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Say Pays! Shareholder Voice and Firm Performance

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Abstract

This paper estimates the effects of Say-on-Pay (SoP); a policy that increases shareholder "voice" by providing shareholders with a regular vote on executive pay. We apply a regression discontinuity design to the votes on shareholder-sponsored SoP proposals. Adopting SoP leads to large increases in market value (4.6%) and to improvements in long-term performance: profitability and labor productivity increase, while overheads and investment fall. In contrast, we find limited effects on pay levels and structure. This suggests that SoP operates as a regular vote of confidence, increasing efficiency and market value.

Keywords: Say-on-Pay; Shareholder Voice; Executive Compensation; Firm Performance; Governance

JEL Classifications: G34; L20; M12

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Say Pays! Shareholder Voice and Firm Performance

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This paper estimates the effects of Say-on-Pay (SoP); a policy that increases shareholder "voice" by providing shareholders with a regular vote on executive pay. We apply a regression discontinuity design to the votes on shareholder-sponsored SoP proposals. Adopting SoP leads to large increases in market value (4.6%) and to improvements in long-term performance: profitability and labor productivity increase, while overheads and investment fall. In contrast, we find limited effects on pay levels and structure. This suggests that SoP operates as a regular vote of confidence, increasing efficiency and market value.

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1. Introduction

How much "voice" should shareholders have in a modern corporation? When shareholders disagree with the course a corporation is taking and exercising control is not possible or too costly, there are two main mechanisms by which to express their dissent: they can sell their shares (exit), or engage with management and express their opinions, i.e. use the "voice" mechanism (Hirschman, 1970).

While the impact of exiting on the value of the firm and on its policies has been studied extensively, less attention has been devoted to the impact of voice. Hirschman (1970) first introduced the idea that voice was an important mechanism in the correct operation of institutions (from firms to public schools), yet, there is little systematic causal evidence on the actual impact of voice as a disciplining mechanism within firms.

This paper studies the consequences of Say-on-Pay, a mechanism that gives shareholders a voice by allowing them to vote on executive pay, and its relationship to firm performance. Say-on-Pay targets directly the relationship between executive pay and performance since the vote is not just about the level of pay per se but whether it reflects the value that the CEO adds to the firm. It thus becomes an explicit vote of confidence, aggregating the opinions of shareholders into a simple, highly visible metric. Indeed, to date, it is the only mandatory mechanism that regularly allows all shareholders to directly and publicly express their opinions of how the firm is run.

Our goal is to provide a causal estimate of the effects of giving shareholders a voice through the Say-on-Pay mechanism on the value of the firm and on executive compensation. We measure the immediate effect on stock market returns and shareholder value, as well as longer term effects on accounting performance, firm policies, productivity and CEO compensation.

In order to understand the mechanisms through which Say-on-Pay affects firm value we use a regression discontinuity design on the vote outcomes of shareholder-sponsored Say-on-Pay proposals at annual meetings between 2006 and 2010. This provides direct evidence of the consequences of giving shareholders a voice in the running of the company through Say-on-Pay.

Research on the voice mechanism within the shareholder activism literature has focused primarily on the role of activist funds in negotiations with management (e.g. Gantchev, forthcoming), or the effect of governance proposals

(e.g. Gillan and Starks, 2000, 2007). Proponents of Say-on-Pay argue that it strengthens shareholder oversight and can limit executive compensation excesses. Its critics counter that it undermines the power of the board and can be very costly to the firm, a view seemingly borne out by the way in which it is systematically opposed by management. Indeed when we looked at the proxy materials mailed to shareholders of the firms in our sample, in over 99 percent of cases management had made a 'vote against' recommendation in response to shareholder Say-on-Pay proposals. In 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act made Say-on-Pay compulsory at all U.S. firms with effect from 2011, a measure that continues to be a source of contention.

Knowledge of the effects of Say-on-Pay, however, remains limited and the debate on its merits has been hampered by a lack of causal evidence on its consequences.[1] While the adoption of Say-on-Pay is correlated with multiple firm attributes and hence highly endogenous, it is obviously impossible to randomly allocate this policy measure to different firms and examine the subsequent stock market reaction or changes in performance and pay policy. Moreover, investors incorporate expectations as they receive information on the value of adopting a Say-on-Pay proposal, making it difficult to capture its effects using changes in market prices in the absence of individual events where unexpected information is released.

We therefore use votes on Say-on-Pay proposals at annual meetings as a quasi-experimental setting. Our sample includes 250 cases of proposals to adopt the Say-on-Pay policy filed with the SEC by shareholders of S&P 1500 firms between 2006 and 2010.[2] We use a regression discontinuity design that compares

[1] In particular, there is no evidence (causal or non-causal) on the mid- to long-term performance effects of Say-on-Pay. There is some mixed evidence on the market response from event studies as well as on its effects on and interaction with compensation (e.g. for the U.S.: Cai and Walkling, 2011 and Larcker, Ormazabal and Taylor, 2011; for the U.K.: Ferri and Maber, 2010).

[2] Note that we study the votes to adopt the policy. If the policy is adopted, shareholders vote on the relationship between CEO pay and performance in subsequent meetings.

the stock market reaction and other outcomes of Say-on-Pay proposals that pass by a small margin to those that fail by a small margin (similar to Mas and Lee, 2012, or in an event-study setting to Cuñat, Gine and Guadalupe, 2012). The intuition behind this strategy is that the characteristics of firms where a Say-on-Pay proposal passes with 50.1% of the vote will be similar to those where it gets 49.9% and fails to pass. However, this small difference will have a major impact on the probability of the proposals being implemented. In other words, for a 'close call', passing is akin to an independent random event that is correlated with the implementation of the proposal but is 'locally' exogenous (uncorrelated with other firms' characteristics). We show that for votes around the threshold, passing is uncorrelated with the observed firm and meeting characteristics. Moreover, when studying the stock market reaction, it is precisely in such close-call situations that the vote contains substantial information — switching from an unpredictable outcome to either pass or fail— that is not already fully incorporated in the stock price. Thus the regression discontinuity design delivers a causal estimate of the expected value of adopting Say-on-Pay.

We find that Say-on-Pay significantly increases shareholder value. On the day of the vote, a Say-on-Pay proposal that passes yields an abnormal return of 2.4% relative to one that fails. Since the outcome of the vote is not binding, the market reaction should only account for the increase in the probability that the proposal will be implemented after a positive shareholder vote. We collected information on whether each proposal in our sample was implemented, and find a 52.5% higher probability of implementation for proposals that narrowly pass the threshold, implying that Say-on-Pay will deliver an increase in shareholder value of about 4.6%. This is of the same order of magnitude as removing two anti-takeover provisions (as estimated in Cuñat, Gine and Guadalupe, 2012).

Where do these large market gains come from? In principle, there are two distinct channels through which a Say-on-Pay policy can improve firm

performance. First, by giving shareholders a mechanism through which to express their opinions, it increases board monitoring and pressure on the CEO, potentially leading to enhanced performance. Second, Say-on-Pay can potentially affect the level and structure of executive pay, such that there is a greater alignment with performance.

Our results confirm that Say-on-Pay has a strong positive impact on firms' accounting and operational performance in the years following the vote (that is, beyond the short-term market reaction). Firms that implement Say-on-Pay have higher growth in earnings per share, return on assets, return on equity and Tobin's Q one year after the vote. They also see a higher increase in productivity (sales per worker) one year and two years after the vote. And they also reduce their overheads (SG&A) and capital expenditure, suggesting increased efficiency along different dimensions. In short, there is overwhelming evidence of efficiency and profitability gains achieved through the implementation of Say-on-Pay proposals.

The effects on executive compensation are smaller. We find no systematic change to the level or structure of CEO compensation, or to the probability that the CEO leaves the firm after a positive Say-on-Pay vote. There is a slight reduction (four percent) in the rate of salary increases. While there are significant changes in the composition of pay, these are not consistent across measures or over time. No systematic pattern in changes to compensation is apparent, although the lack of an average effect on the level or structure of compensation may mask the fact that different firms adjust compensation along different (and maybe opposing) dimensions. In short, the claim that Say-on-Pay leads to large, across-the-board reductions in executive compensation is ruled out.

In sum, our findings suggest that Say-on-Pay serves to monitor and incentivize CEOs to deliver better firm performance by providing a clear mechanism for shareholders to voice their opinions, as confirmed by major improvements in

shareholder value and firm performance among the firms in our sample.[3] These results, together with the strong opposition of executives to adopting such measures, suggest that current governance structures in the U.S. give insufficient voice to shareholders of large corporations.

Given the evidence that Say-on-Pay significantly benefits shareholders, why don't all firms embrace it? One possibility is that the positive effects are confined to firms in our sample which proposed to adopt Say-on-Pay – and hence the returns to implementing the proposal were largest (regression discontinuity yields, by design, a local estimate). Within our sample firms management is systematically opposed to Say-on-Pay, while our results suggest that where the proposal narrowly failed shareholders would have benefited from it passing. This suggests a fundamental misalignment of objectives between management, boards and shareholders, as well as the shareholders' inability to bring about change.

