compensation far exceeds salary, i.e., mean is 4.3 and median 2.6. Also note that the mean Marginal Tax Rate (22.2%) is significantly lower than the median (34.5%), and that the percentage of firms that Beat their consensus analyst forecast is 63.7%. The correlation matrix in Panel B indicates that there is statistically significant correlation amongst the independent variables in Model (2). However, the magnitudes are low, the highest being -.396 bet R&D and Leverage, and as noted above, the largest VIF in any of our models is 4.9. Consequently multicollinearity is not a problem.

Panel C of Table 4 provides the results for our model. Our first hypothesis predicts that the coefficient for the interaction between the Year 2010 indicator and the Affected firm indicator will be positive and significant, which is what we observe, implying that affected firms increase the performance compensation of their CEO compensation package in 2010.

Looking at our control variables briefly, we observe that Leverage and CEO Age are, as expected, negatively associated with the Compensation Mix. In contrast Beat, Affected Firm, Residual, and Lag(Compensation Mix) are all positively associated with the current

Compensation Mix. This is consistent with larger firms (Affected), and firms that pay their CEOs well (Residual), using more performance-based compensation.

[Insert Table 4 here]

Determinants of Shareholder Voting on Say-on-Pay

Table 5 provides descriptive statistics and correlations for the variables in Model (3). In this analysis our sample size is 981 as we only utilize the affected firms – they are the only ones with votes, and there has only been one vote to date for most of these firms.[14] As noted in Table 2 there was very little opposition to executive compensation in most firms, mean 8.8 percent, median 4.2 percent. In Panel A of Table 5 we observe that Salary makes up about 21 percent of Total Compensation, while Non-Equity Incentives make up a slightly larger amount, especially if we include bonuses.[15] Together current cash compensation makes up a little more than 40 percent of the compensation package, which is roughly equal to that made up by equity compensation, i.e., Options plus Restricted Shares. The remaining categories are much smaller, Pension, with a mean of 6.3 percent, and Other compensation, with a mean of 3 percent.

The correlation matrix (not reported because of the large number of variables) indicates that there are some significant correlations amongst the independent variables in Model (3). However as noted above, the largest VIF in any of our models is 4.9, indicating that multicollinearity is not a problem.

Panel B of Table 5 provides the results for our model, with the columns only varying by the test variable. In our first column we find that the coefficient on Compensation Modification

[14] Several of the firms in our sample were subject to TARP and consequently had earlier votes, similarly several of our firms were amongst those that voluntarily allowed a say on pay vote before it was required.
[15] As is obvious from the table, bonuses are zero in more than three quarters of the observations. Beginning in 2006 firms began reporting bonuses (both short and long-term) paid under a formal plan as non-equity incentives, while retaining the categorization of bonus for discretionary or guaranteed bonuses.

to be positive and strongly significantly associated with the votes against executive compensation. However given that most companies modified their CEO compensation downward in response to say-on-pay, this indicates that the larger, in absolute terms, the modification, the less likely shareholders are to vote against executive compensation. In the second column we observe that the log of Total Compensation is positive and significantly associated with the percentage of votes against executive compensation. We observe similar results in columns three and four, where the change in Total Compensation and the Residual from our model using the economic determinants of executive compensation are our test variables. In column five we examine the composition of the compensation package. Ex ante we expected that Other compensation, which includes perquisites such as private jets, country clubs and tax gross-ups would be more likely to be opposed by shareholders. Ex post column five confirms our expectation. The only other significant component in column three is salary, which is negatively associated with the vote against executive pay. We are unsure why higher levels of Salary, the fixed, non-performance based component of the compensation package are viewed favorably by shareholders. Our only explanation revolves around risk, in that in contrast to the variable components of the compensation package, salary does not provide any incentive to take risk – and 2010 follows a period in which compensation has been accused of, among other things, providing incentive for executives to take too much risk.

