

## The Executive Compensation Disclosure and 'Say-on-pay' Voting Outcomes

### **ABSTRACT**

Excess executive compensation has been a hot debate in the last two decades. Since 2011 in the U.S, say-on-pay (SOP) has empowered shareholders to vote for executive pay packages at the annual general meeting. To make informed voting decisions, shareholders need transparent and comprehensive information on compensation schemes from firms' proxy statements. The Securities and Exchange Commission (SEC) will send comment letters to the firm if disclosure defects are identified in the review process. This study examines whether remediation of compensation disclosure in the proxy statements affects the subsequent SOP voting results. We find that investors are more likely to cast favorable votes on management SOP proposals if a firm resolves the deficiency in the proxy statement. The impact is more pronounced when the resolution is related to critical disclosure elements. We also document that remediation firms' executive compensation is linked more closely to firm performance after the remediation, which suggests that the enhanced disclosure quality potentially improves the monitoring ability of shareholders.

**Keywords:** remediation; comment letter; say-on-pay; executive compensation.

**JEL Classifications:** G30, D22, M41, K22

**Data Availability:** Data are available from the public sources cited in the text.

## I. INTRODUCTION

Executive compensation has received great public and academic scrutiny, with most of the controversy focused on rising executive compensation levels and a weak relationship between executive compensation and firm performance (Perry & Zenner, 2001). Since 2011 in the U.S, say-on-pay (SOP) has empowered shareholders to vote for executive pay packages at the annual general meeting. To make informed voting decisions, shareholders need transparent and comprehensive information on compensation schemes from firms' proxy statements. This study examines whether more transparent compensation disclosure affects the SOP voting outcomes. In particular, we investigate whether the remediation of disclosure defects identified via the Securities and Exchange Commission (SEC) comment letter process influences shareholders' votes for management SOP proposals.

A compensation contract is critical in resolving agency conflicts between managers and shareholders, and information plays a central role in designing and implementing the contract. Firm managers have incentives to obfuscate compensation disclosure to hide excessive pay (e.g., Robinson, Xue, & Yu, 2011). Since 2006, the SEC has mandated new detailed disclosure of executive compensation in the proxy statement DEF14A, and dramatically expanded the scope of the required disclosure of executive compensation, especially related to specific quantitative or qualitative performance targets and benchmarks used to determine executives' payouts. The SEC's comment letter process identifies the deficiencies in compensation disclosure. Some critical disclosure defects may affect investors' perception of the adequacy of the executive pay package. For example, a firm failed to provide sufficient detail about the factors considered by the compensation committee; failed to clarify the extent to which the compensation decisions are derived from or based on a comparison to peer companies; failed to disclose performance targets

in determining top management bonuses, etc. Upon the receipt of comment letters, most firms (over 80 percent) revised or amended their proxy statements and promised to comply with the regulation requirements in future filings. For example, regarding to the performance benchmark, a firm admitted that they used salary.com instead of specific industry peers as the benchmark. This updated information may alter investors' assessment of the proposed management SOP proposal at the subsequent annual meeting. The remaining firms (less than 20 percent) requested either a confidential treatment to not disclose the requested information, or ask the SEC to reconsider its position, or did not respond to the original comment letter. After resolving deficiencies, the SEC publishes the comment letters and firms' responses.

A more transparent proxy statement would enhance the credibility of management SOP proposals and hence attract more favorable votes from shareholders. In addition, the release of comment letters makes a firm's compensation practice more visible to the public. More transparent disclosure and public release of the SEC review make it harder for management to hide excessive pay and deter inadequate compensation practice in the subsequent period. Therefore, we predict that shareholders may be more likely to cast favorable SOP votes after the remediation of disclosure defects in the next SOP voting. However, the receipt of SEC's comment letters may damage the firm's reputation and raise shareholders' concern about its disclosure quality, even after it remedies deficiencies in response to comment letters. Shareholders may be more likely to disagree with management SOP proposals even after the remediation. Hence we need to conduct empirical tests on whether and how the remediation in compensation disclosure affects SOP voting outcomes.

We start with all SEC compensation-related comment letters on the firm's proxy statements (form DEF14A) and then identify those firms that revise or amend their proxy statements by

manually reading their response letters and corresponding proxy statements. Our sample period extends from 2011 to 2018. In our main tests, we employ two research approaches to identify the effects of remediation. First, we control the expected changes in voting outcomes in the absence of remediation from compensation-related comment letters. We obtain the expected changes from analyzing the SOP voting outcomes of non-remediation firms (those who did not receive compensation-related comment letters and hence did not revise their proxy statements accordingly). Second, we perform a difference-in-differences test using a matched control sample of non-remediation firms to pinpoint the impact of the remediation in compensation disclosure arising from SEC comment letters on SOP voting outcomes. Both research designs show that investors are more likely to cast favorable votes on management SOP proposals after the remediation of the compensation defects.

Next, we perform some cross-sectional tests. Suppose the enhancement in disclosure quality drives the observed association between the remediation and favorable shareholder votes. In that case, we expect the effect to be more pronounced when the improvements in compensation disclosure are more substantial. We focus on crucial disclosure elements emphasized in the 2006 SEC regulation, such as explaining specific performance targets and benchmark firms. And we find consistent evidence that shareholders are more likely to agree with management SOP proposals when the revisions are related to these critical elements. These findings strengthen the causal link between the remediation in compensation disclosure and SOP voting outcomes.

The above analyses suggest that the remediation generally leads to more favorable SOP votes. We further test whether the remediation reduces the likelihood of getting a significant SOP vote dissent which signals the inadequate compensation practice and pressures firms to redesign their executive compensation package (e.g., Cuñat, Giné, & Guadalupe, 2016; Ertimur, Ferri, &

Oesch, 2013; Gregory, Thompson, & Wright, 2014). The SEC also requires firms to disclose the resolution plan in response to significant shareholders' disagreement in the subsequent year's proxy statement. Therefore, firms need to avoid substantial SOP vote dissent. We apply the cut-off point of 20% as in prior studies to define a significant SOP vote dissent and re-run the regressions. The results suggest that the remediation in disclosure significantly reduces the likelihood of firms getting an SOP vote dissent of over 10%. The impact dominates in the remediation related to critical disclosure defects.

We also investigate whether the remediation enables shareholders to evaluate compensation plans adequately and make optimal decisions. Specifically, we examine whether the favorable SOP proposals are associated with a reduction in levels of executive compensation or higher pay-for-performance sensitivity. We find consistent evidence that remediation firms significantly reduced executive compensation and aligned payment more closely to firm performance. The results suggest that the enhanced disclosure potentially facilitates shareholders' monitoring in corporate governance.

Finally, our primary research designs strictly require pairs of treatment firm-years immediately before and after the remediation (pre-and post-remediation firms) that have SOP voting, which excludes the post-remediation firms in 2011 from the sample.<sup>1</sup> Given a significant amount of SOP voting in 2011 and the tremendous number of SEC compensation-related letters released before 2010 (inclusive), we examine whether our results are robust by relaxing this restriction and considering compensation-related comment letters released in 2010 or earlier. We find consistent results. Moreover, we find that the remediation in the disclosure is consistently associated with favorable SOP voting outcomes in the subsequent three years, which suggests a potential long-term effect.

Our paper contributes to two streams of research. First, our study contributes to the literature on the impact of SEC scrutiny. The 2006 regulation on compensation disclosures aims to facilitate investors to understand firms' compensation practices better. Our study suggests that the SEC's review process improves the disclosure quality in the proxy statements, which influences SOP votes. Our findings imply that the 2006 regulation achieves its intended purpose. Most of the extant literature on the SEC comment letters focuses on the valuation perspective from the capital markets and documents an improvement in the recipient firm's information environment following the public release of these letters (e.g., Bens, Cheng, & Neamtiu, 2016; Bozanic, Dietrich, & Johnson, 2017). Few studies have examined the consequences of the SEC review from the stewardship perspective.

Second, we contribute to the growing research on the determinants and consequences of SOP voting outcomes. Prior studies find that compensation structure, firm characteristics, corporate governance, and types of shareholders are associated with SOP vote dissent (Balsam, Boone, Liu, & Yin, 2016; Brav, Jiang, Partnoy, & Thomas, 2008; Cai & Walkling, 2011; Kimbro & Xu, 2016; Ng, Sibilkov, Wang, & Zaiats, 2011). Our study complements prior literature by showing that remediation in compensation disclosure arising from the SEC's review process affects the SOP votes, highlighting the importance of information for regulators and investors.

The rest of the paper is organized as follows. Section II provides a literature review and discusses our hypothesis development. In Section III, we discuss the sample and research methodology. We discuss empirical findings in Section IV and further analyses in Section V. Finally, we conclude in Section VI.