Our findings may be useful to determine the appropriate role of government regulation and shareholder activism in shaping corporate governance structures. Say-on-Pay is compulsory in the Netherlands, Norway, Switzerland and the UK. In the US, the controversy around Say-on-Pay continues. While the Dodd-Frank Financial Regulation Act made Say-on-Pay compulsory as of 2011, the Jumpstart Our Business Startups (JOBS) Act of 2012 eliminated the requirement for firms with gross annual revenues of less than $1 billion. Since this paper provides evidence that Say-on-Pay (and more broadly giving shareholders a greater voice) has substantial positive effects on firm value and performance, it should help to guide the debate.

[3]The main difference between firms in the sample (those targeted by a Say-on-pay vote between 2006 and 2010) and the rest of the S&P 1500 firms is size. Firms in the sample are clearly larger (in sales and employment), but the difference in operating ratios or other variables is significantly reduced or disappears once size is controlled for. This is consistent with the findings in Cai and Walkling (2011).

2. Background

2.1. Say-on-Pay Policies

Say-on-Pay policies are the result of a general trend towards requiring greater executive accountability, transparency, and shareholder rights. They have emerged following an increase in the number of shareholder proposals on compensation-related matters submitted to a vote at annual meetings (see Ertimur, Ferri and Muslu, 2011 for an analysis of shareholder activism and pay).

Our data consists of 250 shareholder proposals filed with the SEC between 2006 and 2010, to give shareholders an advisory vote on executive pay (see Table 1). Firms that adopt Say-on-Pay commit to giving shareholders a regular vote on whether executive pay is commensurate with firm performance. Companies such as Motorola, Target, Raytheon and Pfizer were all 'targets' of Say-on-Pay proposals in that period.[4] It was this increasing focus on Say-on-Pay in the U.S. culminated with its incorporation in the Dodd-Frank Act (July 2010) that regulates the governance and disclosure practices of public companies. Among other provisions, it gave shareholders the right to a regular advisory vote on current and future executive compensation. As of 2011 this has been mandatory for all U.S. listed firms.[5]

Proponents of the bill claim that Say-on-Pay strengthens the relationship between the board, executives and shareholders, ensuring that board members fulfill their fiduciary duty. Critics insist that Say-on-Pay does not effectively

[4] A noteworthy case was the Verizon Say-on-Pay proposal in 2007, which was approved by a narrow majority of 50.18%. The board decided to implement it starting in 2009. Shareholders gave the following rationale for proposing to adopt Say-on-Pay at Verizon: "We believe that the current rules governing senior executive compensation do not give shareholders sufficient influence over pay practices — nor do they give the Board adequate feedback from the owners of the company". This suggests increased voice, in the form of increased "feedback" and "influence" was an important goal of the proposal. The proposal also stated that Say-on-Pay would "...encourage shareholders to scrutinize the new, more extensive disclosures required by the SEC," suggesting that the incentive for shareholders to monitor increases when they have better tools to take action (a recurrent argument in Hirschman, 1970).

[5] The Dodd-Frank Act required an additional vote regarding the frequency of the compensation approval vote: to occur every 1, 2, or 3 years.

monitor compensation, and is an intrusive measure that undermines the board's authority.

On average, shareholders voted 43% in favor of adopting Say-on-Pay proposals (Table 1). This is larger than the average vote on corporate governance shareholder proposals (36%) and relative to all other compensation proposals (23%).

2.2. Expected effects of Say-on-Pay

Given that Say-on-Pay votes are non-binding, it could be argued that it should have no effect on executive or director behavior, and hence firm outcomes. However, given the potential costs associated with it (e.g. legal costs, cost of managing the relationship with investors), the net effect of putting Say-on-Pay in place may well be negative even if it has no effect on behavior. It may be detrimental in other respects. For example, since the board of directors is more informed (about the company) than the average shareholder, it should be better placed to make decisions. Likewise, directors (and CEOs) may have access to information that is best withheld from the market; restricting their freedom to decide may be value-destroying for shareholders.

There are a number of channels through which Say-on-Pay may positively affect firm performance. A popular view is that Say-on-Pay curbs excessive executive pay, although the potential gains from the point of view of shareholder value are modest relative to total firm value. A slightly different mechanism operates via a better alignment of pay with performance: any improved incentives resulting from Say-on-Pay should make CEOs more effective at generating higher profits. Say-on-Pay allows shareholders to express dissent. Where adopted, it becomes an established part of the votes that shareholders cast at annual meetings (along with the election of directors and other governance votes, for example).

Since it is the only regular vote on the link between pay and performance, it is akin to a referendum or vote of confidence in the CEO – empowering shareholders by providing a mechanism through which they can punish a CEO for poor performance. Even though the outcome of the vote is purely 'advisory' (rather than binding), it aggregates shareholder opinion into a simple, visible metric and may serve to coordinate further action to remove management or board members. It gives shareholders a "voice" (Hirschman, 1970) with which they may discipline managers, making their monitoring (and the incentive to monitor) more effective.

2.3. Related Literature

Empirical evidence on Say-on-Pay in the U.S. provides mixed results. Cai and Walkling (2011), using an event study methodology, find that the Say-on-Pay bill passed in the House of Representatives in April 2010 created value for firms with inefficient executive compensation and with weak governance. However, they find that the announcement of shareholder Say-on-Pay proposals between 2006 and 2008 had a negative effect on share price, and a positive effect when the proposal was defeated. Larcker, Ormazabal and Taylor (2011) examine a broader set of legislative events on several aspects of pay (including Say-on-Pay) and found no consistent pattern in market reactions to such events. Ferri and Maber (2013) examine the implementation of Say-on-Pay regulation in 2002 in the United Kingdom and find, also in an event study setting, a positive market reaction to the regulation in firms with weak penalties for poor performance.

One possible reason for these mixed findings is that with standard event study methodologies the event date can be confounded by various items or news and information being released to the market on the same date. As discussed below, our estimation strategy (the regression discontinuity design) deals with this

problem and actually estimates a causal effect.

Ferri and Maber (2013) examine the effect of the U.K. Say-on-Pay regulation on pay *ex-post* and find some evidence that it increased the sensitivity of CEO pay to poor accounting performance (but not to stock performance), that is, it curbed the "pay for failure" scenario. To date, however, there is no evidence on the impact of Say-on-Pay on the detailed components of pay in the U.S. or on long-term firm performance in any of these countries.

3. Data and identification strategy

3.1. Data description

We obtained data on Say-on-Pay proposals from Riskmetrics. The dataset includes information on all the proposals voted on in the S&P1500 universe and an additional 500 widely held firms. Our sample consists of 250 shareholder-sponsored proposals voted on at annual meetings from 2006 until the 21st of July of 2010 to implement Say-on-Pay provisions.[6] Riskmetrics provides information on the company name, the date of the annual meeting and the percentage of votes in favor of the proposal[7].

Panel A of Table 1 shows the distribution of proposals by year and some vote statistics. The number of voted proposals increased throughout the period as well as the proportion of votes in favor. As a result the percentage of proposals passed increased from 15% in 2007 to 25% in 2010. Our identification strategy relies on proposals with a close-call outcome. More than half of the proposals in our sample fall within ten percentage points of the majority threshold and lend power

[6]The end date of the sample is chosen to match the date in which the final bill that makes Say-on-Pay compulsory was signed. The last observation in the sample corresponds to the 11th of June of 2010. Actually, 258 proposals were filed with the SEC in the sample period, but throughout the paper we drop four observations with extreme abnormal returns (firms above the top and below the bottom 1%) on the day of the vote, as well as those with missing abnormal returns on the day of the vote. This leaves us with a sample of 250 observations.

[7] Two observations were reported to have exactly 50% of the votes in favor, so we checked whether they were considered to have passed and they did not. We therefore code them as "fail" with 49.9% of the vote.

to our identification.

We used additional information from a number of sources: security prices from CRSP were used to calculate daily abnormal returns with a standard OLS model and also with the three Fama-French factors plus a momentum factor as in Carhart (1997).[8] Financial information came from Compustat and executive compensation from Execucomp. Table 2 presents descriptive statistics of our sample and defines all the variables used in the paper.

3.2. Identification strategy

We are interested in the impact of passing a Say-on-Pay proposal on an outcome variable for firm *f* at time *t*, y_{ft} (this can be the stock market reaction or subsequent performance and pay policies). We define v_{ft} as the votes in favor of a Say-on-Pay proposal, v^* as the majority threshold for a proposal to pass and an indicator for pass as $D_{ft} = 1(v_{ft} \geq v^*)$, and write:

$$y_{ft} = K + D_{ft}\,\theta + u_{ft} \quad (1)$$

The effect of interest is captured by the coefficient θ, while the error term u_{ft} represents all other determinants of the outcome ($E[u_{ft}] = 0$). However, this regression is unlikely to give a consistent estimate $\hat{\theta}$, for instance because passing a proposal is correlated with omitted variables that are themselves correlated with y_{ft}, or in the presence of reverse causality, such that $E(D_{ft}, u_{ft}) \neq 0$.

To obtain a causal estimate of the effect of Say-on-Pay proposals we use a regression discontinuity estimate, which exploits the fact that in an arbitrarily small interval around the discontinuity (the threshold v^*) whether the proposal passed or failed is akin to a random outcome. Lee (2008) shows that as long as there is a (possibly small) random component to the vote, the assignment to

[8]The estimation period is 200 days, ending two months prior to the event date.