Briefly looking at our control variables, we see as expected that better performance is associated with fewer votes against executive compensation. Similarly we find, as expected that increased dilution is associated with increased votes against executive compensation. We also see that CEO power, as measured by CEO duality is, in four of the five models, associated with votes against executive compensation, while shareholder power, as measured by institutional

shareholder concentration is associated with fewer votes against executive compensation in all models. The evidence on the relation between growth, and size, and the percentage of votes against executive compensation is not quite as clear, as the signs and significance of the coefficients differ across columns. Finally neither leverage, nor the existence of a separate shareholder vote on compensation plans affects the percentage of votes against executive compensation.

[Insert Table 5 here]

6. Conclusion

In this paper we examine the impact of the first year of mandatory shareholder voting on say-on-pay. Despite the fact that say on pay was officially signed into law midway through the 2010, on July 21st, we find evidence that firms modified their compensation packages with an eye towards winning shareholder approval of their executive compensation. In particular we find decreases in the CEO compensation for affected firms in 2010, with larger decreases found for firms that overpaid their CEOs in the previous year. Similarly we found that affected firms shifted their compensation mix to more performance-based compensation in 2010. In terms of vote itself, we find evidence that shareholder voting on say-on-pay is not random, but systematically related to compensation practices. We find shareholders are more likely to vote against executive compensation when the firm pays a large absolute amount of CEO compensation, has a large increase in CEO compensation from the prior year, or has a larger amount of compensation that cannot be explained by economic factors. We also find that among the components of the compensation package, shareholders are more likely to vote against the compensation package when they contain "other compensation," a catchall category that includes certain perquisites, such as private jets, country club memberships and tax gross ups, which have

been opposed by critics of executive pay. Most interestingly, we find evidence that suggests that firms who reduced their compensation in 2010 in advance of the initial say-on-pay vote were rewarded with higher approval percentages.

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Table 1
Sample Selection

Panel A: Execucomp Firms with Market Value>75 million

	Firms in ExecuComp with non-zero CEO compensation in 2009	1,744
-	Firms without CEO compensation for 2010	(131)
-	Firms with change in CEO from 2009 to 2010	(147)
-	Missing voting data on executive packages	(247)
-	Missing CEO compensation data	(150)
-	Missing Compustat data	(5)
-	Missing Institutional Ownership data	(83)
=	Final sample (8,945 observations)	981 Firms

Panel B: Capital IQ Firms with Market Value < $75 million

	Firms with market value < $75 million	2,037
-	Missing Compustat data	(592)
-	Missing CRSP data	(753)
-	Missing CEO compensation data	(123)
=	Final sample (3,170 observations)	569 Firms

Panel C: Sample Distribution by Industry

Two-digit SIC Code	Industry	MV>75 million Firms N	MV>75 million Firms Proportion of Sample	MV<=75 million Firms N	MV<=75 million Firms Proportion of Sample
01-09	Agriculture, Forestry, and Fishing	4	0.41%	1	0.18%
10-14	Mining	49	4.99%	9	1.58%
15-17	Construction	17	1.73%	2	0.35%
20-39	Manufacturing	405	41.28%	240	42.18%
40-49	Transportation, Communications, Electric, Gas, and Sanitary Services	120	12.23%	16	2.81%
50-51	Wholesale Trade	24	2.45%	20	3.51%
52-59	Retail Trade	78	7.95%	18	3.16%
60-67	Finance, Insurance, and Real Estate	138	14.07%	179	31.46%
70-89	Services	143	14.58%	83	14.59%
91-99	Public Administration	3	0.31%	1	0.18%
	Total	981	100%	569	100%

Table 2
Executive Compensation Packages: Voting Results
(n=981 firms)

Variable	Mean	Std. Dev.	1st Quartile	Median	3rd Quartile
% Against	8.832%	10.810%	1.933%	4.232%	11.776%
% For	79.471%	13.260%	71.923%	82.885%	89.012%
% Abstain	1.353%	2.228%	0.195%	0.554%	1.538%
% Broker-non votes	10.344%	7.311%	5.638%	8.744%	13.660%