## II. INSTITUTIONAL BACKGROUND AND HYPOTHESIS

### **The SOP regulation in the U.S. and related studies**

The SOP law gives shareholders the right to vote on the suitability of executive compensation. In response to a public outcry over excessive executive earnings, low levels of transparency, and a weak link between pay and performance, the Dodd-Frank Act in 2011 mandated the non-binding vote on executive compensation. Despite non-binding, dissent in the SOP vote still sends an easily observable signal of the inadequate compensation practice. Furthermore, a high level of disagreement can lead to public outrage (e.g., Cuñat et al., 2016; Ertimur et al., 2013; Gregory et al., 2014). After the annual meeting, firms often engage shareholders and consulting firms to resolve the dissent issue. Resolution plans include strengthening pay-for-performance sensitivity (PPS) (Faghani, Monem, & Ng, 2015), increasing the ratio of contingency payments (Chowdhury & Wang, 2009), decreasing excessive payments (Ertimur, Ferri, & Muslu, 2011), replacing unrestricted equity compensation (Ng et al., 2011), terminating controversial retesting provisions for stock options and reducing the number of severance agreements (Ferri & Maber, 2013). Such corporate responses have reduced subsequent shareholder disagreement (Ertimur et al., 2013).

Regarding the determinants of SOP vote dissent, prior studies find that total compensation is the most important reason (Obermann & Velte, 2018), while low pay-for-performance sensitivity also increases vote dissent (Cai & Walkling, 2011). In addition, large firms and poorly performing ones tend to have higher voting dissent (Ertimur, Ferri, & Stubben, 2010; Ng et al., 2011). The voting dissent is also associated with weaker internal governance, such as fewer outside directors (Cai & Walkling, 2011) and independent boards (Sauerwald, Van Oosterhout, & Van Essen, 2016), weaker internal controls (Bordere, Ciccotello, & Grant, 2015), lower earnings

quality (Kimbrow & Xu, 2016), longer CEO tenure (Armstrong, Larcker, Ormazabal, & Taylor, 2013) and smaller boards (Renneboog & Szilagyi, 2011). Finally, proxy advisor recommendation is important for the voting outcome (Ertimur et al., 2013).

This study extends the prior literature by investigating the impact of the remediation of compensation disclosure via the SEC comment letter process on SOP vote outcome.

### **The SEC Review Related to Executive Compensation Disclosure**

Per the Sarbanes-Oxley Act of 2002, section 408, the SEC reviews at least once every three years of companies who issue Exchange Act reports. These reviews cover the registrants' 10-K and other filings. When they receive a comment letter, registrants are given ten business days to respond to the request. After the resolution, the SEC posts the original comment letters and firms' responses on the SEC website<sup>2</sup>.

Following investors' criticisms that executive compensation information was inadequate and confusing, since 2006, The SEC has required that a new section, "Compensation Discussion and Analysis" (CDA), be filed with the proxy and certified by the CEO and CFO<sup>3</sup>. This CDA section explains and analyzes all material aspects of the Company's compensation aims, principles, and determinations for the CEO and CFO, its three other highest-paid executives, and its directors. The disclosures in the CDA must be precise enough to allow the identification of significant differences in compensation policies and determinations for the five named personnel. The rules introduced in 2006 also require companies to report particular performance targets, in either quantitative or qualitative terms, on which executives' bonus payouts are based. These new disclosures enable investors to understand firms' compensation practices better and monitor them<sup>4</sup> (Cox, 2006). The SEC's comment letter process identifies deficiencies in compensation disclosure. For example, a firm failed to provide sufficient detail about the factors considered by the



compensation committee; was unable to clarify the extent to which the compensation decisions are derived from or based on a comparison to peer companies; failed to disclose performance targets in determining top management bonuses, etc.

Upon receiving comment letters, most firms promptly provide the requested information in revised or amended proxy statements and promise to comply with the regulation in future filings. Few firms request confidential treatment not to disclose the information publicly. They claim that information is non-material, so not necessary to disclose or ask the SEC to reconsider its comments. From 2012 onwards, the SEC requires companies to provide expanded exposure on how management responded to the previous year's SOP results, especially for companies that received a comment in the prior year and for companies whose management proposals failed SOP. As the SEC director pointed out, SOP voting significantly changed the design and communication of executive pay packages, and many companies have increased their shareholder engagement efforts<sup>5</sup>.

#### **An exemplary case: Jacobs Engineering Group Inc.**

This section illustrates the SEC review process and SOP votes using a real firm example. Jacobs Engineering Group Inc. (hereafter Jacobs) sent the proxy statement for the fiscal year of 2010 on December 16, 2010, and held the annual meeting on January 27, 2011. Its fiscal year-end was on September 30, 2010. The SEC reviewed its proxy statement and sent the initial comment letters on February 2, 2011, requesting firms to clearly identify all specific items of corporate performance in setting compensation policies and making compensation decisions, disclose all previously established goals, and discuss how the compensation awarded reflects those goals. Jacobs responded on March 3, 2011, promising to provide the requested information in future filings. Failing to disclose performance targets is a critical issue among compensation disclosure

defects. After the resolution, the SEC published the comment letter and Jacobs' responses on May 26, 2011. From the above timeline, we can see that shareholders of Jacobs did not have the revised proxy statement for the fiscal year of 2010 when they attended the annual meeting on January 27, 2011. Hence, they were unclear how the executives were compensated when they voted for SOP proposals. Only 45% of shareholders agreed with management SOP proposals, which suggests that defects in compensation disclosure could potentially contribute to the enormous disagreement.

On January 26, 2012, Jacobs held its annual meeting again. Before the meeting, shareholders could view the proxy statement for the fiscal year 2011 that complies with the 2006 disclosure regulation, clearly describing the details of their compensation practice. In addition, they also had access to the previous SEC comment letters. As requested, Jacobs also explained their responses to the last voting SOP disagreement in the proxy statement for the fiscal year 2011. After the last annual meeting, the compensation committee reevaluated its pay program, involving consultations with independent consulting firms and discussions with major institutional shareholders, and significantly changed the pay package. The approval of an advisory resolution on the executive compensation requires the affirmative vote of a majority of shares of common stock. And Jacobs received the majority agreement on their resolution plan at the annual meeting of 2012. And most shareholders (96%) also agreed with management SOP proposals at this annual meeting.

### **Hypothesis development**

Based on the nexus contract theory and principal-agent theory, a firm is a nexus of contracts among various production parties (Alchian & Demsetz, 1972; Fama & Jensen, 1983; Jensen & Meckling, 1976; Watts & Zimmerman, 1986). Divergent interests among managers, boards, equity investors, and lenders demand monitoring and bonding mechanisms that help alleviate various agency conflicts (Jensen & Meckling, 1976). Accounting information plays a central role in

determining the extent of these conflicts and designing tools to mitigate them (Armstrong, Guay, & Weber, 2010). An executive compensation contract is one mechanism to align managers' incentives with firm performance, thus mitigating agency conflicts between managers and shareholders.

The SEC's comment letter process identifies the deficiencies in compensation disclosure. Most firms revise or amend the proxy statement and comply with the regulation in future filings. To increase the transparency of the review process, the SEC makes its comment letters and firm's responses to those comments public on the SEC's EDGAR system soon after it has completed its review. Therefore, before the next annual meeting, shareholders can access the SEC's comment letters related to the last proxy statement, the revision, and the current year's proxy statement in compliance with the 2006 regulation requirement. Therefore, if the remediation results in substantive changes in compensation disclosure, we would expect it to enhance the credibility of management SOP proposals and hence attract more favorable votes.

In addition, more transparent disclosure and the public release of comment letters make it more costly for management to hide excess executive pay and hence may deter inadequate compensation practice. Shareholders may pay more attention to compensation practices upon the publication of comment letters. To avoid substantial SOP voting dissent, firms may alter their compensation practices, reduce excess pay, or align executive payment more closely with firm performance. Therefore, post-remediation compensation practice may also be more optimal.

Based on the above discussion, we state our first hypothesis as below:

**H1: The remediation of the compensation disclosure is associated with more favorable SOP votes at the annual meeting.**

The SEC comment letter process motivates firms to correct disclosure defects. Most firms revise/amend the proxy statements in response to the SEC's comments. The more critical issues the disclosure defects, the more significant the improvement in the subsequent compensation disclosure is likely to be. Suppose the changes in disclosure quality in the remediation affect the SOP voting outcomes. In that case, we expect that the more substantial improvement in disclosure will lead to a more significant impact on the SOP vote.

**H2: The impact of remediation on the SOP voting is more pronounced if there are more substantial changes in compensation disclosure.**

Alternatively, disclosure defects revealed in the SEC comment letters may signal that managers are hiding inadequate compensation practices from shareholders, which would cause shareholders to cast doubt on the credibility of managers' compensation proposals. Hence, the receipt of SEC compensation comment letters may damage the firm's reputation and raise shareholders' concern about its disclosure practices, even after it remedies deficiencies in compensation disclosure. Shareholders may still disagree with managers' SOP proposals. Empirical tests are necessary to determine whether and how the remediation in compensation disclosure affects shareholder SOP votes.

