


Shoot the Arrow, Then Paint the Target: CEO Compensation and Institutional Shareholder Services Benchmarking

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Abstract

We document that firms that expect their CEOs' compensation to exceed the median CEO compensation of their Institutional Shareholder Services (ISS) peers influence ISS to revise these peer sets. Controlling for changes in firm characteristics that ISS uses to select peers, we find that ISS applies an abnormally high turnover rate in the members of these peer sets and increases the representation of focal firms' chosen peers. This turnover results in increases in the medians of the ISS peers' CEO compensation and size. We find that these firms underperform and conclude that they attempt to camouflage high CEO pay to mitigate outrage costs.

Powerful CEOs come on bended knee to Rockville, Maryland, where ISS resides, to persuade the managers of ISS of the merits of their views about issues like proposed mergers, executive compensation, and poison pills. They do so because the CEOs recognize that some institutional investors will simply follow ISS's advice rather than do any thinking of their own.

Leo E. Strine, Jr. (2005)

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I. Introduction

Proxy advisors such as Institutional Shareholder Services (ISS) and Glass Lewis provide various services to their institutional clients. These services include voting recommendations on Director Elections, Say-On-Pay, CEO Compensation Plans, and Mergers and Acquisitions.¹ The information that proxy advisors provide their institutional clients includes a set of peer firms (hereafter, ISS Peers) that they deem appropriate for each focal firm as a CEO compensation benchmark. However, as the above quote suggests, some CEOs may attempt to persuade ISS to alter their benchmark set of peers.² These interventions may be motivated by concerns that discrepancies between the focal firms' CEO compensation and the median CEO compensation of the ISS Peers may lead ISS' institutional clients to conclude that the compensations of the focal firms' CEOs are excessive. We use a novel data set containing ISS Peers to examine whether focal firms influence ISS Proxy Advisors to revise its recommended peer groups in a way that increases the median CEO compensation of their peers. We also attempt to infer whether focal firms lobby for increases in median CEO compensation of their ISS Peers to camouflage high CEO compensation and mitigate potential outrage costs (see, e.g., Bebchuk, Fried, and Walker (2002), Bebchuk and Fried (2003)).

The optimal contracting theory suggests that compensation peer groups provide market information regarding the reservation wage required to retain or recruit talented CEOs (see, e.g., Holmstrom and Kaplan (2003)). However, in practice, focal firms' choices of peer firms (hereafter, Actual Peers) have acquired a dubious status. Several studies document that they are used to validate an unjustly high compensation paid to their CEOs (see Morgenson (2006), DiPrete, Eirich, and Pittinsky (2010), and Faulkender and Yang (2010), (2013)). In contrast to the potentially self-serving role of Actual Peers, proxy advisors are presumed to provide their institutional shareholders clients with an unbiased benchmark for CEO compensation that is independently constructed. In this research, we use an ISS-provided data set that contains the sets of peers it selected for each focal company. To the best of our knowledge, this is the first academic research that utilizes this data set.³

It should be noted that ISS operates two units: ISS Proxy Advisors (hereafter, ISS) and ISS Corporate Solutions (hereafter, ISS-CS). ISS advises its institutional clients regarding their votes on various proposals, including executive compensation issues. To that end, it provides lists of peer companies that it deems appropriate in constructing benchmarks for CEOs' compensation. In contrast, ISS-CS provides compensation consultancy services to compensation committees that determine executive compensation and puts together sets of Actual Peers.

¹ISS and Glass Lewis share approximately 97% of the market (see Glassman and Peirce (2018)), with ISS having, by far, the majority of the market share. We focus on ISS Proxy Advisory Services, who thankfully provided us with data containing their selected compensation peer groups. Comparable data from Glass Lewis were not made available for academic research.

²See Strine ((2005), p. 688) for the quote and the Supplementary Material for anecdotal evidence involving an exchange between Abbot Laboratories and ISS.

³Bizjak, Kalpathy, and Young (2022) use the ISS-Incentive Lab-Peer data for Relative Performance Goals. Our analysis uses the dataset containing the compensation peers selected by ISS.

ISS may solicit information from focal firms to improve the accuracy of the information that it provides to its institutional clients.⁴ Specifically, toward the end of fiscal year t , ISS may communicate with each focal firm and obtain its input to improve its selected peers.⁵ These communications may include updates by focal firms on changes in their business conditions and the lists of their Actual Peers. ISS then makes its proposed list available to institutional clients before the annual meeting in which focal firms present to shareholders their executive compensation. However, compensation committees, law firms, and compensation consultants, among others, have argued that the peer firms chosen by proxy advisory firms are inappropriate (see Table 4 in Hayne and Vance (2019), and the Supplementary Material to the current study).

We posit that CEOs of focal firms are concerned with their shareholders' view of their compensation. CEOs may want to avoid a perception that their compensation is too high relative to CEOs of comparable (i.e., peer) firms. A substantial difference between a focal firm's CEO compensation and the median compensation of the CEOs of its ISS Peers may evoke such a perception. Thus, we hypothesize that CEOs' incentive to lobby ISS to revise the sets of their ISS Peers between year $t - 1$ and year t in a way that increases the sets' median CEO compensation, is positively related to this concern. We employ the percentage difference between the focal firm's expected CEO compensation in year t and the median CEO compensation of its ISS Peers in year $t - 1$ (hereafter, FOCAL_ISS_PAYGAP) as a proxy for this concern.⁶ However, we note that this difference may emerge because of four reasons. First, it may result from ISS's selection of low-paying peers. Thus, we use a PSM methodology to construct a set of peers (hereafter, PSM Peers) and calculate the percentage difference between the CEO compensation medians of the PSM and ISS Peers as a proxy for the benchmark underestimation by ISS (hereafter, PSM_ISS_PAYGAP). Second, it may be due to changes in the focal company between year $t - 1$ and year t . We address this possibility by employing changes in several focal firm characteristics as controls in our regressions. Third, focal firms (and their CEOs) may believe that their CEOs are more talented than the CEOs of their median ISS Peers. Thus, they believe that their CEOs deserve higher compensation than the CEOs of their median ISS Peers. Finally, high levels of FOCAL_ISS_PAYGAP may be the outcome of a self-serving motivation intended to enrich CEOs that are not necessarily highly talented. We construct FOCAL_PSM_PAYGAP as the percentage difference between the compensation of the focal firm's CEO in year t and the median CEO compensation of the PSM Peers at time $t - 1$. FOCAL_PSM_PAYGAP proxies for motivations to lobby for an increase in the median CEO compensation of ISS Peers other than a low ISS benchmark.

⁴Please see <https://insights.issgovernance.com/posts/iss-announces-peer-group-submission-window-to-open-july-6/>.

⁵Section II.B provides a brief discussion of the regulation requiring proxy advisors to provide focal firms an opportunity to comment on the report ISS intends to circulate to their institutional clients.

⁶Note that because the communication between focal firms and ISS occurs toward the end of their fiscal year, focal firms have a reasonably accurate estimate of the compensation they intend to pay their CEOs for the current fiscal year. Consequently, we use the current fiscal year's actual compensation as a proxy for their expected compensation. In Section VI, we discuss the robustness of results to other specifications of FOCAL_ISS_PAYGAP.

We examine whether the third or the fourth reason is more consistent with our data by relating focal firms' future performance to proxies for focal firms' influence on ISS. A positive relation should indicate that retaining a talented CEO may be the reason for the pay gap. In contrast, the absence of a relation, or a negative relation, is more consistent with a self-serving motivation.

We examine whether ISS responds to the lobbying by focal firms that expect their CEO compensation to exceed the ISS benchmark. Proxies for this response are measures of the turnover in the set of ISS Peers and the percent changes in the median CEO compensation and size of the ISS Peers. Thus, we examine the relationship between focal firms' incentives and these proxies.