Table 3
The Effect of Say on Pay on the Levels of Compensation in 2010
(n=12,115)

$$\text{Log(Compensation)}_{it} = a_0 + a_1\text{ROA}_{it} + a_2\text{Returns}_{it} + a_3\text{Log(Assets)}_{it-1} + a_4\text{Market-to-Book}_{it} + a_5\text{Standard Deviation of ROA}_{it} + a_6\text{Standard Deviation of Returns}_{it} + a_7\text{Residual}_{it-1} + a_8\text{Affected firm}_{it} + a_9\text{Year 2010 indicator*Affected firm}_{it} + a_{10}\text{Year2010 indicator*Affected firm}_{it} * \text{Residual}_{it-1} + \text{Year Indicator Variables} + \text{Industry Indicator Variables} + e_{it} \quad (1)$$

Panel A: Descriptive Statistics

Variable	Mean	Std. Dev.	1st Quartile	Median	3rd Quartile
Salary	640.404	380.881	350.000	590.600	875.001
Bonus	467.734	1,079.628	0.000	52.354	500.000
Cash Compensation	1,070.819	1,028.090	430.000	800.000	1,268.548
Total Compensation	3,747.601	4,975.451	628.660	1,873.799	4,741.184
ROA	0.037	0.103	0.008	0.040	0.086
Returns	0.134	0.466	-0.148	0.092	0.342
Assets	7,007.449	16,672.498	263.900	1,124.951	4,884.863
Market-to-book	2.789	3.678	1.465	2.114	3.283
Standard Deviation ROA	0.050	0.059	0.011	0.027	0.062
Standard Deviation Returns	0.459	0.356	0.226	0.343	0.549
Residual	0.001	0.617	-0.367	0.003	0.381

Panel B: Correlation Table - Pearson correlation coefficients (above) / Spearman correlation coefficients (below)

Variable	ROA	Returns	Log (Assets)	Market-to-Book	Std Dev ROA	Std Dev Returns	Residual
ROA	1.000	**0.251**	**0.190**	**0.077**	**-0.264**	**-0.115**	**0.028**
Returns	**0.259**	1.000	**-0.022**	**-0.037**	**0.022**	0.008	**-0.016**
Log(Assets)	**0.088**	**0.035**	1.000	0.015	**-0.460**	**-0.376**	**0.030**
Market-to-book	**0.341**	**-0.054**	**0.122**	1.000	**0.128**	**0.099**	**0.069**
Standard Deviation ROA	**0.021**	0.002	**-0.464**	**0.170**	1.000	**0.520**	**0.036**
Standard Deviation Returns	**-0.061**	-0.003	**-0.367**	**0.097**	**0.518**	1.000	0.013
Residual	**0.085**	-0.007	**0.040**	**0.159**	**0.051**	**0.033**	1.000

Panel C: Regression Results

Variable	Expected Sign	Salary		Bonus		Total Cash		Total Compensation	
		Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value
Intercept	?	4.299	<.0001	-3.560	<0.001	3.764	<0.001	3.435	<0.001
ROA	+	-0.182	0.999	**2.699**	**<0.001**	**0.270**	**<0.001**	**0.658**	**<0.001**
Returns	+	**0.021**	**0.005**	**0.719**	**<0.001**	**0.139**	**<0.001**	**0.185**	**<0.001**
Log(Assets)	+	**0.222**	**<.0001**	**0.289**	**<0.001**	**0.280**	**<0.001**	**0.449**	**<0.001**
Standard Deviation ROA	+	**0.204**	**0.003**	0.050	0.923	**0.276**	**0.005**	**1.146**	**<0.001**
Standard Deviation Returns	+	-0.021	0.960	-0.001	0.989	-0.010	0.504	**0.049**	**0.005**
Market-to-book	+	-0.001	0.262	0.004	0.560	0.000	0.847	**0.007**	**<0.001**
Residual	?	**0.255**	**<.0001**	**0.568**	**<0.001**	**0.349**	**<0.001**	**0.561**	**<0.001**
Affected firm	+	**0.178**	**<.0001**	0.001	0.989	**0.163**	**<0.001**	**0.458**	**<0.001**
Yr 2010 indicator*Affected firm	-	**-0.045**	**0.047**	**-1.600**	**<0.001**	**-0.273**	**<0.001**	**-0.068**	**0.074**
Yr 2010 indicator*Affected firm*Residual	-	**-0.051**	**0.011**	**-0.844**	**<0.001**	**-0.174**	**<0.001**	0.017	0.626
Year Indicators		Not reported		Not reported		Not reported		Not reported	
Industry Indicators		Not reported		Not reported		Not reported		Not reported	
N		12,115		12,115		12,115		12,079	
Adjusted R^2		75.40%		39.86%		70.42%		82.02%	