### **III.SAMPLE SELECTION**

To examine whether shareholders change their SOP vote preference (i.e., 'for' or 'against' the management proposal) after the remediation of compensation disclosure in the proxy statement. We focus in our main tests on the periods of SOP meetings immediately before and after the revised proxy statements.<sup>6</sup>

We obtain SEC comment letters from Audit Analytics. Following prior literature on comment letters, we exclude firms with total assets of less than one million dollars (e.g., Cassell,

Dreher, & Myers, 2013; Cunningham, Johnson, Johnson, & Lisic, 2020). We use the taxonomy, the issue disclosure key "907", provided by Audit Analytics to separate firm-years with executive compensation-related issues in comment letters on firms' proxy statement DEF-14A from those without the defects. We obtain SOP vote data from the Institutional Shareholder Services (ISS) for 2011-2018. Our sample period started in 2011 when the SEC implemented mandatory SOP voting. This database provides shareholder meeting dates, the number of "for," "against," and "abstain" votes during the annual shareholder meetings, and ISS's voting recommendations. Because we focus on shareholder voting on executive compensation, we require that the general description of the agenda (*agendageneraldesc*) in the annual meeting must contain compensation-related keywords.<sup>7 8</sup> Because of the different nature of financial and regulated firms, following prior literature in SOP (e.g., Cai, Garner, & Walkling, 2009; Canil, Karpavičius, & Yu, 2019), we exclude shareholder meetings of financial and regulated firms. We obtain financial accounting data from COMPUSTAT, stock prices from the Centre for Research in Security Prices (CRSP), board of directors from Institutional Shareholder Services (ISS), and institutional holdings from Thomson Financial Institutional Holdings (13F), and CEOs' compensation from ExecuComp. We read each pair of comment and response letters provided by Audit Analytics and identify specific compensation-related disclosure issues (such as performance benchmarks, performance targets, etc.) as displayed in Appendix 2. We also manually check and classify firms' response types (revise and amend, confidential requests, etc.).

[Insert Figure 1 around here]

Figure 1 illustrates the timeline of the SEC review process and SOP vote at the annual shareholders' meeting, using Jacobs as an example. SOP vote must be held at least once every three years. A public U.S. firm should have at least one general annual meeting per year within the five

months following the fiscal year-end and send a proxy statement to shareholders at least 40 calendar days before the meeting. Meanwhile, they must file DEF 14A with the SEC electronically no later than the first day when it is sent to shareholders. When shareholders vote for SOP in the annual meeting at year  $t$ , the proxy statements for the fiscal year  $t-1$  most likely have not been reviewed by the SEC, so they rely on the un-reviewed proxy statement. Upon receiving the comment letters, most firms revised or amended the proxy statement for the fiscal year  $t-1$ . And they promise to file future proxy statements in compliance with the 2006 regulation requirement. Hence when shareholders vote for SOP at year  $t+1$ , they will have the proxy statement for the fiscal year  $t$  in compliance with the 2006 regulation. We refer to these SOPs at year  $t$  as pre-remediation SOPs and refer to SOPs at year  $t+1$  after the remediation as post-remediation SOPs.<sup>9</sup> We define non-remediation SOPs as those that did not receive compensation-related comment letters and hence did not remediate the proxy statements (regardless of whether or not they have received comment letters on other matters). Based on the above selection criteria, we acquired 147 pairs of pre-and post-remediation SOPs from 2011 to 2018.

Table 1 Panel A displays the summary statistics of main variables between pre-and post-remediation firms. On average, favorable shareholder votes for management (i.e., %*ForMgm*) increase significantly from 86.76% to 89.97% after the remediation, which provides initial evidence for our hypothesis one. We also observe that stock returns decline from 0.06 to 0.01 after the remediation, consistent with the findings in Dechow, Lawrence, and Ryans (2016). Finally, we observe a marginal increase in board directors' independence after remediation from 0.60 to 0.68. Panel B shows the distribution of SOPs with remediation in our sample. The majority of the SOPs with remediation occurred in 2012-2015 (131 out of 147 SOPs), and the number dramatically dropped after 2015. The sample size varies for different research designs.

[Insert Table 1 about here]

#### IV. RESEARCH DESIGN

We investigate whether shareholders agree more with management's SOP proposals at an annual meeting if firms remediated their proxy statements due to a compensation-related comment letter before the meeting. Following Bens et al. (2016), we employ two alternative research designs in our main tests to identify the effects of the remediation on SOP voting results. We discuss these two research designs in the following two sub-sections:

##### Control for Predicted Changes in SOP Outcomes

$\% ForMgm$

$$\begin{aligned} &= \alpha_0 + \alpha_1 Size + \alpha_2 Returns + \alpha_3 ROA + \alpha_4 Volatility \\ &+ \alpha_5 ExcessCEOpay + \alpha_6 OutsideDirectors + \alpha_7 CEO Duality \quad (1) \\ &+ \alpha_8 InstitutionalHoldings + \alpha_9 ISSagree_mgm \\ &+ \alpha_{10} InsiderHoldings + Industry F. E. + Year F. E. + \varepsilon \end{aligned}$$

$$\% ForMgm = \alpha_0 + \alpha_1 POST + \alpha_2 \Delta \% \widehat{ForMgm} + Controls + Year F. E. + \varepsilon \quad (2)$$

where  $\% ForMgm$  is the percentage of supportive SOP votes received for the company-sponsored proposals out of the total shareholder votes, plus abstentions at the annual meeting, multiplied by 100.<sup>10</sup> Our variable of interest is  $POST$ , an indicator variable equal to one if there is remediation in the proxy statements related to the SEC compensation-related comment letter within a year before the shareholder meeting and zero otherwise. The coefficient of  $POST$ ,  $\alpha_1$ , in Eq. (2) captures the temporal changes in (pre-and post-remediation) SOP outcomes.

Following Bens et al. (2016), we employ a three-step process to estimate Eq. (2). First, we use a sample of non-remediation SOPs to assess the *changes* in SOP outcomes in the absence of

remediation derived from the SOP outcome model in Eq. (1). Specifically, we regress *changes* in  $\%ForMgm$  on *changes* in all variables in Eq. (1): firm size, stock returns, firms' profitability, volatility, excess CEO compensation, the proportion of outside board directors, CEOs' duality, institutional holdings, proxy advisor recommendation, and insider shareholdings. In the estimation, we also control for industry-fixed effect and year-fixed effect. Second, we obtain the estimated coefficients from the above regression, multiply them with the *changes* in explanatory variables for the non-remediation firms, and calculate the fitted changes in SOP outcomes projected in the absence of remediation. Finally, we refer to these predicted changes in SOP as  $\Delta\%ForMgm$  and include it in Eq. (2) as a control variable. We also have our variable of interest *POST*. If the change in shareholder votes is driven by the remediation, we would expect the coefficient on *POST* to be statistically significant even after controlling for the change in votes projected in the absence of a remediation. In both Eq (1) and (2), we include the same control variables that affect SOP voting outcomes.

Following prior literature, we control for firm characteristics that may affect shareholders' votes. First, we control for firm size (*Size*), the logarithmic transformation of firms' market capitalization measured at the end of the fiscal year.<sup>11</sup> When an SOP vote is executed, large firms tend to have higher voting dissent (e.g., Ertimur et al., 2010; Kent, Kercher, & Routledge, 2018). On the other hand, larger firms can hire proxy solicitors to reduce shareholders' disagreement before the meeting (Bethel & Gillan, 2002). Therefore, we have no prediction of the direction of the impact of firm size on the voting outcome.

Second, we consider firm performance, including firms' market-based performance (*Returns*), one-year stock returns (adjusted by value-weighted market returns) before the annual meeting, and operation-based measure (*ROA*), income before extraordinary item scaled by total



assets. Prior literature documents that good performance is positively associated with shareholders' favorable votes (e.g., Cai et al., 2009). We further control stock return volatility (*Volatility*), the variance of a firm's daily stock returns in the year before the annual meeting, because prior literature documents that high return volatility can raise voting dissent (Clarkson, Walker, & Nicholls, 2011).

Prior literature documents that voting dissent following a proposal is associated with firms' corporate governance (e.g., Cai et al., 2009). Therefore, we employ a set of proxies to control for the impact of corporate governance. For internal governance, we control for independent board directors (*OutsideDirectors*), and whether a CEO is also the chairman of the board of directors (*CEODuality*). For external governance, we consider institutional investors (*InstitutionalHoldings*), shares held by institutional owners, scaled by the total outstanding shares. We expect that effective corporate governance can improve shareholders' favorable votes.

We further control for insider ownership, *InsiderHoldings* (shares held by executives and independent directors, scaled by the total outstanding shares), because Jensen and Meckling (1976) argue that insider ownership reduces agency costs. On the other hand, CEOs with significant equity could have too much power due to their position and their large number of voting rights (Lewellyn & Muller-Kahle, 2012), which could reduce the effectiveness of board monitoring (McConnell & Servaes, 1990; Stulz, 1988). Therefore, we do not have a prediction regarding the effect of insider ownership.

Prior literature documents that executive remuneration is an important reason for shareholder activism (e.g., Kimbro & Xu, 2016). Therefore, following Cai et al. (2009), we control for excess CEO compensation, *ExcessCEOPay*.<sup>12</sup> We expect that excess CEO pay is negatively associated with shareholders' favorable votes.