We construct two primary proxies to delineate focal firms' influence on ISS. The first primary proxy (hereafter, ISS_TURNOVER) is a measure of the extent of revisions in the set of ISS Peers. It is a fraction computed as the sum of the numbers of added and deleted ISS Peers between fiscal years $t - 1$ and t , divided by the sum of ISS Peers in these years. The second proxy is the change (between years $t - 1$ and t) in the representation of Actual Peers in the ISS Peers' set (hereafter, $\Delta\text{ACT}/\text{ISS}$). Since focal firms select Actual Peers, we assert that focal firms favor including Actual Peers as ISS Peers. We gain further insights into the form by which focal firms sway ISS. We do that by examining the median CEO compensation of the peers that ISS adds and deletes, and the percentage change in the median CEO compensation between the year t and the year $t - 1$ subsets of the ISS Peers that are also Actual Peers.

We find strong evidence suggesting that focal firms influence ISS. We document that the positive relationships between FOCAL_ISS_PAYGAP and the percent changes in the medians of the CEO compensation, sales, and assets of ISS Peers are statistically significant. Our calculations indicate that the changes in CEO compensation are also economically substantial.

Upon examining the mechanics of focal firms' influence, we find significant positive relationships between FOCAL_ISS_PAYGAP and the two primary turnover variables (ISS_TURNOVER and $\Delta\text{ACT}/\text{ISS}$). We also find that the increase in the CEO compensation of the ISS Peers is due to both adding high CEO compensation and deleting low CEO compensation peers. Finally, we find significant positive relationships between our two primary turnover variables and the increases in the median CEO compensation and size of ISS Peers. Thus, we conclude that the turnover variables are elements of the mechanism by which ISS revises its sets of peers in response to lobbying by focal firms. That is, focal firms influence ISS to revise the membership of their ISS Peers and add Actual Peers, resulting in increases in the median CEO compensation and size of their ISS Peers.

Our next test further examines whether this lobbying to revise the set of ISS Peers is motivated by an intent to update the ISS peer group composition following changes in focal firm characteristics, reward talented CEOs, or camouflage self-serving rent extraction. For that, we conduct two tests. First, we relate focal firms' future performance to the proxies for focal firms' incentive to lobby ISS to revise their set of peers (FOCAL_ISS_PAYGAP, FOCAL_PSM_PAYGAP, and PSM_ISS_PAYGAP, hereafter Paygap variables). In the second test, we relate focal firms' future performance to a measure of focal firms' success in swaying ISS (i.e., the change in the median CEO compensation of ISS Peers). Controlling for

changes in focal firm attributes, we examine focal firms' future performance to distinguish between a talent versus a self-serving motivation. We expect talented CEOs to generate (at least weakly) positive future performance. However, we do not document any significant positive relation between the Paygap variables and future performance measures. Our estimates indicate that the 1-year forward Buy-and-Hold abnormal return (BHAR) is negatively related to FOCAL_ISS_PAYGAP, FOCAL_PSM_PAYGAP, and the percent change in the median CEO compensation of ISS Peers. These findings are *not* consistent with the view that focal firms lobby ISS to increase its CEO compensation benchmarks to make them commensurate to the compensation of highly talented CEOs. Instead, the relation may indicate that focal firms influence ISS to revise their sets of ISS Peers in a way that increases their median CEO compensation to camouflage the focal firms' high CEO compensation. Finally, we examine the sensitivity of the response of ISS to focal firms' lobbying to two CEO compensation firm characteristics: whether ISS recommended that its clients vote against the focal firm's Say-on-Pay proposal in the previous year, and the extent of the stockholders' support in that vote.

Our findings may interest a broad audience, including academicians, practitioners, and regulators. From an academic standpoint, our article relates to three strands of research. First, we contribute to the literature on bias in proxy advisors' reports. A growing literature examines various reasons that could potentially result in biases in proxy advisors' reports to their institutional clients. Examples of biases and inaccuracies include i) ISS's pro-management tilt in recommendations due to the existence of consulting services rendered by ISS-CS (see Li (2018), Spatt (2019), and Levit and Tsoy (2022)), ii) Any bias in proposals that are sponsored by institutional clients of the proxy advisor (see Levit and Tsoy (2022)), iii) pro-client biases in any proposal, even if it is sponsored by a nonclient party (see Ma and Xiong (2021)), and iv) heavy workload related issues (see Albuquerque, Carter, and Gallani (2020), and Calluzzo and Kedia (2021)). We provide empirical evidence suggesting that ISS alters its composition of peers in response to focal firms' lobbying and raises the median CEO compensation of the ISS Peers. These revisions result in potentially biased reports to institutional clients, which may hinder the ability of institutional shareholders to guard against weak governance.

Second, our article contributes to the literature on CEO compensation contracts that potentially camouflage CEOs' excess compensation. Bebchuk, Cohen, and Hirst (2017) argue that, under weak governance, powerful CEOs tend to award themselves excessive compensation and camouflage it to avoid public outcry (i.e., outrage costs). The literature on mechanisms to hide CEO pay mentions the use of supplemental executive retirement plans and deferred compensation (see Bebchuk and Fried (2004)), choice of performance measures in performance vested stock options (see Abernethy, Kuang, and Qin (2015)), lower pay duration (see Collins, Fleischman, Kaden, and Sanchez (2018)), and ex post rigging of performance metrics (see Morse, Nanda, and Seru (2011)). Our finding that focal firms influence ISS to include firms with highly paid peers is yet another mechanism to camouflage excessive CEO pay.

Third, we contribute to the literature on peer-benchmarking of CEO compensation by examining a novel data set of ISS Peers. The existing literature on CEO compensation documents that focal firms choose their Actual Peers to yield a high

compensation benchmark. We show that focal firms influence ISS to include additional Actual Peers as ISS Peers. This influence aims to induce an increase in the median CEO compensation of the ISS Peers and thereby mitigate any perception that the focal firms' CEOs are overpaid (i.e., mitigate outrage costs). We further show that focal firm performance that follows such camouflaging is mediocre at best.

The rest of the article is laid out as follows: We describe the institutional framework in [Section II](#). [Section III](#) contains a discussion of the related literature and our hypotheses. Sample selection and summary statistics are delineated in [Section IV](#). The estimates from testing our hypotheses are presented in [Section V](#). [Section VI](#) contains examinations of the sensitivity of the response of ISS to Say-on-Pay support and tests of the robustness of our findings to alternative specifications of our Paygap variables. [Section VII](#) contains a summary of our findings, concluding remarks, and suggestions for future research.

II. Institutional Framework

A. Proxy Advisors and Peer Benchmarking of CEO Compensation

The proxy advisors' market is dominated by two providers, ISS and Glass Lewis, that share about 97% of the market (where ISS is the larger of the two). ISS itself operates two units: ISS Proxy Advisors (the focus of this research, referred to as ISS) and ISS-Corporate Solutions (ISS-CS). ISS provides its investor clients with information that is intended to help them vote on a variety of proposals, including those related to CEO compensation. This information includes lists of peer companies (ISS Peers) that ISS deems appropriate as benchmarks for CEOs' compensation. The Supplementary Material contains a description of the methodology ISS uses in forming these peer groups. Focal firms may have the incentive and opportunity to request that their ISS Peers include firms that pay high CEO compensation. Including these firms as ISS Peers would make their CEOs' compensation appear less excessive and mitigate outrage costs.

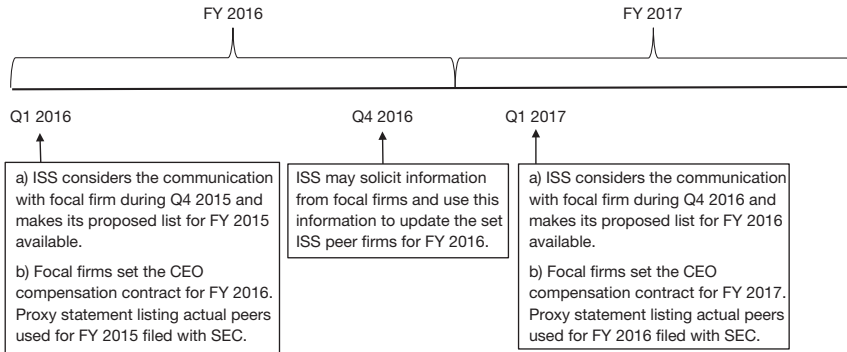
[Figure 1](#) illustrates the sequence of activities and communication between the focal firm and ISS during a fiscal year cycle. Consider the FY 2016 cycle.