Variable Definitions

Log(Compensation) = natural logarithm of salary, bonus, total cash compensation or total compensation.
Salary = CEO salary as reported in ExecuComp or CapitalIQ;
Bonus = CEO bonus as reported in ExecuComp or CapitalIQ;
Cash Compensation = Salary+Bonus
Total Compensation = CEO total compensation as reported in ExecuComp or CapitalIQ, includes salary, bonus, nonequity incentives, stock options, restricted shares, pensions, and other compensation;
ROA = earnings (IB) deflated by lagged value of assets (AT);
Returns = buy and hold annual returns to shareholders of firm, i.e., capital appreciation plus dividends;
Log(Assets) = natural logarithm of total assets at the end of year t-1;
Market to book = market value of equity divided by book value of equity;
Standard Deviation of ROA = standard deviation of annual ROA for the prior five years;
Standard Deviation of RET = standard deviation of returns for the prior five years;
Affected firm = 1 if a firm's market value exceeds $75 million, and 0 otherwise;
Residual = residual from the following equation: $\text{Log(Total Compensation}_{it}) = b_0 + b_1\text{ROA}_{it} + b_2\text{RET}_{it} + b_3\text{Log(ASSETS}_{it-1}) + b_4\text{Market to book}_{it} + b_5\text{Standard Deviation of ROA}_{it} + b_6\text{Standard Deviation of RET}_{it}$ + industry indicator variables + e_{it}. This model is estimated annually for the years 1992-2010.
Year Indicator Variables = matrix of indicator variables taking the value of 1 if year of observation is equal to year X and zero otherwise, where year X is 1992, 1993, 1994…..2010;
Industry Indicator Variables = matrix of indicator variables taking the value of 1 if industry of observation is equal to industry X and zero otherwise, where industry X is 01, ...99 based upon two digit SIC codes;

Correlation coefficients with p<10% are in bold.
Two-tailed p-values are reported for all variables. Observations are winsorized at two standard deviations at both tails.

Table 4
Tobit Analysis on the Impact of Say on Pay on the Compensation Mix

$$\text{Compensation Mix}_{it} = a_0 + a_1 R\&D_{it} + a_2 \text{Leverage}_{it} + a_3 \text{Age}_{it} + a_4 \text{Free Cash Flow}_{it} + a_5 \text{Marginal Tax Rate}_{it} + a_6 \text{Beat}_{it} + a_7 \text{Affected firm}_{it} + a_8 \text{Year 2010 indicator*Affected firm}_{it} + a_9 \text{Residual}_{it-1} + a_{10} \text{Year 2010 indicator*Affected firm}_{it} * \text{Residual}_{it-1} + a_{11} \text{Performance-based Mix}_{it-1} + \text{Year indicator variables} + \text{Industry indicator variables} + e_{it} \quad (2)$$

Panel A: Descriptive Statistics (n = 10,777)