In addition, prior studies find institutional investors tend to outsource research and voting decisions to proxy advisory firms, such as Institutional Shareholder Services (ISS). The latter provides a voting recommendation for each proposal. These ISS recommendations strongly affect shareholders' votes (e.g., Cai et al., 2009; Ertimur et al., 2013). Therefore, we control for ISS recommendation, *ISSagree\_mgm*. We expect that the ISS recommendation is positively associated with favorable shareholders' votes.

Finally, we include year-fixed effects to account for time-varying effects. To reduce outliers' influence, we winsorize control variables with continuous values at the 1% and 99% levels. Standard errors are robust and clustered at the firm level.

### **Difference-in-Differences with Matched Sample**

We also implement a difference-in-differences research design using a matched control group to provide insights into remediation's effect on SOP voting outcomes. We employ the following model for this approach.

$$\begin{aligned}
 \% \text{ ForMgm} = & \gamma_0 + \gamma_1 \text{POST} + \gamma_2 \text{Treat} + \gamma_3 \text{Treat} \times \text{POST} + \gamma_4 \text{Size} + \gamma_5 \text{Returns} \\
 & + \gamma_6 \text{ROA} + \gamma_7 \text{Volatility} + \gamma_8 \text{ExcessCEOpay} + \gamma_9 \text{OutsideDirectors} \\
 & + \gamma_8 \text{CEODuality} + \gamma_9 \text{InstitutionalHoldings} + \gamma_{10} \text{ISSagree_mgm} \\
 & + \gamma_{11} \text{InsiderHoldings} + \text{Year F.E.} + \varepsilon
 \end{aligned} \tag{3}$$

Eq. (3) is different from Eq. (2) in two respects. First, Eq. (3) is estimated in a sample comprising both the treatment group (i.e., pre-and post-remediation SOPs) and control group (i.e., matched pseudo pre- and post-remediation SOPs). *Treat* is an indicator variable equal to one if there is remediation in the proxy statements in the sample period and zero otherwise.

Second, we augment Eq. (3) with an interaction term, *Treat* × *POST*, where *POST* is an indicator variable equal to one for the firm-years after the remediation and zero otherwise.<sup>13</sup>

Therefore, the coefficient of  $Treat \times POST$ ,  $\gamma_3$ , captures a DID estimate of the effect of remediation.<sup>14</sup>

To implement the above DID analysis, following previous literature in SEC comment letters (e.g., Bens et al., 2016; Cunningham et al., 2020; Johnston & Petacchi, 2017; Kubick, Lynch, Mayberry, & Omer, 2016), we construct the matched sample via a two-stage process. In stage one, we estimate a determinate model that a firm will remediate its proxy statement when it receives the SEC comment letter. Details are described in Appendix 3. Then we calculate the fitted value for each firm-year from the determinant model and refer to it as a firm's propensity score for remediation. Finally, we match a non-remediation firm (with replacement) against a non-remediation based on the closest propensity score in the same industry and same year. In stage two, we construct our final sample by including SOPs in the treatment group (i.e., pre-and post-remediation SOPs)<sup>15</sup> and SOPs in the matched control group (i.e., *pseudo* pre- and post-remediation SOPs).

## V.RESULTS

### *Approach 1: Controlling for Expected Changes in SOP Outcomes*

First, we compute the expected changes in voting outcomes without remediation based on non-remediation SOP firms. Our sample consists of 147 pairs of pre-and post-remediation SOPs, the same as in Table 1. Panel A of Table 2 presents the result for estimating expected changes in SOP outcomes without remediation. The left-hand side (LHS) variable is the *changes* in %*ForMgm*, and the right-hand side (RHS) variables are the *changes* in explanatory variables. We observe that %*ForMgm* is positively associated with firms' size (*Size*), stock returns (*Returns*), profitability (*ROA*), effective corporate governance (*OutsideDirectors*), and proxy advisor's recommendation (*ISSagree\_mgm*). In contrast, the variable %*ForMgm* is negatively associated

with excess CEO pay (*ExcessCEOpay*) and ineffective corporate governance (*CEODuality*). This observation is consistent with findings in prior literature and has high explanatory power (i.e., R-squared of 0.48).

We use the coefficient estimates to calculate the *predicted changes* in %*ForMgm* in the absence of remediation and control for the predicted changes in Eq. (2).<sup>16</sup> Panel B of Table 2 presents the regression result. After controlling for other factors, the coefficient of *POST* is 3.21 and statistically significant at the 1% level, suggesting that shareholders increase favorable votes on management proposals at annual meetings by 3.21% after the remediation. Prior research indicates that substantially high SOP voting dissent will pressure the corporate board to announce a negative recommendation on a compensation policy change (Del Guercio, Seery, & Woidtke, 2008; Ertimur et al., 2013; Gregory et al., 2014)<sup>17</sup>.

Regarding the control variables, consistent with prior studies, we document that shareholders vote more favorably on management proposals when firms experience good performance (e.g., *ROA* and *Returns*) or when proxy advisors agree with management proposals (*ISSagree\_mgm*). In contrast, they vote less favorably for weak corporate governance (*CEODuality*).

[Insert Table 2 about here]

In summary, shareholders are more likely to cast favorable votes on management SOP proposals if firms remediated the proxy statements upon the receipt of compensation-related comment letters, which supports our hypothesis one. The findings suggest that shareholders value the positive impacts of the remediation in compensation disclosure.

## ***Approach 2: Difference-in-Differences***

To analyze temporal differences (pre-and post-remediation) in SOP vote outcomes, we also employ a Difference-in-Differences (DID) research design by including matched control SOPs. Specifically, for each post-remediation SOP (i.e., treatment group), we identify one control SOP within the same industry year. The matched control sample has a similar likelihood of receiving a compensation-related letter from a pool of SOPs but did not get and is not required to remediate the proxy statement. Our pre-and post-remediation SOPs (the treatment group) are reduced to 140 pairs in this research design due to restrictions in matching.

Table 3 displays the results of approach 2. Panel A presents the comparison statistics of main variables between treatment remediation firms and matched non-remediation firms before receiving a compensation-related comment letter. The results suggest no significant differences between these two groups in the pre-remediation period, except for the *ROA*, which we also include as a control variable in the outcome model, Eq. (3). Panel B shows the regression results by implementing a difference-in-differences research design. The coefficient of *Treat* × *POST* is 2.78 and statistically significant at the 1% level, suggesting that favorable shareholder votes increase by 2.78% for firms that remediated the disclosure in the proxy statement before the annual meeting, relative to those that do not.

Regarding the control variables, we observe that firms' profitability (i.e., *ROA* and *Returns*) and ISS recommendation are positively associated with favorable shareholder voting, consistent with the results with approach 1. In addition, we document that shareholders are more likely to vote for management if insiders hold more shares (*InsiderHoldings*), suggesting share ownership of managers mitigates the agency costs. The above analyses again support our hypothesis that the remediation in compensation disclosure is associated with more favorable SOP votes.

[Insert Table 3 about here]

### **The magnitude of the remediation**

Based on the requirement of the 2006 regulation and the findings of Robinson et al. (2011), we classify the SEC comments into fifteen major categories, as displayed in Appendix 2. Then, we partition firms based on whether they receive the top-5 crucial comments. We re-run our tests in these two sub-samples. Untabulated results suggest that comment letters in our sample contain an average of 2.6 comments, much fewer than that of 12 comments in the initial SEC-focused study immediately following the 2006 regulation (Robinson et al., 2011), indicating a significant change in trend. In addition, in our sample, a typical comment letter contains an average of 0.4 top-5 key disclosure defects, suggesting a considerable improvement in compensation disclosure after their study.

Table 4 presents the regression results in Panel A and B for the two primary research designs, respectively. Column (1) of Panel A is for the sub-sample firms with the top five critical comments. The coefficient on *POST* is positive 5.34 (significant at the 5% level), indicating that the release of the compensation-related comment letter is associated with more favorable shareholder SOP votes. For the non-top five critical comments sub-sample in Column (2), the coefficient of *POST* is 2.03 and statistically insignificant. These results suggest that when firms resolve critical comments in the SEC comment letters (the improvement in the compensation disclosure is substantial), investors treat the complied proxy statement more positively and vote more favorably for management proposals in the shareholders' annual meetings.

Panel B displays similar results. Column (1) shows that, for the sub-sample of firms with the top five most crucial comments, the coefficient of *Treat*  $\times$  *POST* is 4.48 (significant at the 5% level), indicating that the remediation leads to an increase in favorable shareholder SOP votes. For

the sub-sample that did not receive such comments in Column (2), the coefficient of POST is 1.74 (statistically insignificant at the conventional levels).

The findings in Table 4 support our hypothesis two: when firms resolve the most crucial comments in SEC comment letters, investors treat the compiled proxy statement as of higher credibility and cast more favorable votes.