"treatment" (pass and $D_{ft} = 1$) and "control" groups (fails and $D_{ft} = 0$) is random around the threshold. A simple nonparametric way to estimate $\hat{\theta}$ is therefore to measure the difference in average y_{ft} between Say-on-Pay proposals that either pass or do not by a narrow margin of votes. This is an unbiased estimate of θ that can be interpreted as causal. However, a more efficient way to estimate the effect consists of fitting a flexible function that captures the continuous relationship between y_{ft} and v, allowing for a discontinuous jump at the discontinuity v^*. Following Lee and Lemieux (2010), we approximate the underlying relationship between y_{ft} and v_{ft}, with two different polynomials for observations on the right-hand side of the threshold $P_r(v_{ft}, \gamma^r)$ and on the left-hand side of the threshold $P_l(v_{ft}, \gamma^l)$, and we also include year dummies α_τ:

$$y_{ft} = D_{ft}\,\theta + P_r(v_{ft}, \gamma^r) + P_l(v_{ft}, \gamma^l) + \alpha_\tau + u_{ft} \quad (2)$$

The polynomials $P_r(v_{ft}, \gamma^r)$ and $P_l(v_{ft}, \gamma^l)$ capture any continuous relationship between y_{ft} and v_{ft}, in particular, the effect of any confounding factors that are correlated both with the vote and firm characteristics in a continuous way.[9] At the same time, θ captures the discrete changes in y_{ft} at the majority threshold, and is a consistent estimate of the causal effect of the passing of a proposal on y_{ft}.[10] This procedure is a more efficient way to estimate the effect than a simple comparison of means around the threshold as all the observations participate in the estimation. The estimate of θ captures the weighted average

[9] Note that we are considering other events at the annual meeting as part of the regression noise. This is correct as long as other unexpected events are not correlated with a close-call pass or fail. We confirmed that a close-call pass on Say-on-Pay does not predict whether a close-call vote on other proposals in the same meeting will pass or fail. An alternative approach is to estimate a discontinuity model for all the proposals in a meeting simultaneously, as in Cuñat, Giné, Guadalupe (2012). The results for this method yield very similar results as can be seen in Table A3. For simplicity and parsimonia we use the simpler specification of equation (2) throughout this paper.

[10] Note that in practice, given that Say-on-Pay proposals are not binding, we are in a "fuzzy discontinuity design" setting and are estimating an Intent to Treat effect. To obtain the Treatment on the Treated, we could instrument whether the proposal is implemented with the vote outcome. However, as we show in Section 4.2, while discontinuous at the threshold, the vote does not predict implementation with strong enough significance to have a good first stage. Hence the paper shows Intent to Treat effects, although we provide an estimate of the treatment on the treated for the market value response by rescaling the ITT effect by the probability of implementation as a function of the vote.

effect across all firms, where more weight is given to those firms in which a close election was expected. We chose a polynomial of order three to each side of the discontinuity after checking that the results were robust to using polynomials of order four and five.[11]

Note that the combination of a regression discontinuity design with an event study setting has some additional desirable properties that are absent from traditional event studies. First, to the extent that the market can predict the vote, votes that win or lose by large margins will already be incorporated into prices prior to the vote and hence we should expect no significant price reaction far from the discontinuity. The closer the actual vote is to the discontinuity, the higher the ex-ante uncertainty that is resolved by the outcome of the vote (whether the proposal effectively passes or fails). Hence we expect the largest market response around the discontinuity. In fact, how fast the abnormal return becomes zero as a function of the distance to the threshold is an indication of the precision with which the market was able to predict the vote. Second, the prior expectations of the market about the implementation of the proposal are identical on both sides of the discontinuity, so the combination of an event study with a regression discontinuity design naturally takes care of any anticipated events prior to the vote.[12]

3.3 Sample characteristics, external validity and pre-existing differences

In this section we investigate two selection issues that are important to understand the scope and external validity of our results. The first is to assess

[11] The order of the polynomial has to be chosen to balance having a function that is flexible enough to capture the effect of any omitted variables that are continuous at the threshold and the loss of degrees of freedom.

[12] Cuñat, Giné, and Guadalupe (2012) give a more detailed account of these properties and show that the regression discontinuity estimate captures the expected value of the proposal (given implementation probabilities) after a positive vote. More generally, they show the conditions under which the value of implementing a proposal can be recovered in an event-study setting from the regression discontinuity estimate.

whether the firms in our sample are representative of a broader population of firms. To do so we compare firms with a Say-on-Pay proposal in our sample to the general population of S&P 1500 firms. The second relates to the selection of firms within our sample into treated and non-treated firms. To the extent that the exact vote outcome around the threshold is random, our identification strategy implies there is no selection into treatment around the discontinuity, that is, firms that pass a Say-on-Pay provision by few votes should ex-ante be comparable to firms that reject a Say-on-Pay provision by a small margin. We run a number of tests to evaluate the validity of this assumption.

First, since the Riskmetrics sample only includes the subset of firms targeted by votes on Say-on-Pay, we compare those to the population they are sampled from (S&P 1500 firms). Appendix Table A1 presents detailed summary statistics of firm characteristics for firms in our sample as well as for the universe of S&P1500 firms both in 2005.[13] A systematic difference between them appears to be firm size. Larger firms are significantly more likely to hold a Say-on-Pay vote: they have higher total market value, more employees, higher total CEO pay and less dispersed ownership[14] – all characteristics of large firms. As is common among larger firms, they also have higher leverage and, accordingly, return on equity. However, once one looks at other profitability ratios that control for size and leverage the differences become smaller or disappear (as is also shown in Cai and Walkling, 2011). Similarly, total annual CEO pay is larger in our sample relative to the whole of Execucomp (average of $11m and $5m respectively).

[13] We restrict the comparison to 2005 to avoid that the year stratification or the effects of Say-on-Pay could drive the results.

[14] In the bottom panel of Table A1 one can see the typical structure of votes in our sample. Institutional investors have on average 72% of the votes, although these are quite dispersed among them. There are on average two shareholders with holdings above 5% and the top five investors accumulate on average 21% of the votes. In none of our observations do the top 5 shareholders accumulate enough votes to constitute a majority of votes. On average, a substantial number of votes are held by dispersed shareholders, which reduces the ex-ante predictability of the vote.

However, if we compute the residual of total CEO pay after controlling firm size (assets) and market returns (through second order polynomials by industry level in those variables -- variable labeled "abnormal pay" in Table A1) the difference in pay drops to $1m and it is not statistically significant. While these differences do not bias our estimate of the treatment effect, they have to be taken into account when generalizing the results to a broader population of firms.

Second, in Appendix Table A2 we investigate whether there are any systematic pre-existing differences between those firms that pass Say-on-Pay and those that do not. We find some differences when we compare all firms that pass Say-on-Pay to all those that do not, indicating that the decision to adopt Say-on-Pay is endogenous to firm characteristics. However, these differences mostly disappear around the discontinuity, i.e. when we estimate specification (2) using firm characteristics prior to the vote as the dependent variable (a detailed discussion of the table can be found in the Appendix). This absence of observable differences around the discontinuity lends support to our identification strategy.

Finally, we analyze the distribution of shareholder votes. Figure 1 shows the distribution of votes within the sample. First, the average and median vote is slightly below the majority threshold, but 64% of the observations fall within 10 percentage points of the majority threshold. This implies that our regression discontinuity coefficient is estimated from a large and significant share of the actual votes and hence can be thought of as representative of the effect of Say-on-Pay on the average firm in our sample. Second, Figures 1 and 2 show that the distribution of votes is continuous at the 50% threshold, suggesting that there is no strategic voting or withdrawal of proposals for close-call votes. [15]

Overall, this section shows that the assumptions behind our identification

[15]The formal continuity test in Figure 2 (see McCrary 2008) rejects the discontinuity of the distribution at the majority threshold. Cuñat, Giné and Guadalupe (2012) show a similar lack of strategic voting for all shareholder-sponsored proposals, while Listokin (2008) documents that strategic withdrawal of proposals is a real issue for management-sponsored proposals (which implies this analysis should not be done on management proposals).

strategy — continuity of votes at the majority threshold and lack of preexisting differences in the neighborhood of pass — do hold and allow us to estimate a clean causal effect. It also shows that the main distinguishing difference between firms in our sample and the sampling universe is firm size, which should be taken into account when generalizing the results to a broader population of firms.

4. Results

4.1. The effect of Say-on-Pay on abnormal returns

To evaluate the impact of Say-on-Pay provisions on shareholder value we first examine the market reaction to passing a Say-on-Pay proposal. Table 3 reports estimates of the difference in abnormal returns between Say-on-Pay proposals that pass and those that do not. Columns 1 to 5 present non-parametric estimates. To isolate the causal effect of Say-on-Pay on value, under our identification strategy, we estimate θ as the difference in abnormal returns between proposals that pass and those that do not pass for increasingly small intervals around the majority threshold. Column 1 estimates are based on the whole sample. As expected, we find that there is no difference, on average, between proposals that pass and those that fail (a small point estimate of -0.00210 that is not statistically different from zero) reflecting that for proposals that pass or fail by a large margin, the market has already incorporated the expected vote outcome in prices. Columns 2 and 3 restrict the sample to within ten percentage points and five percentage points of the threshold, respectively. As we narrow the margin of votes around the pass threshold, we begin to see a small increase in the estimates, though the standard errors are still large. For votes within two and half percentage points of the threshold (column 4), we observe an estimate of 1.39% abnormal return that is significant at the 5% confidence level. Finally, if we narrow the window to within one and half percentage points, we observe that the estimate still follows an

increasing pattern, reaching a statistically significant abnormal return of 1.88%.