Variable	Mean	Std. Dev.	1st Quartile	Median	3rd Quartile
Compensation Mix	4.236	5.861	0.998	2.552	5.235
R&D	0.013	0.023	0.000	0.000	0.016
Leverage	0.395	0.246	0.194	0.359	0.572
Age	56.425	7.145	52	56	61
Free Cash Flow	0.010	0.061	-0.018	0.014	0.043
Marginal Tax Rate	0.222	0.154	0.027	0.345	0.350
Beat	0.637	0.481	0.000	1.000	1.000
Residual	0.021	0.608	-0.367	0.024	0.413

Panel B: Correlation Table - Pearson correlation coefficients (above) / Spearman correlation coefficients (below)

Variable	R&D	Leverage	Age	Free Cash	MTRA	Beat	lagResidual
R&D	1.000	**0.286**	**-0.085**	**-0.069**	**0.241**	0.006	**0.062**
Leverage	**-0.396**	1.000	**0.042**	**-0.116**	**-0.030**	**-0.164**	**-0.100**
Age	**-0.045**	**0.041**	1.000	0.008	**0.068**	**-0.019**	0.001
Free Cash Flow	0.005	**-0.122**	0.002	1.000	**0.042**	**0.082**	**-0.042**
Marginal Tax Rate	**-0.180**	-0.011	**0.057**	0.050	1.000	**0.049**	**-0.018**
Beat	**0.055**	**-0.155**	**-0.017**	0.093	0.048	1.000	**0.055**
Residual	**0.070**	**-0.103**	0.011	**-0.026**	-0.020	0.060	1.000

Panel C: Regression Results

Variable	Expected Sign	Estimate	p-value
Intercept	?	-4.182	<0.001
R&D	+	0.247	0.731
Leverage	-	**-0.249**	**<0.001**
Age	-	**-0.009**	**<0.001**
Free Cash Flow	-	**-0.387**	**0.066**
Marginal Tax Rate	-	0.002	0.982
Beat	+	**0.121**	**<0.001**
Affected Firm	+	**1.230**	**<0.001**
Year 2010 indicator*Affected Firm	+	**0.297**	**0.026**
Residual	?	**0.048**	**0.059**
Year 2010 indicator*Affected Firm*Residual	+	-0.046	0.512
Lag(Performance-based mix)	+	**0.083**	**<0.001**
Year Indicators		Not reported	
Industry Indicators		Not reported	
N = 10,777			

Variable Definitions:

Compensation mix = (Total direct compensation – salary – other annual – all other compensation - change in pension value and nonqualified deferred compensation earnings) / salary;

R&D = research and development expenditure scaled by firm's market value (measured as the sum of market value of equity and book value of total liabilities);

Leverage = book value of total liabilities scaled by firm's market value;

Age = CEO's age in years;

Free Cash Flow = free-cash flow scaled by firm's market value, where free cash flow is measured as cash inflows from operating activities minus cash used in investing activities;

Marginal Tax Rate = stimulated marginal tax rate, obtained from Professor Graham from Duke University;

Beat = 1 if actual EPS is greater than the median of the last I/B/E/S consensus forecasts before the fiscal year end, and 0 otherwise;

Affected firm = 1 if a firm's market value exceeds $75 million, and 0 otherwise;

Residual = residual from the following equation: $\text{Log(Total Compensation}_{it}) = b_0 + b_1\text{ROA}_{it} + b_2\text{RET}_{it} + b_3\text{Log(ASSETS}_{it-1}) + b_4\text{Market to book}_{it} + b_5\text{Standard Deviation of ROA}_{it} + b_6\text{Standard Deviation of RET}_{it}$ + industry indicator variables + e_{it}. This model is estimated annually for the years 2006-2010.

Year Indicator Variables = matrix of indicator variables taking the value of 1 if year of observation is equal to year X and zero otherwise, where year X is 2007, 2008…..2010; and

Industry Indicator Variables = matrix of indicator variables taking the value of 1 if industry of observation is equal to industry X and zero otherwise, where industry X is 01, ...99 based upon two digit SIC codes.

Correlation coefficients with p<10% are in bold.