[Insert Table 4 about here]

## VI.FURTHER ANALYSIS

### **The impact of remediation on the likelihood of significant SOP vote dissent**

Although the SOP vote is not binding, significant dissent in the SOP vote can signal an inadequate compensation practice and lead to public outrage and more pressure to reevaluate the pay program (e.g., Cuñat et al., 2016; Ertimur et al., 2013; Gregory et al., 2014) And the SEC also requests firms to discuss the resolution plan in response to SOP vote dissent in the subsequent proxy statement. After annual meetings, many firms with large SOP vote dissent engage consulting firms, institutional holders, and retail shareholders in redesigning their pay package. In an additional analysis, we examine whether remediation in compensation disclosure reduces the likelihood of significant SOP vote dissent.

Following prior literature, we apply the cut-off point of 20% to define a significant SOP vote dissent. We re-run the same regressions of the previous two research approaches, replacing the dependent variable with an indicator variable, *shareholders dissent*, which equals one if over 20% of shareholders vote against management SOP proposals and zero otherwise. The results are presented in Table 5. We document that the remediation in disclosure significantly reduces the likelihood of firms getting an SOP vote dissent of over 20% with both research designs. In particular, Panel A displays that regarding research approach one, the remediation in compensation

disclosure reduces the probability of receiving a significant SOP vote dissent by 10%. In addition, the remediation of critical compensation issues (top-five) decreases this probability by 33%. Panel B documents similar results related to research approach two. After the remediation, treatment firms experienced a significant drop in the likelihood of getting an SOP vote dissent of over 20% compared to the matched control sample. The effects are more significant when the remediation is related to the top-five critical defects. These results echo our main findings and support hypotheses one and two.

[Insert Table 5 about here]

### **The impact on compensation practice**

The above analyses show that the remediation of proxy statements leads to more favorable shareholder votes. Next, we examine whether these influenced votes are associated with a reduction in executive payment and/or higher pay-for-performance sensitivity. That is, whether shareholders make the optimal SOP vote decisions. We employ the following model to test it.

$$\begin{aligned}
 & \ln(\text{CEO compensation}_t) \\
 & = \gamma_0 + \gamma_1 \text{POST} + \gamma_2 \text{Performance}_t \times \text{POST} + \gamma_3 \text{Performance}_t \quad (4) \\
 & + \gamma_4 \ln(\text{CEO compensation}_{t-1}) + \text{Year F. E.} + \varepsilon
 \end{aligned}$$

The Left-hand-side (LHS) variable of Eq. (4) is the logarithmic transformation of CEO total compensation. Prior literature documents that most firms use accounting earnings as a performance measure in compensation contracts (Murphy, 2000). Therefore, we use earnings per share (*EPS*) as one of the performance measures. In addition, we use firms' sales growth (*Sales Growth*) and stock returns (*Stock Returns*) as additional performance measures, as in Perry and



Zenner (2001). Finally, we construct a compounding index by summing up the ranks for sales growth, stock returns, and EPS.<sup>18</sup>

Panel A of Table 6 shows the regression result under approach 1, using the dataset for Eq. (2). In Column (2), the coefficient of *POST* is -0.32 and significant at the 5% level, indicating the total compensation of CEO is reduced following the release of comment letters. In addition, the coefficient of *Performance*  $\times$  *POST* is 0.51 and statistically significant at the 5% level, which suggests that CEOs' total compensation becomes more sensitive to stock returns after the remediation. The same inference still holds when using the compounding index to proxy for performance in Column (4). Panel B presents the regression result under approach 2 using the dataset for Eq. (3). The coefficients of *Performance*  $\times$  *Treat*  $\times$  *POST* are significantly positive when performance is measured by sales growth, stock returns, and the compounding index, respectively.

In summary, the above results provide supporting evidence that post-remediation SOPs have been associated with a reduction in total CEO compensation level and an increase in CEOs' pay-for-performance sensitivity. Hence, shareholders' votes are optimal for reducing agency problems in compensation contracts.

[Insert Table 6 about here]

### **Relaxing Sample Restriction**

Our main tests employ two primary research designs that strictly require a pair of pre-and post-remediation firms, which excludes the post-remediation firms in 2011 from the final sample.<sup>19</sup> Given that a significant number of SOPs occurred in 2011 and a tremendous number of SEC compensation-related letters were issued before and including 2010, we examine whether our

results are robust after relaxing the restriction in Eq. (2) and Eq. (3) by including post-remediation SOPs in 2011 who received compensation-related comment letters in 2010.

$$\%ForMgm = \gamma_0 + \gamma_1 POST + Controls + Firm F.E. + Year F.E. + \varepsilon \quad (5)$$

The sample period for estimating Eq. (5) is 2011-2018, and the sample comprises all SOPs with available data. *POST* is an indicator variable equal to one if there is remediation before the annual meeting. The control variables are the same as those in Eq. (2).

Panel A of Table 7 shows 306 SOPs in 2011 with a compensation-related letter in 2010, which significantly expands our sample size. Panel B presents the result from estimating Eq. (6). The coefficient of *POST* is 2.32 and statistically significant at the 1% level, suggesting that favorable shareholder votes, *%ForMgm*, increased by 2.32% after the compensation-related comment letter was publicly released. These results are consistent with our main findings, proving that remediation influences SOP voting outcomes.

[Insert Table 7 about here]

## VII. CONCLUSION

This study examines whether and how remediation in compensation disclosure matters for SOP votes. In general, we document that shareholders are more likely to agree with management SOP proposals if firms remediate the disclosure defects in the proxy statement upon the receipt of the SEC comment letter before SOP voting. When the remediation in disclosure is more substantial, the impact on SOP votes is more pronounced. The findings are robust to various research design specifications. We also find that firms' executive compensation is reduced post-remediation and becomes more sensitive to firm performance, implying that more transparent

disclosure enables shareholders to better monitor and evaluate the non-remediation firms' compensation practice.

Our findings have several implications for regulation and corporate governance. We demonstrate that the SEC review enhances the credibility of compensation disclosure, facilitating investors' monitoring of firms' compensation practices. Our findings suggest that the SEC's oversight of compensation disclosure from the proxy statement has achieved its intended purposes. Both management and shareholders consider compensation disclosure seriously in the SOP voting.

### Appendix 1: Variable Definitions

% ForMgm	the percentage of SOP supportive votes received for the company-sponsored proposals out of the total shareholder votes plus abstentions at an annual meeting, multiplied by 100;
CEODuality	An indicator variable equal to one if a CEO is also the chairman of the board of directors and zero otherwise;
ExcessCEOPay	Following Cai (2009), we calculate <i>ExcessCEOPay</i> as the residual from a compensation regression where the dependent variable is the total CEO compensation (logarithmic transformed) and the independent variables are assets, stock returns in the past year, industry dummy and year dummy, estimated with all ExecuComp firms during our sample period;
InsiderHoldings	shares held by executives and independent directors, scaled by the total outstanding shares;
InstitutionalHoldings	shares held by institutional owners, scaled by the total outstanding shares;
ISSagree_mgm	an indicator variable equal to one if Institutional Shareholder Services (ISS) recommend managers' proposal;
MTB	Market to book ratio of total equity
OutsideDirectors	independent board directors, scaled by the total number of board directors;
POST	an indicator variable equal to one if the SEC publicly released a compensation-related comment letter within a year before the shareholder meeting and zero otherwise; For control firms in approach #2, we refer to pseudo pre- and post-remediation SOPs;

Returns	one-year stock returns (adjusted by value-weighted market returns) before the annual meeting;
ROA	income before extraordinary item scaled by total assets;
Treat	In approach #2, an indicator variable equal to one if a firm receives a compensation-related comment letter in the sample period and zero otherwise;
Size	logarithmic transformation of firms' market capitalization (share price × number of outstanding shares) measured at the end of the fiscal year;
Volatility	the variance of a firm's daily stock returns in the year before the annual meeting;

**Appendix 2: Categories for The Disclosure Defects and Firm's Response Types**

**Top-5 key disclosure defects**

- Failed to disclose the performance targets in determining top executives' bonuses;
- Failed to explain how individual performance is used to determine each officer's compensation;
- Failed to identify and explain material differences in compensation between top executives;
- Failed to explain how the payment benefit levels are determined/ negotiated for purposes of terminating top executives' employment;
- Failed to explain all the functions played by the compensation consultants hired by the firm, including research, analysis, and recommendations. Also, failed to disclose the identity of the consultants;

**The non-top-5 disclosure defects**

- Failed to disclosure Golden parachute;
- Failed to disclose the specific exclusions (such as excluding impairment losses) in non-GAAP measure used in performance targets;
- Failed to describe how each element of compensation (e.g., Compensation deferral) is determined and how it fits into the overall objectives and affects other elements of compensation;
- Failed to explain the standard for determining material transactions for determining whether a transaction is fair, and the procedure for review;
- Failed to explain specific factors and criterial considered in determining elements of long-term equity awards and future payout;

Failed to disclose whether percentile of each compensation element is targeted against benchmark companies or how tally sheet information is used;

Failed to disclose fully the overall compensation discussion and analysis;

Failed to disclose companies used as benchmarks or the composition of industry groups used as benchmarks of benchmarks used for different elements of compensation;

Failed to disclose the information to share issuance related to equity incentive plans;

Others

### **Types of firm responses**

Classified as 1 if explained in detail and revise in the current and future filing; =2 if request confidential treatment and did not explain; =3 if claimed non-material information and did not explain; =4 if request for a reconsideration of the SEC comment (negotiation);

### Appendix 3: The determinant mode of a firm that remediates its proxy statements upon the receipt of a compensation-related comment letter.

