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Pay Versus Performance and Investor Voting Decisions

Finance Working Paper N° 1148/2026
July 2026

Aiyesha Dey
Harvard University
Berk A. Sensoy
Vanderbilt University
Austin Starkweather
University of Tennessee, Knoxville
Joshua T. White
Vanderbilt University and ECGI

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This paper can be downloaded without charge from:
https://doi.org/10.67929/ecgi-fin-1148-2026

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ECGI Working Paper Series in Finance

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We thank Tara Bhandari (discussant), Shawn Mobbs (discussant), Lalitha Naveen (discussant), Manuel Adelino, Jeffrey Coles, Ranjan D'Mello, David De Angelis, Jesse Ellis, Stu Gillan, Sungjoung Kwon, Lily Li, Michelle Lowry, Nadya Malenko, Veronika Penciakova, Denis Sosyura, Tracie Woidtke, Fei Xie, David Yermack, workshop participants at the New York University, Vanderbilt University, University of South Carolina, University of Tennessee, Wayne State University, North Carolina State University, Mississippi State University, University of North Texas, The Brattle Group, and conference attendees at the 2024 INSEAD Accounting Symposium, 4th Annual Boca-ECGI Corporate Finance and Governance Conference, 17th Annual Corporate Governance Academic Conference at Drexel University, and the 2024 Delaware Weinberg Center-ECGI Corporate Governance Symposium for helpful comments. We thank Jonathon Zytnick for sharing data on proxy advisor firm recommendations. Surya Sama provided excellent research assistance. All errors are our own. Funding for this research was provided in part by Harvard Business School and the Hans Stoll Financial Markets Research Center at Vanderbilt University. The Securities and Exchange Commission (SEC) disclaims responsibility for any private publication or statement of any SEC employee or Commissioner. This paper expresses the author's views and does not necessarily reflect those of the Commission, the Commissioners, or other members of the staff.

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Abstract

We analyze whether the SEC's Pay Versus Performance (PVP) disclosure rule lowers the cost of processing CEO-pay information. Using hand-collected disclosures, we show that larger divergences between the newly disclosed compensation actually paid (CAP) and already required pay disclosure methods correlate with changes in voting support for Say-on-Pay and compensation committee directors, especially when compensation is harder to evaluate. Placebo tests using CAP that firms disclosed only retroactively, and that investors had not yet observed, reveal no comparable association in the prior year, supporting a disclosure-driven interpretation. Investors respond negatively when CAP is high relative to traditional reported pay and stock returns are weak, consistent with concerns about pay-performance misalignment. These inferences hold for the Big Three institutional investors and proxy advisors, suggesting that PVP disclosures also inform sophisticated investors and information intermediaries. Overall, the PVP rule appears to improve the decision-usefulness of CEO-pay disclosures by lowering information processing costs for capital market participants.

Keywords: SEC disclosures, pay-for-performance, executive compensation, information processing costs, disclosure regulation

JEL Classifications: G30, G38, G39, M12, M48

Aiyesha Dey
Professor
Harvard University
Soldiers Field Road Morgan 270C
Boston, MA 02163, USA
e-mail: adey@hbs.edu

Berk A. Sensoy
Hans Stoll Chair, Professor of Finance
Vanderbilt University
401 21st Ave. S.
Nashville, TN 37203, USA
e-mail: berk.sensoy@owen.vanderbilt.edu

Austin Starkweather
Assistant Professor
University of Tennessee, Knoxville
453 Haslam Business Building
Knoxville, TN 37996-4140, USA
e-mail: as@utk.edu

Joshua T. White*
Assistant Professor of Finance
Vanderbilt University
401 21st Avenue South
Nashville, TN 37203, USA
e-mail: josh.white@vanderbilt.edu

*Corresponding Author

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Aiyesha Dey
Harvard Business School

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Vanderbilt University

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University of Tennessee

Joshua T. White
Vanderbilt University

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Contact Information: Aiyesha Dey (adey@hbs.edu); Berk Sensoy (berk.sensoy@vanderbilt.edu); Austin Starkweather (as@utk.edu); Josh White (josh.white@vanderbilt.edu). We thank Tara Bhandari (discussant), Shawn Mobbs (discussant), Lalitha Naveen (discussant), Manuel Adelino, Jeffrey Coles, Ranjan D'Mello, David De Angelis, Jesse Ellis, Stu Gillan, Sungjoung Kwon, Lily Li, Michelle Lowry, Nadya Malenko, Veronika Penciakova, Denis Sosyura, Tracie Woidtke, Fei Xie, David Yermack, workshop participants at the New York University, Vanderbilt University, University of South Carolina, University of Tennessee, Wayne State University, North Carolina State University, Mississippi State University, University of North Texas, The Brattle Group, and conference attendees at the 2024 INSEAD Accounting Symposium, 4th Annual Boca-ECGI Corporate Finance and Governance Conference, 17th Annual Corporate Governance Academic Conference at Drexel University, and the 2024 Delaware Weinberg Center-ECGI Corporate Governance Symposium for helpful comments. We thank Jonathon Zytnick for sharing data on proxy advisor firm recommendations. Surya Sama provided excellent research assistance. All errors are our own. Funding for this research was provided in part by Harvard Business School and the Hans Stoll Financial Markets Research Center at Vanderbilt University. The Securities and Exchange Commission (SEC) disclaims responsibility for any private publication or statement of any SEC employee or Commissioner. This paper expresses the author's views and does not necessarily reflect those of the Commission, the Commissioners, or other members of the staff.

1. Introduction

In 2022, the SEC adopted a new rule requiring public firms to include a section in their annual proxy statements comparing executive compensation with firm performance. This new Pay Versus Performance (PVP) rule mandates a table listing key metrics: 1) the traditional CEO pay based on the fair value estimates, 2) newly tabulated CEO pay adjusted for performance, and 3) firm performance metrics, including stock returns for both the firm and its peers. In this paper, we examine the real implications of these disclosures on investor voting decisions regarding executive compensation and director elections, two voting decisions the rule aimed to inform.

A key feature of the PVP rule is that much of the required information is already available in other sections of the proxy statement or annual report. The rule therefore does not primarily create new information. Instead, it standardizes and consolidates CEO pay and performance measures in one place, which allows investors to compare traditional CEO pay information, compensation actually paid (CAP), and firm performance more easily. This raises the core question we examine: whether repackaging and processing CEO pay-performance information in a simpler format lowers investors' processing costs enough to affect their voting decisions.[1]

Supporters of the PVP rule argue that the new pay-performance disclosure will help investors evaluate whether executive pay is aligned with shareholder outcomes. Institutional investors and advocacy groups contend that presenting CAP alongside firm and peer performance makes pay practices easier to assess and helps shareholders evaluate compensation committee oversight (Council of Institutional Investors, 2022; Better Markets, 2022). Compensation consultants similarly describe CAP as a useful complement to traditional reported pay and argue it better reflects how changes in firm value affect CEO wealth (Pay Governance, 2023).

The argument for PVP disclosure rests on the premise that existing pay disclosures are lengthy and complex, making it costly for investors to identify and integrate pay-performance information into voting decisions. We assess whether standardizing CAP and performance measures in one table makes CEO pay information more decision-useful. Although institutional investors often rely on proxy advisors (Malenko and Shen, 2016), they also conduct independent analyses using firm-provided disclosures. Thus, PVP disclosures may affect voting by lowering the cost of acquiring and processing pay-performance information (Blankespoor et al., 2020).

[1] The SEC notes, "*This repackaging of some of the information from existing disclosures into the required pay-versus-performance disclosure is intended to allow investors to more quickly or easily process the information accurately."*

However, this argument is not without contention.[2] Critics argue that PVP disclosures are largely redundant, as investors already have access to much of the information needed to calculate the new performance-adjusted pay (e.g., Business Roundtable, 2015; Center on Executive Compensation, 2015). As a result, they contend that the rule will not enhance investor voting decisions and may instead contribute to disclosure overload by requiring another compensation table without providing incremental insight (Paredes, 2003). This concern is particularly plausible for sophisticated institutional investors, who likely have the expertise, resources, and proxy-advisor support needed to evaluate existing compensation disclosures.

These contrasting perspectives leave open the question whether PVP disclosures affect how investors evaluate executive pay. To shed light on this, we hand-collect PVP data from proxy statements for more than 2,500 firms. Our novel dataset includes the new CEO CAP information, CEO pay from the long-required summary compensation table (SCT), and firm and peer total shareholder return (TSR). Appendix A presents examples of the PVP disclosures.

CAP adjusts SCT pay for changes in the value of unvested stock and option awards, dividends, and pensions. Unlike SCT pay, which is never negative, CAP can be negative when declines in unvested equity value exceed other reported compensation. Thus, CAP may provide a more performance-sensitive measure of CEO pay by reflecting how changes in firm value affect unvested CEO wealth. Although investors could previously approximate similar adjustments using public information, the PVP disclosure may lower processing costs by presenting CAP, SCT pay, and performance metrics together in a standardized format.

Our main metric captures how far CAP diverges from SCT pay. We center the measure so that a CAP value equal to SCT pay reflects no divergence, while larger values indicate greater differences between performance-adjusted pay and traditional accounting-based pay. This approach avoids treating pay that equals SCT the same as pay that falls sharply below SCT. If the PVP disclosures lower investors' processing costs, larger absolute divergences between CAP and SCT should correlate with larger changes in voting support for Say-on-Pay (SOP) proposals and compensation committee (CC) elections.

In our first set of tests, we find that larger absolute divergences between CAP and SCT pay are associated with changes in SOP support relative to the prior year. These results hold after controlling for firm performance and industry, and they are also present when we condition on

[2] Disagreement over the PVP rule's impact delayed finalization until 2022, despite Congress mandating it in 2010.

proxy advisor recommendations.[3] This suggests that the new CAP tabulation provides investors with decision-useful information beyond what was reflected in traditional pay disclosures.

Additionally, we find that CAP-SCT divergence is associated with changes in voting support for CC members, who oversee executive pay. By contrast, voting support for other board members is unrelated to the CAP-SCT divergence. This suggests that investors use the PVP disclosures to evaluate directors with compensation oversight, rather than simply expressing broader concerns about board governance.

To help distinguish the effect of the new disclosure from preexisting firm factors, we conduct a placebo test using CAP information for the fiscal year immediately preceding each firm's first PVP fiscal year. Firms disclosed this prior-year CAP information retroactively in their first PVP proxy statements, so investors had not observed it when casting votes at the prior annual meeting. For December fiscal-year-end firms, this means that fiscal year 2021 CAP was first disclosed in the 2023 proxy statement and therefore was unavailable during the 2022 proxy season. We find no relation between prior-year CAP-SCT divergence and voting outcomes at the prior annual meeting, which supports the interpretation that the voting changes observed after the first PVP disclosure reflect investors' response to the newly disclosed PVP information.

We next examine whether the voting response is stronger when investors' pay-related processing costs are likely higher. If PVP disclosures lower these costs, CAP-SCT divergence should elicit a stronger voting response when compensation details are harder to process and interpret. Consistent with this prediction, we find stronger voting responses at firms with more complex pay arrangements and more equity-based compensation. We do not find similar evidence for overall proxy length, suggesting that the response is more closely related to the economic complexity of pay than to the length of the proxy statement as a whole. These findings suggest that PVP disclosures affect voting by making pay-performance information easier to process.

Investor voting reactions to CAP disclosures likely depend on firm performance, as pay-performance alignment could become clearer when CAP is shown alongside stock returns of the firm and its peers. For these tests, we use the signed CAP/SCT ratio and partition firms based on positive and negative stock returns, measured using both actual TSR and abnormal TSR relative

[3] Because we find that proxy advisor recommendations themselves vary with PVP information, specifications that include contemporaneous recommendations should be interpreted as voting associations net of the proxy-advisor channel, rather than as the total investor response to the disclosure.

to the peer returns disclosed in the PVP table. We find that higher signed CAP/SCT ratios correlate with lower support for SOP proposals and CC members when actual or abnormal TSR is negative. By contrast, when actual TSR is positive, higher signed CAP/SCT ratios are associated with greater SOP support. This suggests that investors do not respond mechanically to higher CAP. Instead, they appear to evaluate whether higher performance-adjusted pay relates to stock returns.

The findings discussed so far are not limited to the broader investor base. We find similar results when we focus on voting by the Big Three institutional investors. Their voting support changes with CAP-SCT divergence in the main SOP and CC tests, varies more strongly when pay-related processing costs are higher, and responds to the signed CAP/SCT ratio differently depending on firm performance. These results suggest that standardized PVP disclosures inform even sophisticated investors who have the resources to process complex disclosures and ready access to proxy advisor research.

Together, our findings suggest that PVP disclosures help investors process CEO pay-performance information by consolidating CAP, SCT pay, and performance metrics in a standardized format. Investors incorporate CAP-SCT divergence into their voting decisions, especially when compensation is harder to evaluate and when CAP/SCT ratios coincide with weaker stock returns. While we cannot assess whether this ultimately results in "better" voting outcomes, the evidence indicates that CAP disclosures make already available or computable information more usable by simplifying investors' integration of pay-performance information.

As an additional test, we also examine whether PVP disclosures inform proxy advisors, whose recommendations often shape investor voting (Hayne and Vance, 2019). Although proxy advisors specialize in processing compensation information, time constraints during proxy season may limit their ability to fully analyze complex pay disclosures (Albuquerque et al., 2020). If CAP disclosures influence proxy advisor recommendations, this would provide evidence that the PVP rule reduces processing costs for information intermediaries, not just investors.

Consistent with this view, we find that proxy advisor recommendations also vary with the PVP disclosures. In the full sample, larger CAP-SCT divergence associates with more favorable changes in both ISS and Glass Lewis (GL) SOP recommendations. When we use the signed CAP/SCT ratio, both advisors are less likely to increase support for firms with higher CAP/SCT ratios when TSR is negative. ISS, but not GL, is more likely to increase support for firms with higher CAP/SCT ratios when TSR is positive. We do not find similar evidence for CC

recommendations. Overall, the proxy advisor results suggest that PVP disclosures inform information intermediaries primarily through their SOP assessments.

Collectively, the evidence is consistent with disclosure theory predicting that processing costs affect how market participants use public information (e.g., Grossman and Stiglitz, 1980; Blankespoor et al., 2020). The PVP rule did not primarily require firms to disclose new information. Instead, it simplified, standardized, and consolidated pay-performance information in a way that appears to help investors and proxy advisors evaluate the relation between CEO pay and firm performance.

Our study is subject to some limitations. First, given the rule's relatively recent adoption and the requirement to hand collect information, we study only the initial voting response. Since the rule took effect quickly after being adopted in August 2022, firms had limited time to prepare their disclosures. Firms, investors, and proxy advisors may adjust over time as they gain experience with this disclosure. Second, given our research objective, we do not assess whether investors' voting decisions pursuant to the CAP disclosures lead to "better" voting outcomes. Investors may overemphasize CAP, misinterpret its relation to performance, or give insufficient weight to qualitative features of CEO pay. We do not observe firms' costs of preparing PVP disclosures or measure all possible benefits and costs. We therefore cannot assess whether the rule's benefits exceed its compliance costs.

Our study contributes to two literatures. First, it builds on the literature on disclosure processing costs, which shows that frictions in acquiring and integrating public information can affect investor decisions and market outcomes (e.g., Hirshleifer et al., 2009; Dong et al., 2016; Blankespoor et al., 2019). It complements existing evidence that sophisticated market participants do not always fully incorporate all publicly available information into their decisions (Lee and Zhu, 2022). As Murphy (2013) notes, most executive compensation research focuses on pay levels and incentives but often overlooks how disclosure design affects the use of compensation information. We show that standardized PVP disclosures affect investor and proxy advisor decisions even though much of the underlying information was previously available or could be computed. This evidence extends prior work (e.g., Blankespoor et al., 2020) by showing that disclosure format and consolidation can matter for voting decisions, not only for market pricing or information acquisition.

Second, our findings contribute to the literature on shareholder influence on executive pay and directors (e.g., Malenko and Shen, 2016; Ertimur et al., 2018; Cabezon, 2025). We show that PVP disclosures are associated with changes in voting support for SOP proposals and CC directors, especially when pay is more difficult to evaluate. Because much of this information was previously available, our findings indicate that the format and consolidation of compensation disclosures, not just their content, can shape voting outcomes. They also align with evidence that investors often supplement proxy advisor recommendations with their own analyses when voting (Iliev and Lowry, 2015; McCahery et al., 2016).