Two-tailed p-values are reported for all variables. Observations are winsorized at two standard deviations at both tails.

Table 5
Tobit Analysis on Explaining the Decision to Vote Against Executive Compensation Packages

$$\text{Percentage of Votes Against}_{it} = a_0 + a_1\text{Test variable (or variables)} + a_2\text{ROA}_{it} + a_3\text{Returns}_{it} + a_4\text{Dilution}_{it} + a_5\text{Log(Assets)}_{it-1} + a_6\text{CEO Duality}_{it} + a_7\text{Institutional holder concentration}_{it} + a_8\text{Leverage}_{it} + a_9\text{Market-to-book}_{it} + a_{10}\text{Shareholder Vote on Compensation Plans}_{it} + a_{11}\text{Industry indicator variables} + e_{it} \quad (3)$$

Panel A: Descriptive Statistics (n=981)

Variable	Mean	Std. Dev.	1st Quartile	Median	3rd Quartile
Percentage of Votes Against	8.832%	10.810%	1.933%	4.232%	11.776%
Log(Total Compensation)	8.314	0.866	7.690	8.347	8.949
ΔTotal Compensation	0.394	0.742	-0.011	0.197	0.563
%Salary	0.213	0.140	0.111	0.170	0.275
%Bonus	0.031	0.072	0.000	0.000	0.000
%NonEquity incentives	0.204	0.152	0.090	0.196	0.299
%Options	0.158	0.194	0.000	0.100	0.268
%Restricted Shares	0.252	0.213	0.000	0.242	0.407
%Pension	0.063	0.097	0.000	0.000	0.110
%Other compensation	0.030	0.041	0.007	0.016	0.034
Residual	0.035	0.518	-0.267	0.074	0.343
CompModif	-0.067	0.009	-0.073	-0.067	-0.062
ROA	0.060	0.072	0.020	0.050	0.091
Returns	0.254	0.299	0.055	0.210	0.416
Dilution	0.010	0.010	0.003	0.007	0.014
Log(Assets)	8.055	1.629	6.867	7.909	9.143
CEO Duality	0.608	0.489	0.000	1.000	1.000
Leverage	0.659	12.812	0.060	0.354	0.788
Institutional Shareholder Concentration	0.047	0.023	0.032	0.041	0.054
Market-to-book	2.506	6.321	1.370	2.002	3.078
Shareholder Vote on Compensation	0.393	0.489	0	0	1

Panel B: Tobit Results (Independent Variable = Percentage of Votes Against)

Variable	Expected Sign	(1) Estimate	(1) p-value	(2) Estimate	(2) p-value	(3) Estimate	(3) p-value	(4) Estimate	(4) p-value	(5) Estimate	(5) p-value
Intercept		-1.422	0.022	-4.989	<0.001	-2.752	<0.001	-2.195	<0.001	-1.304	0.003
Compensation Modification	+	**16.101**	**<0.001**								
Log(Total Compensation)	+			**0.540**	**<0.001**						
ΔTDC	+					**0.240**	**<0.001**				
Residual	+							**0.560**	**<0.001**		
%Salary	+									**-2.348**	**<0.001**
%Bonus	-									0.314	0.570
%NonEquity Incentives	-									-0.431	0.170
%Options	-									0.037	0.893
%Restricted Shares	+									0.228	0.385
%Pension	-									-0.272	0.561
%Other Compensation	+									**2.889**	**0.006**
ROA	-	**-3.268**	**<0.001**	**-3.398**	**<0.001**	**-3.285**	**<0.001**	**-3.454**	**<0.001**	**-3.164**	**<0.001**
Returns	-	**-0.401**	**0.001**	**-0.551**	**<0.001**	**-0.563**	**<0.001**	**-0.440**	**<0.001**	**-0.507**	**<0.001**
Dilution	+	**12.572**	**0.003**	**8.474**	**0.031**	**19.428**	**<0.001**	**8.421**	**0.034**	**12.840**	**0.002**
Log(Assets)	?	**0.098**	**0.001**	**-0.158**	**<0.001**	**0.102**	**0.001**	**0.072**	**0.006**	-0.010	0.758
CEO Duality	?	0.100	0.158	**0.144**	**0.027**	**0.164**	**0.020**	**0.137**	**0.036**	**0.192**	**0.004**
Institutional SH	?	**-7.036**	**<0.001**	**-5.242**	**0.001**	**-6.690**	**<0.001**	**-5.151**	**0.001**	**-5.258**	**0.001**
Leverage	?	0.006	0.342	0.008	0.106	0.005	0.382	0.008	0.125	0.007	0.175
Market-to-book	?	-0.016	0.216	**-0.022**	**0.062**	-0.008	0.438	**--0.021**	**0.073**	-0.017	0.114
Shareholder Vote on Compensation Plans	?	0.034	0.620	0.022	0.730	0.035	0.606	0.018	0.779	-0.007	0.915
Industry Indicators		Not Reported		Not Reported		Not Reported		Not Reported		Not Reported	
N		981		981		906		981		981	