We estimate a logit model of a firm that remediates its proxy statements upon the receipt of a compensation-related comment letter as in Eq. (A1).<sup>20</sup>

$$\begin{aligned}
 \text{Probability (Remediation} = 1) = & \beta_0 + \beta_1 \text{CEOcomp} + \beta_2 \text{ExcessCEOpay} + \\
 & \beta_3 \text{Restatement} + \beta_4 \text{Size} + \beta_5 \text{Volatility} + \beta_6 \text{FirmAge} + \beta_7 \text{ROA} + \\
 & \beta_8 \text{Altman's Z - score} + \beta_9 \text{SalesGrowth} + \beta_{10} \text{M\&A} + \beta_{11} \text{Big4} + \\
 & \beta_{12} \text{NonAuditFee} + \beta_{13} \text{OutsideDirectors} + \beta_{14} \text{CEODuality} + \\
 & \beta_{15} \text{MissingGovernance} + \beta_{16} \text{InstitutionalHoldings} + \\
 & \text{Year F. E.} + \text{SEC ReviewOffice F. E.} + \text{Industry F. E.} + \delta
 \end{aligned}
 \tag{A1}$$

Where *Remediation* is an indicator variable equal to one if a firm remediates its proxy statements upon the receipt of a compensation-related comment letter and zero otherwise. Following Robinson et al. (2011), we include CEO total compensation, *CEOcomp*, and excess CEO pay, *ExcessCEOpay*, as determinants for a firm receiving a compensation-related comment letter. We expect a positive sign on *ExcessCEOpay*.

Following prior literature (e.g., Bens et al., 2016; Cassell et al., 2013), we also control for four categories of factors affecting SEC scrutiny via generic comment letters (i.e., any type of comment letter). First, we consider the criteria included in SOX Section 408 paragraph (b), a guideline for the SEC reviewing process. We control for whether a firm restated its financial reports in the past three years, *Restatement*, an indicator variable equal to one if a firm restated its financial results and zero otherwise. We also control for firm size, *Size*, and a firm's stock return volatility, *Volatility*, computed as the variance of the firm's daily stock returns in the past year.

Second, we consider firms' characteristics that affect financial reporting quality and hence increase the likelihood of SEC scrutiny. We control for firms' characteristics as follows: firm's age (*FirmAge*), profitability (*ROA*), bankruptcy risk (*Altman's Z-score*), growth in sales revenue (*SaleGrowth*), and merger and acquisition (*M&A*). Third, we consider firms' auditor characteristics. We control for the reputation of a firm's auditor (*Big4*) and non-audit fees (*NonAuditFee*).

Fourth, we consider the impact of firms' corporate governance by controlling for the independence of board directors (*OutsideDirector*), CEO duality (*CEODuality*), shares held by institutional investors (*InstitutionalHoldings*). Following Cassell et al. (2013), we also add a dummy variable (*MissingGovernance*) for firms with missing corporate governance variables.

Table A1 presents the regression result for the prediction model in Eq. (A1). We document that a firm is more likely to remediate the proxy statement when excess CEO compensation is higher (*ExcessCEOpay*), and firms are larger in size (*Size*). This observation is consistent with the literature (e.g., Cassell et al., 2013; Robinson et al., 2011). In addition, the explanatory power of the prediction model, represented by pseudo R-squared, is 0.17, comparable with the prediction models in other studies (e.g., Bens et al., 2016).

**Table A1: Determinant model of remediation upon the receipt of compensation-related comment letters**

VARIABLES	Probability (Remediation upon the receipt of compensation- related letter in next year =1)
CEOcomp	-0.20 [-1.59]
ExcessCEOpay	0.26** [1.97]
Restatement	-0.08 [-1.20]
Size	0.14** [2.47]
Volatility	-3.63 [-1.37]
FirmAge	-0.00 [-1.09]
ROA	0.54 [1.40]
Altman's Z-score	0.01 [1.25]
SalesGrowth	0.03 [0.18]
M&A	-0.02 [-0.26]
Big4	0.04 [0.40]
NonAuditFee	0.13 [0.57]
OutDirectors	-0.15 [-0.58]
CEODuality	-0.01 [-0.09]
MissingGovernance	-0.19 [-0.93]
InstitutionalHoldings	0.13 [1.58]
Constant	-15.14*** [-10.59]
Year F.E.	Yes
SEC office dummies	Yes
Industry F.E.	Yes
Observations	17,019
Pseudo R2	0.17

Table A1 presents the regression result for the prediction model in Eq. (A1). LHS variable is *Comp\_CL*, an indicator variable equal to one with remediation and zero otherwise. \*\*\*, \*\* and \* indicate the significance of coefficient at the 1%, 5% and 10% levels, respectively, based on standard errors clustered at firm level. All variables are defined in the Appendix 1.



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**Table 1:**

## Panel A: Summary statistics

	Pre-remediation			Post-remediation			Difference in	
	# obs	mean	s.d.	# obs	mean	s.d.	mean	t-stat.
%ForMgm	147	86.76	16.03	147	89.97	13.42	3.22*	1.87
Size	147	7.72	1.53	147	7.78	1.56	0.06	0.35
Returns	147	0.06	0.31	147	0.01	0.28	-0.06*	-1.66
ROA	147	0.07	0.07	147	0.06	0.07	-0.01	-0.86
Volatility	147	0.02	0.01	147	0.02	0.01	0	0.64
ExcessCEOpay	147	0.05	0.77	147	0.01	0.78	-0.04	-0.47
OutsideDirectors	147	0.60	0.35	147	0.68	0.33	0.07*	1.81
CEODuality	147	0.38	0.49	147	0.41	0.49	0.03	0.59
InstitutionalHoldings	147	0.60	0.39	147	0.63	0.39	0.03	0.60
ISSagree_mgm	147	0.84	0.36	147	0.89	0.31	0.05	1.20
InsiderHoldings	147	0.05	0.09	147	0.05	0.09	0	0.10

## Panel B: Distribution of SOPs preceded with remediation related to compensation-related comment letters across years

	SOPs with remediation
2012	60
2013	26
2014	27
2015	18
2016	5
2017	7
2018	4
Total:	147

Panel A of table 1 displays the summary statistics of main variables between pre- and post-remediation firms. \*\*\*, \*\*, \* denotes statistical significance at the 1%, 5% and 10% levels, respectively, based on two-tailed t-tests for means. Panel B shows the distribution of letter firms in our sample over the sample period (2012-2018). The details are provided in Appendix 1.

**Table 2**

Panel A: The determinants model of change in favourable shareholder votes to management SOP proposals

	(1) $\Delta\%ForMgm$
$\Delta$ Size	2.50*** [4.75]
$\Delta$ Returns	1.95*** [4.60]
$\Delta$ ROA	6.34** [2.12]
$\Delta$ Volatility	35.36 [1.07]
$\Delta$ ExcessCEOPay	-2.11*** [-6.17]
$\Delta$ OutsideDirectors	6.56*** [3.23]
$\Delta$ CEODuality	-1.45*** [-3.18]
$\Delta$ InstitutionalHoldings	-1.02 [-0.61]
$\Delta$ ISSagree_mgm	25.27*** [45.85]
$\Delta$ InsiderHoldings	3.06 [0.55]
Constant	-1.96*** [-18.36]
Observations	7,753
R-squared	0.48

Panel B: Effect of remediation in compensation disclosure on SOP voting outcome

	%ForMgm
<b>POST</b>	<b>3.21***</b>
	[2.64]
Size	-0.75
	[-1.44]
Returns	3.71**
	[2.11]
ROA	29.25***
	[3.71]
Volatility	11.40
	[0.12]
ExcessCEOPay	-0.44
	[-0.44]
OutsideDirectors	0.20
	[0.08]
CEODuality	-2.62*
	[-1.68]
InstitutionalHoldings	0.92
	[0.53]
ISSagree_mgm	30.67***
	[10.53]
InsiderHoldings	17.64*
	[1.90]
ExpectedChange inVotes	-0.13
	[-1.31]
Constant	63.84***
	[10.68]
Year F.E.	Yes
Observations	294
R-squared	0.63

Panel A of table 2 presents the result for estimating expected changes in SOP outcomes in the absence of remediation. The left-hand-side (LHS) variable is the *changes* in %ForMgm, and the right-hand-side (RHS) variables are the *changes* in explanatory variables. We use the coefficient estimates to calculate the *predicted changes* in %ForMgm in the absence of remediation and control for it in Eq. (2).