Our findings also have implications for both practice and policy. For firms, the results suggest that how compensation information is presented can affect how market participants evaluate pay practices and CC oversight. An interesting avenue for future research is to examine how PVP disclosures may shape executive compensation design and governance practices over time. For regulators, our evidence indicates that simplifying and consolidating CEO compensation disclosures can enhance the usefulness of complex pay information, even when the underlying data are already public. This evidence is especially relevant as the SEC considers whether and how to revise executive compensation disclosures.[4]

2. Institutional Background: The Pay Versus Performance Rule

The Dodd-Frank Act of 2010 directed the SEC to establish a rule requiring firms to disclose the relation between executive CAP and financial performance, taking into account changes in the value of shares, dividends, and other distributions. Although SEC rules already require extensive executive compensation disclosure in annual proxy statements, the PVP rule introduces a standardized table that presents CAP, traditional SCT pay, and performance measures in one place. This PVP rule largely changes how firms present and organize pay-performance information.

2.1. Timeline of Adoption

The SEC first proposed the PVP rule in 2015 and received extensive public input, including 155 comment letters and 15 meetings with market participants (SEC, 2015; SEC, 2022).

[4] For example, the SEC hosted a roundtable on executive compensation disclosure requirements on June 26, 2025. The agenda included discussion of whether existing executive compensation disclosure rules have achieved their policy objectives, the challenges of preparing the required disclosures, the types of disclosure investors find material, and what the requirements should look like in the future. See SEC, "SEC Roundtable on Executive Compensation Disclosure Requirements" (June 26, 2025).

Commenters raised concerns about the cost and complexity of the proposed disclosure, as well as whether the rule would provide incremental benefits to investors. After a seven-year pause, the SEC announced the reopening of the PVP rule on January 19, 2022, with the official comment period starting on January 27, 2022.[5] The rule was finalized on August 25, 2022 (SEC, 2022).[6] Figure 1 provides a complete timeline of the PVP rule's adoption.

[Insert Figure 1 here]

The final rule created an unexpectedly short implementation period. Market participants generally believed the rule would not take effect until the 2024 proxy season, but the final rule required firms with fiscal years ending on or after December 16, 2022, to include PVP disclosures in their 2023 proxy statements.[7] This timing likely pressured firms to quickly prepare the new disclosure shortly after adoption and limited their ability to strategically adjust compensation components before market participants first observed CAP.

The final rule applies to all SEC-reporting firms other than Emerging Growth Companies, Registered Investment Companies, and Foreign Private Issuers. Smaller Reporting Companies (SRCs) are permitted to provide scaled disclosures.[8] As a result, initial PVP disclosures typically appeared in proxy statements filed for the first annual meeting following the firm's first fiscal year subject to the rule. For most firms, including firms with December fiscal year-ends, this first PVP fiscal year is fiscal year 2022 and the related proxy statement was filed in 2023. For firms with non-December fiscal year-ends, the first PVP fiscal year can fall in fiscal year 2023. Figure 2 illustrates this timing for December fiscal-year-end firms and defines the reference points used in our tests. We define each firm's first fiscal year subject to the PVP rule as year *t*.

[Insert Figure 2 Here]

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[5] See K. Johnson, "U.S. SEC to vote next week on boosting hedge fund disclosures" Reuters, Jan. 19, 2022, https://www.reuters.com/business/us-sec-vote-next-week-boosting-hedge-fund-disclosures-chair-gensler-2022-01-19/.

[6] SEC rules are often voted on in an open meeting following a Sunshine Act notice issued a week in advance. However, this rule was adopted in August 2022 via seriatim, in which SEC Commissioners provide written consent instead of holding an open meeting, meaning there was no Sunshine Act notice.

[7] See Pearl Meyer, "Pay Versus Performance is Here: What Compensation Committees Must Do Now," Nov. 2, 2022, https://youtu.be/AX_hc1vrkg8?si=GkoFyxXslWWaCrIX&t=222, noting that "*What was a surprise is that the [PVP] rules are effective for the immediate next proxy season…So we're in crunch time now, because not only do we have a lot of regular decisions with the regular cycle, but now we have a very complex new rule layered on top that has new tables, new decision points, and lots and lots of calculations and math and lots of narrative and graphics*."

[8] Briefly, an SRC is not required to provide the tabular list of three to seven financial performance measures that other companies must provide. SRCs are also not required to include a column in the PVP Table for peer group TSRs, and it is also not required to include a "Company-Selected Measure" from the financial performance measures list like other companies. As part of a transition period, SRCs may initially provide two rather than three years of PVP data. Finally, SRCs are also not required to make pension plan adjustments. See SEC (2022).

2.2. Rule Requirements

Under the new Item 402(v) of Regulation S-K, firms must present a PVP table in their annual proxy statement. For each covered fiscal year, the table reports SCT total compensation and CAP separately for the CEO and an average of the other named executive officers (NEOs). The table also reports 1) TSR for the firm's stock, 2) TSR for a peer group or index selected under the rule, 3) the firm's net income, and 4) a company-selected measure that the firm identifies as the most important performance metric used to link CAP to firm performance.[9]

CAP is a constructed measure of compensation, not the cash or realized pay received by the executive. Despite its name, CAP does not represent compensation actually paid in a cash sense. Starting from SCT total compensation, the rule removes certain SCT equity and pension amounts and replaces them with components intended to reflect changes in compensation value during the year. For equity awards, CAP replaces grant-date fair values with fair-value remeasurements of current- and prior-year awards, including changes in the value of unvested awards, values at vesting, forfeitures, dividends or other earnings, and changes in valuation assumptions. For pensions, CAP replaces the actuarial change reported in the SCT with service cost and any prior-service cost. Because these adjustments incorporate updated stock prices, vesting outcomes, forfeitures, and valuation assumptions, CAP can diverge substantially from SCT pay and can even be negative when declines in the value of unvested equity exceed the executive's other compensation for the year.[10]

Appendix A provides examples of PVP disclosures. Moderna's fiscal year 2022 disclosure illustrates how sharply CAP can differ from SCT pay. Moderna reported CEO SCT compensation of $19.4 million, including $1.4 million in salary, $2.7 million in non-equity incentives, $3.6 million in stock awards, $10.8 million in option awards, and $0.9 million in other compensation.

[9] For peer TSR, Item 402(v) permits firms to use either the peer group or index used for the Item 201(e) stock-performance graph or, if applicable, the peer group used in the CD&A for compensation benchmarking. When the peer group is not a published industry or line-of-business index, the rule requires peer returns to be weighted by market capitalization. Because firms may choose among permitted peer benchmarks, the peer TSR measure is not uniformly based on compensation-benchmarking peers.

[10] Under Item 402(v) of Regulation S-K, CAP starts with SCT total compensation and subtracts the amounts reported in the SCT for stock awards, option awards, and pension-value changes. For equity awards, firms then add or subtract specified fair-value components, including the year-end fair value of current-year awards that remain outstanding and unvested, year-over-year changes in the fair value of prior-year awards that remain outstanding and unvested, changes in fair value through the vesting date for prior-year awards that vest during the year, the vesting-date fair value of current-year awards that vest during the year, reductions for prior-year awards forfeited during the year, and dividends or other earnings paid on awards before vesting if not otherwise reflected. For pensions, firms add service cost and any prior-service cost from plan amendments. See SEC (2022).

To compute CAP, Moderna removes the $14.4 million grant-date fair value of the stock and option awards reported in the SCT and replaces it with fair-value remeasurements. These include $18.9 million for the year-end value of equity granted in 2022, a $216.0 million decline in the fair value of unvested awards granted in prior years, and a $114.1 million decline in the fair value of prior-year awards that vested during 2022. These adjustments produce CEO CAP of −$306.2 million, which Moderna reports alongside performance information, including −29.3% TSR for the firm and −11.2% for its peer group.

Before the PVP rule, investors could approximate a CAP-like measure, but doing so required substantial effort. They would need to analyze each outstanding equity grant from the proxy statement, using data from sections such as "grants of plan-based awards for fiscal year 2022" and "outstanding equity awards at 2022 year-end," along with extensive information in the accompanying footnotes. They would also need to gather stock prices and apply valuation assumptions to options and other awards. They would also need to obtain firm and peer-group TSR information from the annual 10-K filing. The PVP disclosure consolidates these elements into one standardized table, making CAP and related performance metrics easier to access and compare.

The rule also requires firms to describe the relations between CAP and the financial performance measures in the PVP disclosure, as well as the relation between firm TSR and peer-group TSR. These relation disclosures initially cover the firm's three most recently completed fiscal years and expand yearly to cover five years in subsequent disclosures for non-SRCs. The SEC allows firms flexibility in where they place the PVP disclosure in the proxy statement. This flexibility reflects concerns that requiring the disclosure in the CD&A could imply that firms considered the PVP relationship when setting compensation, even when they did not.

Market participants commented that the ultimate effects of the PVP rule were uncertain. Compensation consultants note that it is not clear if and how CCs, investors, and proxy advisors would use the new PVP disclosures when evaluating pay versus performance (Equilar, 2023; Pay Governance, 2023). Our analyses directly examine this question.

3. Hypothesis Development

3.1. Information Processing in Pay Disclosures

Extant literature examines the costs investors face in acquiring, interpreting, and integrating firm disclosures and how these information processing costs affect investor decisions and market outcomes (e.g., Ball, 1992; Hirshleifer et al., 2009; Blankespoor et al., 2019).

Blankespoor et al. (2020) describe processing costs as arising from three stages: 1) becoming aware of a disclosure, 2) acquiring the information in a usable format, and 3) integrating that information into a decision. These costs encompass both direct and opportunity costs of not reading other disclosures, given investors' limited resources and attention (Hirshleifer and Teoh, 2003; Zhang, 2008; deHaan et al., 2015).

CEO compensation disclosures present a setting where processing costs are likely high. Disclosure can discipline CEO pay by helping shareholders monitor pay contracts and the directors who oversee them (Jensen and Murphy, 1990). Yet, executive compensation disclosures have become lengthy and complex, particularly in the CD&A section of proxy statements (Albuquerque et al., 2025).[11] Complex and generic disclosures can make it harder for investors to identify decision-relevant information and can delay their response to new information (e.g., Loughran and McDonald, 2014; Cohen et al., 2020). These frictions suggest that how compensation information is organized and presented may affect whether investors use it in voting decisions.

The PVP rule directly reflects this processing-cost concern. In the Final Rule, the SEC (2022) states that the new disclosure is intended to help shareholders evaluate executive compensation when voting on SOP proposals, other compensation matters, and director elections:

> *We believe that the statute is intended to provide further disclosures concerning a registrant's executive compensation program for shareholders to consider when making related voting decisions, such as decisions with respect to the shareholder advisory vote on executive compensation, votes on other compensation matters, and director elections. The final rules require the disclosure of information that is largely already reported under current disclosure rules, but that is currently not computed or presented in the way the final rules will require. This repackaging of some of the information from existing disclosures into the required pay-versus-performance disclosure is intended to allow investors to more quickly or easily process the information accurately.*

Thus, the rule provides a useful setting to test whether changing the format and organization of existing compensation information affects investor voting decisions.

CAP disclosure may reduce processing costs because it presents performance-adjusted pay and firm performance in a single standardized table. Before the PVP rule, investors seeking to estimate a CAP-like measure had to gather data from multiple sections of the proxy statement and annual report, evaluate outstanding equity awards, gather stock prices, and make assumptions

[11] A survey by RR Donnelley, Equilar, and the Rock Center for Corporate Governance found that 55% of institutional investors believe that the typical proxy statement is too long. See https://www.gsb.stanford.edu/faculty-research/publications/2015-investor-survey-deconstructing-proxy-statements-what-matters.

about option values and performance-based equity awards. Although investors and advisors could approximate these values, a firm-provided CAP measure based on the firm's own assumptions may make pay-performance alignment easier to assess. By consolidating CAP, SCT pay, firm TSR, and peer TSR, the PVP disclosure may help investors evaluate executive pay when voting on SOP proposals and CC directors.[12]

The PVP rule may also affect sophisticated investors. Although institutional investors have greater resources, internal voting infrastructure, and access to proxy advisor research, they still face limits on attention and processing capacity. Institutional investors often rely on proxy advisors but also conduct their own analyses when making voting decisions (e.g., Ertimur et al., 2013; Malenko and Shen, 2016; McCahery et al., 2016). Prior research also suggests that sophisticated market participants do not always fully incorporate all value-relevant public information into their decisions (e.g., Campbell et al., 2009; Lee and Zhu, 2022). Thus, by standardizing CAP and presenting it alongside firm and peer performance, the PVP rule may inform even sophisticated investors who, in principle, could have approximated similar measures before the rule.[13]

We posit that the CAP-SCT divergence may influence investor voting because it highlights differences between traditional reported pay and performance-adjusted pay that may not be apparent from the SCT alone. When CAP is close to SCT pay, the PVP disclosure largely confirms information already reflected in traditional compensation disclosures, and we expect little voting response. When CAP diverges substantially from SCT pay, the disclosure may make pay-performance information more salient and easier to integrate into voting decisions. This divergence is where the PVP rule's potential to reduce processing costs is most relevant. The rule presents investors with a standardized measure of performance-adjusted pay that they could approximate before the rule, but only with additional effort.

Given the PVP rule's potential to lower the cost of processing pay-performance information, we propose the following hypotheses:[14]

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[12] For example, Ohio Public Employees Retirement System (2015) argued that pay-performance information would be valuable for evaluating the relation between executive pay and firm performance and emphasized that the information should be readily accessible to shareholders when they are making voting decisions.

[13] We examine this possibility in our empirical tests using voting by the Big Three institutional investors.

[14] Because CAP-SCT divergence captures the magnitude of the difference between CAP and SCT pay rather than its direction, these hypotheses predict a voting response but not a particular sign. Section 3.3 develops our directional predictions using the signed CAP/SCT ratio and conditioning on firm performance.

H1a: If CAP disclosures reduce investor information processing costs, the magnitude of the CAP-SCT divergence will be significantly associated with changes in Say-on-Pay voting support.

H1b: If CAP disclosures reduce investor information processing costs, the magnitude of the CAP-SCT divergence will be significantly associated with changes in voting support for compensation committee members.

Despite the SEC's intent to make executive compensation more accessible and comprehensible through the PVP disclosures, CAP disclosures may not affect voting if investors view the new information as redundant. Much of the information needed to approximate CAP was already available in existing disclosures, including executive compensation tables under Item 402 of Regulation S-K and TSR information under Item 201(e). Sophisticated investors and proxy advisors may have already used these inputs to construct CAP-like measures or to evaluate pay-performance alignment. If so, the standardized CAP disclosure may provide little incremental insight and may instead add to an already dense compensation disclosure environment. Thus, whether PVP disclosures affect investor voting remains an empirical question.

3.2. Cross-sectional Analyses: Information Processing and Pay Complexity

If PVP disclosures reduce information processing costs, their effect should be stronger when CEO pay is harder to evaluate. One source of difficulty is compensation-plan complexity. Complex pay arrangements often include multiple performance metrics, longer measurement periods, and combinations of absolute and relative performance standards, which increase the cognitive burden of understanding pay incentives (Albuquerque et al., 2025). These features may not only be difficult for executives to understand, but also for investors to evaluate. By presenting CAP alongside SCT pay and performance measures, the PVP table may be especially useful at firms with more complex CEO pay packages.

Equity-based compensation may also increase processing costs, especially when awards are performance based. These awards often require investors to assess performance conditions, vesting outcomes, and post-grant changes in value that are difficult to observe or quantify from traditional compensation disclosures alone (Pawliczek, 2021). Without detailed post-grant information about performance assumptions and award valuation, investors may find it difficult to evaluate how closely reported pay reflects pay-for-performance alignment. The PVP table may reduce these costs by incorporating updated equity values into CAP and presenting that measure

alongside firm and peer TSR. As a result, CAP-SCT divergence should be more informative when equity represents a larger share of CEO pay.

Disclosure length provides another source of variation in processing costs. Longer proxy statements may contain more information, but they can also increase the cost of locating and integrating the pay-performance information most relevant to voting decisions. Lengthy disclosures often include detailed or boilerplate discussion that can obscure, rather than clarify, information (Loughran and McDonald, 2014; Cohen et al., 2020). More generally, SEC filings have become longer and less readable over time, increasing investors' information processing costs (e.g., Li, 2008; Dyer et al., 2017). We measure disclosure length using the total word count of the proxy statement, which captures the overall document-level burden investors face when reviewing the proxy. This measure includes content outside the compensation section and is therefore a broader measure of processing costs than pay complexity and equity-based compensation. Based on these considerations, we propose the following hypothesis:

> *H2: The associations predicted in H1a and H1b will be stronger for firms with more complex pay, a higher percentage of CEO compensation in equity-based awards, and longer proxy statements.*

We may not observe support for H2 for several reasons. First, if PVP disclosures do not affect investors' voting decisions, then the voting response should not vary with pay complexity, equity-based compensation, or disclosure length. Second, investors may continue to face challenges interpreting equity awards, especially performance-based awards, because the rule does not require detailed post-grant disclosure of performance assumptions. For firms with complex equity-based pay, the PVP table may therefore add another disclosure layer, potentially contributing to information overload, rather than reducing processing costs.