Column 6 shows the regression for equation (2) for the entire sample, when we allow for a discontinuous jump at the majority threshold, but we control for two polynomials of order three in the vote share on each side of it. The results are consistent with the non-parametric ones: the abnormal return of firms that pass a Say-on-Pay proposal is 2.4% higher than for firms that do not pass such proposals. The point estimate in column 6 is larger and more precisely estimated than that in column 5, but the two estimates are not statistically different.

Panel B of Table 3 shows the same set of regressions using as an alternative benchmark the four factor model. We find a similar pattern of increasing estimates as we narrow the interval around the threshold. When fitting a polynomial on each side of the threshold we obtain an estimate of the differential abnormal return of 1.76%, which is statistically significant at the 5% level.

Another way of visualizing these results is to plot the abnormal returns on the day of the meeting. Figure 3 shows the impact of passing Say-on-Pay proposals on abnormal returns on the day of the vote. The daily abnormal returns were calculated from CRSP using the Market model for Figure 3 (results are similar with the four factor model). The graph plots the smoothed average daily abnormal return for the day of the meeting (t = 0) when the information of the vote is revealed. The X-axis reflects the margin of victory (the vote share minus the threshold for that vote). On the day of the vote, Say-on-Pay proposals that pass by a small margin have positive abnormal returns and comparing those to proposals that fail by a small margin gives us the differential effect of passing such proposals on abnormal returns. For votes further away from the threshold the abnormal return is indistinguishable from zero. One could be concerned that outliers could drive the shape of the figure, in Figure 4 we replicate the exercise: each point in the graph computes median (instead of mean) abnormal returns of

the 20 nearest vote outcomes and shows very similar results.[16]

In our data, proposals that pass with a very small margin of victory (up to 3%) have a positive abnormal return, and this decreases sharply with the distance to the threshold, suggesting that the market is able to predict votes that pass by large margins. Similarly, proposals that fail by a small margin have a negative abnormal return, and the return is decreasing in the vote share to the left of the threshold.

Even if a substantial part of the information about the vote is released on the day of the meeting, we explore any further gains (or potential reversals) beyond the day of the vote.[17] Table 4 reports the regression for equation (2) where the outcome variable y_{ft} denotes abnormal returns computed in different event windows around the day of the vote. We use the entire sample of data and a polynomial of order three in the vote share on each side of the threshold. First, in column 1 the dependent variable is abnormal returns the day before the vote. The small and statistically insignificant coefficient indicates that the effect of Say-on-Pay is not foreseen by the market the day before the vote for any of the benchmarks in Panels A and B. Column 2 shows the effect on the day of the vote (identical to column 6 of Table 3). Next, in Column 3 onwards we find that passing a Say-on-Pay proposal delivers abnormal returns beyond the day of the vote. Column 3 shows the impact on a two-day window that includes the day of the vote and the following day. The coefficients are 2.4% for the market model and 2.1% for the four factor model, which are close to the ones on the day of the vote and statistically significant. Column 4 displays a similar estimate for the two-week window: 2.5% for the market model and 2.4% for the four factor model.

[16]Each point in the y axis represents the median abnormal return (on the day of the vote) of the ten nearest votes along each side of the x axis. The discrete jumps in the graph correspond to changes in the median observation as the window changes. The advantage of this approach is that the results are not sensitive to the presence of outliers or driven by a few observations.

[17] Say-on-Pay proposals are closely followed by the media. Moreover, a variety of channels such as newswires and real-time broadcasts disclose the vote outcome on the day of the annual meeting.

Finally, Column 5 shows growing estimates of 5.2% and 7.2%, for cumulative returns up to six weeks; indicating that there is no reversal six weeks after the vote. Standard errors are much larger (and estimates not significant) in longer windows, since there are many other events driving stock prices and creating noise, although the fact that there is no reversal in the estimated coefficients suggests that the Say-on-Pay effect is persistent.

Overall, we find that the large positive market reaction to passing a Say-on-Pay proposal is sustained and even increases following the vote. The results are similar when controlling explicitly for all the other governance proposals voted on in the annual meeting (See columns 1 and 3 of Table A3), and also when we use a dynamic RD estimator that includes other proposals and estimates the effect of the vote on all periods simultaneously (see Columns 2 and 4 in Table A3).[18] This confirms that the vote outcome of other proposals is not systematically related to the outcome of the Say-on-Pay vote around the discontinuity, such that we can use throughout the simpler specification of Equation (2). In the following sections we go beyond the stock market reaction and explore the different channels that may be driving this market reaction.

4.2. Implementation

This section documents how much the implementation probability of a Say-on-Pay proposal changes at the vote majority threshold, with three main objectives in mind. Firstly, given that the vote outcome on shareholder proposals is typically non-binding it is important to establish whether passing a proposal has an impact on implementation. Secondly, our identification strategy relies on a discontinuity (a discrete change) in the implementation probability of a Say-on-Pay proposal at

[18] The methodology of the in Table A3 follows closely Cuñat, Giné and Guadalupe (2012).

the majority threshold, so it is important to explicitly test for this assumption. Finally, while we have established the market reaction to passing a proposal, this market reaction takes into account the fact that proposals will be implemented with a certain probability. In order to estimate the actual value of implementing a Say-on-Pay proposal we need to re-scale the market reaction, dividing by the discrete jump in the probability of implementation around the vote threshold between passing and not passing.

We collected complete implementation data from SEC filings for all voted proposals in our sample. The graph in Figure 3 illustrates the empirical probability of implementing a proposal using a flexible function of the vote on each side of the discontinuity.[19] The probability of implementation increases almost monotonically in the vote share, but we observe a discrete jump at the majority threshold. Table 5 estimates the size of the jump at the discontinuity. Column 1 shows that for the whole sample, a proposal that passes has a 52.5% higher probability of being implemented than one that does not. This is an average estimate for all vote outcomes, whereas we seek to estimate whether the probability of implementation changes just around the discontinuity. To do so we replicate the analysis in Table 3 and estimate how passing a proposal changes the probability of implementation for increasingly small vote intervals around the majority threshold. Intuitively, passing should lead to a lower differential probability of implementation as we narrow the interval. However, around 1.5% of the majority threshold (Column 5), the differential probability of implementation is still quite high (45.8%) and statistically significant. Column 6 displays the full model given by equation (2) and estimated using a polynomial in the vote share of order three on each side of the threshold: We obtain a very similar coefficient of 52.5%, significant at the 5% significance level.

[19] In particular, we use an average kernel smoother with a bandwidth of approximately 20 observations.

With this estimate of the probability of implementation in hand we can provide a back-of-the-envelope estimate of the value of a Say-on-Pay proposal. Using the abnormal returns from Table 3 of 2.4%, and re-scaling by a probability of implementation around the threshold of 52.5%, the value of a Say-on-Pay proposal is estimated to be about 4.6%.[20]

4.3. The effect of Say-on-Pay on firm outcomes

We have established that the market reaction to passing a Say-on-Pay provision is positive. This may reflect market perceptions of the potential cost-savings and managerial efficiency gains as a result of the Say-on-Pay provision. As described in Section 2, there are at least two channels by which Say-on-Pay can deliver better firm performance: first, through a stricter alignment of pay with performance; second, through more efficient monitoring and the risk of the CEO being dismissed if the vote does not pass. Given that a negative outcome on the subsequent Say-on-Pay votes sends a very negative signal, the CEO may change behavior out of concern for his/her career. In this section we evaluate the effects of Say-on-Pay proposals that may result from closer monitoring and better contractual incentives.

Tables 5 and 6 show the impact of passing a Say-on-Pay proposal on variables that capture firm profitability, long-term performance and other real outcomes. Each cell corresponds to a different regression that measures the effect of passing a proposal at the discontinuity. We again use the identification strategy given by equation (2) with third order polynomials on each side of the majority threshold. Each column corresponds to a different dependent variable y_{ft} and each panel to a

[20] This re-scaling gives an approximation of the actual effect of implementation. It is equivalent to the point estimate of an IV regression. Although within our sample we cannot estimate the first stage of an IV regression with enough precision, we show in Table 5 that the jump in implementation is statistically different from zero. This is consistent with the previous governance literature that also finds that there is a jump in implementation at the majority threshold of non-binding shareholder proposals.

different year-to-year effect.

We denote as year *t* the year in which the Say-on-Pay proposal is voted. Annual meetings are held between two fiscal year ends, which is when the variables used in this and the following sections are recorded.[21] Therefore we define the time periods such that there are at least six months between the annual meeting when the vote is held and fiscal year end *t*. This means that the change between *t* and *t* -1 includes some pre-treatment months and at least 6 of the first post-treatment months. The dependent variables in the first panel measure changes in the variables from *t-1* to *t*. In the second they measure changes from the end of the year of the vote *t* until the first full year after the Say-on-Pay vote (*t+1*). Variables are winsorized at the 5% level.