ISS begins the determination of the FY 2016 peer firms toward the end of 2016. This determination may include consultations with focal firms regarding any needed revision in the sets of peers that ISS proposes. Lists of 2016 ISS Peers are made available to ISS's institutional clients in early FY 2017 (in time for the 2017 annual shareholders' meeting). It is important to note that focal firms design the parameters of their CEO compensation contracts early in their fiscal year, whereas ISS forms its proposed peer lists later in the fiscal year. Consequently, focal firms have reasonable estimates of their 2016 CEO compensation at the time of their discussion with ISS (in Q4 of 2016). However, because planned 2016 compensation is not public information before the shareholders' meeting (which takes place in Q1 of 2017), focal firms may not know the 2016 planned compensation of all their ISS Peers when they discuss with ISS the construction of their ISS Peers (in Q4 of 2016). Thus, we employ the difference between the expected CEO compensation

FIGURE 1

Sequence of Activities During Peer Benchmarking: ISS Proxy Advisors and Focal Firm

Figure 1 describes the sequence of events pertaining to the peer benchmarking process by ISS and Focal firms. The illustration assumes that the fiscal year coincides with the calendar year.



of focal firms and the lagged median CEO compensation of their ISS Peers as a measure of focal firms' incentive to influence ISS.

B. Regulatory Oversight of Proxy Advisory Business

Proxy advisors are very powerful because of two reasons. First, institutional investors, which own most of the equity in the USA, often follow their recommendations. Second, the proxy advisory industry is dominated by two companies, and thus each of them may affect the decisions of many institutional investors. Thus, the activities of proxy advisors have attracted considerable attention from academicians (see, e.g., Cai, Garner, and Walkling (2009), Ertimur, Ferri, and Oesch (2013), Larcker, McCall, and Ormazabal (2015), Malenko and Shen (2016), and Levit and Tsoy (2022)).

The concentrated proxy advisors industry has attracted the attention of regulators who attempted to curb the power of their members. For example, a recent regulation requires proxy advisors to provide their recommendations to focal firms prior to (or at the time of) sending them to their institutional clients and provide access to focal firms' responses (see <https://www.sec.gov/rules/final/2020/34-89372.pdf>, pp. 70–72). The regulation is intended to allow focal firms to alert institutional investors if they consider the recommendations of proxy advisors to be baseless or biased. However, by requiring proxy advisors to consult with focal firms, the rules facilitate an engagement that may allow focal firms to influence proxy advisors. Because this engagement may potentially result in less than objective reports, the proposal has evoked considerable resistance.⁷ The current article supports the reexamination of the "Final Rules" that is under consideration by the SEC.⁸

⁷See <https://promarket.org/2019/11/21/why-ceos-and-regulators-clash-with-the-duopoly-of-proxy-advisory-firms/>, <https://www.sec.gov/comments/s7-22-19/s72219.htm>, and specifically for the view of several academicians, <https://www.sec.gov/comments/s7-22-19/s72219-6668185-203962.pdf>.

⁸Please see <https://www.sec.gov/rules/final/2020/34-89372.pdf> for the "Final Rules" and <https://www.sec.gov/rules/proposed/2021/34-93595.pdf> for a statement by SEC about reconsidering the "Final Rules."

III. Related Literature and Hypotheses Development

A. Related Literature

Prior research has studied the proxy advisory industry in the context of equity pay design (see Gow, Larcker, McCall, and Tayan (2013), Larcker et al. (2015), and Copland, Larcker, and Tayan (2018)), director elections (see Cai et al. (2009), Choi, Fisch, and Kahan (2009)), and say on pay votes (see Ertimur et al. (2013), Malenko and Shen (2016)). We examine another aspect of the advice given by proxy advisors: providing a benchmark for CEO compensation. Our research is related to three strands of research: i) Bias in the recommendations made by proxy advisors, ii) CEO compensation and the camouflage motive, and iii) Peer-benchmarking of CEO compensation. We briefly discuss the literature in the areas pertaining to i) and ii) above.⁹

1. Bias in Proxy Advisors' Recommendations

Bias in proxy advisors' recommendations belongs to a class of studies that address the quality of information that proxy advisors provide their institutional clients. Recent literature points to several reasons that may prompt proxy advisors to bias the information they provide their institutional clients. Some studies document the presence of one-size-fits-all recommendations even in the presence of firm-level heterogeneity (see Iliev and Lowry (2015)). Levit and Tsoy (2022) show that its one-size-fits-all approach potentially conceals conflicts of interest that proxy advisors may have with certain focal firms. Their model predicts two potential types of ISS bias. First, biases in recommendations regarding proposals sponsored by its institutional clients. Second, biases because ISS-CS, its sister company, provides similar consulting services to focal firms. While ISS does not disclose its corporate client list, the empirical results in Li (2018) suggest that ISS had a more severe conflict of interest before Glass Lewis became a competitor.¹⁰ Biases may emerge when ISS issues reports that criticize focal firms and influence them to engage the services of ISS-CS (see Knutson (2018), Hayne and Vance ((2019), p. 999). Ma and Xiong (2021) argue that since the proxy advisory business is on a subscription basis, proxy advisors have incentives to make recommendations that do not antagonize their clients. Calluzzo and Kedia (2021) find that ISS recommends fewer negative votes during the busy proxy season and that voting outcomes in line with ISS recommendations during busy periods do not tend to be value-enhancing. They attribute their findings to the enhanced time and effort associated with making negative recommendations. Albuquerque et al. (2020) examine negative assessments by ISS of firm's compensation packages and document that they are associated with lower firm performance, except for firms with December fiscal year ends.

⁹The current literature on peer-benchmarking of CEO compensation, which relates exclusively to the choice of Actual Peers, is extensive. See, for example, Faulkender and Yang (2010), (2013), Bizjak, Lemmon, and Nguyen (2011), and Albuquerque, De Franco, and Verdi (2013).

¹⁰Also, see Clark and Van Buren (2013) for a review of the conflicts of interest in the U.S. Proxy System.

We examine the possibility of yet another bias in ISS recommendations: whether ISS provides its institutional clients with biased peer groups in response to lobbying by focal firms to include peers with highly paid CEOs.

2. CEO Compensation and the Camouflage Motive

Among many other studies, Bebchuk and Fried (2003), (2004) argue that CEOs have an incentive to extract excessive rents that are not in the shareholders' interests. They further argue that CEOs are more successful in extracting rents in a weak governance environment. To make it difficult for outsiders to detect such behavior and mitigate outrage costs, Bebchuk et al. (2002) argue that CEOs tend to camouflage their excessive pay and that retaining compensation consultants is one such tactic. Bebchuk and Fried (2003) suggest that CEOs camouflage their compensation also by structuring them as supplemental executive retirement plans and deferred compensation. While the idea of performance-sensitive option grants is an intuitive way to discourage self-serving behavior, Abernethy et al. (2015) find that CEOs set low-performance targets to increase the likelihood of their stock options' vesting. These and other forms of camouflaging mechanisms, such as ex post rigging of performance measures (see Morse et al. (2011)), and more recently contracting for lower pay duration (see Collins et al. (2018)), continue to be challenging to detect.