Third, the PVP table may reduce some processing costs without resolving all sources of disclosure complexity. Although the table consolidates CAP, SCT pay, and TSR, it does not fully explain the performance metrics, vesting conditions, and contingencies embedded in complex compensation contracts. Investors that seek to understand those arrangements may still need to consult the CD&A and related compensation tables, which limits the marginal benefit of the PVP disclosure. Similarly, if disclosure length captures verbosity or boilerplate rather than economically complex pay arrangements, the voting response may not vary with length. In that case, a null result for disclosure length but significant results for pay complexity and equity awards would be informative because it would suggest that the usefulness of the PVP disclosure comes

from making economically complex compensation information easier to evaluate, rather than simply from helping investors navigate longer proxy statement disclosures.

3.3. Cross-sectional Analyses: Information Processing and Firm Performance

If investors use PVP disclosures to evaluate pay-performance alignment (i.e., we find support for H1a and H1b), a natural question is how they interpret CAP relative to SCT when firm performance is strong or weak. The PVP rule presents CAP and SCT pay alongside firm and peer TSR, allowing investors to compare performance-adjusted pay with both traditional reported pay and shareholder returns. Because CAP reflects changes in the value of equity awards and updated vesting outcomes, it may provide a more performance-sensitive measure of CEO pay than SCT pay (Pay Governance, 2023).

When performance is weak, a higher signed CAP/SCT ratio may raise concerns that CEO pay remains high despite poor returns. In this setting, the PVP table may make perceived pay-performance misalignment more salient by placing higher CAP next to negative firm or abnormal TSR. Investors may respond by reducing support for SOP proposals or for CC directors.

When firm performance is strong, however, investors may interpret a higher signed CAP/SCT ratio differently. Higher CAP relative to SCT pay may appear more consistent with pay-performance alignment when shareholders also experienced strong returns. In this setting, investors may be less likely to penalize higher CAP and may instead maintain or increase support for SOP proposals and CC directors. Thus, the relation between the signed CAP/SCT ratio and voting support should depend on firm performance. Accordingly, we propose the following hypotheses:[15]

[15] For these tests, we use the signed *CAP/SCT ratio* to capture whether performance-adjusted pay differs from the compensation reported in the SCT. SCT total compensation includes salary, bonus, non-equity incentive compensation, the grant-date fair value of stock and option awards, changes in pension value and nonqualified deferred compensation earnings, and all other compensation reported for the fiscal year. Only stock and option awards are reported at grant-date fair value, and those amounts are not updated for subsequent changes in the value of unvested awards. For equity awards with performance conditions, the SCT reports this grant-date fair value under ASC Topic 718 based on the probable outcome of the performance conditions as of the grant date, which may, but need not, equal the target outcome (see Gibson, Dunn & Crutcher LLP & Donnelley Financial Solutions, 2016). CAP, by contrast, replaces these equity amounts, and certain pension amounts, with remeasured components that reflect changes in value during the year, as described in Section 2.2. When CAP tracks SCT closely, as reflected in a ratio near one, the PVP disclosure provides little evidence that performance-adjusted pay differs from SCT pay. When CAP diverges substantially from SCT, the disclosure indicates that performance-adjusted pay is more sensitive to changes in firm performance, valuation assumptions, or vesting outcomes. Thus, a high *CAP/SCT ratio* paired with negative TSR may suggest that compensation remains elevated despite weak shareholder returns, potentially raising concerns for investors. Conversely, a high *CAP/SCT ratio* during strong performance may appear more consistent with pay-performance alignment.

H3a: When firm performance is weaker, higher signed CAP/SCT ratios will be associated with lower Say-on-Pay voting support. When firm performance is stronger, higher signed CAP/SCT ratios will be associated with stable or higher Say-on-Pay voting support.

H3b: When firm performance is weaker, higher signed CAP/SCT ratios will be associated with lower voting support for compensation committee directors. When firm performance is stronger, higher signed CAP/SCT ratios will be associated with stable or higher voting support for compensation committee directors.

We may not observe support for H3a or H3b if investors do not interpret CAP through the lens of TSR. Market-based performance measures can reflect macroeconomic conditions, industry trends, geopolitical events, and other factors outside executives' control. For this reason, some commenters cautioned against presenting TSR alongside CAP, arguing that stock performance can move for reasons unrelated to managerial performance (e.g., Dimensional Fund Advisors, 2022; National Association of Manufacturers, 2022). Institutional investors and proxy advisors may also rely on proprietary analyses that incorporate broader measures of performance and compensation design. If investors view TSR as an incomplete measure of executive performance, their voting response to signed CAP/SCT ratios may not vary systematically with firm TSR.

4. Data and Sample

4.1. Sample Selection and Data Sources

We compile our sample by drawing from multiple datasets and supplementing them with hand-collected information. We begin by identifying firms with either Center for Research in Security Prices (CRSP) data for calendar years 2023 or 2024 and Compustat data for fiscal years 2022 or 2023. We exclude financial entities classified as unit investment trusts under Standard Industrial Classification (SIC) codes 6722 and 6726. For this initial set of firms, we manually collect PVP disclosure data from proxy filings, typically Form DEF 14A, using the WRDS SEC Analytics Suite and the SEC's EDGAR database.

We examine each firm's first proxy statement containing a PVP disclosure and the associated SOP and director votes. Because the rule applies to fiscal years ending on or after December 16, 2022, and firms have different fiscal year-ends, these first PVP disclosures correspond to fiscal year-ends ranging from December 31, 2022, the earliest fiscal year-end in our sample, through November 30, 2023. The sample is concentrated in December fiscal year-end firms, which represent 80% of the sample. Under the standard fiscal-year convention, 91% of firms have fiscal year 2022 as their first PVP fiscal year and 9% have fiscal year 2023. We define each

firm's first PVP fiscal year as year *t* and match it to the votes at the firm's first annual meeting following the PVP disclosure.[16] We then measure the change in voting support relative to the prior year's meeting. We exclude five observations where the SCT reports zero total compensation.

We obtain CEO compensation, firm and peer TSR, and PVP disclosure characteristics from Execucomp or from hand-collected proxy statement data. We source accounting and stock return data from Compustat and CRSP and hand-collected missing items from 10-K filings. We manually collect SOP voting outcomes from 8-K Item 5.07 filings, which firms file shortly after annual shareholder meetings. For tests involving CC directors, we collect committee membership and voting support for the subsample of firms covered by both the ISS Voting Analytics and ISS Directors databases. We obtain mutual fund holdings from Thomson Reuters and institutional holdings from Form 13F filings. Proxy advisor recommendation data come from Zytnick (2025).

We obtain detailed pay-complexity data from the ISS Incentive Lab database. Following Albuquerque et al. (2025), we measure pay complexity as the sum of compensation features across four dimensions of CEO pay: pay types, performance metrics, measurement periods, and the use of absolute or relative benchmarks. Appendix B provides detailed variable definitions.

Our final sample includes 2,503 firms with CEO CAP values for year *t*, SOP voting results, and required financial data. Of these firms, 2,483 provide CEO CAP for year *t-1*, and 1,650 provide CEO CAP for year *t-2*. The decline in *t-2* observations reflects the scaled disclosure requirements for SRCs, which are required to provide only two years of PVP data in the first year of compliance. Because we hand-collect PVP data beyond firms covered by Execucomp, our sample includes a broader set of public companies, including smaller firms outside the S&P 1500.[17]

4.2. Measures Comparing CAP to SCT

Before the PVP rule, SCT total compensation was the most accessible summary measure of CEO pay and was widely used by academics, investors, and proxy advisors to evaluate executive compensation (Pay Governance, 2023). SCT pay, however, measures compensation using the reporting rules, where equity awards are generally reported at grant-date fair value and do not reflect subsequent changes in the value of unvested awards or updated vesting outcomes. CAP

[16] Because fiscal year-ends differ across firms, the first annual meeting following a PVP disclosure does not always fall in calendar year 2023. Of the sample firms with available meeting dates, the large majority held this meeting during calendar year 2023, while a small number, generally firms with non-December fiscal year-ends, held it in early 2024. In all cases, the meeting represents the firm's first SOP and director vote following a PVP disclosure.
[17] Figure 2 provides a timeline of the PVP disclosures for our sample.

differs from SCT because it adjusts reported compensation for these post-grant changes in equity values and other performance-sensitive components. CAP therefore provides a more performance-adjusted measure of CEO pay, while SCT provides the traditional reported measure of pay.

We use the relation between CAP and SCT to examine whether PVP disclosures provide investors with decision-useful information beyond traditional compensation disclosures. We begin with the signed *CAP/SCT ratio*, calculated as CEO CAP divided by CEO SCT pay for the same fiscal year. A ratio above one indicates that CAP exceeds SCT pay, a ratio below one indicates that CAP is below SCT pay, and a negative ratio reflects a negative CAP. The signed ratio preserves the direction of the difference between performance-adjusted pay and traditional reported pay.

Our primary analyses use a centered absolute version of this ratio, which we refer to as *AbsCAP/SCT divergence*. We calculate this measure as (|CAP/SCT - 1|). This measure equals zero when CAP equals SCT pay and increases as CAP moves farther above or below SCT pay. Centering the measure at one is important because a CAP/SCT ratio of one indicates no divergence between CAP and SCT. Taking the absolute value of the ratio itself would be inappropriate because it would treat a ratio of one and a ratio of negative one as equally close to SCT, even though negative CAP represents a substantial divergence from SCT pay. Thus, *AbsCAP/SCT divergence* captures the magnitude of the difference between performance-adjusted pay and traditional reported pay, regardless of whether CAP is higher or lower than SCT.

We use *AbsCAP/SCT divergence* as our primary measure because our first test asks whether larger differences between CAP and SCT are associated with changes in investor voting. In these tests, the direction of the difference is secondary to whether the PVP disclosure reveals a meaningful gap between performance-adjusted pay and traditional reported pay. When CAP tracks SCT closely, investors receive little incremental information from comparing the two measures. When CAP diverges substantially from SCT, the disclosure may make pay-performance information more salient and easier to incorporate into SOP votes and votes for CC directors.

In the performance-split tests, however, we use the signed *CAP/SCT ratio* rather than *AbsCAP/SCT divergence*. These tests ask whether investors interpret higher CAP relative to SCT differently when firm performance is stronger versus weaker. Preserving the sign and direction of the ratio is necessary for those tests because a high *CAP/SCT ratio* may be viewed differently when TSR is positive than when TSR is negative. Accordingly, *AbsCAP/SCT divergence* captures the

magnitude of CAP-SCT differences in our primary tests, while the signed *CAP/SCT ratio* captures the direction of those differences in tests that condition on firm performance.

4.3. Summary Statistics

Table 1 presents summary statistics for compensation measures used in our analysis. Panel A reports CEO CAP and SCT pay for fiscal years *t* and *t-1*. Average CAP equals $14.0 million in *t-1* and $2.6 million in t, while average SCT pay equals $9.9 million and $8.3 million, respectively. Median CEO CAP equals $6.0 million in *t-1* and $2.9 million in *t*.

[Insert Table 1 Here]

Panel A also illustrates the greater performance sensitivity of CAP relative to SCT pay. CAP exceeds SCT pay on average in *t-1*, when market returns were stronger, but falls below SCT pay on average in 2022, when market returns were weaker. Untabulated correlations between CEO CAP and firm TSR are 0.29 in *t-1* and 0.43 in *t*.

The signed *CAP/SCT ratio* exhibits a similar change. The mean signed *CAP/SCT ratio* is 1.30 in *t-1* and −0.06 in 2022, which indicates that average CAP moves from exceeding SCT pay in *t-1* to falling below SCT pay in *t*. By contrast, mean *AbsCAP/SCT divergence* equals 1.07 in *t-1* and 1.51 in *t*. The standard deviations of both the signed *CAP/SCT ratio* and *AbsCAP/SCT divergence* increase substantially in *t*, which indicates greater dispersion in the relation between CAP and SCT during weaker market conditions.

Figure 3 plots the distribution of fiscal year 2022 CEO CAP separately for firms with positive and negative TSR. Panel A shows firms with positive TSR, which represent 33% of firms in the sample. These firms have a distribution that skews towards positive CAP values, which is consistent with CAP increasing when shareholder returns are strong. Panel B shows firms with negative TSR, which represent 67% of the sample. This distribution is more dispersed and includes many firms with negative CAP, but also firms with positive CAP despite negative shareholder returns. This contrast suggests that CAP varies significantly based on firm performance, with firms experiencing negative TSR showing a wider range of CAP outcomes.

[Insert Figure 3 Here]

Panel A of Table 1 also presents firm and peer TSR. The PVP disclosure reports TSR as the value, at fiscal year-end, of $100 invested at the beginning of the three-year measurement period (see Appendix A for an example). For ease of interpretation, we convert these values into year-over-year percentage returns. Returns are negative on average in fiscal year *t*, a weaker market

year, with average firm TSR of −12.0% and average peer TSR of −8.7%. In *t-1*, a stronger market year, average firm TSR is 16.0%, compared with average peer TSR of 17.8%. This variation allows us to examine how investors interpret CAP in both stronger and weaker performance environments, which we do in Section 6.

Panel B reports firm characteristics for fiscal year *t*. Approximately 67% of firms have negative TSR in year *t*. For the subsample that reports peer firm TSR, the abnormal firm TSR relative to peer is −2%. The average firm has market capitalization of $15.9 billion, leverage of 30%, revenue growth of 34%, asset turnover of 69%, and intangible assets equal to 19% of total assets. The median market capitalization is $2.0 billion, which indicates that our hand-collected sample includes many smaller public companies. Additionally, 11% of firms experience a CEO change during the sample period. Over the 2020 to 2022 PVP reporting window, 22% of firms report CAP for more than one CEO. The average shareholder meeting occurs 45 days after the proxy filing, with a median of 43 days.

Panel C describes how firms present the new PVP disclosure. The rule gives firms discretion over the disclosure's placement, length, and narrative presentation. On average, the PVP section spans 3.9 pages and appears about nine pages after the SCT. Firms include an average of 2.6 PVP charts in their proxy statements.

Panel D reports the measures used in our cross-sectional tests. The *Pay complexity* measure from Albuquerque et al. (2025) has a mean of 19.59 and a median of 18.25. The average proxy statement contains 46,247 words, with a median of 41,701 words. The average percentage of CEO compensation paid in equity over the prior three years is 64%, with a median of 67%.

5. Empirical Tests and Results

5.1. Changes in Say-on-Pay Voting Support

To test H1a, we examine whether CAP-SCT divergence associates with year-over-year changes in SOP voting support. Following the definition of ISS, we calculate *SOP voting support* as the votes cast in favor divided by the total number of votes cast for and against the SOP proposal,

excluding abstentions. The *change in SOP voting support* is the difference in the logarithm of support between proxy years *t* and *t-1*.[18] We estimate the following OLS specification:

$$\Delta\, SOP\ voting\ support_{it} = \alpha + \beta AbsCAP/SCT\ divergence_{it} + X_{it} + FE + \epsilon_{it}\,, \qquad (1)$$

where *i* represents the firm, and *t* denotes the year. The variable of interest is *AbsCAP/SCT divergence*, as described in Section 4.2. The vector of control variables (X_{it}) includes *return-on-assets, institutional ownership, SRC* status*, Ln(assets)*, *market-to-book*, *leverage*, *R&D-to-sales*, *CapEx-to-PP&E*, *sales-to-assets*, *intangibles-to-assets*, *revenue growth, CEO change, multiple CEOs*, and *Ln(meeting distance)*. We also control for one-year total shareholder return (*TSR 1-year*), using the actual TSR rather than an abnormal (performance peer-adjusted) value, and industry fixed effects (two-digit SIC codes) to account for variation across industries. In the second specification, we account for proxy advisor recommendations by including indicator variables for *ISS 'for' SOP* and *GL 'for' SOP*, where data are available. We winsorize all continuous variables other than *Ln(assets)* at the 1% level in each tail to mitigate the influence of outliers. Appendix B defines the variables, and Table 2 reports the results.

[Insert Table 2 Here]

Panel A presents summary statistics for SOP voting support at the first annual meeting following the PVP disclosure. On average, firms receive just under 90% support, representing a 0.7 percentage-point increase from the prior annual meeting. Median support is 94.3%, with a median year-over-year decline of 0.1 percentage points. Although the mean and median changes are close to zero, the standard deviation indicates substantial variation across firms. We have data on ISS and GL recommendations for 90% and 85% of the sample, respectively. ISS recommends 'for' SOP in 86.3% of covered firms, while GL does so for 78.6%.