Table 6 reports the effect of passing a Say-on-Pay proposal on commonly used profitability measures. We define the dependent variables in this table as changes within the firm to identify the within-firm effect of Say-on-Pay. Overall, Table 6 shows that there are no significant effects of Say-on-Pay between *t-1* and *t*, but significant increases in profitability between *t* and *t+1*. More specifically, firms passing Say-on-Pay have $3.5 higher earnings per share, a 5.8% higher return on assets, and a 5.1% higher return on operating assets between *t* and *t+1*. All these effects are significant at 1% and economically quite large, which is consistent with the large market value effects found earlier. They also have higher Tobin's Q (0.13) and return on equity (0.11), although these are not significant at standard levels.

How is this better performance attained? In Table 7 we examine measures of firm strategy and performance beyond earnings to understand the mechanisms through which performance improves. Again, we find that there are few significant changes between *t-1* and *t* (only an increase in employment that is not

[21] Most of the proxy season takes place between April and June - 88% of the proposals in our sample take place before June.

sustained the following period), and that most of the significant improvement occurs between *t* and *t+1* and is sustained thereafter. The most striking result is that we find a 21.6% and highly significant higher increase in labor productivity (defined as the growth in sales per worker) in firms that pass Say-on-Pay between *t* and *t+1* (Column 1). Column 2 finds no significant drop in employment that could be driving this result. Furthermore, in the same period net income grows more, and capital expenditure and overheads (SG&A) drop significantly in firms that pass a Say-on-Pay vote. This suggests that the firm is more efficiently run, since (potentially superfluous) capital expenditure and costly overheads are reduced. In contrast, we found no significant changes in other firm policies such as leverage. Interestingly, total payout (dividend and share repurchases) grows by 1.8%, although this is not statistically significant at conventional levels.

In sum, CEOs and executives seem to be reacting the Say-on-Pay provision by delivering better earnings and returns to shareholders. This performance improvement is accompanied by better productivity ratios, higher net income growth, a reduction in overheads, and lower rates of increases in capital expenditure. Say-on-Pay provisions seem to push CEOs to deliver stronger performance: they cut costs while increasing productivity. The economic magnitude of our estimates on performance is quite large, which suggests that the changes in behavior accompanying Say-on-Pay around the threshold are significant and consistent with the market value response, although we cannot rule out that some of these effects are short lived or the result of earnings manipulation. Moreover, since these are local effects by design there is a problem of extrapolation – whether we can expect such large effects to apply to firms outside our sample or far from the discontinuity. However, at the very least our results suggest that firms where proposals failed by a small margin would have benefited greatly from it passing.

4.4. The effect of Say-on-Pay on CEO compensation

The main objective of Say-on-Pay proposals is to improve the alignment of CEO incentives with firm objectives. In this section we examine whether passing a Say-on-Pay proposal has an impact on the level and on the incentive structure of CEO pay.

In Table 8 we report the effect of Say-on-Pay at the discontinuity threshold on changes in different elements of CEO compensation. We measure all the monetary variables in percentage growth rates, so that the effects we report can be interpreted as the differential growth in the variable between firms that approve or reject Say-on-Pay by a close margin. Column 1 reports the effect on total CEO compensation. Although the coefficients are negative, we do not observe a statistically significant change in the growth rates of CEO compensation in the two years following the passing of a Say-on-Pay proposal. Column 2 reports the effect of Say-on-Pay on the probability of CEO turnover. If Say-on-Pay proposals induce better shareholder monitoring, they may increase the probability of turnover. On the other hand, CEOs may respond by performing better, offsetting the increased monitoring and lowering the chance of being dismissed. The estimates for the effect on the probability of turnover are negative but not significant, so CEO exit is comparable between firms that pass Say-on-Pay and those that do not (one cannot accurately distinguish between voluntary and forced departures with the existing data).

Next we look into the changes on CEO compensation within firms that do not change their CEO. Column 3 reports a similar pattern to Column 1, and the estimates are again not statistically different from zero. Taken together, the results in Columns 1 to 3 show no significant effects of Say-on-Pay on total CEO compensation or turnover.

We now turn to the different components of CEO pay. Column 4 reports the

impact of passing Say-on-Pay on changes in salary: the rate of increase in salary is 4.4% lower one year after the passing of the Say-on-Pay proposal. This is in line with the effort to reduce the amount of compensation that is not sensitive to performance. Column 5 reports the effect on increases in variable compensation (granting of stock, options and bonus) and shows no particular differential pattern between firms that pass Say-on-Pay proposals and those that do not. Columns 6 to 8 focus on options and stock. The results suggest a statistically insignificant decrease in the growth of the option portfolio (column 6), the stock portfolio (column 7) and the delta of the stock and option portfolio in the period (i.e. its sensitivity to firm value) immediately following the vote, followed by a significant increase in those three variables between t and $t+1$.[22] This suggests there is no clear reaction in one direction for these components following the Say-on-Pay vote. (Note that the increase in performance-pay sensitivity could be induced by higher grants of options and shares, or more 'mechanically' through changes in the share price of firms).

We also explicitly evaluate changes in the structure of pay. All dependent variables in Table 9 are calculated as the change in the share of each pay component (stock awards, option awards, bonus, perks and deferred earnings) in total compensation (as measured in Execucomp by tdc1). In column 1, if anything, we see a decrease in the share of stock awards (a 9.1% decrease in the first period, significant at 10%, and a further 9% in the following period, although the latter is not significant). The share of option awards shows positive but not significant coefficients, casting some doubt on whether the results in Columns 6 and 8 of Table 8 reflect a conscious strategy of firms or simply a change in the value and option deltas of pre-existing option packages. There are no clear significant patterns with respect to bonus awards.

[22]The total delta of the portfolio measures the change in the dollar value of the stock and option portfolio per dollar change in the value of the firm stock and is calculated following Core and Guay (1999).

Finally, we find no effect in the share of compensation that is defined as perks and could be interpreted as private benefits (Column 4), nor in deferred compensation.

Overall, the results in this section show no systematic or sustained effects of Say-on-Pay on CEO compensation. Total pay does not change (other than a small decline in salary), and the different components of compensation do not change in an identifiable and consistent manner. While some results might be suggestive of a shift from fixed pay to more variable pay (consistent with the stated objectives of most Say-on-Pay proposals) this conclusion is not robust across different measures. The absence of a significant effect on pay levels or pay structure can result from Say-on-Pay having no effect on pay, but could also be explained by adjustments in pay packages that are heterogeneous across firms. Even if there is room for improvement in CEO pay packages, the deviation from the optimal contract may vary across firms: If each firm responds in a different way or requires a different treatment, this would induce imprecise estimates of the average effect of Say-on-Pay. In any case, we can rule out the notion that Say-on-Pay systematically curbs compensation across firms.

5. Conclusion

Say-on-Pay constitutes is a useful instrument to study how changes in shareholder voice affect firm value and strategy. The declared role of Say-on-Pay proposals is to improve CEO pay policies and align them with firm performance. As such, Say-on-Pay may affect firm value through better designed pay structures that motivate CEOs. It also lowers the shareholder cost of expressing dissent, and therefore makes monitoring by shareholders more attractive and effective. We have explored the relative relevance of all of these mechanisms that potentially

explain the shareholder reaction to the implementation of Say-on-Pay.

The use of a regression discontinuity design on the outcomes of shareholders proposals to adopt a Say-on-Pay policy allows us to deal with the presence of prior expectations and estimate the causal effect of adopting the policy. We find that adopting Say-on-Pay generates value for shareholders. Say-on-Pay proposals that pass yield, on average, an abnormal return of 2.5% relative to those that fail on the day of the vote. We thus estimate the actual value of a Say-on-Pay proposal to be around 4.6% of firm value, an economically sizeable effect that potentially arises through different channels.

We find that firms that pass Say-on-Pay display stronger performance outcomes. CEOs seem to be reacting to having a Say-on-Pay provision in place by delivering better earnings per share, stronger profitability and higher Tobin's Q. We also find that Say-on-Pay leads to higher labor productivity and reductions in overheads and capital expenditure. In short, Say-on-Pay provisions appear to lead to more efficiency and stronger firm performance.

We find no effect of Say-on-Pay on total CEO compensation. In terms of pay composition, we find significant effects but these are contradictory and there is no systematic pattern. Despite this we cannot rule out the idea that adjustments to pay packages may be heterogeneous across firms. Even if there is room for improvement in CEO pay packages, not all firms necessarily respond in the same way. If each firm requires a different treatment this would induce imprecise estimates of the effect of Say-on-Pay.

Our results confirm that Say-on-Pay is akin to an annual confidence vote in which shareholders approve or reject the CEOs performance relative to pay, that it empowers shareholders by offering a mechanism through which they can punish poor CEO performance, and that firms perform better as a result.