Our research suggests that peer-benchmarking of CEO compensation by proxy advisors lends itself to yet another avenue for CEOs to camouflage their excess pay. ISS Peers are intended to serve as objective benchmarks for CEO compensation. These benchmarks should help institutional shareholders determine their vote on CEO compensation practices. Focal firms that intend to pay their CEO excessive compensation may attempt to camouflage the high pay by influencing ISS to include firms with highly paid CEOs in the set of their ISS Peers. Because ISS is supposedly independent of focal firms, institutional investors are likely to assume that such biased peer groups are "appropriate." Thus, influencing ISS may be intended to mitigate institutional investors' disapproval.

B. Hypotheses Development

We posit that CEOs of focal firms are concerned with their shareholders' view of their compensation and may want to avoid a perception that their compensation is too high relative to the compensation of CEOs of comparable firms. A substantial difference between a focal firm's CEO compensation and the median compensation of the CEOs of its ISS Peers may evoke such a perception. Thus, CEOs of focal firms who find that their compensation is likely to exceed the median CEO compensation of the firm's most recent set of ISS Peers may attempt to sway ISS to revise its choice of peer firms. We employ the percentage differences between focal firms' expected CEO compensation in year t and the median CEO compensation of their ISS Peers in year $t - 1$ (FOCAL_ISS_PAYGAP) as proxies for CEOs' concern regarding shareholders' perception of their compensation. However, we note that these differences may emerge because of four reasons. First, they may be induced by ISS' selection of low-paying peers. Thus, for each focal firm and year, we use a PSM methodology to construct a set of 18 peers (the sample median for the number

of ISS Peers) based on the smallest differences in total assets and GICS industry classification between each focal firm and its potential peers. We construct a proxy for a low ISS benchmark (hereafter, PSM_ISS_PAYGAP). This variable is calculated as the percentage difference between the median CEO compensation of the PSM Peers and the median CEO compensation of the corresponding ISS Peers in year $t - 1$. We also construct FOCAL_PSM_PAYGAP as the percentage difference between the focal firm's CEO compensation in year t and the median CEO compensation of the PSM Peers in year $t - 1$. We expect ISS to be relatively more amenable to focal firms' revision requests when the gap is attributed to differences between the ISS Peers and the PSM peers. Thus, while we hypothesize that ISS responds to both, we expect ISS to be more responsive to PSM_ISS_PAYGAP than to FOCAL_PSM_PAYGAP. Second, FOCAL_ISS_PAYGAP may be due to focal firm changes between year $t - 1$ and year t . We control for this possible reason by incorporating in our regressions changes in several focal firm characteristics. Third, focal firms (and their CEOs) may believe that their CEOs are more talented than the median CEO in the set of ISS Peers, and thus deserve higher compensation than the ISS Peers' median. Finally, high levels of FOCAL_ISS_PAYGAP may be the outcome of a self-serving motivation to highly compensate a less than highly talented CEO. We discuss the tests that distinguish between the last two reasons later in this section.

Hypothesis 1. Ceteris paribus, percentage increases in the medians of the CEO compensation, assets, and sales of ISS Peers are positively related to focal firms' incentive to sway ISS, especially when focal firms' motivation originates due to ISS selection of low-paying peers.

We obtain insights regarding the actions that focal firms take to sway ISS by examining two relations. The first relation is between FOCAL_ISS_PAYGAP and our two primary turnover measures in the sets of ISS Peers. The first primary measure, ISS_TURNOVER, is constructed as the ratio of the sum of the numbers of added and deleted ISS Peers between fiscal year $t - 1$ and fiscal year t , to the sum of the numbers of peers in these years. We conjecture that focal firms that expect to pay their CEOs a higher compensation than the median CEO compensation of their ISS Peers attempt to sway ISS to revise the composition of their peers more drastically (controlling for changes in focal firm characteristics and other exogenous factors that call for a revision of the ISS Peers). Hence, ceteris paribus, we expect a positive relation between ISS_TURNOVER and FOCAL_ISS_PAYGAP. The second primary measure, $\Delta\text{ACT}/\text{ISS}$, is intended to represent turnover that increases the representation of Actual Peers in the set of ISS Peers. Specifically, $\Delta\text{ACT}/\text{ISS}$ is defined as the difference between the fraction of ISS Peers that are also Actual Peers in fiscal year t and the corresponding fraction in fiscal year $t - 1$. As indicated in Table 2, the median CEO compensation of Actual Peers is higher than the corresponding measure for ISS Peers. Thus, we hypothesize that focal firms that lobby ISS to increase the medians of the CEO compensation of their ISS Peers suggest that ISS enhance the representation of Actual Peers in their set of ISS Peers. If ISS yields to focal firms' lobbying to increase the representation of Actual Peers in the set of newly added ISS Peers, we expect a positive relation between

Δ ACT/ISS and FOCAL_ISS_PAYGAP. In addition to the two primary turnover variables, we examine whether ISS increases the median CEO compensation of ISS Peers by adding high CEO compensation peers or by discarding low CEO compensation peers, following focal firms' incentives to sway ISS. We state our second hypothesis as

Hypothesis 2. Ceteris paribus, the extent of turnover in ISS Peers and the change in the fraction of ISS Peers that are also Actual Peers are positively related to focal firms' incentive to sway ISS to increase the medians of the CEO compensation of their ISS Peers.

The second relation is between the primary turnover measures and the changes in the medians of the CEO compensation and size measures of the ISS Peers. In the absence of influence by focal firms, and controlling for the extent of changes in focal firm characteristics (size and performance) that ISS uses to select ISS Peers, turnover in the set of ISS Peers should not result in a systematic increase in the median CEO compensation of ISS Peers. In contrast, turnover that is a consequence of successful lobbying by focal firms is likely to result in an increase in the median CEO compensation and the size of ISS Peers. We state our third hypothesis as

Hypothesis 3. Ceteris paribus, the percentage changes in the medians of the CEO compensation and size of ISS Peers, are positively related to their rate of turnover and the change in the fraction of ISS Peers that are also Actual Peers.

As delineated in the first paragraph of this section, we consider four possible reasons that motivate focal firms to lobby ISS. We control for the first reason by including PSM_ISS_PAYGAP as an explanatory variable. The implication of the second reason is controlled by variables that represent changes in focal firm assets, capital expenditure, leverage, and CEO identity. Controlling for the possible impacts on focal firm performance of changes due to the first and the second reasons, we examine whether the motivation is related to the third or fourth reason. We do that by examining the relationship between focal firms' incentive to sway ISS and their future performance (measured, alternatively, in terms of one-period-forward accounting and equity returns). In [Hypothesis 4a](#), we state that the third reason (talent-retention) is the motivation for focal firms' incentive to sway ISS to raise the median CEO compensation of their ISS Peers.

Hypothesis 4a. Ceteris paribus, future performance of focal firms should be (possibly weakly) positively related to focal firms' incentive to sway ISS to raise the median CEO compensation of their ISS Peers.

The fourth reason suggests that focal firms may lobby ISS to revise the composition of their ISS Peers in a self-serving manner. ISS has a fiduciary duty to serve its institutional clients by objectively selecting sets of ISS Peers, thereby providing a layer of external governance in the area of CEO compensation. Consequently, focal firms may have an incentive to influence ISS to select peer firms that highly pay their CEOs. This is motivated by an expectation that a set of highly paid CEOs of ISS Peers will mitigate the attention paid by institutional shareholders

to their CEOs' excess compensation. This behavior is consistent with Bebchuk et al.'s (2002) proposed theory that CEOs attempt to camouflage their excessive compensation. Under this scenario, we may expect a weakly negative relation between lobbying and future firm performance. We state the hypothesis that the fourth reason (self-interest) is the motivation for focal firms' attempts to sway ISS to raise the median CEO compensation of their ISS Peers in [Hypothesis 4b](#) as follows:

Hypothesis 4b. Ceteris paribus, future performance of focal firms should be (possibly weakly) negatively related to focal firms' attempts to sway ISS to raise the median CEO compensation of their ISS Peers.