In Panel B, we test H1a by estimating Eq. (1), where the dependent variable is the change in SOP voting support. Column 1 excludes controls for proxy advisor recommendations, while column 2 includes them. Because proxy advisor recommendations are observed after the PVP disclosure and may themselves respond to PVP information, column 2 should be interpreted as the association between *AbsCAP/SCT divergence* and SOP support conditional on proxy advisor

[18] We use log changes because SOP support is bounded above and concentrated near high levels of support, with a mean of 89.9% and a median of 94.3% in Table 2, Panel A. This specification measures proportional changes in support and makes changes more comparable across firms with different baseline levels of support. Because firms with very high support have limited room for further increases, this works against finding a positive association between *AbsCAP/SCT divergence* and increases in SOP voting support.

recommendations. Both columns show that higher *AbsCAP/SCT divergence* is associated with greater SOP voting support. For example, the coefficient in column 2 is 0.005 and significant at the 1% level. A one-standard-deviation increase in *AbsCAP/SCT divergence* (SD=5.41) is associated with an approximately 2.7% proportional increase in SOP voting support. With an average SOP voting support level of 89.9%, this corresponds to about 2.2 percentage points, which is more than three times the average year-over-year increase of 0.7 percentage points.[19]

We next examine voting by the Big Three institutional investors to assess the breadth of the rule's impact. This test provides a strong setting for the processing-cost interpretation because these investors have substantial resources to conduct their own compensation analyses and have access to proxy advisor research. If PVP disclosures inform even these investors, the effect is unlikely to be limited to less-resourced shareholders. Panel C reports the results for the Big Three. The coefficients for *AbsCAP/SCT divergence* are again positive and significant, but larger in magnitude, at 0.007 in both columns. A one-standard-deviation increase in *AbsCAP/SCT divergence* is associated with a 3.8% proportional increase in Big Three SOP voting support.

Together, these results suggest that, after controlling for performance, proxy advisor recommendations, and other observables, greater CAP-SCT divergence is associated with changes in investor support for executive compensation, which is consistent with H1a. We interpret these tests as showing that investors respond to the divergence made salient by the PVP disclosure. We examine the direction of that response, and its dependence on firm performance, in Section 5.5.

5.2. Changes in Compensation Committee Director Voting Support

To test H1b, we examine the relation between CAP-SCT divergence and changes in voting support for directors. We estimate this relation using OLS regressions based on the following equation:

$$\Delta\, director\ voting\ support_{it} = \alpha + \beta AbsCAP/SCT\ divergence_{it} + X_{it} + FE + \epsilon_{it}\,, \quad (2)$$

where *i* denotes the firm and *t* represents the year. The dependent variables are the year-over-year changes in voting support for CC members, the CC chair, and directors who do not serve on the CC (non-CC directors). The variable of interest is the *AbsCAP/SCT divergence*. The fixed effects and vector of controls (X_{it}) are consistent with those used in Eq. (1), with additional controls for

[19] Panel A reports support levels and raw year-over-year changes in percentage points, whereas the regression dependent variable in Panel B is the log change in support. When discussing economic magnitudes, we convert the estimated proportional effects to percentage points at the regression sample mean for comparability.

staggered board, *board size*, and *board independence* (e.g., Yermack, 1996; Coles et al., 2008; Cohen and Wang, 2013; Levit and Malenko, 2016). For tests involving CC members and non-CC directors, we average voting support and proxy advisor recommendations in each group in year *t*.[20] Table 3 reports the results.

[Insert Table 3 Here]

Panel A presents summary statistics for voting support at the first annual meeting following the PVP disclosure, based on firm coverage in ISS Voting Analytics, which represents approximately 43% of our sample. Average voting support for CC members is 94.4%, representing an average year-over-year increase of 0.1 percentage points. Median support is 96.5%, with a median decline of 0.4 percentage points. The CC chair receives 94.3% average support, with an average decline of 0.3 percentage points, while non-CC directors receive 95.0% support, representing an average decline of 0.4 percentage points.

ISS recommends 'for' 93.6% of CC members, 95.8% of CC chairs, and 94.1% of non-CC directors. GL provides slightly lower support, recommending 'for' 91.6% of CC members, 94.4% of CC chairs, and 92.9% of non-CC directors. Approximately 25% of firms have staggered boards, the average board size is 9.8 directors, and 83% of directors are independent.

In Panel B, we test H1b by estimating Eq. (2). Columns 1 and 2 show that higher *AbsCAP/SCT divergence* is significantly associated with increases in voting support for CC members and the CC chair. The coefficient on *AbsCAP/SCT divergence* is 0.003 for CC members, significant at the 5% level, and 0.005 for the CC chair, significant at the 1% level. The CC-chair analysis includes fewer observations because fewer CC chairs are up for election in a given year. Panel C shows similar results for the Big Three. The coefficient is 0.003 for CC members and 0.005 for the CC chair, both significant at the 1% level.

By contrast, *AbsCAP/SCT divergence* is not significantly associated with changes in voting support for non-CC directors in either panel. The coefficient in column 3 is effectively zero in both

[20] We construct director-voting changes at the firm-group level. For each firm, we identify the directors serving as CC members, the CC chair, and non-CC directors in year *t*. For CC members, we average voting support across the year *t* CC members who stand for election and compare that value to the average voting support for directors serving on the CC and standing for election in year *t-1*, regardless of whether the same individuals served on the committee in both years. We construct the CC chair measure similarly by comparing voting support for the year *t* CC chair to voting support for the year *t-1* CC chair. We construct the non-CC director measure analogously by comparing average voting support for non-CC directors across the two years. Because directors on staggered boards are not elected every year, these measures require a vote for the relevant director group in both years. If the relevant prior-year vote is unavailable, such as when the prior-year CC chair did not stand for election, the observation is dropped. Thus, the change reflects shifts in investor support for the relevant director role or group.

Panels B and C. This targeted association suggests that investors use CAP-SCT divergence when evaluating directors with compensation oversight, rather than as a broader governance signal.

5.3. Placebo Test of Pre-Disclosure CAP Values and Changes in Voting Support

To assess whether our main results reflect investors' response to the newly mandated PVP disclosure rather than preexisting firm characteristics, we conduct a placebo test using CAP information for the fiscal year immediately preceding each firm's first PVP fiscal year.[21] We define each firm's first PVP fiscal year as year *t*. Our primary analyses in Sections 5.1 and 5.2 examine whether year *t AbsCAP/SCT divergence* is associated with changes in SOP and CC member voting support at the first annual meeting following the PVP disclosure.

Firms also reported year *t-1* CAP retroactively in their first PVP proxy statements. Investors therefore had not observed year *t-1* CAP when casting votes at the prior annual meeting. If our main findings reflect investors' response to the new disclosure, year *t-1 AbsCAP/SCT divergence* should not be associated with changes in voting support at that prior annual meeting. By contrast, a significant association would suggest that *AbsCAP/SCT divergence* captures factors correlated with voting changes more generally, rather than investors' response to the PVP disclosure itself.

We estimate the following equation using information first disclosed in firms' first PVP proxy statements:

$$\Delta\, voting\ support_{it-1} = \alpha + \beta AbsCAP/SCT\ divergence_{it-1} + X_{it-1} + FE + \epsilon_{it-1}\,, \quad (3)$$

The dependent variables are changes in SOP voting support and CC member voting support at the annual meeting preceding the first PVP disclosure. The variable of interest is year *t-1 AbsCAP/SCT divergence*, which investors had not observed when casting those votes. The fixed effects and vector of controls (X_{it-1}) are consistent with those in Eqs. (1) and (2). Table 4 presents the results.

[Insert Table 4 Here]

Panel A reports results for the broader investor base. Year *t−1 AbsCAP/SCT divergence* is not significantly associated with changes in SOP voting support or CC member voting support. The coefficient is 0.006 for SOP voting support and rounds to 0.000 for CC member voting support.[22] Both coefficients are statistically insignificant. Panel B reports similarly insignificant

[21] For December fiscal-year-end firms, year *t* is fiscal year 2022 and year *t-1* is fiscal year 2021.

[22] Even though the SOP placebo coefficient in Panel A is statistically insignificant, one might be concerned that its raw magnitude for year *t-1* (0.006) is similar to the main year *t* estimate in Table 2 (0.005). This comparison is less meaningful economically, however, because *AbsCAP/SCT divergence* is much less dispersed in year *t-1* than in year

results for the Big Three. The coefficient is 0.002 for SOP voting support and rounds to 0.000 for CC member voting support. Again, both coefficients are statistically insignificant.

Thus, unlike the results in Tables 2 and 3, *AbsCAP/SCT divergence* is unrelated to voting support before investors observed CAP. These placebo results are consistent with the interpretation that the voting changes documented after firms' first PVP disclosures reflect investors' response to newly available PVP information, rather than a preexisting association between CAP-SCT divergence and investor voting.

5.4. Cross-sectional Results: Shareholder Voting and Pay Complexity

We next examine whether the association between CAP-SCT divergence and voting support is stronger when executive compensation is more difficult to evaluate. H2 posits that if PVP disclosures reduce processing costs, their association with voting should be stronger for firms with more complex pay arrangements, more equity-based compensation, or longer proxy statement disclosures. To test this, we estimate Equation (4):

$$\Delta\, voting\ support_{it} = \alpha + \beta_1 AbsCAP/SCT\ divergence_{\ it} \times High\ indicator_t + \beta_2 AbsCAP/SCT\ divergence_{it} + \beta_3 High\ indicator_t + X_{it-1} + FE + \epsilon_{it}. \quad (4)$$

High indicator represents three proxies for information complexity: *High pay complexity*, *High equity % of total,* and *High word count*. The variable of interest is the interaction between *AbsCAP/SCT divergence* and *High indicator*. Table 5 reports the results separately for SOP and CC member voting support for the full sample and the Big Three.

[Insert Table 5 Here]

High pay complexity captures variation in CEO compensation design across pay types, performance metrics, measurement periods, and absolute versus relative performance benchmarks. In Panel A, the interaction between *AbsCAP/SCT divergence* and *High pay complexity* is positive (0.058) and significant (p<.05) for SOP support. Panel B shows a similar result for the Big Three (0.034, p<.01). Thus, the positive association between CAP-SCT divergence and SOP support is stronger when CEO pay is more complex.

t. A one-standard-deviation increase in year *t-1 AbsCAP/SCT divergence* (SD=1.53) is associated with an approximately 0.9% change in SOP support, compared with approximately 2.4% in the main test, where the standard deviation is 4.87. Thus, the placebo estimate is statistically insignificant and, when scaled by the variation in the underlying measure, substantially smaller than the main estimate. We therefore do not interpret it as evidence of a comparable pre-disclosure relation between *AbsCAP/SCT divergence* and changes in SOP voting support.

The CC member results point in the same direction. In Panel C, the interaction between *AbsCAP/SCT divergence* and *High pay complexity* is positive and significant for the broader investor base (0.028, p<.01). The corresponding interaction for the Big Three in Panel D is positive but just misses marginal statistical significance (0.011, p=.13). Thus, the pay complexity interaction is positive in all four panels and significant in three, making *High pay complexity* the clearest source of cross-sectional variation in the voting response.

We next examine equity-based compensation, which may make changes in award values and vesting outcomes tougher to evaluate. The interactions with *High equity % of total* are not significant for SOP support in Panels A and B. For CC voting, however, the interactions are positive and marginally significant for both the full sample (0.005, p<.10) and the Big Three (0.004, p<.10). These results provide weaker but directionally consistent evidence that CAP-SCT divergence matters more for director voting when equity represents a larger share of CEO pay.

Finally, we use *High word count*, based on the total word count of the proxy statement, as a proxy for document-level disclosure length. The interaction between *AbsCAP/SCT divergence* and *High word count* is insignificant in all four panels. This result indicates that the voting response to CAP-SCT divergence does not vary with the overall length of the proxy statement. We view this null result as informative as it suggests that the voting response is moderated by the economic complexity of compensation, not simply by the length of the proxy statement disclosure.

Overall, Table 5 provides some support for H2, concentrated in pay complexity. The association between CAP-SCT divergence and voting support is stronger when CEO pay is more complex, with consistent evidence in the SOP tests for both the broader investor base and the Big Three. We also find suggestive evidence that the association is stronger for CC voting when equity represents a larger share of pay. By contrast, overall proxy length does not moderate the voting response, suggesting that the effect is more closely related to the economic complexity of pay than to the length of the proxy statement as a whole. Taken together, the results are consistent with PVP disclosures reducing processing costs where the relation between executive pay and performance is more difficult to assess.

5.5. Shareholder Voting and Firm Performance

5.5.1. Voting Reactions to CAP Disclosure Conditional on Firm Performance

To test H3a and H3b, we examine whether the association between the signed *CAP/SCT ratio* and voting support varies with firm performance. We partition the sample based on positive

and negative actual and abnormal TSR during fiscal year *t* and re-estimate Eqs. (1) and (2) within each subsample. All regressions include controls for proxy advisor recommendations because proxy advisors consider relative stock performance when evaluating executive compensation.[23]

Because these recommendations are observed after the PVP disclosure, they may partly capture a channel through which the disclosure affects voting. Thus, we interpret the coefficients in Table 6 as the association between the signed *CAP/SCT ratio* and investor voting support conditional on proxy advisor recommendations. Put differently, these specifications estimate voting patterns net of the proxy-advisor channel, which we examine separately in Section 6.

We calculate *abnormal TSR* as firm TSR minus the peer-group TSR reported in the PVP table.[24] Approximately 67% of firms have negative actual TSR, while 33% have positive actual TSR. The abnormal-TSR partition is more balanced, with 53% of firms reporting negative abnormal TSR and 47% reporting positive abnormal TSR. Table 6 presents the results.

[Insert Table 6 Here]

Panel A reports the results for SOP voting support. In the negative-TSR subsample, the coefficient on the signed *CAP/SCT ratio* is −0.004 and statistically significant ($p<.01$). A one-standard-deviation increase in the *CAP/SCT ratio* (SD=5.52) is associated with an approximately 2.2% decline in SOP support. We find a similar result among firms with negative abnormal TSR, for which the coefficient is −0.008 ($p<.01$). These findings suggest that investors respond negatively when CAP is high relative to SCT pay and shareholder returns are weak. In the positive-TSR subsample, the coefficient on the signed *CAP/SCT ratio* is positive and significant (0.029, $p<.01$). Thus, investors respond differently to higher CAP when firm returns are positive. The coefficient is not significant, however, among firms with positive abnormal TSR.

Panel B reports similar results for the Big Three. The signed *CAP/SCT ratio* is negatively associated with SOP support when actual TSR or abnormal TSR is negative (−0.008 and −0.009,

[23] For example, ISS's discussion of its pay-for-performance screens explains that the "Relative Degree of Alignment (RDA)" evaluates CEO pay and TSR performance against an ISS-developed peer group. See ISS Compensation Policies: Frequently Asked Questions, updated December 16, 2022, available at https://www.issgovernance.com/policy-gateway/2023-voting-policies/. Because proxy advisor recommendations are observed after the PVP disclosure and may themselves respond to PVP information, these specifications should be interpreted as voting associations conditional on proxy advisor recommendations. Section 6 examines the proxy-advisor channel directly.

[24] Because firms may use different permitted peer benchmarks in the PVP table, the peer TSR measure is not constructed identically across firms. We use the disclosed peer TSR because it is the benchmark investors observe when evaluating the PVP disclosure. We also report results using actual TSR, which does not depend on the firm's peer-benchmark choice.

respectively; both p<.01). When actual TSR is positive, the coefficient is positive and significant (0.033, p<.01), but it is not significant when abnormal TSR is positive. These findings indicate that sophisticated institutional investors also interpret CAP relative to firm performance rather than responding mechanically to higher CAP.

Panel C examines voting support for CC members. The signed *CAP/SCT ratio* is negatively associated with voting support when actual TSR is negative (−0.003, p<.05), representing an approximately 1.5% decline in support for a one-standard-deviation increase in the ratio. The coefficient is also negative and significant when abnormal TSR is negative (−0.004, p<.05). By contrast, the coefficients are not significant in either positive-performance subsample.

Panel D shows a similar pattern for the Big Three. The signed *CAP/SCT ratio* is negatively associated with CC support when actual TSR is negative (−0.003, p<.01) and when abnormal TSR is negative (−0.003, p<.01). The coefficients are not significant in the positive TSR subsamples.

Overall, Table 6 shows that investors interpret CAP relative to firm performance. Higher CAP relative to SCT is associated with lower support for SOP proposals and CC members when actual or peer-adjusted returns are negative. For SOP proposals, investors respond positively to higher CAP when actual TSR is positive. These patterns extend to the Big Three and are consistent with the PVP table lowering the cost of jointly evaluating executive compensation and shareholder returns, which supports H3a and H3b.