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Figures and Tables

Figure 1: Distribution of Votes

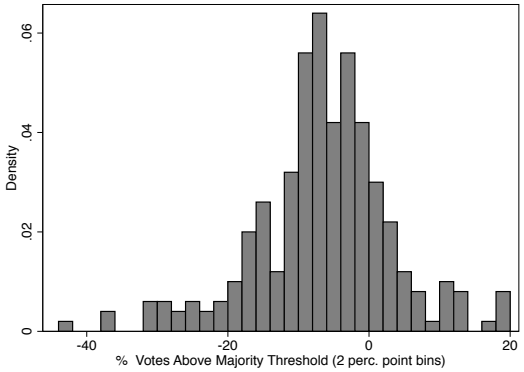

Figure 2: Continuity of Votes

Following (McCrary 2008)

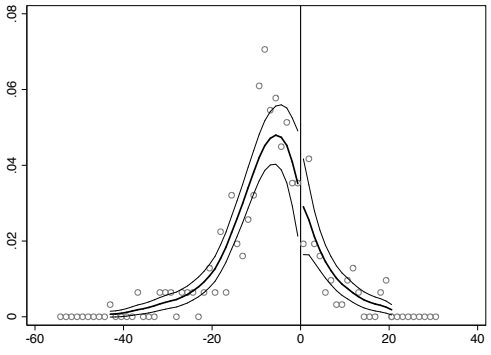

Figure 3: Abnormal Returns - Day of the Vote

Means

Non-parametric regression of market model returns using a tri-cube weight and a bandwidth of twenty observations

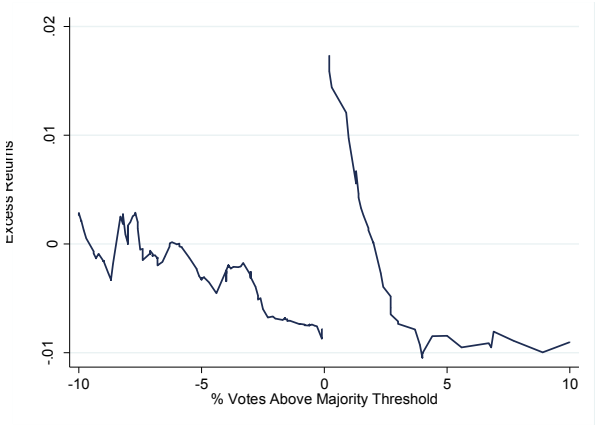

Figure 4: Abnormal Returns – Day of the Vote

Medians

Median returns of market model on a window of twenty observations

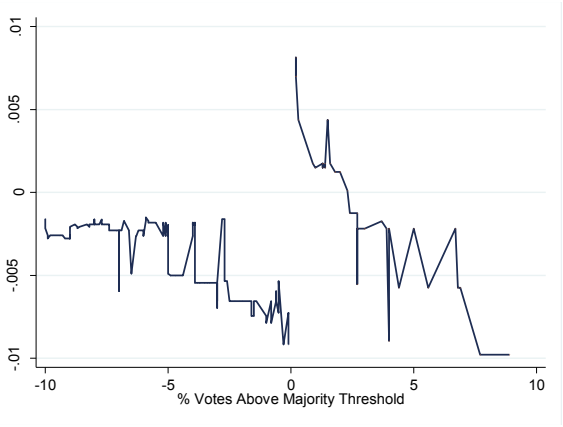

Figure 5: Probability of Implementation

Non-parametric regression of the probability of implementation using a tri-cube weight and a bandwidth of twenty observations

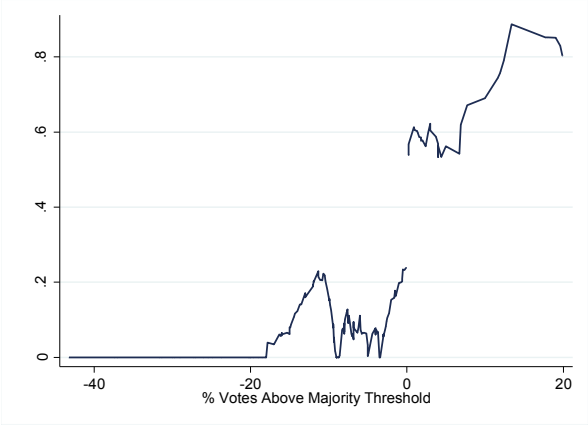

TABLE 1

Shareholder Say-on-Pay Proposals

Panel A displays the frequency of Say on Pay voted proposals, the percent of passed and the average support over time. Data is collected by Riskmetrics on all shareholders Say on Pay proposals from 2006 until 2010 for all S&P 1,500 companies plus an additional 500 widely held firms. For all of our observations the threshold to pass a proposal is 50%.

Panel A. Shareholder Proposal Summary Statistics						
Year	**Voted Proposals**	**Passed Proposals**	**Percentage Passed Proposals**	**Average Vote Outcome**	**# -5, +5**	**# -10,+10**
2006	7	0	0%	40.11	0	5
2007	51	6	11.76%	40.9	13	31
2008	68	9	13.24%	41.35	21	43
2009	78	24	30.77%	45.97	35	54
2010	46	12	26.09%	44.93	19	35
Total	250	51	20.4%	43.33	88	168

TABLE 2
Descriptive Statistics

This table describes the Say on Pay sample. All accounting variables are obtained from Compustat: Market Value (mkvalt_f), Tobin's Q is defined as the market value of assets divided by the book value of assets ((AT-CEQ+mkvalt-txditc)/AT), Earnings per Share (EPS), Return on Equity (NI/(CEQ+TXDITC)), Return on Assets (NI/AT), OROA (Cashflow/Total Assets), Net Income (EBITDA-INTPN), Leverage ((DLTT+DLC)/AT), Total Payout ((DVT+PRSTKC)/AT), Overheads (XSGA/XOPR), Capex (Capex/AT), Number of Employees (EMP), Sales per Worker (SALE/EMP), Total Assets (AT). CEO Pay is defined as TDC1 in Execucomp. Abnormal Pay is defined as the residuals of a regression of levels of total pay that includes assets, assets squared, market returns and market returns squared, year and industry dummies (SIC 3 digit) estimated at a SIC 2 digit level for the whole Execucomp sample. Variable compensation is the sum of options and stock awards. Option portfolio is the Black-Scholes value of the options including reloads. Stock Portfolio is the total value of shares excluding options. Delta Portfolio measures the change in the dollar value of the stock and option portfolio per dollar change in the value of the firm stock and is calculated following Core and Guay (1999). Ownership variables are generated from Thomson 13F database. All monetary values are in 2010 US$.

	Mean	Median	Std. dev.	10th Per.	90th Per.		Mean	Median	Std. dev.	10th Per.	90th Per.
Market Value ($mil)	54,877	30,648	59,002	2,805	160,612	CEO Pay (Thou.)	15,088	13,543	10,000	4,118	30,501
Tobin Q	1.59	1.35	0.66	0.96	2.71	Abnormal Pay	-532.64	-691.74	7,792	-10,383	11,397
Earnings per Share (EPS)	2.30	2.38	2.60	0.84	5.60	Salary (Thou.)	1,337	1,237	5,961	1,472	17,002
Return on Equity	0.12	0.134	0.211	-0.10	0.35	Variable Compensation (Thou.)	8,323	6,918	5,961	1,472	17,002
Return on Assets	0.11	0.12	0.07	0.01	0.22	Option Portfolio (Thou.)	40,814	20,260	52,744	1,375	104,769
OROA (Cashflow/ Assets)	0.08	0.09	0.065	0.002	0.16	Stock Portfolio (Thou.)	63,734	21,499	103,496	3,156	186,479
Net Income	3,501	2,017	4,256	-107	11,917	Delta Portfolio	1,628	747	1,979	160	4,609
Leverage (Debt/Assets)	0.27	0.24	0.16	0.08	0.55	Share of Stock Awards	0.31	0.32	0.24	0	0.67
Total Payout	0.058	0.044	0.053	0.003	0.15	Share of Option Awards	0.23	0.21	0.21	0	0.58
Overheads (SGA/Op.Exp.)	0.28	0.25	0.17	0.06	0.55	Share of Bonus	0.04	0	0.10	0	0.20
Capex	0.042	0.032	0.34	0.002	0.096	Share of Perks	0.03	0.02	0.04	0.004	0.08
Num. Employees (Thou.)	96.7	55.4	107.2	5.8	312.02	Share of Deferred Comp.	0.016	0.001	0.101	0	0.13
Sales per Worker	653	422	584	213	1,479	Ownership by Instit. Shareholders	0.72	0.71	0.12	0.56	0.89
Total Assets	115,486	39,437	211,754	4,399	260,303	Ownership by Top 5 Shareholders	0.24	0.22	0.06	0.16	0.35

TABLE 3

Abnormal Returns around the Majority Threshold

This table presents regressions of the abnormal returns on the day of the meeting t=0, on whether the Say-on-Pay proposal passed. Abnormal returns are computed using two benchmarks: market model and four factor model (Fama French and momentum factors; Carhart,1997). Column 1 estimates are based on the whole sample. Column 2 restricts the sample to observations with a vote share within ten points of the threshold, column 3 to five points and so forth. Column 6 introduces a polynomial in the vote share of order 3, one on each side of the threshold, and uses the full sample. All columns control include year dummies; standard errors (in parentheses) are clustered by firm. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
			A. Market Model			
	All votes	-10;+10	-5;+5	-2.5;+2.5	-1.5;+1.5	Full Model
Pass	-0.00210	0.000462	0.00433	0.0139**	0.0188**	0.0241***
	(0.00316)	(0.00381)	(0.00472)	(0.00603)	(0.00696)	(0.00889)
Obs	250	168	88	43	28	250
R-squared	0.017	0.000	0.013	0.140	0.253	0.091
			B. Fama French & Momentum			
	All votes	-10;+10	-5;+5	-2.5;+2.5	-1.5;+1.5	Full Model
Pass	-0.00389	-0.00320	-0.000276	0.00864	0.0151**	0.0176**
	(0.00320)	(0.00393)	(0.00484)	(0.00598)	(0.00678)	(0.00861)
Obs	250	168	88	43	28	250
R-squared	0.028	0.007	0.000	0.059	0.179	0.078

TABLE 4

Abnormal Returns beyond the Day of the Meeting

This table presents the effect of passing a Say-on-Pay proposal on abnormal returns around different event windows. Column 1 reports the effect of pass one day before the meeting. Column 2 reports the effect on the day of the meeting. Column 3, 4 and 5 report the effect of pass on the cumulative abnormal returns for two days, two weeks and six weeks respectively. Abnormal returns are computed using two benchmarks: market model and four factor model (Fama French and momentum factors; Carhart,1997). The specification is equation (2) and uses a polynomial in the vote share of order 3 on each side of the threshold. All columns include year dummies; standard errors (in parentheses) are clustered by firm. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.