Panel B of table 2 presents the regression result. The left-hand-side (LHS) variable is the %ForMgm. \*\*\*, \*\* and \* indicate the significance of coefficient at the 1%, 5% and 10% levels, respectively, based on standard errors clustered at firm level. All variables are defined in the Appendix 1

**Table 3**

Panel A: Summary statistics for treatment and matched control groups

	Control Group			Treatment Group			Difference in	
	# obs	mean	s.d.	# obs	mean	s.d.	mean	t-stat.
Size	140	7.82	1.55	140	7.71	1.48	0.11	0.62
PastReturns	140	0.06	0.31	140	0.07	0.29	-0.01	-0.23
ROA	140	0.05	0.10	140	0.07	0.07	-0.02*	-1.76
Volatility	140	0.02	0.01	140	0.02	0.01	0	0.19
ExcessCEOpay	140	0.04	0.50	140	0.07	0.70	-0.02	0.34
OutDirectors	140	0.60	0.37	140	0.61	0.35	0	0.07
CEODuality	140	0.36	0.48	140	0.38	0.49	-0.01	-0.25
InstitutionalHoldings	140	0.59	0.38	140	0.61	0.39	-0.02	-0.44
ISSagree_mgm	140	0.91	0.29	140	0.84	0.37	0.06	1.63
InsiderHoldings	140	0.05	0.09	140	0.05	0.09	0	0.33



Panel B: Effect of remediation in compensation disclosure on SOP outcome

	%ForMgm
POST	-1.11 [-1.36]
Treat	-2.87*** [-2.77]
<b>Treat × POST</b>	<b>2.78**</b> [2.40]
Size	-0.33 [-0.74]
Returns	3.65*** [3.07]
ROA	16.38*** [3.09]
Volatility	27.55 [0.45]
ExcessCEOPay	-0.52 [-0.60]
OutsideDirectors	0.48 [0.29]
CEODuality	-1.70 [-1.58]
InstitutionalHoldings	0.38 [0.33]
ISSagree_mgm	26.53*** [12.58]
InsiderHoldings	15.34*** [2.88]
Constant	66.10*** [13.69]
Year F.E.	Yes
Observations	560
R-squared	0.57

Panel A of table 4 presents the comparison statistics of main variables between letter firms and matched non-letter firms before receiving a compensation-related comment letter. \*\*\*, \*\* and \* indicate the significance of coefficient at the 1%, 5% and 10% levels, respectively, based on two-tailed t-tests for means.

Panel B shows the regression results by implementing a difference-in-differences research design. The left-hand-side (LHS) variable is the %ForMgm. \*\*\*, \*\* and \* indicate the significance of coefficient at the 1%, 5% and 10% levels, respectively, based on standard errors clustered at firm level. All variables are defined in the Appendix 1

**Table 4: The magnitude of the remediation on SOP voting outcomes**

Panel A: Approach #1

	Top 5	Non-top 5
<b>POST</b>	<b>5.34**</b>	<b>2.03</b>
	[2.54]	[1.52]
Size	-1.25	-0.44
	[-1.24]	[-0.71]
Returns	4.76**	1.22
	[2.43]	[0.40]
ROA	14.46	34.66***
	[0.81]	[4.05]
Volatility	-59.43	23.63
	[-0.51]	[0.17]
ExcessCEOPay	1.27	-3.87***
	[1.10]	[-3.17]
OutsideDirectors	5.26	-2.51
	[1.03]	[-1.01]
Duality	-2.15	-3.03*
	[-0.92]	[-1.79]
InstitutionalHoldings	0.30	1.17
	[0.11]	[0.49]
ISSagree	38.99***	28.35***
	[9.37]	[8.27]
InsiderHoldings	39.59**	-0.20
	[2.39]	[-0.02]
ExpectedChange inVotes	-0.31*	0.01
	[-1.99]	[0.11]
Constant	60.02***	66.20***
	[7.92]	[7.92]
Year F.E.	Yes	Yes
Observations	116	178
R-squared	0.70	0.69

Panel B: Approach #2

	Top 5	Non-top 5
POST	-3.38 [-1.65]	-0.03 [-0.03]
Treat	-3.77** [-2.44]	-2.10 [-1.59]
<b>Treat*POST</b>	<b>4.48**</b> [2.19]	<b>1.74</b> [1.23]
Size	-1.30* [-1.73]	0.06 [0.11]
Returns	2.88* [1.66]	4.26** [2.32]
ROA	16.94 [1.62]	19.87*** [2.90]
Volatility	1.05 [0.01]	45.07 [0.55]
ExcessCEOPay	1.07 [0.73]	-1.77* [-1.71]
OutsideDirectors	0.89 [0.29]	-0.01 [-0.00]
Duality	0.74 [0.45]	-3.35** [-2.29]
InstitutionalHoldings	1.50 [0.83]	-0.00 [-0.00]
ISSagree	27.48*** [8.24]	26.60*** [8.96]
InsiderHoldings	23.90** [2.26]	11.52* [1.72]
Constant	71.69*** [11.09]	63.64*** [9.09]
Year F.E.	Yes	Yes
Observations	224	336
R-squared	0.54	0.61

Table 4 presents the results in Panel A and B for the two primary research designs, respectively. Based on the requirement of the 2006 regulation and Robinson et al. (2011), we classify the SEC comments into fifteen major categories, as displayed in Appendix 2. Then, we partition firms based on whether they receive the top-5 crucial comments. We re-run our tests in these two sub-samples. In Panel A and Panel B, column (1)/(2) for the sub-sample firms with the top-5/non-top-5 crucial comments. The left-hand-side (LHS) variable is the %ForMgm. \*\*\*, \*\* and \* indicate significance of coefficient at the 1%, 5% and 10% levels, respectively, based on standard errors clustered at firm level. All variables are defined in the Appendix 1

**Table 5: The impact of remediation on the likelihood of SOP significant vote dissent**

Panel A: Approach #1

	Probability(shareholders dissent = 1)		
	Full	Top 5 issues	Non-top 5 issues
<b>POST</b>	<b>-1.29**</b>	<b>-11.60**</b>	<b>-0.77</b>
(marginal effect)	[-2.07]	[-2.33]	[-1.11]
	-0.10	-0.33	-0.02
Size	0.18	2.79	-0.02
	[0.97]	[1.25]	[-0.06]
Returns	-1.13	-10.32**	-1.07
	[-1.57]	[-2.35]	[-1.17]
ROA	-10.21**	-34.65*	-12.92***
	[-2.50]	[-1.66]	[-3.33]
Volatility	2.60	879.98*	-22.20
	[0.07]	[1.92]	[-0.45]
ExcessCEOPay	0.73**	2.16	0.76
	[2.47]	[1.11]	[1.42]
OutsideDirectors	-0.76	-6.50***	0.18
	[-0.90]	[-2.72]	[0.23]
CEODuality	0.67	-4.45	1.05
	[1.38]	[-1.36]	[1.36]
InstitutionalHoldings	-0.61	12.47**	-1.34**
	[-0.95]	[2.14]	[-2.29]
ISSagree_mgm	-4.28***	-30.99**	-3.64***
	[-5.91]	[-2.29]	[-7.23]
InsiderHoldings	-4.67	-199.97**	-1.67
	[-0.72]	[-2.08]	[-0.30]
ExpectedChange inVotes	0.01	0.14*	-0.04
	[0.51]	[1.96]	[-1.64]
Year F.E.	Yes	Yes	Yes
Observations	294	109	176
Pseudo R2	0.452	0.846	0.468

Panel B: Approach #2

	Probability(shareholders dissent = 1)		
	Full	Top 5 issues	Non-top 5 issues
POST	0.25 [0.64]	0.42 [0.55]	0.16 [0.23]
Treat	1.13*** [3.83]	0.47 [0.99]	1.32*** [2.75]
<b>Treat*POST</b>	<b>-1.26*</b> [-1.88]	<b>-1.83**</b> [-2.30]	<b>-0.93</b> [-1.35]
(marginal effect)	-0.05	-0.08	-0.03
Size	0.08 [0.36]	0.39 [1.18]	0.02 [0.07]
Returns	-1.13** [-2.04]	-1.07 [-1.18]	-1.50** [-2.31]
ROA	-6.51*** [-3.65]	-4.73 [-1.53]	-10.99*** [-3.86]
Volatility	26.39 [0.61]	64.55 [1.39]	20.84 [0.47]
ExcessCEOPay	0.52 [1.43]	0.95 [1.45]	0.47 [1.36]
OutsideDirectors	-0.54 [-0.95]	-1.89* [-1.75]	0.38 [0.42]
Duality	0.86*** [3.85]	0.44 [0.82]	1.27*** [2.69]
InstitutionalHoldings	-0.65* [-1.65]	-0.40 [-0.48]	-1.08** [-2.40]
ISSagree	-4.58*** [-12.28]	-6.29*** [-3.48]	-4.84*** [-7.97]
InsiderHoldings	-6.07 [-1.39]	-18.67*** [-2.60]	-5.17 [-1.29]
Year F.E.	Yes	Yes	Yes
Observations	560	224	336
Pseudo R2	0.468	0.572	0.514

Table 5 presents the logit regression results of Eq. (2) & (3) with LHS variable “*Shareholders dissent*”, an indicator variable equal to one if over 20% shareholders vote against management SOP proposal, and zero otherwise. \*\*\*, \*\* and \* indicate the significance of coefficient at the 1%, 5% and 10% levels, respectively, based on standard errors clustered at firm level. All variables are defined in the Appendix 1.