5.5.2. Placebo Test of Pre-Disclosure CAP and Prior-Year Voting by Stock Performance

We conduct a placebo test to assess whether the performance-conditional voting patterns in Table 6 are specific to the first year in which investors observed CAP. As noted above, firms disclosed year *t-1* CAP retroactively in their first PVP proxy statements. Thus, investors did not observe the year *t-1* signed *CAP/SCT ratio* when casting votes at the prior annual meeting. If the results in Table 6 reflect investors' response to the new PVP disclosure, we should not observe similar performance-conditional associations before CAP became available.

We partition the sample by positive and negative actual and abnormal TSR during year *t-1* and re-estimate Eqs. (1) and (2) using voting outcomes from the prior annual meeting. As in the Table 6 specifications, all placebo regressions include the proxy advisor recommendation controls, so the placebo and main performance tests use the same specification. Table 7 reports the results.

[Insert Table 7 Here]

Panels A and B examine SOP voting support for the broader investor base and the Big Three, respectively. The year *t-1* signed *CAP/SCT ratio* is not significantly associated with changes in SOP support in any of the actual or abnormal TSR subsamples. Panels C and D report similarly insignificant results for CC voting among the broader investor base and the Big Three.

Thus, unlike the results reported in Table 6, the relation between the signed *CAP/SCT ratio* and voting support does not vary with firm performance before investors observe CAP. These results are consistent with the interpretation that the performance-conditional voting patterns documented after firms' first PVP disclosures emerged once the disclosures became available, rather than reflecting a pre-existing association between CAP, performance, and investor voting.

6. Proxy Advisor Recommendations

Proxy advisors such as ISS and GL evaluate executive compensation and provide voting recommendations to institutional investors, which can influence shareholder voting outcomes (Malenko and Shen, 2016). Although proxy advisors produced their own pay-performance measures before the PVP rule, the standardized firm-provided disclosures may still affect their analyses. We therefore examine whether proxy advisor recommendations vary with CAP-SCT divergence and firm performance. Evidence that proxy advisors respond to the disclosures would suggest that the PVP rule reduces processing costs not only for investors, but also for sophisticated information intermediaries.

Both ISS (2022) and GL (2022) revised their voting guidelines following adoption of the PVP rule, as summarized in Appendix C. ISS stated that it would include information from the PVP table in its reports to institutional investors. Although the disclosure did not enter ISS's quantitative pay-for-performance screens, ISS indicated that it could consider the information in qualitative assessments, particularly when its quantitative analysis identified pay-performance misalignment. GL similarly acknowledged the new disclosure while leaving its quantitative methodology unchanged for the 2023 proxy season, suggesting that PVP information could inform its qualitative evaluation of executive compensation.

Standardized CAP disclosures may be useful to proxy advisors even though they already construct proprietary pay-performance measures. Prior research shows that sophisticated market participants do not always fully incorporate publicly available information (Lee and Zhu, 2022). Proxy advisors also face substantial operational constraints during the compressed proxy season, when most shareholder meetings occur between March and May, which may affect the quality of

their analysis (Hayne and Vance, 2019; Albuquerque et al., 2020). By consolidating CAP, SCT pay, and performance measures in a standardized table, the PVP disclosure may lower the cost of acquiring and integrating this information into voting recommendations.

Proxy advisor responses may also depend on firm performance. When TSR is weak, a higher signed *CAP/SCT ratio* may signal that performance-adjusted pay remains elevated despite poor shareholder returns, potentially leading to less favorable recommendations on SOP proposals or CC directors. When TSR is strong, however, a higher *CAP/SCT ratio* may appear more consistent with pay-performance alignment and lead to more favorable recommendations. Alternatively, proxy advisors may not respond to PVP disclosures if their existing proprietary analyses already capture the relevant information.

To test whether proxy advisor recommendations vary with CAP-SCT divergence, we estimate the following OLS specification:

$$\Delta\, proxy\ advisor\ recommendations_{it} = \alpha + \beta CAP\ measures_{it} + X_{it} + FE + \epsilon_{it}\,, \qquad (5)$$

The dependent variables are changes in ISS and GL recommendations for SOP proposals and CC members from the prior annual meeting to the first annual meeting following the PVP disclosure. The ISS and GL recommendation variables equal 1 when the advisor recommends voting 'for' and 0 otherwise. Thus, for SOP proposals, the dependent variable is the change in this indicator (−1, 0, or +1). The coefficients can therefore be interpreted as changes in the probability of a favorable recommendation, expressed in percentage points. For CC member tests, we average recommendation indicators across committee members, so the dependent variable reflects the change in the average fraction of CC members receiving a favorable recommendation. The fixed effects and control variables are consistent with those used in Eqs. (1) and (2). In the full-sample tests, we use *AbsCAP/SCT divergence* to examine whether larger differences between CAP and SCT are associated with recommendation changes. In the performance-partition tests, we use the signed *CAP/SCT ratio* to examine whether proxy advisors respond differently to higher CAP relative to SCT when TSR is positive versus negative. Table 8 reports the results.

[Insert Table 8 Here]

Panel A presents summary statistics for proxy advisor recommendations at the first annual meeting following the PVP disclosure. ISS recommends voting 'for' 86.3% of SOP proposals, representing an average increase of 1.1 percentage points from the prior annual meeting. GL recommends voting 'for' 78.6% of proposals, representing an average decline of 3.9 percentage

points. ISS recommends voting 'for' 93.6% of CC members on average, an increase of 1.0 percentage point, while GL recommends voting 'for' 91.6% of CC members, a decline of 3.9 percentage points.

Panel B presents the ISS results. In the full sample, *AbsCAP/SCT divergence* is positively associated with changes in ISS SOP recommendations (0.011, p<.01). A one-standard-deviation increase in *AbsCAP/SCT divergence* (SD=5.41) is associated with a 6.0 percentage-point more favorable change in ISS's SOP recommendation. By contrast, *AbsCAP/SCT divergence* is not significantly associated with changes in ISS recommendations for CC members.

Partitioning the results by positive and negative returns shows that ISS interprets higher CAP relative to SCT differently depending on firm performance. When TSR is negative, the signed *CAP/SCT ratio* is negatively associated with changes in ISS SOP recommendations (−0.010, p<.01). When TSR is positive, the association is positive (0.054, p<.01). A one-standard-deviation increase in the signed *CAP/SCT ratio* in the positive TSR subsample (SD=0.933) is associated with an approximately 5.0 percentage-point more favorable change in ISS's SOP recommendation. The corresponding associations for CC recommendations are not statistically significant.

Panel C reports the GL results. In the full sample, *AbsCAP/SCT divergence* is positively associated with changes in GL SOP recommendations (0.005, p<.05), but not with changes in CC recommendations. When TSR is negative, the signed *CAP/SCT ratio* is negatively associated with changes in GL SOP recommendations (−0.005, p<.05). The association is not significant when TSR is positive. We also find no significant associations for GL CC recommendations in either performance subsample.

Overall, the results in Table 8 indicate that both proxy advisors incorporate PVP information primarily into their SOP assessments. Both respond less favorably to higher CAP relative to SCT when TSR is negative, while ISS also responds more favorably when TSR is positive. These findings suggest that standardized PVP disclosures inform sophisticated information intermediaries even though they already produce their own pay-performance analyses.

7. Conclusion

This study examines whether the SEC's PVP disclosure rule lowers the cost of processing CEO pay-performance information and affects investor voting. Although much of the underlying information was already available or computable, the rule standardizes and consolidates CAP, SCT

pay, and firm and peer performance measures in a single table. Using hand-collected CEO pay disclosures for more than 2,500 firms, we provide evidence that this repackaging matters.

Greater CEO CAP-SCT divergence is associated with increased support for SOP proposals and CC directors, but not for directors outside the CC. Investors also interpret CEO CAP relative to firm performance. Higher signed CAP/SCT ratios are associated with lower support for SOP proposals and CC members when actual or peer-adjusted TSR is negative, but with greater SOP support when actual TSR is positive. These patterns suggest that investors use the disclosure to evaluate pay-performance alignment rather than responding mechanically to higher CAP.

The evidence is consistent with a processing-cost interpretation. The voting response is stronger when CEO pay is more complex and, for CC voting, when equity represents a larger share of CEO pay. By contrast, proxy statement disclosure length does not moderate the response, suggesting that the disclosure's usefulness comes from making economically complex information easier to evaluate rather than from condensing lengthy text. Placebo tests using CAP information that investors had not yet observed show no comparable associations.

The findings extend to sophisticated market participants. Voting by the Big Three institutional investors follows similar patterns, and proxy advisors incorporate the disclosure primarily into their SOP recommendations. These results suggest that standardized CEO pay disclosures can inform even investors and intermediaries with substantial resources and access to proprietary pay-performance analyses.

Overall, the findings show that compensation disclosure regulation can affect governance decisions not only by requiring new information, but also by reducing the cost of using existing information. Our evidence speaks to one potential benefit of the PVP rule, but we do not assess whether the resulting votes improve compensation outcomes or whether the rule's benefits exceed compliance costs. Future research could examine whether these effects persist as firms, investors, and proxy advisors gain experience with the disclosure and whether increased scrutiny ultimately affects compensation design.

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Appendix A. Examples of Pay Versus Performance (PVP) Disclosures

This appendix presents examples of the Summary Compensation Table (SCT) and Compensation Actually Paid (CAP) disclosures in the Pay Versus Performance (PVP) section of the proxy statement for two companies: Eli Lilly and Moderna. The SCT was required before the new PVP rule was implemented, while CAP was not. In the new PVP table, firms refer to the CEO as the principal executive officer or "PEO," while "non-PEOs" refers to other named executives. To help the reader, we circle corresponding CEO pay values in each table for fiscal year 2022.

Table A-1. Eli Lilly's SCT and PVP Disclosures for Fiscal Year 2022[25]

Table A-1A. CEO pay from the Summary Compensation Table

Executive Compensation

Summary Compensation Table

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($) [1]	Non-Equity Incentive Plan Compensation ($) [2]	Change in Pension Value ($) [3]	All Other Compensation ($) [4]	Total Compensation ($)
David A. Ricks	2022	$1,500,000	$0	$ 16,981,250	$2,700,000	$0	$216,885	$21,398,135
Chair, President,	2021	$1,500,000	$0	$ 14,966,000	$2,475,000	$2,442,235	$126,750	$21,509,985
and Chief Executive Officer	2020	$1,483,333	$0	$13,587,500	$2,625,500	$5,883,924	$128,372	$23,708,629

Table A-1B. PVP Table

Pay versus Performance CAP Table

Year	Summary Compensation Table Total for PEO[1]	Compensation Actually Paid to PEO	Average Summary Compensation Table Total for Non-PEO NEOs[2]	Average Compensation Actually Paid to Non-PEO NEOs	Value of initial fixed $100 investment based on: Total Shareholder Return	Value of initial fixed $100 investment based on: Peer Group Total Shareholder Return[3]	Net Income ($ millions)	Company Selected Measure (CSM) – Adjusted Non-GAAP EPS[4]
2022	$21,398,135	$64,088,705	$5,769,810 [5]	$13,893,269	$292.18	$133.61	$6,245	$8.84
2021	$21,509,985	$75,705,116	$4,730,690 [6]	$4,563,545	$217.66	$121.90	$5,582	$8.25
2020	$23,708,629	$51,253,831	$6,787,934 [7]	$10,732,708	$131.06	$102.07	$6,194	$6.89

[1] The PEO Summary Compensation Table to compensation actually paid reconciliation is summarized in the following table:

Year	Summary Compensation Table Total	Summary Compensation Table Equity	Summary Compensation Table Change in Pension Value	Change in year-end value of prior years' awards unvested on 31-Dec-2022 plus change in value of prior year's awards that vested in 2022	Pension Service Cost for each calendar year	PEO CAP
	a	*b*	*c*	*d*	*e*	*a-b-c+d+e*
2022	$21,398,135	$16,981,250	$0	$59,048,474	$623,346	$64,088,705
2021	$21,509,985	$14,966,000	$2,442,235	$70,922,494	$680,872	$75,705,116
2020	$23,708,629	$13,587,500	$5,883,924	$46,356,324	$660,302	$51,253,831

[2] The average non-PEO NEO Summary Compensation Table to CAP reconciliation is summarized in the following table:

[25] https://www.sec.gov/ix?doc=/Archives/edgar/data/59478/000005947823000120/lly-20230317.htm.

Appendix A (Continued)

Table A-2. Moderna's SCT and PVP Disclosures for Fiscal Year 2022[26]

Table A-2A. CEO pay from the Summary Compensation Table

2022 Summary Compensation Table

The following table provides information regarding the total compensation awarded to, earned by, and paid to our NEOs for services rendered to us for the years set forth below. Please note that in certain years these individuals were not NEOs and as such we are not including their compensation for those years.

Name and Principal Position[1]	Year	Salary	Non-Equity Plan Incentive Compensation	Bonus	Stock Awards[2]	Option Awards[2]	All Other Compensation	Total
Stéphane Bancel	2022	$ 1,423,077	$ 2,700,000	$ —	$ 3,597,152	$ 10,791,857	$ 851,562	$ 19,363,648
Chief Executive Officer	2021	990,385	1,500,000	—	3,750,000	11,250,000	665,354	18,155,739
	2020	945,673	—	1,900,000	—	9,000,000	1,009,602	12,885,275

Table A-2B. PVP Table

Pay Versus Performance

The following table reports the compensation of our CEO (our Principal Executive Officer, or PEO) and the average compensation of the other Named Executive Officers (Other NEOs) as reported in the Summary Compensation Table in our proxy statements for the past three years, as well as their "compensation actually paid" (CAP), as calculated pursuant to recently adopted SEC rules and certain performance measures required by the rules. The CAP values included in the table below reflect a new measure of compensation which is a combined realizable and realized pay measure predicated on fair value. The grant date fair values included in the Summary Compensation Table (SCT) have been replaced with fair values reflecting the change in value of equity awards during the fiscal year. The calculations do not reflect the actual sale of stock underlying equity awards or the exercise of stock options by the executive.

Year[1] (a)	Summary Compensation Table Total for PEO (b)	Compensation Actually Paid to PEO[2] (c)	Average SCT Total for Other NEOs (d)	Average Compensation Actually Paid to Other NEOs[2] (e)	Value of Initial Fixed $100 Investment Based on: Moderna TSR (f)	Value of Initial Fixed $100 Investment Based on: Peer Group[3] TSR (g)	Net Income *(millions)* (h)	Company-Selected Measure *[Product Sales]*[4][5] (millions) (i)
2022	$ 19,363,648	$ (306,219,630)	$ 5,822,260	$ (8,967,479)	$ 918	$ 111	$ 8,362	$ 18,435
2021	18,155,739	793,044,894	8,256,157	67,035,028	1,298	125	12,202	17,675
2020	12,855,275	469,967,605	5,286,409	54,985,594	534	126	(747)	200

	2022		2021		2020	
	PEO	Average for Other NEOs	PEO	Average for Other NEOs	PEO	Average for Other NEOs
Summary Compensation Table	$ 19,363,648	$ 5,822,260	$ 18,155,739	$ 8,256,157	$ 12,855,275	$ 5,286,409
Adjustments						
Deduction for amounts reported under the "Stock Awards" and "Option Awards" columns of the Summary Compensation Table[a]	(14,389,009)	(4,285,485)	(15,000,000)	(6,600,000)	(9,000,000)	(4,220,000)
Increase/(decrease) for the Inclusion of Rule 402(v) Equity Values[a]	(311,194,269)	(10,504,254)	789,889,155	65,378,871	466,112,330	53,919,185
Year-End Fair Value of Equity Awards Granted During Year That Remained Unvested as of Last Day of Year	18,930,378	5,957,933	25,410,484	7,893,516	53,681,961	14,619,557
Change in Fair Value from Last Day of Prior Year to Last Day of Year of Unvested Equity Awards	(216,035,770)	(5,734,897)	577,920,879	29,752,324	347,020,376	30,590,579
Change in Fair Value of Prior Years' Equity Awards that Vested During the Year	(114,088,877)	(10,254,023)	186,557,792	27,733,031	65,409,993	10,481,461
Change in Value of Prior Years' Equity Awards that Forfeited During the Year	—	(473,267)	—	—	—	(1,772,412)
Compensation Actually Paid	(306,219,630)	(8,967,479)	793,044,894	67,035,028	469,967,605	54,985,594

[26] https://www.sec.gov/ix?doc=/Archives/edgar/data/0001682852/000130817923000184/lmrna2023_def14a.htm.