	(1)	(2)	(3)	(4)	(5)
	A. Market Model				
	day before vote	**day of vote**	**two days**	**two weeks**	**six weeks**
Pass	0.00552	0.0241***	0.0242*	0.0254	0.0516
	(0.00766)	(0.00889)	(0.0128)	(0.0323)	(0.0499)
Obs	250	250	250	250	250
R-squared	0.113	0.091	0.085	0.060	0.088
	B. Fama French & Momentum				
	day before vote	**day of vote**	**two days**	**two weeks**	**six weeks**
Pass	0.00236	0.0176**	0.0211**	0.0240	0.0716
	(0.00787)	(0.00861)	(0.0106)	(0.0265)	(0.0478)
Obs	250	250	250	250	250
R-squared	0.074	0.078	0.088	0.047	0.030

TABLE 5

The Effect of Passing a Proposal on Implementation

This table presents the effect of passing a Say-on-Pay proposal on Implementation. Column 1 estimates are based on the whole sample. Column 2 restricts the sample to observations with a vote share within ten points of the threshold, column 3 to five points and so forth. Column 6 introduces a polynomial in the vote share of order 3 on each side of the threshold, and uses the full sample. All columns include year dummies; standard errors (in parentheses) are clustered by firm. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	All	-10;+10	-5;+5	-2.5;+2.5	-1.5;+1.5	Full Model
Pass	0.525***	0.470***	0.482***	0.393**	0.458**	0.525**
	(0.0810)	(0.0981)	(0.114)	(0.167)	(0.214)	(0.240)
Observations	201	132	68	31	20	201
R-squared	0.344	0.241	0.261	0.159	0.222	0.365

TABLE 6

Effect of Say-on-Pay Proposals on Firm Profitability

This table presents the effect of passing a Say-on-Pay proposal on firm profitability measures. We estimate the specification in equation (2) using a polynomial in the vote share of order 3 on each side of the threshold. The dependent variables are obtained from Compustat are all defined as within firm changes. Column 1 reports changes in Tobin's Q, defined as the market value of assets divided by the book value of assets ((AT-CEQ+mkvalt-txditc)/AT). Column 2, 3 and 4 report the change in Earnings per Share (EPS), Return on Equity (NI/(CEQ+TXDITC)) and Return on Assets (NI/AT), respectively. Column 5 reports the change in the Operating Return on Assets (CashFlow /AT). All dependent variables are winsorized at the 5th and 95th percentile. All columns include year dummies. Standard errors (in parentheses) are clustered by firm. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.

	(1)	(2)	(3)	(4)	(5)
	Tobin Q Change	**EPS Change**	**ROE Change**	**ROA Change**	**OROA (CashFlow /AT) Change**
Effect from t-1 to t					
Say on Pay	0.0517	-0.677	0.0552	-0.0121	0.00891
	(0.0876)	(1.149)	(0.0767)	(0.0226)	(0.0176)
Obs.	241	250	250	250	247
R-sq.	0.259	0.122	0.065	0.083	0.060
Effect from t to t+1					
Say on Pay	0.134	3.502***	0.107	0.0583***	0.0511***
	(0.0865)	(0.976)	(0.0768)	(0.0172)	(0.0157)
Obs.	184	192	192	192	188
R-sq.	0.303	0.217	0.136	0.214	0.195

TABLE 7

Real Effects of Say-on-Pay Proposals

This table presents the effect of passing a Say-on-Pay proposal on firm outcomes. We estimate the specification in equation (2) using a polynomial in the vote share of order 3 on each side of the threshold. The dependent variables are obtained from Compustat are defined in growth terms or changes (depending on whether they are in levels or ratios). Column 1 reports the growth in labor productivity defined as sales per worker (SALE/EMP). Column 2 reports growth in Employment (EMP). Column 3 reports growth in Net Income (EBITDA-INTPN), Column 4 reports the change in Total Payout ((DVT+PRSTKC)/AT). Column 5 reports changes in the Capex ratio (Capex/AT). Column 6 reports the change in Overheads (XSGA/XOPR). Column 7 reports the growth in Total Assets (AT) and column 8 changes in the leverage ratio (DLTT+DLC/AT). All dependent variables are winsorized at the 5th and 95th percentile. All columns include year dummies. Standard errors (in parentheses) are clustered by firm. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and *** respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Labor Productivity Growth	**Employment Growth**	**Net Income Growth**	**Total Payout Change**	**Capex/ Total Assets Change**	**Overheads Change**	**Total Assets Growth**	**Leverage/ Total Assets Change**
Effect from t-1 to t								
Say on Pay	-0.0928	0.0794*	-0.102	0.00419	-0.00656	-0.0121*	0.0442	0.00197
	(0.0578)	(0.0444)	(0.313)	(0.0131)	(0.00669)	(0.00725)	(0.0626)	(0.0158)
Obs.	250	250	250	238	245	209	250	249
R-sq.	0.153	0.086	0.053	0.140	0.173	0.053	0.082	0.076
Effect from t to t+1								
Say on Pay	0.216***	-0.0601	0.940***	0.0180	-0.0118**	-0.0260***	-0.00125	-0.000436
	(0.0645)	(0.0626)	(0.277)	(0.0126)	(0.00568)	(0.00946)	(0.0759)	(0.0199)
Obs.	191	191	192	183	189	158	192	191
R-sq.	0.149	0.060	0.167	0.210	0.095	0.078	0.061	0.082

TABLE 8

Changes in the Level of Compensation

This table presents the effect of passing a Say-on-Pay proposal on compensation measures. We estimate the specification in equation (2) using a polynomial in the vote share of order 3 on each side of the threshold. The dependent variables are obtained from Execucomp. Column 1 reports growth in Total Compensation (TDC1), column 2 the change in CEO Turnover and column 3 growth in Total Compensation within CEO. Column 4 reports growth in Salary and column 5 growth in Variable Compensation (Stock_awards_fv+Option_awards_fv+Bonus+ Noneq_Incent). Column 6 and 7 report growth in Option and Stock Portfolio, respectively. Column 8 reports growth in Stock and Option Portfolio Delta. All dependent variables are winsorized at the 5th and 95th percentile. All columns control for year fixed effects. Standard errors (in parentheses) are clustered by firm. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and *** respectively.

	(1) **Total Compensation Growth**	(2) **Change in CEO (Turnover)**	(3) **Total Compensation Growth** *Within CEO*	(4) **Salary Growth** *Within CEO*	(5) **Variable Compensation Growth** *Within CEO*	(6) **Option Portfolio Growth** *Within CEO*	(7) **Stock Portfolio Growth** *Within CEO*	(8) **Delta Growth Stock & Option Portfolio** *Within CEO*
Effect from t-1 to t								
yes	-0.155	-0.0259	-0.0212	-0.00893	-0.110	-0.328	-0.256	-0.316
	(0.143)	(0.111)	(0.124)	(0.0171)	(0.129)	(0.452)	(0.276)	(0.214)
Obs	233	238	210	208	201	194	204	201
R-sq	0.058	0.043	0.106	0.068	0.100	0.392	0.108	0.354
Effect from t to t+1								
yes	-0.212	-0.0362	-0.173	-0.0443***	-0.197	0.599**	0.531	0.349**
	(0.194)	(0.0986)	(0.197)	(0.0167)	(0.239)	(0.264)	(0.414)	(0.137)
Obs	179	179	159	157	153	143	153	154
R-sq	0.038	0.045	0.054	0.073	0.058	0.335	0.191	0.375

TABLE 9

Changes in the Structure of Compensation

This table presents the effect of passing a Say-on-Pay proposal on the structure of compensation. We estimate the specification in equation (2) using a polynomial in the vote share of order 3 on each side of the threshold.The dependent variables are obtained from Execucomp. Column 1 changes in the Share of Stock Awards (stock_awards_fv /tdc1), and column 2 changes in the Share of Option Awards (option_awards_fv/tdc1), and column 3 reports changes in the Share of Bonus (bonus/tdc1). Column 4 reports the change in the Share of Perks (othcomp/tdc1) and column 5 the change in the Share of Deferred Compensation (defer_earnings_tot/tdc1). All dependent variables are winsorized at the 5th and 95th percentile. All columns include year dummies. Significance at the 10%, 5%, and 1% levels is indicated by *, **, and *** respectively.