**Table 6: The effect of remediation on pay-for-performance sensitivity**

Panel A: Approach #1

	Performance measures			
	Sales growth	Stock returns	EPS	Compounding index (sum of the ranks for sales growth, stock returns and EPS)
<b>POST</b>	<b>-0.14</b>	<b>-0.32**</b>	<b>-0.14</b>	<b>-0.39***</b>
	[-1.08]	[-2.34]	[-1.13]	[-2.61]
<b>Performance*POST</b>	<b>0.18</b>	<b>0.51**</b>	<b>0.18</b>	<b>0.22***</b>
	[0.90]	[2.44]	[0.86]	[2.65]
Performance	0.05	-0.17	0.11	-0.01
	[0.33]	[-1.02]	[0.53]	[-0.17]
MTB	0.01	0.01	0.02	0.00
	[0.46]	[0.40]	[1.29]	[0.25]
Size	0.03	0.03	0.02	0.02
	[0.78]	[0.66]	[0.55]	[0.46]
lnCEOcomp_lag	0.80***	0.80***	0.80***	0.81***
	[12.06]	[12.07]	[11.87]	[12.27]
Constant	1.46***	1.63***	1.53***	1.59***
	[4.18]	[4.58]	[4.36]	[4.52]
Year F.E.	Yes	Yes	Yes	Yes
Observations	292	292	292	292
R-squared	0.78	0.78	0.78	0.78

Panel B: Approach #2

VARIABLES	Performance meausres			
	Sales growth	Stock returns	EPS	Compounding index (sum of the ranks for sales growth, stock returns and EPS)
POST	0.34** [2.47]	0.21 [1.36]	0.15 [1.03]	0.44* [1.93]
Treat	0.36** [2.55]	0.29* [1.89]	0.13 [0.96]	0.52** [2.32]
Performance	0.58*** [3.34]	0.22 [1.17]	0.07 [0.42]	0.26** [2.34]
<b>Treat*POST</b>	<b>-0.43**</b> [-2.49]	<b>-0.48**</b> [-2.48]	<b>-0.32*</b> [-1.68]	<b>-0.83***</b> [-3.05]
Performance * POST	-0.46** [-2.30]	-0.22 [-0.97]	-0.09 [-0.40]	-0.22* [-1.78]
Performance * Treat	-0.48** [-2.09]	-0.36 [-1.43]	-0.06 [-0.24]	-0.27** [-2.06]
<b>Performance *Treat*POST</b>	<b>0.58**</b> [2.11]	<b>0.69**</b> [2.25]	<b>0.36</b> [1.20]	<b>0.46***</b> [2.95]
MTB	0.00 [0.30]	0.01 [0.72]	0.02 [1.51]	0.01 [0.48]
Size	0.07** [2.21]	0.08** [2.31]	0.08** [2.26]	0.07** [2.03]
lnCEOcomp_lag	0.76*** [12.84]	0.75*** [12.09]	0.74*** [12.21]	0.75*** [12.60]
Constant	1.13*** [3.61]	1.36*** [4.02]	1.48*** [4.89]	1.12*** [3.16]
Year F.E.	Yes	Yes	Yes	Yes
Observations	558	558	558	558
R-squared	0.78	0.78	0.77	0.78

Panel A and B of Table 5 shows the regression result under approach 1 and 2, respectively. The Left-hand-side (LHS) variable of Eq. (5) is the logarithmic transformation of CEO total compensation. Performance is proxied by use earnings per share (*EPS*), firms' sales growth (*SalesGrowth*) and stock returns (*StockReturns*), respectively. \*\*\*, \*\* and \* indicate significance of coefficient at the 1%, 5% and 10% levels, respectively, based on standard errors clustered at firm level.

**Table 7: Relaxing the restriction on pairs of treatment SOPs**

Panel A: Distribution of the remediation SOPs preceded with compensation-related commend letters across 2011-2018

	with compensation- related CLs
2011	306
2012	64
2013	32
2014	34
2015	19
2016	10
2017	7
2018	4
Total:	<u>530</u>

Panel A of Table 6 shows the distribution of SOP meetings preceded with compensation-related commend letters across years 2011-2018.



Panel B: Effect of compensation-related comment letters on SOP outcome

	(1) %ForMgm
<b>POST</b>	<b>2.32***</b>
	[2.79]
Size	0.42
	[0.83]
Returns	2.21***
	[5.98]
ROA	5.08*
	[1.89]
Volatility	11.80
	[0.39]
ExcessCEOPay	-1.26***
	[-3.54]
OutsideDirectors	2.31***
	[2.59]
Duality	-2.83***
	[-5.06]
InstitutionalHoldings	1.35
	[1.12]
ISSagree_mgm	27.47***
	[43.03]
InsiderHoldings	1.61
	[0.40]
ExpectedChange inVotes	57.89***
	[13.76]
Firm F.E.	Yes
Year F.E.	Yes
Observations	8,318
R-squared	0.64

Panel B presents the result from estimating Eq. (6). The left-hand-side (LHS) variable is the %ForMgm. \*\*\*, \*\* and \* indicate significance of coefficient at the 1%, 5% and 10% levels, respectively, based on standard errors clustered at firm level. All variables are defined in the Appendix 1.

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<sup>1</sup> Because the SOP starts from 2011, the post-remediation firms in 2011 have no pre-remediation SOP data and hence are not included in the sample.

<sup>2</sup> <https://www.sec.gov/divisions/corpfin/cffilingreview.htm>

<sup>3</sup> <https://www.sec.gov/rules/final/2006/33-8732a.pdf>

<sup>4</sup> <https://www.sec.gov/news/press/2006/2006-123.htm>

<sup>5</sup> <https://www.sec.gov/news/speech/executive-compensation-beyond-dodd-frank.html>

<sup>6</sup> In our further analysis, we relax this restriction, and our inference is robust to this broader sample.

<sup>7</sup> We use keywords such as compensation, stock option plan, stock plan, remuneration, bonus plan, incentive, compensation-related, executive pay, equity awards and pay to identify compensation-related shareholder voting. To exclude non-executive compensation issues, we also exclude voting if the agenda includes non-employee, auditor, or election. Finally, we require advisory to be included in the *agendageneraldesc*.

<sup>8</sup> To attribute a change in outcomes of SOP meetings to an SEC comment letter, we require that pre-remediation and post-remediation SOPs must be paired. As a result, our *post-remediation* SOPs start in 2012 and end in 2018 in our main tests. In our further analysis, we also consider *post-remediation* SOP meetings in 2011, immediately following SEC compensation-related letters that were publicly released in 2010. Our inference is robust to this alternative research design.

<sup>9</sup> The SEC publicly releases the correspondence with firms once the issue has been resolved. *Post-remediation* SOPs are those being held within one year after the releasing date of a compensation-related SEC comment letter.

<sup>10</sup> In further analysis, we obtain similar results when using the logit transformation of  $\%ForMgm$ ,  $\log(\%ForMgm/(100 - \%ForMgm))$ , as in Bethel and Gillan (2002) and Ertimur et al. (2013). For ease of interpretation, we present the results using  $\%ForMgm$  as the dependent variable in Eq. (1).

<sup>11</sup> Our results are robust if the firm size is proxied by firms' total assets.

<sup>12</sup> Following Cai et al. (2009), we calculate *ExcessCEOPay* as the residual from a compensation regression where the dependent variable is the total CEO compensation (logarithmic transformed) and the independent variables are assets, stock returns in the past year, industry dummy and year dummy, estimated with all ExecuComp firms during our sample period.

<sup>13</sup> For control firms, we refer to pseudo pre- and post-remediation SOPs.

<sup>14</sup> All other control variables in Eq. (2) are defined the same as in Eq. (1).

<sup>15</sup> After matching, the number of pairs for pre- and post-remediation SOPs drops to 172 from 179.

<sup>16</sup> For the voting prior to compensation-related comment letters, the expected change in  $\%ForManagement$  is zero.

<sup>17</sup> The higher the SOP voting dissent, the more pressure is exercised. Empirically, a significant portion of dissent measures above 10% (Gregory et al., 2014), 20% (Del Guercio et al., 2008), or 30% (Ertimur et al., 2013) voting disagreement. If we use 20% as a threshold for significant vote dissent, the mean of 'dissent' is 0.20, and the comment letter can reduce this possibility to 0.10 as in panel A of table 5, suggesting a 10% drop in the probability of 'dissent'.

<sup>18</sup> Untabulated results show that the inference still hold after including firm size, market to book ratio and industry fixed effect in the regression.

<sup>19</sup> Because the SOP starts from 2011, the post-remediation firms in 2011 have no pre-remediation SOP data and hence are not included in the sample.

<sup>20</sup> Given the SEC started to provide compensation-related comment letters in 2006, we use a broader sample period (i.e., 2006-2018) to estimate Eq. (A1). Our inference is robust by restricting the sample period to 2011-2018.