IV. Summary Statistics and Determinants of CEO Compensation

A. Data Sources

We were able to obtain from ISS a peer group data set for the fiscal years 2012–2016. The data set contains two sets of peers for each focal firm-year observation. One set contains the peer firms that were reported by focal firms in their proxy statements (Actual Peers). The second set contains the corresponding peer firms that were proposed by ISS. Variables measuring firm and CEO characteristics are obtained from COMPUSTAT and directEDGAR; equity returns data are obtained from CRSP; and Institutional ownership data are obtained from Thomson 13f-filings. Our initial sample contains 9,038 firm-year observations. The number of observations in each regression depends on the missing observations of the variables that are included in that regression.¹¹

B. Summary Statistics

[Table 1](#) contains summary statistics for the overall sample, and [Appendix B](#) delineates the variable definitions. We winsorize all variables at the 1st and 99th percentiles.

1. Firm, CEO, and Governance Characteristics

The overall sample has an average (median) assets of \$9,382.51 MM (\$2,076.47 MM), sales of \$4,675.73 MM (\$1,036.50 MM), leverage of 39.64% (35.05%), market-to-book ratio of 5.06 (2.45), return on assets of 4.51% (6.07%), and number of institutional owners of 271.12 (182).

2. Proxy for Focal Firms' Incentives to Sway ISS

The average (median) of FOCAL_ISS_PAYGAP is 29.36% (6.86%), the corresponding value for FOCAL_PSM_PAYGAP is 29.72% (13.87%), and correlation with FOCAL_ISS_PAYGAP of 0.8972. In contrast, average (median) PSM_ISS_PAYGAP is -1.45% (-5.95%).

¹¹[Appendix A](#) provides details on data availability for each variable used in our research.

TABLE 1
Summary Statistics of Focal Firms

Table 1 presents summary statistics of firm characteristics, firm performance, CEO characteristics and governance characteristics for the focal firms, peer characteristics, and turnover variables. Appendix B contains a description of the variables.

	Variables							
	<i>N</i>	Average	Std. Dev.	<i>P</i> ₁₀	<i>P</i> ₂₅	<i>P</i> ₅₀	<i>P</i> ₇₅	<i>P</i> ₉₀
<i>Firm characteristics</i>								
ASSETS (\$ million)	9,024	9,382.51	24,231.82	245.55	627.53	2,076.47	6,440.21	20,515.14
SALES (\$ million)	8,645	4,675.73	11,706.8	111.79	341.16	1,036.5	3,473	10,695.65
MKBK	9,012	5.06	767.01%	1.05	1.49	2.45	4.39	10.16
CAPEX	9,023	4.13%	5.30%	0.08%	0.76%	2.48%	5.36%	9.73%
LEVERAGE	9,023	39.64%	25.49%	8.62%	19.21%	35.05%	56.46%	82.84%
ADVERTISING	9,023	1.01%	2.72%	0.00%	0.00%	0.00%	0.41%	2.95%
<i>Firm performance</i>								
STOCKRET	8,943	16.79%	40.78%	-29.33%	-6.33%	13.46%	34.89%	61.86%
STDSTOCKRET	8,943	9.33%	5.12%	4.48%	5.74%	7.99%	11.37%	15.90%
ROA	9,023	4.51%	14.94%	-5.05%	1.99%	6.07%	10.90%	16.64%
STDROA	9,023	4.93%	8.79%	0.42%	0.99%	2.22%	4.70%	10.96%
BHAR	6,999	-5.97%	54.97%	-90.55%	-40.24%	-4.67%	26.62%	59.75%
EXCESS_RETURNS	8,134	9.39%	26.99%	-17.64%	-5.82%	5.13%	19.05%	39.64%
<i>CEO characteristics</i>								
TOTAL_COMPENSATION (\$ million)	8,453	6.01	7.32	1.10	2.034	3.92	7.50	12.75
FOCAL_ISS_PAYGAP	5,844	29.36%	90.63%	-46.76%	-21.91%	6.86%	50.54%	120.93%
PSM_ISS_PAYGAP	5,195	-1.45%	39.19%	-43.70%	-26.31%	-5.95%	16.33%	43.76%
FOCAL_PSM_PAYGAP	5,195	29.72%	87.94%	-50.24%	-19.38%	13.87%	55.87%	117.76%
EXCESS_COMPENSATION	8,009	0.00%	0.57%	-0.22%	-0.04%	0.02%	0.12%	0.34%
TENURE	6,161	7.42	6.86	1.00	2.00	6.00	11.00	16.00
DUALITY	5,185	0.4521	0.48	0.00	0.00	0.00	1.00	1.00
CEO_CHANGE	9,038	11.36%	31.74%	0.00%	0.00%	0.00%	0.00%	100%
<i>Governance characteristics</i>								
NUMBER_OF_INST_OWNERS	8,601	271.12	280.29	74.00	118.00	182.00	321.00	568.00
ISS_REC_AGAINST	7,205	11.35%	31.72%	0.00	1.00	1.00	1.00	1.00
SoP	7,204	91.62%	12.01%	76.03%	91.43%	96.40%	98.28%	99.21%
<i>ISS peer characteristics turnover variables</i>								
NUMBER_OF_ACTUAL_PEERS	6,979	16.14	5.52	10.00	13.00	16.00	19.00	22.00
NUMBER_OF_ISS_PEERS	7,243	18.57	4.12	13.00	14.00	18.00	24.00	24.00
ISS_TURNOVER	6,841	33.52%	21.25%	8.70%	16.68%	29.17%	46.16%	65.52%
ΔACT/ISS	6,841	5.90%	17.29%	-12.50%	-4.40%	3.17%	13.73%	29.17%
ADD_COMP	5,444	1.08	0.44	0.64	0.85	1.00	1.19	1.54
DEL_COMP	5,780	1.08	0.45	0.65	0.84	1.00	1.21	1.59
OVERLAP_COMP	4,804	0.06	0.31	-0.29	-0.09	0.05	0.21	0.42

3. Peers and Turnover Characteristics

The average (median) number of ISS Peers is 18.57 (18), and the corresponding figure for Actual Peers is 16.14 (16). The average (median) turnover rate for ISS Peers is 33.56% (29.17%), and the annual increase in the representation of Actual Peers in the ISS Peer set during our sample period is about 6% (3%). The increase in the fraction of Actual Peers may (although much less likely) result also when the focal firm adds ISS Peer as an Actual Peer.

C. Summary Statistics: ISS Peer Firms and Actual Peer Firms

Table 2 contains summary statistics comparing focal firms, medians of ISS Peers, and medians of Actual Peers along several dimensions.

Large companies' observations may dominate dollar differences, and these large focal firms (in each industry) are likely to be larger than their industry peers. In many industries, a few companies are much larger than the rest, and these observations may induce a negative average difference between the median dollar size of the peers and the focal firm. To mitigate the dominance of large firms, we report the averages and medians of the percentage differences in CEO compensation and firm size. The percentage difference between the ISS Peers and the focal firm for each

TABLE 2

**ISS Peer Firms and Actual Peer Firms: Summary Statistics and Comparisons
Based on Sales, Assets, and CEO Compensation**

Table 2 contains comparisons of average and median CEO Total Compensation, Sales, Assets, and CEO compensation, of ISS peer firms and Actual peer firms for the years 2012 to 2016. To guard against dominance by large firms, we report the averages of the percent differences. The percent difference between the A and B (rows 4 through 6) is calculated as follows: $\frac{(A-B)}{(A+B)/2}$. This percent difference is bounded between -2 and $+2$ for each focal firm. We use the average of the two magnitudes as base because none of them is a natural candidate for a base. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Total Compensation (\$ '000)		Sales (\$ MM)		Assets (\$ MM)	
	Average	Median	Average	Median	Average	Median
FOCAL	\$6,007.64	\$3,921.04	\$5,421	\$1,037	\$11,361	\$2,076
ISS PEERS	\$5,092.70	\$3,795.04	\$4,195	\$988	\$9,157	\$2,025
ACTUAL PEERS	\$5,794.12	\$4,538.14	\$4,381	\$1,332	\$10,180	\$2,636
$\frac{(ISS-Focal)}{(ISS+Focal)/2}$	-0.0070	-0.0100*	-0.02007***	-0.0347***	-0.0497***	-0.0266***
$\frac{(Actual-ISS)}{(Actual+ISS)/2}$	0.1486***	0.1018***	0.2191***	0.1582***	0.2339***	0.1773***
$\frac{(Actual-Focal)}{(Actual+Focal)/2}$	0.1314***	0.1103***	0.1940***	0.1500***	0.1812***	0.1678***

measure is calculated as the difference between the median for the ISS Peers and the corresponding measure for the focal firm, divided by the average of the two:

$\frac{(ISS\ Peer - Focal)}{(ISS\ Peer + Focal)/2}$. This percentage difference is bounded between -2 and $+2$ for each focal firm. While the numerator is likely to be negative for the very large firms, the averages are less subject to dominance by large firms because the measure is bounded below by -2 .