	(1) **Share of Stock Awards**	(2) **Share of Option Awards**	(3) **Share of Bonus**	(4) **Share of Perks**	(5) **Share of Deferred Compensation**
Effect from t-1 to t					
yes	-0.0913*	0.0314	0.00436	0.00353	-0.0365
	(0.0488)	(0.0558)	(0.0122)	(0.00853)	(0.0675)
Obs	204	204	210	210	204
R-sq	0.044	0.063	0.218	0.083	0.325
Effect from t to t+1					
yes	-0.0899	0.0901	-0.0341	0.000587	-0.0189
	(0.0656)	(0.0701)	(0.0259)	(0.0113)	(0.122)
Obs	159	159	159	159	159
R-sq	0.126	0.075	0.149	0.020	0.159

Appendix: FOR ONLINE PUBLICATION

TABLE A1

Sample Selection

This table compares the Say on Pay sample of 250 voted proposals with the SP1500 universe for the year 2005. All accounting variables are obtained from Compustat: Market Value (mkvalt_f), Tobin's Q is defined as the market value of assets (AT+mkvalt_f-CEQ) divided by the book value of assets (AT), and balance sheet Deferred Taxes and Investment Tax Credit (TXDITC), Return on Equity (NI/(CEQ+TXDITC)), Return on Assets (NI/AT), OROA (Cashflow/Total Assets), Leverage ((DLTT+DLC)/AT), Overheads (XSGA/XOPR), Total Payout ((DVT+PRSTKC)/AT), Sales per Worker (SALE/EMP), Number of Employees (EMP). CEO Pay is defined as TDC1 in Execucomp. Abnormal Pay is defined as the residuals of a regression of levels of total pay that includes assets, assets squared, market returns and market returns squared, year and industry dummies (SIC 3 digit) estimated at a SIC 2 digit level for the whole Execucomp sample. Ownership variables are generated from Thomson 13F database. All monetary values are in 2010 US$. Note that the number of observations may change due to missing values in some of the variables.

	SoP vs. SP1500 (2005)		
	Mean SoP	**Mean SP1500**	**t-test**
Market Value ($mil)	22,127	5,649	11.5
Tobin Q	1.78	1.95	2.2
Return on Equity	0.15	0.12	2
Return on Assets	0.11	0.12	-1.21
OROA (Cashflow/Total Assets)	0.094	0.099	-0.85
Leverage (Debt/Assets)	0.25	0.19	4.22
Total Payout	0.056	0.042	2.5
Overheads (SGA/Op.Exp.)	0.29	0.31	-1.01
Number Employees (Thousands)	44.39	13.36	11.2
Sales per Worker	578	460	2.5
CEO Pay (Thousands)	11,540	5,171	11.7
Abnormal Pay	1048.4	-31.8	1.2
Ownership by Instit. Shareholders	0.71	0.74	-2.6
Ownership by Top 5 Shareholders	.24	0.28	-5.8
Number Shareholders own > 5%	2.1	2.5	-3.5

TABLE A2

Pre-differences in Firm Characteristics as a Function of the Vote Outcome

Table A2 tests whether passing a Say-on-Pay vote on the meeting date is systematically related to firm characteristics prior to the meeting. Note that in Panel A t refers to days, while for the rest, t refers to years. Each row corresponds to a different dependent variable and each entry comes from a separate regression. Each entry in the table reports the coefficient on whether a proposal passed. Columns 1 and 2 (3 and 4) report the estimated effect of passing a vote on outcome variable levels (changes) the year before the annual meeting, t-1 (between t-2 and t-1). Columns 1 and 3 present estimates without controlling for a polynomial in the vote share and, therefore, estimate the average effect of passing relative to not passing. Columns 2 and 4 include the polynomial in the vote share of order 3 on each side of the threshold such that it effectively estimates the effect at the discontinuity. All columns control for year fixed effects and standard errors (in parenthesis) are clustered at the firm level. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.

	Before meeting (t-1)		**Change, from (t-2) to (t-1)**	
	(1)	(2)	(3)	(4)
A.				
Abnormal Return one day before Meeting, Car (-1,-1) OLS	-0.007*	0.006	-0.020	0.021
	(0.004)	(0.008)	(0.017)	(0.030)
Abnormal Return one day before Meeting, Car (-1,-1) FFM	-0.007*	0.002	-0.020	0.003
	(0.004)	(0.008)	(0.017)	(0.033)
B.				
Tobin Q	-0.179	-0.192	0.017	0.098
	(0.160)	(0.505)	(0.059)	(0.137)
Return on Assets	-0.047**	0.002	-0.033*	-0.021
	(0.023)	(0.057)	(0.017)	(0.045)
OROA --Cash Flow	-0.043**	0.016	-0.031**	-0.024
	(0.021)	(0.049)	(0.014)	(0.037)
Return on Equity	-0.478	-0.917	-0.421	-0.929
	(0.324)	(0.751)	(0.334)	(0.778)
Leverage/ Assets	-0.075***	-0.089	0.004	0.019
	(0.026)	(0.062)	(0.006)	(0.021)
Overheads (SGA/Op. Exp.)	-0.078**	-0.209**	0.000	0.003
	(0.036)	(0.091)	(0.004)	(0.009)
Earnings Per Share	-1.302*	-1.795	-0.376	-3.362
	(0.766)	(2.135)	(0.696)	(2.396)
Sales	-22,864.203*	42,287.107	145.589	9,261.578
	(12,607.828)	(30,612.852)	(1,573.873)	(6,311.584)
Number Employees (Thousands)	-84.706*	-61.275	2.326	5.703
	(44.568)	(92.892)	(2.771)	(5.134)
C.				
Ceo Pay (Thousands)	-4,768.8***	4,195.7	-2,120.6	302.1
	(1,767.3)	(4,094.9)	(2,283.9)	(5,326.8)
Ceo Stock Awards FV (Thousands)	-1,083.9	1,359.6	595.3	1,885.0
	(840.6)	(2,480.6)	(869.7)	(2,222.6)
Ceo Option Awards FV (Thousands)	-2,027.8**	1,234.7	-754.9	-4,437.7*
	(1,024.3)	(1,426.1)	(941.6)	(2,465.0)
D.				
Number Proposals	-0.370	0.686	n.a.	n.a.
	(0.233)	(0.894)		
Dummy Proposal Compensation	-0.130	0.100	n.a.	n.a.
	(0.088)	(0.279)		
Polynomial in the vote share	no	yes	no	yes

In Table A2 we examine whether there are any pre-existing differences at the majority threshold between firms that pass a Say-on-Pay proposal and firms that don't. Columns 1 and 3 compare the characteristics of the whole population of firms, while columns 2 and 4 report only the effect at the discontinuity by including polynomials of order three on either side of the threshold. Columns 1 and 2 refer to the variables in levels and 3 and 4 in growth rates.

Column 1 shows that, on average, firms that pass the proposal have different characteristics from those where the proposal fails. For instance, firms where the proposal is passed have on average lower prior return on assets than those where it fails. These are the kind of selection problems that would make the estimates of a standard OLS regression biased. In contrast, when we control for a polynomial in the vote share and estimate the effect at the discontinuity (in column 2 and 4), we find that these average differences across firms on each side of the threshold disappear. We do find some differences in the level of overheads and the growth rates of option grants although given the number of coefficients that we check it is expected that some of them would seem statistically different even if both samples are drawn from the same distribution.

In general, we do not find any systematic differences between firms on each side of the majority threshold.

TABLE A3

Abnormal Returns Controlling for Other Proposals

Abnormal returns are computed using two benchmarks: a market model (in Columns 1 and 2) and a four factor model (Fama French and momentum factors; Carhart,1997) (in Columns 3 and 4). Columns 1 and 3 include as controls the vote outcome of other proposals in the same meeting, third order vote polynomials to each side of the discontinuity different for SoP votes and other votes and year dummies. Columns 2 and 4 include a dynamic specification and firm fixed effects, similar to Cuñat, Gine and Guadalupe (2012). The sample includes all votes from 2006 until June 2010. We drop observations outside the top (bottom) 1% of abnormal returns of the full sample. All columns control for year fixed effects and standard errors (in parenthesis) are clustered at the firm level. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.

	(1)	(2)	(3)	(4)
	Market Model		**Fama French & Momentum**	
Say on Pay Proposals				
Day of the vote, *t*	0.021**	0.027***	0.014*	0.018*
	(0.009)	(0.010)	(0.008)	(0.010)
One day later, *t+1*		0.010		0.007
		(0.010)		(0.010)
Days *t+2* to *t+9*		-0.018		-0.013
		(0.024)		(0.021)
Other Proposals				
Day of the vote, *t*	0.006**	0.008**	0.004	0.006
	(0.003)	(0.004)	(0.003)	(0.004)
One day later, *t+1*		0.004		0.001
		(0.006)		(0.005)
Days *t+2* to *t+9*		0.020		0.016
		(0.013)		(0.011)
Observations	1,024	5,120	1,024	5,120
R-squared	0.044	0.025	0.034	0.012
Number of firms	517	517	517	517

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