Appendix B. Variable Definitions

Variable	Definition
Compensation variables	
SCT	Summary Compensation Table (SCT) pay for the Chief Executive Officer (CEO) during the fiscal year
CAP	Compensation Actually Paid (CAP) for the CEO during the fiscal year
CAP/SCT Ratio	Signed CAP divided by SCT for the CEO in the fiscal year
AbsCAP/SCT Divergence	Absolute divergence between CEO CAP and SCT pay (|CAP/SCT −1|) for the CEO in the fiscal year
Firm TSR Growth	Yearly change in total shareholder return (TSR)
Peer TSR Growth	Yearly change in the peer group TSR reported in the pay versus performance (PVP) table
Firm characteristics	
TSR 1-year	The one-year TSR as a percentage in the fiscal year
Abnormal TSR 1-year	The one-year TSR as a percentage less the peer group TSR reported in the PVP table
Market capitalization	Total market capitalization of equity in millions of dollars
Total assets	Total book value of assets in millions of dollars
Ln(assets)	The natural log of total assets
Leverage	Long-term debt divided by total assets
Market-to-book	Market value of equity plus long-term debt divided by total assets
Return-on-assets	Operating income after depreciation and amortization divided by total assets
R&D-to-sales	Research and development (R&D) expenses divided by total sales; zero if R&D is missing
CapEx-to-PP&E	CapEx divided by Property, Plant, and Equipment (PP&E); zero if CapEx is missing
Sales-to-assets	Total revenue divided by total assets
Intangibles-to-assets	Book value of intangible assets divided by total assets
Revenue growth	Year-over-year revenue growth
CEO change	Equals 1 if CEO turned over in the latest fiscal year; else 0
Multiple CEOs	Equals 1 if the proxy lists multiple CEOs over fiscal years 2020 to 2022; else 0
Ln(meeting distance)	Natural logarithm of the number of days between proxy filing and annual shareholder meeting date
Institutional ownership	Proportion of shares held by institutional investors
SRC	Equals 1 if the firm is classified as a Smaller Reporting Company (SRC); else 0
Disclosure variables	
PVP length	Total number of pages for the PVP section in the proxy statement
PVP distance from SCT	Number of pages between the start of the SCT and the start of the PVP section in the proxy statement
PVP graph count	Number of graphs supporting the PVP discussion

Appendix B (Continued)

Variable	Definition
Say-on-Pay variables	
SOP voting support	Votes for Say-on-Pay (SOP) divided by votes for and against
Δ SOP voting support[27]	Year-over-year change in log SOP voting support, equal to log(SOP support$_t$) − log(SOP support$_{t-1}$)
Director variables	
CC member voting support	Average across compensation committee (CC) directors of each director's voting support, where a director's support equals votes for divided by votes for and against
Δ CC member voting support	Year-over-year change in log CC member voting support, equal to log(CC member support$_t$) − log(CC member support$_{t-1}$)
CC chair voting support	Voting support for the chair of the CC, equal to votes for divided by votes for and against
Δ CC chair voting support	Year-over-year change in log CC chair voting support, equal to log(CC chair support$_t$) − log(CC chair support$_{t-1}$)
Non-CC director voting support	Average across directors who do not serve on the CC of each director's voting support, where a director's support equals votes for divided by votes for and against
Δ non-CC director voting support	Year-over-year change in log non-CC director voting support, equal to log(non-CC director support$_t$) − log(non-CC director support$_{t-1}$)
Staggered board	Equals 1 when directors are divided into different classes that serve staggered terms; else 0
Board size	Total number of directors serving on the board
Board independence	Fraction of directors on the board who are considered independent
Cross-sectional variables	
High CEO pay complexity	Equals 1 if the index value from Albuquerque et al. (2025) is in the top quartile; else 0. The index accounts for four pay factors: types of pay, use of absolute and relative performance conditions, number of performance metrics, and time horizons for performance measurement
High equity % of total	Equals 1 if the CEO's equity-based pay as a percent of total pay over the past three years is in the top quartile of the sample; else 0
High word count	Equals 1 if the word count of the firm's most recent proxy statement is in the top quartile; else 0
Proxy advisor variables	
ISS/GL 'for' SOP	Equals 1 if ISS or GL recommend voting for SOP; else 0
ISS/GL 'for' CC members	Average of ISS or GL recommendation indicators for members of the CC
ISS/GL 'for' CC chair	Equals 1 if ISS or GL recommend voting for the CC chair; else 0
ISS/GL 'for' non-CC directors	Average of ISS or GL recommendation indicators for non-CC directors

[27] Big Three voting-support variables (SOP, CC member, CC chair, and non-CC director) are defined analogously to the corresponding broader-investor measures but are computed from the fund votes of each Big Three asset manager (BlackRock, Vanguard, and State Street), at the asset-manager–firm level, with support measured as the fraction of the manager's funds voting 'for.'

Appendix C. Changes in Proxy Advisory Voting Guidelines

This appendix outlines the changes in Institutional Shareholder Services (ISS) and Glass Lewis (GL) proxy voting guidelines for proxy year 2023 in response to the new PVP disclosures. The excerpts are provided below.[28]

Table C-1. Updates to Institutional Shareholder Services' (ISS's) Voting Guidelines

73. How will ISS consider the new disclosures required by the SEC's finalized "pay versus performance" rule?

ISS research reports will display certain elements from the company's disclosed pay-versus-performance table, including the Summary Compensation Table total pay figure for the CEO, the Compensation Actually Paid value, the company's TSR, the peer group's TSR, the company's most important financial metric, and the other disclosed important metrics for determining CEO pay. This information will be displayed for all companies subject to ISS' quantitative pay-for-performance screen, although the new information will not be incorporated into the screen. The new disclosures may be considered during the qualitative evaluation, particularly for companies that exhibit a quantitative pay-for-performance misalignment. The new disclosures are not expected to replace investors' prior disclosure expectations around incentive pay.

Table C-2. Updates to Glass Lewis' Voting Guidelines

Pay for Performance

We included mention of the new pay versus performance disclosure requirements announced by the U.S. Securities and Exchange Commission (SEC) in August of 2022. In our revised discussion of our Pay-for-Performance methodology, we have made clear that the methodology is not impacted by new rules. There is no change to the methodology for the 2023 Proxy Season. However, we note that the disclosure requirements from the new rule may be reviewed in our evaluation of executive pay programs on a qualitative basis.

[28] See ISS, *Compensation Policies: Frequently Asked Questions*, "How will ISS consider the new disclosures required by the SEC's finalized 'pay versus performance' rule?" (p. 28), updated December 16, 2022, available at https://web.archive.org/web/20240613180036/https://www.issgovernance.com/file/policy/latest/americas/US-Compensation-Policies-FAQ.pdf; and GL, *2023 Policy Guidelines*, "Pay for Performance," (p. 11), updated November 2022, available at https://www.glasslewis.com/wp-content/uploads/2022/11/US-Voting-Guidelines-2023-GL.pdf.

Figure 1. Timeline of PVP Rule

This figure presents the key events leading to the adoption of the SEC's Pay Versus Performance (PVP) rule. The timeline begins with the enactment of the Dodd-Frank Act on July 21, 2010, which directed the SEC to adopt pay-versus-performance disclosure rules. The SEC proposed the rule on April 29, 2015, reopened the comment period on January 27, 2022, and adopted the final rule on August 25, 2022.

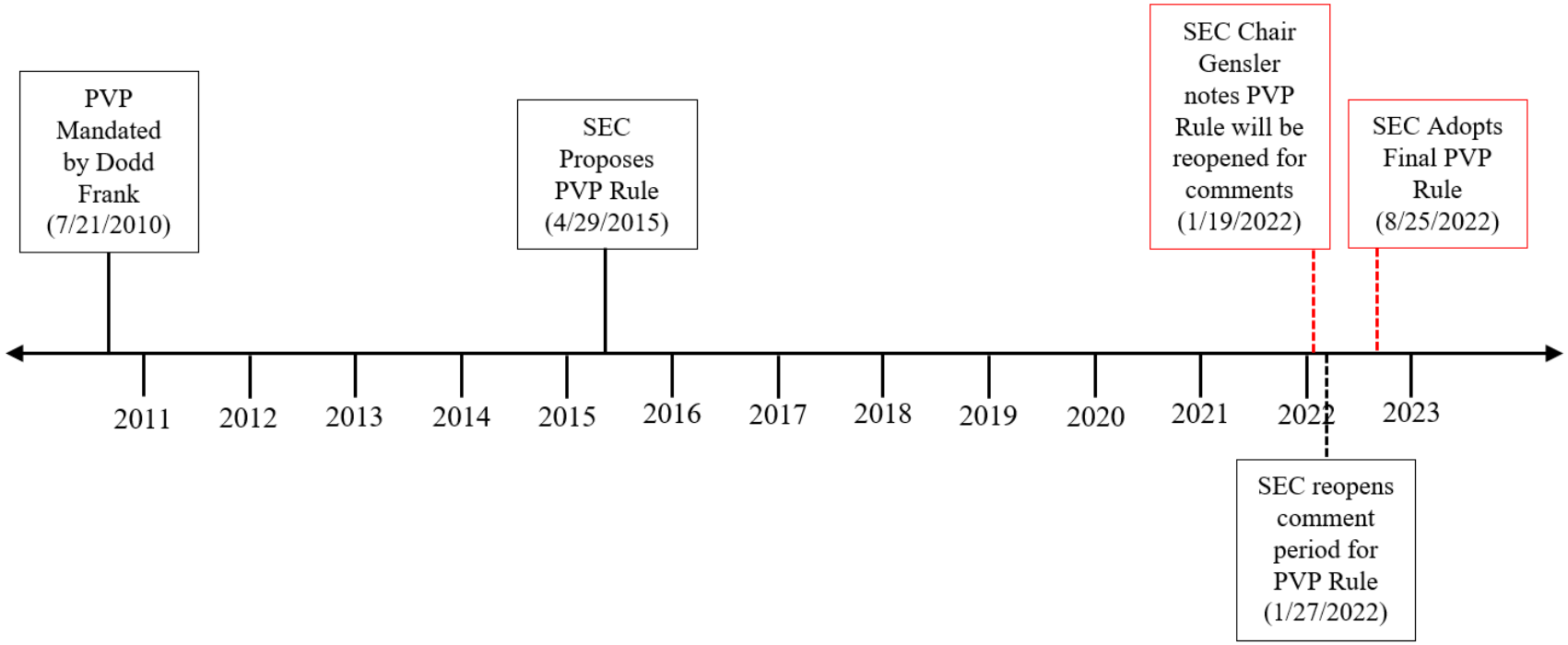


Figure 2. Timeline of PVP Disclosure

This figure illustrates the timing of the initial PVP disclosure and related shareholder votes for a firm with a December fiscal year-end. For these firms, the first fiscal year subject to the PVP rule is fiscal year 2022, which we designate as year *t*. The first required PVP disclosure appears in the proxy statement filed after fiscal year-end and generally reports CAP for fiscal years 2020, 2021, and 2022, which correspond to years *t-2*, *t-1*, and *t*. The shareholder vote occurs at the annual meeting following the proxy filing. In our full sample, the median proxy filing occurs 138 days after fiscal year-end, and the median annual meeting occurs 43 days after the proxy filing. For non-December fiscal-year-end firms, we use the same firm-specific timing convention, defining year *t* as the firm's first fiscal year subject to the PVP rule.

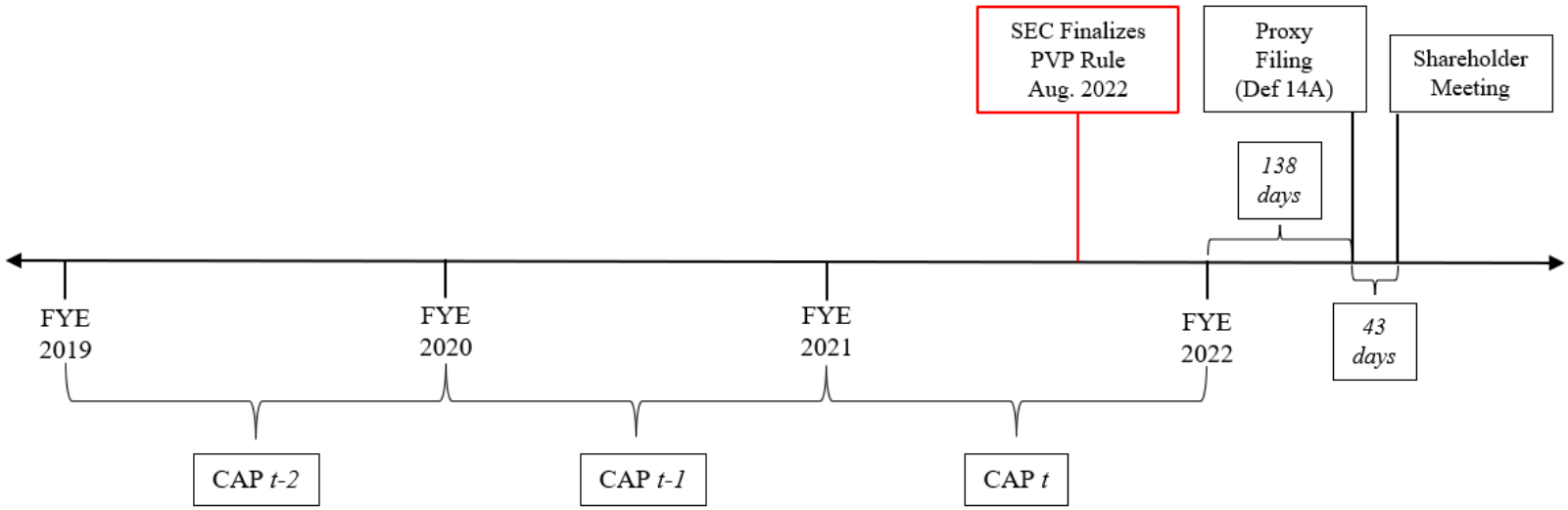
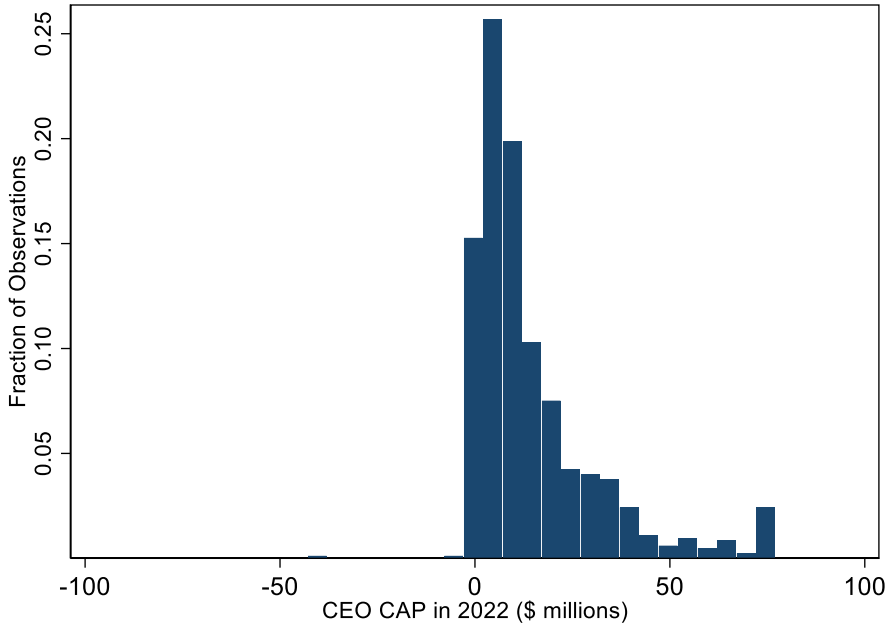


Figure 3. Distribution of CAP by stock performance

This figure presents the distribution of CEO Compensation Actually Paid (CAP) for fiscal year 2022, partitioned by the sign of firm Total Shareholder Return (TSR) during fiscal year 2022. Panel A presents the distribution for firms with positive TSR, and Panel B presents the distribution for firms with negative TSR. The x-axis reports CAP in millions of dollars, and the y-axis reports the fraction of observations.