We find that the median CEO compensation of ISS Peers is significantly (at the 10% level) lower than focal firms' CEO compensation. The median CEO compensation of Actual Peers is significantly (at the 1% level) greater than the CEO compensation of focal firms and the corresponding median of the ISS Peers. Thus, focal firms may have an incentive to sway ISS to include Actual Peer because they have higher-paid CEOs. The reported statistics in the table also indicate that the average percentage difference in the size (assets and sales) between the median of the ISS Peers and the focal firm is negative and significantly different from 0 at the 1% level. The negative difference indicates that, on average, ISS selects peers that are smaller in size compared to focal firms. In contrast, as discussed in the next section, the Actual Peers are significantly larger than focal firms, as indicated by a positive difference that is significantly different from 0 at the 1% level.

V. Hypothesis Testing

Table 2 indicates that focal firms choose Actual Peers with CEO compensation higher than their own. Presumably, a reason for such choices is to present focal companies as paying their CEOs less than their Actual Peers do (see Bizjak et al. (2011), and Faulkender and Yang (2013)). We explore another possible attempt of focal firms to improve their image by examining whether they influence ISS to select high-paying companies as their ISS Peers. The influence to make such a selection is intended so that institutions will not consider these focal firms as paying their CEOs excessive compensation when compared with their ISS Peers. In Section V.A and Table 3, we present evidence of positive relations between focal

TABLE 3
Effect of FOCAL_ISS_PAYGAP, FOCAL_PSM_PAYGAP, and PSM_ISS_PAYGAP
on Percent Change in ISS Peer CEO Compensation and Size

The dependent variables in Table 3 are percentage changes in medians of the CEO Total Compensation, Sales, and Assets of ISS Peers. The explanatory variables of interest are FOCAL_ISS_PAYGAP (percent difference between CEO total compensation in current fiscal year and median CEO total compensation of ISS Peers at the end of previous fiscal year), and the corresponding FOCAL_PSM_PAYGAP (percent difference between CEO total compensation in the current fiscal year and the median CEO total compensation of propensity-score-matched focal firm peers at the end of the previous fiscal year), and PSM_ISS_PAYGAP (percent difference between median CEO total compensation of propensity-score-matched focal firm peers and the median CEO total compensation of ISS peers at the end of previous fiscal year). The control variables ISS_REC_AGAINST and ISS_REC_MISSING, and CEO_CHANGE are indicator variables equal to 1 if ISS recommended to vote against in the Say-on-Pay vote, if such vote is missing, and if the CEO tenure is equal to 0 or 1, respectively, otherwise equal to 0. Other controls variables are excess returns measured over the previous 3 years, percent change in focal firm assets, capital expenditures, leverage, and the logarithm of the number of institutional owners. Explanatory variables that are percentage changes between 2 years are contemporaneous with the dependent variable. Other explanatory variables are as of the initial year of the percentage change in the dependent variable. All regressions use, year, industry fixed effects, and robust standard errors. We report *t*-values in parentheses, where ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Appendix B contains the variable definitions.

	Variables					
	%_CHANGE_ IN_MEDIAN_ PEER_CEO_TC	%_CHANGE_ IN_MEDIAN_ PEER_SALES	%_CHANGE_ IN_MEDIAN_ PEER_ASSETS	%_CHANGE_ IN_MEDIAN_ PEER_CEO_TC	%_CHANGE_ IN_MEDIAN_ PEER_SALES	%_CHANGE_ IN_MEDIAN_ PEER_ASSETS
FOCAL_ISS_PAYGAP	0.064*** (12.257)	0.043*** (5.595)	0.046*** (6.921)	–	–	–
FOCAL_PSM_PAYGAP	–	–	–	0.049*** (10.186)	0.025*** (3.781)	0.030*** (4.817)
PSM_ISS_PAYGAP	–	–	–	0.223*** (20.167)	0.128*** (8.799)	0.169*** (10.696)
ISS_REC_AGAINST	–0.052*** (–4.134)	–0.028 (–1.507)	–0.043** (–2.417)	–0.044*** (–3.652)	–0.019 (–1.046)	–0.034* (–1.928)
ISS_REC_MISSING	–0.011 (–0.994)	0.006 (0.359)	–0.008 (–0.613)	0.005 (0.433)	0.017 (0.869)	–0.002 (–0.100)
CEO_CHANGE	–0.000 (–0.007)	–0.007 (–0.618)	–0.015 (–1.201)	–0.000 (–0.040)	–0.009 (–0.699)	–0.017 (–1.235)
EXCESS_RETURNS	0.084*** (5.075)	0.170*** (5.942)	0.149*** (6.604)	0.085*** (5.210)	0.166*** (5.479)	0.148*** (6.186)
PERCENT_CHANGE_ IN_ASSETS	0.079*** (4.627)	0.178*** (5.206)	0.160*** (6.744)	0.070*** (4.005)	0.169*** (4.642)	0.145*** (5.871)
PERCENT_CHANGE_ IN_CAPEX	–0.003 (–0.022)	0.457** (2.170)	0.270 (1.346)	–0.082 (–0.492)	0.417* (1.783)	0.152 (0.666)
PERCENT_CHANGE_ IN_LEVERAGE	0.001 (0.025)	–0.024 (–0.314)	–0.091 (–1.423)	0.045 (0.975)	–0.036 (–0.454)	–0.057 (–0.873)
ln(NUM_INST_OWNERS)	–0.007* (–1.776)	0.007 (0.953)	0.007 (1.230)	–0.007* (–1.824)	0.010* (1.657)	0.012** (2.150)
INTERCEPT	0.100*** (3.396)	–0.069* (–1.681)	–0.032 (–0.837)	0.115*** (3.938)	–0.068* (–1.842)	–0.048 (–1.331)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	5,237	5,237	5,237	4,773	4,773	4,773
<i>R</i> ²	0.099	0.072	0.074	0.176	0.084	0.098
Adj. <i>R</i> ²	0.095	0.068	0.070	0.172	0.079	0.094

firms' incentive to lobby ISS and the changes in the medians of the CEO compensation and size of their ISS Peers. Section V.B examines the plausible mechanics that bring about these changes.

A. Focal Firm Intervention and Impact on the Median CEO Compensation of ISS Peers

We first examine whether the percent change in the medians of the CEO compensation, the sales, and the total assets of the ISS peer group are related to focal firms' incentive to influence ISS (Hypothesis 1). The results are reported in Table 3.

In the three left-most specifications, FOCAL_ISS_PAYGAP serves as a proxy for focal firms' incentive to influence ISS. In the next three specifications, it is replaced by FOCAL_PSM_PAYGAP and PSM_ISS_PAYGAP. The set of control variables includes other variables that may affect the percentage changes in the medians of the size and the CEO composition of the sets of ISS Peers. We include controls for prior performance and changes in firm characteristics such as assets, capital expenditures, and leverage. We also include an indicator for a change in the CEO position to examine whether such a change has an independent impact on changes in the set of ISS Peers.