All variables are measured as of the end of 2010 fiscal year unless otherwise indicated.

Variable Definitions:

Percentage of Votes Against = number of votes against executive compensation divided by total shares voted;
CompModif = the logged value of the dollar amount a company modifies their total compensation in response to say on pay, calculated from the two interaction terms a_9Year 2010 indicator*Affected $firm_{it}$ + a_{10}Year2010 indicator*Affected $firm_{it}$ * $Residual_{it-1}$ in Model (1);
Log(TotalComp) = natural logarithm of total CEO compensation;
ΔTotal Compensation=total CEO compensation in year t less total CEO compensation in year t-1 divided by total CEO compensation in year t-1;
%Salary = CEO salary divided by total compensation;
%Bonus = CEO bonus divided by total compensation;
%NonEquity Incentives = CEO NonEquity incentives divided by total compensation;
%Options = value of stock options granted to CEO divided by total compensation;
%Restricted Shares = value of restricted shares granted to CEO divided by total compensation;
%Pensions = increase in pension and deferred compensation divided by total compensation;
%Other Compensation = other compensation divided by total compensation;
ROA = earnings (IB) deflated by lagged value of assets (AT);
Returns = buy and hold annual returns to shareholders of firm, i.e., capital appreciation plus dividends;
Log(Assets) = natural logarithm of total assets at the end of year t-1;
Market to book = market value of equity divided by book value of equity;
Standard Deviation of ROA = standard deviation of annual ROA for the prior five years;
Standard Deviation of RET = standard deviation of returns for the prior five years;
Residua l= residual from the following equation: Log(Total $Compensation_{it}$) = b_0 + b_1ROA_{it} + b_2RET_{it} + b_3Log($ASSETS_{it-1}$) + b_4Market to $book_{it}$ + b_5Standard Deviation of ROA_{it} + b_6Standard Deviation of RET_{it} + Industry indicator variables + e_{it}. This model is estimated for 2010.
Dilution = (number of unexercised exercisable options + number of unexercised unexercisable options + number of restricted shares held by executives) / total common shares outstanding**;**
CEO Duality = an indicator variable taking the value of 1 if the same individual is both CEO and chair of the Board and zero otherwise;
Institutional holder concentration = a Herfindahl index of institutional investor ownership concentration, calculated as the percentages of institutional holdings by all 13-f institutions;

Leverage = long term debt divided by common equity;
Shareholder Vote on Compensation = 1 if there was a separate shareholder vote on one or more compensation plans, and 0 otherwise;
Industry Indicator Variables=matrix of indicator variables taking the value of 1 if industry of observation is equal to industry X and zero otherwise, where industry X is 01, ...99 based upon two digit SIC codes;

Correlation coefficients with p<10% are in bold.
Two-tailed p-values are reported for all variables. Observations are winsorized at two standard deviations at both tails.