Panel A. Histogram of CAP for firms with positive TSR



Panel B. Histogram of CAP for firms with negative TSR

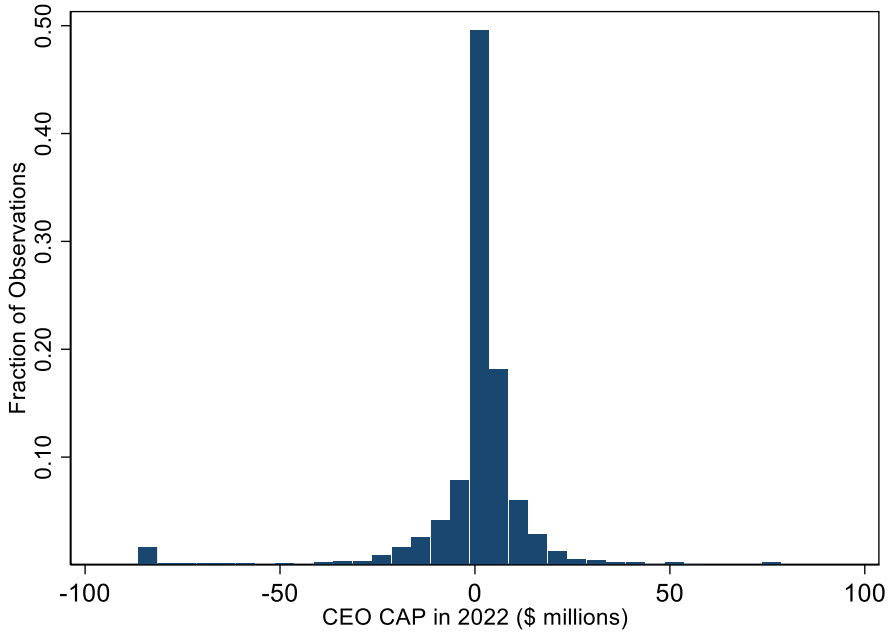


Table 1. Summary Statistics

This table presents summary statistics for our sample of 2,503 firms. Panel A reports CEO compensation and shareholder-return measures disclosed in the Pay Versus Performance (PVP) section of proxy statements for years *t* and *t-1*, where year t is each firm's first fiscal year subject to the PVP rule. For 90.7% of firms, year *t* is fiscal year 2022, and for the remaining 9.3%, year *t* is fiscal year 2023. The CAP/SCT ratio and *AbsCAP/SCT divergence* are winsorized at the 1st and 99th percentiles. Firm TSR Growth and Peer TSR Growth represent the year-over-year percentage returns implied by the cumulative investment values reported in the PVP table. Panel B presents firm characteristics measured in year *t*. All continuous variables in Panel B are winsorized at the 1st and 99th percentiles, except market capitalization and total assets. Panel C presents characteristics of the PVP disclosure, including its length in pages, the number of pages between the SCT and the PVP section, and the number of graphs included in the PVP section. Panel D presents the measures used in our cross-sectional analyses of pay complexity, equity-based compensation, and disclosure length. Appendix B defines all variables.

Panel A. Compensation statistics						
	Mean	SD	P25	Median	P75	Firms
CAP ($M)						
Year t	2.55	65.31	0.49	2.86	8.64	2,503
Year t−1	14.01	67.64	1.65	6.00	16.30	2,483
SCT ($M)						
Year t	8.25	11.48	2.40	5.77	10.52	2,503
Year t−1	9.89	21.89	2.77	6.08	11.03	2,483
CAP/SCT ratio						
Year t	-0.06	5.52	0.25	0.82	1.14	2,503
Year t−1	1.30	2.22	0.72	1.08	1.68	2,482
AbsCAP/SCT divergence						
Year t	1.51	5.41	0.16	0.47	1.01	2,503
Year t−1	1.07	1.97	0.17	0.47	1.08	2,482
Firm TSR growth (%)						
Year t	-12.00	45.74	-41.67	-14.94	8.54	2,474
Year t−1	16.02	55.70	-17.79	11.52	39.85	2,474
Peer TSR growth (%)						
Year t	-8.67	22.97	-23.54	-11.20	0.83	1,982
Year t−1	17.77	24.13	0.02	19.28	33.67	1,982

Table 1 (Continued)

Panel B. Firm characteristics (year *t*)						
	Mean	SD	P25	Median	P75	Firms
TSR 1-year	-0.12	0.46	-0.42	-0.15	0.09	2,474
Abnormal TSR 1-year	-0.02	0.31	-0.21	-0.02	0.15	1,982
Return-on-assets (ROA)	-0.02	0.24	-0.03	0.04	0.10	2,503
Institutional ownership	0.71	0.28	0.56	0.80	0.91	2,503
Smaller Reporting Company	0.20	0.40	0.00	0.00	0.00	2,503
Market capitalization ($B)	15.87	88.76	0.43	2.02	7.07	2,503
Total assets ($B)	20.44	129.25	0.60	2.35	8.55	2,503
Ln(assets)	7.71	2.08	6.40	7.76	9.05	2,503
Market-to-book	1.65	1.59	0.74	1.14	1.98	2,503
Leverage	0.30	0.24	0.09	0.27	0.44	2,503
R&D-to-sales	0.92	5.03	0.00	0.00	0.09	2,503
CapEx-to-PP&E	0.16	0.13	0.07	0.13	0.21	2,503
Sales-to-assets	0.69	0.63	0.21	0.54	0.98	2,503
Intangibles-to-assets	0.19	0.22	0.01	0.09	0.34	2,503
Revenue growth	0.34	1.45	0.00	0.10	0.24	2,503
CEO change	0.11	0.31	0.00	0.00	0.00	2,503
Multiple CEOs	0.22	0.41	0.00	0.00	0.00	2,503
Meeting distance (days)	45.36	8.73	41.00	43.00	49.00	2,502
Ln(meeting distance)	3.80	0.18	3.71	3.76	3.89	2,502

Panel C. Pay-Versus-Performance disclosure statistics						
	Mean	SD	P25	Median	P75	Firms
PVP length (pages)	3.87	1.27	3.00	4.00	5.00	2,490
PVP distance from SCT (pages)	9.19	5.33	6.00	9.00	12.00	2,491
PVP graph count	2.60	1.30	2.00	3.00	3.00	2,500

Panel D. Pay Complexity Statistics						
	Mean	SD	P25	Median	P75	Firms
Pay complexity	19.59	9.90	13.25	18.25	24.17	896
Equity % of total	0.64	0.21	0.54	0.67	0.78	1,095
Word count	46,247	23,290	32,098	41,701	54,059	2,241

Table 2. Compensation Actually Paid and Change in Say-on-Pay Voting Support

This table examines the relation between CEO CAP-SCT divergence and changes in Say-on-Pay (SOP) voting support. Panel A presents summary statistics. SOP voting support equals votes cast for the SOP proposal divided by votes cast for and against the proposal. ISS 'for' SOP and GL 'for' SOP equal 1 if Institutional Shareholder Services or Glass Lewis, respectively, recommends voting for the proposal, and 0 otherwise. Panel B presents OLS regressions of the change in SOP voting support, calculated as the difference in the natural logarithm of support between the first annual meeting following the PVP disclosure and the prior annual meeting. The variable of interest, *AbsCAP/SCT divergence*, equals |CAP/SCT−1|. Panel C presents corresponding regressions for voting by the Big Three institutional investors. Panel B includes industry fixed effects based on two-digit Standard Industrial Classification codes, and Panel C includes institution fixed effects. *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix B defines all variables.

Panel A. Summary Statistics

	Mean	SD	P25	Median	P75	Firms
SOP voting support $_t$ (%)	89.95	12.29	87.92	94.34	97.25	2,503
Δ SOP voting support $_t$ (%)	0.68	24.65	-2.82	-0.11	2.34	2,116
ISS 'for' SOP $_t$ (%)	86.25	34.44	100.00	100.00	100.00	2,255
GL 'for' SOP $_t$ (%)	78.62	41.01	100.00	100.00	100.00	2,133

Table 2 (Continued)

Panel B. Regressions of the Change in Say-on-Pay Voting Support		
AbsCAP/SCT divergence	0.004***	0.005***
	(3.07)	(3.59)
ISS 'for' SOP		0.209***
		(10.70)
GL 'for' SOP		0.066***
		(4.17)
TSR 1-year	0.040***	0.037**
	(2.80)	(2.40)
Return-on-assets	-0.026	-0.124***
	(-0.62)	(-2.60)
Institutional ownership	-0.037	-0.077**
	(-1.21)	(-2.36)
SRC	-0.050**	-0.048**
	(-2.19)	(-2.06)
Ln(assets)	-0.005	-0.004
	(-1.17)	(-0.86)
Market-to-book	-0.008**	-0.007*
	(-2.02)	(-1.67)
Leverage	0.025	0.028
	(0.88)	(0.94)
R&D-to-sales	0.000	0.000
	(0.01)	(0.19)
CapEx-to-PP&E	-0.077	-0.061
	(-1.60)	(-1.24)
Sales-to-assets	-0.007	-0.021
	(-0.51)	(-1.47)
Intangibles-to-assets	0.037	0.015
	(1.16)	(0.45)
Revenue growth	0.006	0.002
	(1.05)	(0.41)
CEO change	0.021	0.029
	(0.96)	(1.32)
Multiple CEOs	-0.004	0.002
	(-0.22)	(0.13)
Ln(meeting distance)	-0.041	-0.076**
	(-1.25)	(-2.20)
Fixed effects	Industry	Industry
Number of firms	2,112	1,850
Adjusted R^2	-0.005	0.092

Table 2 (Continued)

Panel C. Regressions of the Change in Big Three Say-on-Pay Voting Support		
AbsCAP/SCT divergence	0.007***	0.007***
	(8.73)	(9.13)
ISS 'for' SOP		0.209***
		(15.22)
GL 'for' SOP		0.015
		(1.37)
TSR 1-year	0.046***	0.039***
	(4.73)	(3.80)
Return-on-assets	0.028	-0.076**
	(1.05)	(-2.54)
Institutional ownership	-0.073***	-0.135***
	(-3.46)	(-6.12)
SRC	-0.009	-0.015
	(-0.53)	(-0.89)
Ln(assets)	-0.006**	-0.005*
	(-2.23)	(-1.73)
Leverage	0.021	0.033*
	(1.22)	(1.85)
Market-to-book	-0.007***	-0.004
	(-2.64)	(-1.50)
R&D-to-sales	0.001	-0.000
	(0.85)	(0.12)
CapEx-to-PP&E	-0.005	0.033
	(-0.14)	(1.01)
Sales-to-assets	-0.010	-0.010
	(-1.41)	(-1.48)
Intangibles-to-assets	0.060***	0.047**
	(3.24)	(2.50)
Revenue growth	0.012***	0.010***
	(2.67)	(2.98)
CEO change	-0.025	-0.021
	(-1.64)	(-1.38)
Multiple CEOs	0.007	0.014
	(0.63)	(1.24)
Ln(meeting distance)	-0.004	-0.022
	(-0.18)	(-0.88)
Fixed effects	Institution	Institution
Number of observations	5,728	5,109
Adjusted R^2	0.020	0.078

Table 3. Compensation Actually Paid and Change in Director Voting

This table examines the relation between CEO CAP-SCT divergence and changes in voting support for compensation committee (CC) directors. Panel A presents summary statistics. Voting support for each director equals votes cast for the director divided by votes cast for and against the director. CC member and non-CC director voting support are averaged across directors in the relevant group, while CC chair voting support reflects the individual chair. The changes reported in Panel A are raw year-over-year changes expressed in percentage points. Panels B and C present OLS regressions in which the dependent variable is the difference in the natural logarithm of voting support between the first annual meeting following the PVP disclosure and the prior annual meeting. The variable of interest, *AbsCAP/SCT divergence*, equals |CAP/SCT−1|. *Staggered Board* equals 1 if directors serve in classes with staggered terms, and 0 otherwise. *Board Size* is the number of directors serving on the board, and *Board Independence* is the fraction of directors classified as independent. Proxy advisor recommendations for CC members and non-CC directors are averaged across directors in the relevant group, with recommendations coded as 1 for "for" and 0 for "against." Recommendations for the CC chair are coded similarly for the individual chair. These measures are calculated separately for ISS and GL. Panel B estimates Eq. (2) for the broader investor sample and includes industry fixed effects based on two-digit Standard Industrial Classification codes. Panel C presents corresponding regressions for voting by the Big Three institutional investors and includes institution fixed effects. *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix B defines all variables.

Panel A. Summary Statistics

	Mean	SD	P25	Median	P75	Firms
Director voting support $_t$ (%)						
CC members	94.39	6.80	93.63	96.50	98.18	1,086
Δ CC members	0.13	9.72	-1.96	-0.41	0.94	945
CC chair	94.30	6.89	93.16	96.39	98.11	817
Δ CC chair	-0.27	8.14	-1.85	-0.36	1.01	620
Non-CC directors	95.04	5.14	94.05	96.70	98.10	1,148
Δ non-CC directors	-0.38	4.79	-1.65	-0.26	0.74	1,058
Board properties $_t$						
Staggered board (%)	25.31	43.50	0.00	0.00	100.00	1,205
Board size	9.78	2.09	8.00	10.00	11.00	1,193
Board independence (%)	82.82	10.12	77.78	87.50	90.00	1,193
ISS recommendations $_t$ (%)						
ISS 'for' CC members	93.55	22.71	100.00	100.00	100.00	954
ISS 'for' CC chair	95.83	20.01	100.00	100.00	100.00	719
ISS 'for' non-CC directors	94.13	19.53	100.00	100.00	100.00	1,014
Glass Lewis recommendations $_t$ (%)						
GL 'for' CC member	91.59	21.81	100.00	100.00	100.00	953
GL 'for' CC chair	94.42	22.97	100.00	100.00	100.00	717
GL 'for' non-CC directors	92.90	15.49	88.89	100.00	100.00	1,014

Table 3 (Continued)

Panel B. Compensation Actually Paid and Change in Director Voting Support			
	Δ CC members	Δ CC chair	Δ non-CC directors
	(1)	(2)	(3)
AbsCAP/SCT divergence	0.003**	0.005***	0.000
	(2.42)	(4.59)	(0.49)
ISS 'for' director(s)	0.109***	0.225***	0.070***
	(6.18)	(8.74)	(5.90)
GL 'for' director(s)	0.076***	0.059***	0.093***
	(4.53)	(3.21)	(7.02)
TSR 1-year	0.042***	0.031**	0.018**
	(3.45)	(2.09)	(2.44)
Return-on-assets	-0.107*	-0.050	-0.007
	(-1.94)	(-0.74)	(-0.23)
Institutional ownership	-0.073***	-0.060**	-0.026*
	(-2.81)	(-2.05)	(-1.68)
SRC	0.029	0.011	-0.060
	(0.44)	(0.14)	(-1.45)
Ln(assets)	0.004	0.004	0.000
	(1.53)	(1.33)	(0.26)
Leverage	-0.001	-0.005	-0.014
	(-0.08)	(-0.24)	(-1.27)
Market-to-book	0.003	0.003	-0.000
	(1.15)	(0.94)	(-0.14)
R&D-to-sales	-0.016	-0.034	-0.015
	(-0.75)	(-0.73)	(-1.18)
CapEx-to-PP&E	-0.006	0.004	-0.011
	(-0.20)	(0.11)	(-0.60)
Sales-to-assets	-0.013	-0.003	-0.001
	(-1.62)	(-0.37)	(-0.16)
Intangibles-to-assets	0.013	0.028	-0.008
	(0.73)	(1.44)	(-0.72)
Revenue growth	0.008	-0.005	0.002
	(0.71)	(-0.44)	(0.23)
CEO change	-0.010	-0.025*	0.011
	(-0.89)	(-1.92)	(1.50)
Multiple CEOs	-0.001	0.014	-0.006
	(-0.10)	(1.64)	(-1.14)
Ln(meeting distance)	-0.022	0.022	0.003
	(-1.13)	(1.01)	(0.21)
Staggered board	0.030***	-0.040	0.022***
	(3.35)	(-1.14)	(4.54)
Board size	-0.004**	-0.003	0.000
	(-2.24)	(-1.36)	(0.28)
Board independence	-0.014	-0.001	-0.022
	(-0.35)	(-0.02)	(-0.98)
Fixed effects	Industry	Industry	Industry
Number of firms	821	538	928
Adjusted R^2	0.135	0.241	0.119

Table 3 (Continued)

Panel C. Compensation Actually Paid and Change in Big Three Director Voting Support			
	Δ CC members	Δ CC chair	Δ non-CC directors
	(1)	(2)	(3)
AbsCAP/SCT divergence	0.003***	0.005***	0.000
	(3.28)	(2.98)	(1.50)
ISS 'for' director(s)	-0.004	-0.017	0.060***
	(-0.21)	(-0.41)	(11.75)
GL 'for' director(s)	0.089***	0.082***	0.086***
	(5.63)	(3.04)	(14.80)
TSR 1-year	0.022**	-0.002	0.016***
	(2.37)	(-0.15)	(6.18)
Return-on-assets	-0.013	0.107	-0.001
	(-0.30)	(1.37)	(-0.07)
Institutional ownership	-0.037	-0.016	-0.005
	(-1.58)	(-0.41)	(-0.72)
SRC	0.018	0.081	-0.042**
	(0.26)	(0.59)	(-2.12)
Ln(assets)	-0.001	0.003	0.000
	(-0.26)	(0.69)	(0.22)
Leverage	0.016	0.011	-0.006
	(1.19)	(0.48)	(-1.62)
Market-to-book	0.003	0.005	0.000
	(1.46)	(1.33)	(0.66)
R&D-to-sales	0.006	0.049	-0.014**
	(0.28)	(0.81)	(-2.49)
CapEx-to-PP&E	-0.011	-0.038	-0.012
	(-0.41)	(-0.81)	(-1.56)
Sales-to-assets	-0.006	-0.013	-0.002
	(-1.33)	(-1.59)	(-1.40)
Intangibles-to-assets	0.009	0.028	-0.005
	(0.70)	(1.32)	(-1.38)
Revenue growth	-0.009	-0.025	-0.004
	(-0.81)	(-1.46)	(-1.36)
CEO change	0.011	0.002	0.009***
	(1.06)	(0.11)	(3.02)
Multiple CEOs	-0.001	0.014	-0.006***
	(-0.08)	(1.16)	(-2.85)
Ln(meeting distance)	-0.021	-0.007	-0.000
	(-1.14)	(-0.23)	(-0.07)
Staggered board	-0.021**	-0.056	0.018***
	(-2.46)	(-1.11)	(8.52)
Board size	0.001	0.001	-0.000
	(0.60)	(0.42)	(-0.44)
Board independence	-0.028	0.076	-0.044***
	(-0.78)	(1.19)	(-4.44)
Fixed effects	Institution	Institution	Institution
Number of observations	2,669	1,710	3,046
Adjusted R^2	0.021	0.022	0.147

Table 4. Placebo Test of Pre-Disclosure CAP and Prior Year Voting Outcomes

This table presents placebo tests of the relation between year *t-1 AbsCAP/SCT divergence* and changes in Say-on-Pay (SOP) and compensation committee (CC) member voting support at the annual meeting preceding the first PVP disclosure. Firms first disclosed year *t-1* CAP retroactively in their first PVP proxy statements. Thus, investors had not observed this information when casting votes at the prior annual meeting. *AbsCAP/SCT divergence* equals |CAP/SCT−1|. Panel A presents OLS regressions for the broader investor sample and includes industry fixed effects based on two-digit Standard Industrial Classification codes. Panel B presents corresponding regressions for voting by the Big Three institutional investors and includes institution fixed effects. All regressions include the control variables described in Eq. (3). *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix B defines all variables.