Previous studies find that firms are concerned with their stockholders' support of their executive compensation in Say-on-Pay (SoP) votes and that these votes are greatly affected by ISS's recommendation (see Choi et al. (2009), Cotter, Palmiter, and Thomas (2013), Ertimur et al. (2013), and Kimbro and Xu (2016)). Thus, regardless of the difference between their expected CEO compensation and the ISS benchmark, firms for which ISS recommended against support in SoP votes may have an incentive to lobby ISS to revise its view of the appropriate benchmark for their CEO compensation. Consequently, we include two indicator control variables. One indicates ISS's recommendation to vote against the SoP resolution (ISS_REC_AGAINST) in year $t - 1$. The second variable indicates that a recommendation is unavailable in our data set. When ISS recommends voting for the SoP resolution, the two indicator variables equal to 0.¹²

Finally, because institutional investors are the customers of the information that ISS provides, we include a proxy for the presence of institutional owners: the logarithm of the number of institutional investors ($\ln(\text{NUM_INST_OWNERS})$).¹³ We include industry and year-fixed effects that control for increases in CEO compensation, sales, and assets that are industry-wide or economy-wide in a given year.

We find that the percent changes in the median CEO compensation, assets, and sales of ISS Peers are positively and significantly (at the 1% level) related to FOCAL_ISS_PAYGAP. The coefficient of FOCAL_ISS_PAYGAP in the regression where the dependent variable is the percentage change in the median CEO compensation of the ISS Peers is 0.064. This means that a 1-standard-deviation change in the proxy for the incentive to lobby ISS is associated with a 5.8% ($= 0.064 \times 0.9063$, see Table 1) difference in the change in the median CEO compensation of the ISS Peers. Evaluated at the mean, this change in the median Peer CEO compensation amounts to about \$295,000. Replacing FOCAL_ISS_PAYGAP by FOCAL_PSM_PAYGAP and PSM_ISS_PAYGAP, we find that the percentage changes in the medians of the CEO compensation, assets, and sales of

¹²In Table 7, we consider whether the impact of the paygap variables on the percentage change in median CEO compensation of ISS Peers is sensitive to past ISS recommendations and shareholder support.

¹³In unreported regressions, we employ an alternative measure: the percentage of equity that institutional investors own. Both measures have been employed in previous studies as measures of institutional ownership. The logarithm of the number of institutional ownership is used by Cornett, Marcus, and Tehranian (2008). The ownership percentage is used, for example, by McConnell and Servaes (1990) and Hartzell and Starks (2003). The estimates of the variables of interest are robust to the alternative use of the two measures.

ISS Peers are positively and significantly (also at the 1% level) related to both variables. However, the coefficients of PSM_ISS_PAYGAP are about four to five times larger than the coefficients of FOCAL_PSM_PAYGAP. This difference in magnitude is consistent with a view that ISS is more willing to adjust the set of ISS Peers when the pay gap is due to a low ISS benchmark than to excessive compensation of the focal firms' CEO.

The coefficients of the ISS_REC_AGAINST indicator in the left-most and fourth regressions (where the dependent variable is the percent change in median CEO compensation of the ISS Peers) are negative and significant at the 1% level. These coefficients offset about half of the magnitude of the positive coefficients of the corresponding intercepts. A reason may be that, regardless of the lobbying by focal firms, ISS may be less willing to raise the median CEO compensation of the ISS Peers of firms for which it has previously recommended an "Against" vote on the SoP resolution.

The coefficients of prior performance in all the six regressions are positive and significant at the 1% level. Thus, our estimates indicate that, while ISS yields to lobbying efforts by focal firms, it also recognizes the need to compensate talented CEOs, consistent with the findings in Bizjak, Lemmon, and Naveen (2008) and Albuquerque et al. (2013). We also examine the changes in the CEO compensation and size of ISS Peers that follow changes in focal firms' total assets. The estimates are similar to those for abnormal performance. Note that, because we control for past performance and changes in firm size, the coefficients of the Paygap variables are estimates of the association between the focal firm's incentive to lobby ISS for reasons other than changes in these control variables (which are the variables formally used by ISS).

Our finding of a significant and robust positive relation between the percent changes in the median CEO compensation, assets, and sales of ISS Peers and FOCAL_ISS_PAYGAP supports Hypothesis 1. We conclude that the estimates in Table 3 indicate that firms that expect to pay their CEOs higher compensation than the median CEO compensation of their ISS Peers influence ISS to raise that median.

B. Focal Firm Intervention and Changes in the Composition of ISS Peers

We now examine the mechanics of the process by which ISS responds to focal firms' lobbying to revise the set of their ISS Peers. In response to focal firms' lobbying, ISS may decide to change the composition of their sets of ISS Peers. We construct five variables that represent aspects of changes in sets of ISS Peers. The two primary variables (ISS_TURNOVER and Δ ACT/ISS) represent the percentage turnover and the change in the representation of Actual Peers in the sets of ISS Peers. The additional variables represent percentage differences relating to the median CEO compensation in subsets of the ISS Peers. We define ADD_COMP as the ratio between the median CEO compensation of the ISS Peers that were added between year $t - 1$ and year t , and the median of the CEO compensation of the ISS Peers in year t . A value of ADD_COMP above 1 indicates that the added peers increase the median CEO compensation of the ISS Peers between year $t - 1$ and year t . Thus, we construct an indicator variable, ADD_INDICATOR, that equals 1

when ADD_COMP exceeds 1, and 0 otherwise. Similarly, we define DEL_COMP as the ratio between the median CEO compensation of the ISS Peers that were discarded between year $t - 1$ and year t , and the median of the CEO compensation of the ISS Peers in year $t - 1$. A value of DEL_COMP below 1 would indicate that the discarded ISS Peers had a lower median CEO compensation than the entire set. Thus, discarding them has contributed to an increase in the median CEO compensation of the ISS Peers between year $t - 1$ and year t . Thus, we construct an indicator variable, $DEL_INDICATOR$, that equals 1 when DEL_COMP is below 1, and 0 otherwise. Finally, we define $OVERLAP_COMP$ as the difference between the medians of CEO compensation of the subsets of ISS Peers that serve as both ISS Peers and Actual Peers in years t and year $t - 1$, scaled by the average of these numbers. A positive value of $OVERLAP_COMP$ may emerge if the focal firm added a high CEO compensation Actual Peer and swayed ISS to add that firm as an ISS Peer. Thus, we construct an indicator variable, $OVERLAP_INDICATOR$, that equals 1 when $OVERLAP_COMP$ is positive, and 0 otherwise.

We examine the relationship between the focal firms' incentive to sway ISS and ISS' revisions of their peers in two stages. First, we examine the relationship between the proxy for the incentive to sway ISS and the turnover variables. Second, we examine the relations between the primary turnover variables and the percentage changes in the average CEO compensation, sales, and assets of ISS Peers.¹⁴

1. Stage 1: The Impact of Focal Firms' Incentive on the Turnover of ISS Peers

Panels A and B of Table 4 contain the estimates from regressions in which we examine the first relationship. In Panel A of Table 4, we examine the relationship between the primary turnover variables and our proxies for firms' incentives to lobby ISS (the Paygap variables). We employ the same control variables as in Table 3, except that we use the absolute levels of focal firms' abnormal stock returns, and percentage changes in assets, capital expenditures, and leverage. We do that because larger changes (up or down) in the control variables may induce more extensive revisions in the set of ISS Peers. This specification contrasts with the specification of the percentage changes in Peer size and CEO compensation (the dependent variables in the regressions reported in Table 3) that are expected to be affected differently by changes of opposite directions in these control variables.