Panel A. Compensation Actually Paid and Change in Voting Support		
	Δ SOP voting support $_{t-1}$	Δ CC member voting support $_{t-1}$
	(1)	(2)
AbsCAP/SCT divergence $_{t-1}$	0.006	0.000
	(0.80)	(1.44)
Controls	Yes	Yes
Fixed effects	Industry	Industry
Number of firms	1,502	785
Adjusted R^2	0.046	0.069

Panel B. Compensation Actually Paid and Change in Big Three Voting Support		
	Δ SOP voting support $_{t-1}$	Δ CC member voting support $_{t-1}$
	(1)	(2)
AbsCAP/SCT divergence $_{t-1}$	0.002	0.000
	(0.69)	(0.04)
Controls	Yes	Yes
Fixed effects	Institution	Institution
Number of observations	4,236	2,173
Adjusted R^2	0.136	0.020

Table 5. Cross-Sectional Variation in Voting Support Relative to Information Costs

This table examines whether the association between year *t* CEO *AbsCAP/SCT divergence* and changes in investor voting support varies with pay complexity, disclosure length, and the proportion of compensation awarded as equity. Year *t* is each firm's first fiscal year subject to the PVP rule. Changes in voting support are measured from the prior annual meeting to the first annual meeting following the PVP disclosure. For each cross-sectional test, we include the relevant *High indicator* and its interaction with *AbsCAP/SCT divergence*, as specified in Eq. (4). *High indicator* represents *High pay complexity*, *High word count*, or *High equity % of total*. Panels A and B report changes in Say-on-Pay voting support for the broader investor sample and the Big Three institutional investors, respectively. Panels C and D report corresponding changes in voting support for compensation committee members. All regressions use ordinary least squares. Panels A and C include industry fixed effects based on two-digit Standard Industrial Classification codes, while Panels B and D include institution fixed effects. *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix B defines all variables.

Panel A. Change in Say-on-Pay Voting Support			
	(1)	(2)	(3)
Cross-sectional variable:	High pay complexity	High equity % of total	High word count
AbsCAP/SCT divergence × High indicator	0.058**	-0.002	0.002
	(2.48)	(-0.48)	(0.92)
AbsCAP/SCT divergence	0.010***	0.006**	0.004***
	(3.04)	(2.17)	(2.80)
High indicator	-0.105***	0.031	0.010
	(-3.30)	(1.55)	(0.70)
Other controls	Yes	Yes	Yes
Fixed effects	Industry	Industry	Industry
Number of firms	743	963	1,697
Adjusted R^2	0.126	0.143	0.091

Panel B. Big Three Change in Say-on-Pay Voting Support			
	(1)	(2)	(3)
Cross-sectional variable:	High pay complexity	High equity % of total	High word count
AbsCAP/SCT divergence × High indicator	0.034***	-0.002	0.002
	(2.95)	(-0.87)	(1.21)
AbsCAP/SCT divergence	0.006***	0.007***	0.004***
	(4.72)	(4.18)	(5.43)
High indicator	-0.050***	0.031***	0.014*
	(-3.19)	(2.83)	(1.69)
Other controls	Yes	Yes	Yes
Fixed effects	Institution	Institution	Institution
Number of observations	2,122	2,834	4,688
Adjusted R^2	0.163	0.161	0.108

Table 5 (Continued)

Panel C. Change in Comp Committee Voting Support			
	(1)	(2)	(3)
Cross-sectional variable:	High pay complexity	High equity % of total	High word count
AbsCAP/SCT divergence × High indicator	0.028***	0.005*	0.000
	(3.79)	(1.85)	(0.18)
AbsCAP/SCT divergence	0.003	0.000	0.002
	(1.68)	(0.05)	(1.28)
High indicator	-0.024**	0.002	-0.014*
	(-2.47)	(0.14)	(-1.94)
Other controls	Yes	Yes	Yes
Fixed effects	Industry	Industry	Industry
Number of firms	515	536	786
Adjusted R^2	0.089	0.129	0.141

Panel D. Big Three Change in Comp Committee Voting Support			
	(1)	(2)	(3)
Cross-sectional variable:	High pay complexity	High equity % of total	High word count
AbsCAP/SCT divergence × High indicator	0.011	0.004*	-0.002
	(1.50)	(1.66)	(-1.15)
AbsCAP/SCT divergence	0.008***	0.001	0.005***
	(4.04)	(0.91)	(2.87)
High indicator	0.004	-0.005	0.000
	(0.44)	(-0.46)	(0.03)
Other controls	Yes	Yes	Yes
Fixed effects	Institution	Institution	Institution
Number of observations	1,759	1,645	2,542
Adjusted R^2	0.026	0.013	0.019

Table 6. Cross-Sectional Variation in Voting Support Relative to Stock Performance

This table examines the relation between the year *t* signed CEO *CAP/SCT ratio* and changes in investor voting support, conditional on stock performance during year *t*. Year *t* is each firm's first fiscal year subject to the PVP rule. Changes in voting support are measured from the prior annual meeting to the first annual meeting following the PVP disclosure. Panels A and B report changes in SOP voting support for the broader investor sample and the Big Three institutional investors, respectively. Panels C and D report corresponding changes in voting support for CC members. Columns 1 and 2 partition the sample based on negative and positive firm TSR during year t, respectively. Columns 3 and 4 partition the sample based on negative and positive abnormal TSR during year t, respectively. *Abnormal TSR* equals firm TSR minus the peer-group TSR reported in the year t PVP table. All regressions are estimated using ordinary least squares. Panels A and C include industry fixed effects based on two-digit Standard Industrial Classification codes, while Panels B and D include institution fixed effects. All regressions include the control variables described in Eqs. (1) and (2), as applicable, as well as the proxy advisor recommendation controls. *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix B defines all variables.

Panel A. Change in Say-on-Pay Voting Support by Performance

	(1)	(2)	(3)	(4)
Subsample:	Negative TSR	Positive TSR	Negative Abnormal TSR	Positive Abnormal TSR
CAP/SCT ratio	-0.004***	0.029***	-0.008***	-0.001
	(-2.93)	(2.74)	(-8.42)	(-0.26)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Industry	Industry	Industry	Industry
Number of firms	1,216	616	818	768
Adjusted R^2	0.090	0.040	0.169	0.005

Panel B. Big Three Change in Say-on-Pay Voting Support by Performance

	(1)	(2)	(3)	(4)
Subsample:	Negative TSR	Positive TSR	Negative Abnormal TSR	Positive Abnormal TSR
CAP/SCT ratio	-0.008***	0.033***	-0.009***	-0.002
	(-8.38)	(4.16)	(-9.25)	(-0.96)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Institution	Institution	Institution	Institution
Number of observations	3,410	1,675	2,095	2,365
Adjusted R^2	0.099	0.043	0.156	0.037

Panel C. Change in Compensation Committee Member Voting Support by Performance

	(1)	(2)	(3)	(4)
Subsample:	Negative TSR	Positive TSR	Negative Abnormal TSR	Positive Abnormal TSR
CAP/SCT ratio	-0.003**	0.002	-0.004**	-0.003
	(-2.53)	(0.24)	(-2.54)	(-0.75)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Industry	Industry	Industry	Industry
Number of firms	537	272	379	424
Adjusted R^2	0.188	0.061	0.205	0.130

Table 6 (Continued)

Panel D. Big Three Change in Compensation Committee Member Voting Support by Performance				
	(1)	(2)	(3)	(4)
Subsample:	Negative TSR	Positive TSR	Negative Abnormal TSR	Positive Abnormal TSR
CAP/SCT ratio	-0.003***	-0.010	-0.003***	-0.005
	(-2.72)	(-1.38)	(-2.94)	(-1.38)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Institution	Institution	Institution	Institution
Number of observations	1,774	1,136	1,390	1,520
Adjusted R^2	0.018	0.025	0.002	0.049

Table 7. Placebo Test of Pre-Disclosure CAP and Prior-Year Voting by Stock Performance

This table presents placebo tests of the relation between the year *t-1* signed CEO *CAP/SCT ratio* and changes in investor voting support before firms first disclosed CAP under the PVP rule. Firms first disclosed year *t-1* CAP retroactively in their first PVP proxy statements, so investors had not observed this information when casting votes at the prior annual meeting. Panels A and B report changes in SOP voting support for the broader investor sample and the Big Three, respectively. Panels C and D report corresponding changes in voting support for CC members. Columns 1 and 2 partition the sample based on negative and positive firm TSR during year *t-1*, respectively. Columns 3 and 4 partition the sample based on negative and positive abnormal TSR during year *t-1*, respectively. *Abnormal TSR* equals firm TSR minus the peer-group TSR subsequently reported in the PVP table for the same fiscal year. All regressions are estimated using ordinary least squares and include the control variables described in Eqs. (1) and (2), as applicable, as well as the proxy advisor recommendation controls. Panels A and C include industry fixed effects based on two-digit Standard Industrial Classification codes, while Panels B and D include institution fixed effects. *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix B defines all variables.

Panel A. Change in Say-on-Pay Voting Support $_{t-1}$ by Performance

	(1)	(2)	(3)	(4)
	Negative TSR	Positive TSR	Negative Abnormal TSR	Positive Abnormal TSR
CAP/SCT ratio $_{t-1}$	-0.004	0.008	-0.005	0.012
	(-0.41)	(0.94)	(-0.75)	(1.11)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Industry	Industry	Industry	Industry
Number of firms	412	1,078	649	654
Adjusted R^2	0.054	0.041	0.114	0.084

Panel B. Big Three Change in Say-on-Pay Voting Support $_{t-1}$ by Performance

	(1)	(2)	(3)	(4)
	Negative TSR	Positive TSR	Negative Abnormal TSR	Positive Abnormal TSR
CAP/SCT ratio $_{t-1}$	0.003	-0.001	0.001	0.000
	(0.95)	(-0.58)	(0.65)	(0.54)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Institution	Institution	Institution	Institution
Number of observations	1,441	3,229	2,009	2,142
Adjusted R^2	0.537	0.457	0.476	0.535

Panel C. Change in Compensation Committee Member Voting Support $_{t-1}$ by Performance

	(1)	(2)	(3)	(4)
	Negative TSR	Positive TSR	Negative Abnormal TSR	Positive Abnormal TSR
CAP/SCT ratio $_{t-1}$	0.003	0.003	-0.001	-0.001
	(0.14)	(1.52)	(-0.12)	(-0.24)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Industry	Industry	Industry	Industry
Number of firms	160	609	362	411
Adjusted R^2	-0.062	0.109	0.032	0.105

Table 7 (Continued)

Panel D. Big Three Change in Compensation Committee Member Voting Support $_{t-1}$ by Performance				
	(1)	(2)	(3)	(4)
	Negative TSR	Positive TSR	Negative Abnormal TSR	Positive Abnormal TSR
CAP/SCT ratio $_{t-1}$	0.015	0.004	0.008	0.003
	(1.48)	(1.49)	(1.63)	(1.08)
Controls	Yes	Yes	Yes	Yes
Fixed effects	Institution	Institution	Institution	Institution
Number of observations	436	1,743	1,020	1,150
Adjusted R^2	0.016	0.008	0.014	0.105

Table 8. Compensation Actually Paid and Change in Proxy Advisor Recommendations

This table examines the relation between CEO CAP-SCT measures and changes in proxy advisor recommendations from ISS and GL for SOP proposals and CC member elections. ISS 'for' and GL 'for' equal 1 if the respective proxy advisor recommends voting for the proposal or director and 0 otherwise. The regression dependent variables equal the recommendation indicator at the first annual meeting following the PVP disclosure, or the average recommendation across CC members at that meeting, minus the corresponding value from the prior annual meeting. Panel A presents summary statistics. Panels B and C present ordinary least squares regressions of changes in ISS and GL recommendations, respectively. Columns 1 and 4 use year *t AbsCAP/SCT divergence*, calculated as |CAP/SCT−1|, for the full sample. Columns 2 and 5 use the year t signed CAP/SCT ratio for firms with negative TSR during year t, while columns 3 and 6 use the year *t* signed *CAP/SCT ratio* for firms with positive TSR during year *t*. Year *t* is each firm's first fiscal year subject to the PVP rule. All regressions include industry fixed effects based on two-digit Standard Industrial Classification codes and the control variables described in Eq. (5). *t*-statistics are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix B defines all variables.

Panel A. Summary Statistics

	Mean	SD	P25	Median	P75	Firms
SOP Recommendations $_t$ (%)						
ISS 'for'	86.25	34.44	100.00	100.00	100.00	2,255
Δ ISS 'for'	1.05	40.20	0.00	0.00	0.00	1,998
GL 'for'	78.62	41.01	100.00	100.00	100.00	2,133
Δ GL 'for'	-3.90	43.15	0.00	0.00	0.00	1,871
CC Member Recommendations $_t$ (%)						
ISS 'for'	93.55	22.71	100.00	100.00	100.00	954
Δ ISS 'for'	1.00	21.27	0.00	0.00	0.00	827
GL 'for'	91.59	21.81	100.00	100.00	100.00	953
Δ GL 'for'	-3.93	20.32	0.00	0.00	0.00	825

Panel B. Compensation Actually Paid and Change in ISS Recommendations

	(1)	(2)	(3)	(4)	(5)	(6)
	Δ ISS 'for' SOP			Δ ISS 'for' CC members		
	All	Negative TSR	Positive TSR	All	Negative TSR	Positive TSR
AbsCAP/SCT divergence	0.011***			-0.001		
	(5.21)			(-0.52)		
CAP/SCT ratio		-0.010***	0.054***		0.002	0.027
		(-4.46)	(3.03)		(0.65)	(1.39)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Industry	Industry	Industry	Industry	Industry	Industry
Number of firms	1,993	1,200	508	819	536	271
Adjusted R^2	0.019	0.024	-0.001	0.060	0.114	0.048

Panel C. Compensation Actually Paid and Change in GL Recommendations

	(1)	(2)	(3)	(4)	(5)	(6)
	Δ GL 'for' SOP			Δ GL 'for' CC members		
	All	Negative TSR	Positive TSR	All	Negative TSR	Positive TSR
AbsCAP/SCT divergence	0.005**			0.002		
	(2.44)			(0.63)		
CAP/SCT ratio		-0.005**	0.013		-0.002	-0.006
		(-2.01)	(0.65)		(-0.88)	(-0.34)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Industry	Industry	Industry	Industry	Industry	Industry
Number of firms	1,870	1,237	615	817	534	272
Adjusted R^2	0.007	0.010	-0.024	0.081	0.141	-0.021

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