We find that the coefficients of $FOCAL_ISS_PAYGAP$ are positive and significantly different from 0 at the 1% level. When we use $FOCAL_PSM_PAYGAP$ and PSM_ISS_PAYGAP , their coefficients in the $ISS_TURNOVER$ regression are positive and significant at the 1% and 10% levels, respectively. However, the two coefficients are not significantly different from one another. We also note that the coefficients of the control variables that represent changes in the focal firm and appear in absolute values in the first and third regressions are all positive and highly significant (7 at the 1% level and 1 at the 5% level). In the

¹⁴We do not examine the relation between the additional variables ($ADD_INDICATOR$, $DEL_INDICATOR$, and $OVERLAP_INDICATOR$) and the change in the median CEO compensation of the ISS Peers because their impact is evident by their construction.

TABLE 4
Impact of FOCAL_ISS_PAYGAP, FOCAL_PSM_PAYGAP, and
PSM_ISS_PAYGAP on ISS Turnover Variables

Panel A of Table 4 contains results from regressions where ISS_TURNOVER and Δ ACT/ISS are dependent variables. ISS_TURNOVER is constructed as the ratio of the sum of the numbers of added and deleted ISS Peers between fiscal year $t - 1$ and fiscal year t , to the sum of the numbers of peers in these years. Δ ACT/ISS is defined as the difference between the fraction of ISS Peers that are also Actual Peers in fiscal year t and the corresponding fraction in fiscal year $t - 1$. Panel B contains results from logit regressions where ADD_INDICATOR, DEL_INDICATOR, and OVERLAP_INDICATOR are dependent variables. ADD_INDICATOR is equal to 1 if ADD_COMP is greater than 1, and 0 otherwise. DEL_INDICATOR is equal to 1 if DEL_COMP is less than 1, and 0 otherwise. OVERLAP_INDICATOR is equal to 1 if OVERLAP_COMP is greater than 0, and 0 otherwise. ADD_COMP is the median compensation of the ISS peers that were not in the set of ISS peers in year $t - 1$, but are present in ISS peers in year t , divided by the median of the CEO compensation of the ISS peers in year t . DEL_COMP is the median compensation of the ISS peers that were in year $t - 1$ but not in ISS peers in year t , divided by the median of the CEO compensation of the ISS peers in year $t - 1$. OVERLAP_COMP is the percentage change from year $t - 1$ to year t in the median compensation of the peers that were both ISS and Actual Peers. The explanatory variables of interest are FOCAL_ISS_PAYGAP (percent difference between CEO total compensation in current fiscal year and median CEO total compensation of ISS Peers at the end of previous fiscal year), and the corresponding FOCAL_PSM_PAYGAP (percent difference between CEO total compensation in the current fiscal year and the median CEO total compensation of propensity-score-matched focal firm peers at the end of the previous fiscal year), and PSM_ISS_PAYGAP (percent difference between median CEO total compensation of propensity-score-matched focal firm peers and the median CEO total compensation of ISS peers at the end of previous fiscal year). The control variables ISS_REC_AGAINST and ISS_REC_MISSING, and CEO_CHANGE are indicator variables equal to 1 if ISS recommended to vote against in the Say-on-Pay vote, if such vote is missing, and if the CEO tenure is equal to 0 or 1, respectively, otherwise equal to 0. Other controls are absolute values of the excess returns relative to S&P 500 index measured over the previous 3 years, percent changes in focal firm assets, capital expenditures, leverage, and logarithm of the number of institutional owners. Explanatory variables that are percentage changes between 2 years are contemporaneous with the dependent variable. Other explanatory variables are as of the initial year of the percentage change in the dependent variable. All regressions use year, industry fixed effects, and robust standard errors. We report t -values in parentheses, where ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Appendix B contains the variable definitions.

Panel A. Dependent Variables: ISS_TURNOVER and Δ ACT/ISS

	Variables			
	ISS_TURNOVER	Δ ACT/ISS	ISS_TURNOVER	Δ ACT/ISS
FOCAL_ISS_PAYGAP	0.010*** (3.260)	0.008*** (2.921)	–	–
FOCAL_PSM_PAYGAP	–	–	0.010*** (3.057)	0.006** (1.967)
PSM_ISS_PAYGAP	–	–	0.014* (1.850)	0.025*** (3.774)
ISS_REC_AGAINST	0.030*** (3.304)	–0.002 (–0.273)	0.030*** (3.202)	–0.000 (–0.010)
ISS_REC_MISSING	0.010 (1.456)	0.001 (0.160)	0.030*** (3.329)	0.004 (0.547)
CEO_CHANGE	0.001 (0.162)	–0.006 (–0.958)	0.001 (0.074)	–0.010 (–1.551)
ABS_EXCESS_RETURNS	0.101*** (7.400)	0.001 (0.049)	0.097*** (6.540)	0.001 (0.108)
ABS_PERCENT_CHANGE_IN_ASSETS	0.083*** (5.104)	–0.047*** (–3.345)	0.080*** (4.584)	–0.042*** (–2.705)
ABS_PERCENT_CHANGE_IN_CAPEX	0.280** (2.007)	0.003 (0.032)	0.414*** (2.788)	0.048 (0.403)
ABS_PERCENT_CHANGE_IN_LEVERAGE	0.111*** (2.618)	0.039 (1.085)	0.123*** (2.645)	0.041 (1.062)
ln(NUM_INST_OWNERS)	–0.029*** (–10.832)	0.001 (0.452)	–0.030*** (–10.523)	0.002 (0.905)
INTERCEPT	0.597*** (30.753)	0.148*** (8.284)	0.607*** (28.915)	0.139*** (7.080)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
No. of obs.	5,237	5,237	4,773	4,773
R^2	0.342	0.153	0.354	0.158
Adj. R^2	0.339	0.149	0.351	0.154

(continued on next page)

TABLE 4 (continued)
 Impact of FOCAL_ISS_PAYGAP, FOCAL_PSM_PAYGAP, and
 PSM_ISS_PAYGAP on ISS Turnover Variables

Panel B. Dependent Variables: ADD_COMP, DEL_COMP, and OVERLAP_COMP

	Variables					
	ADD_INDICATOR	DEL_INDICATOR	OVERLAP_INDICATOR	ADD_INDICATOR	DEL_INDICATOR	OVERLAP_INDICATOR
FOCAL_ISS_PAYGAP	0.143*** (3.811)	0.086** (1.981)	0.187*** (4.116)	–	–	–
FOCAL_PSM_PAYGAP	–	–	–	0.083** (2.102)	0.094** (2.079)	0.146*** (3.221)
PSM_ISS_PAYGAP	–	–	–	0.659*** (7.634)	0.058 (0.609)	0.610*** (6.432)
ISS_REC_AGAINST	–0.203* (–1.896)	0.009 (0.073)	–0.230** (–2.032)	–0.183* (–1.695)	0.010 (0.083)	–0.204* (–1.803)
ISS_REC_MISSING	–0.002 (–0.017)	–0.126 (–0.985)	–0.090 (–0.773)	0.027 (0.242)	–0.127 (–0.994)	–0.070 (–0.601)
CEO_CHANGE	–0.207** (–2.169)	–0.028 (–0.249)	–0.090 (–0.936)	–0.221** (–2.300)	–0.033 (–0.300)	–0.090 (–0.942)
AVERAGE_EXCESS_RETURNS _{T–1, T–4}	0.017 (0.126)	0.087 (0.531)	0.492*** (3.180)	0.010 (0.070)	0.096 (0.582)	0.506*** (3.264)
PERCENT_CHANGE_IN_ASSETS	0.086 (0.545)	0.884*** (4.464)	0.365** (2.143)	0.106 (0.663)	0.871*** (4.346)	0.368** (2.156)
PERCENT_CHANGE_IN_CAPEX	1.328 (0.959)	–0.137 (–0.082)	0.523 (0.359)	1.046 (0.742)	–0.009 (–0.006)	0.293 (0.201)
PERCENT_CHANGE_IN_LEVERAGE	0.076 (0.182)	–0.613 (–1.170)	–0.525 (–1.173)	0.126 (0.301)	–0.580 (–1.097)	–0.458 (–1.016)
ln(NUM_INST_OWNERS)	–0.126*** (–3.600)	0.175*** (4.266)	–0.068* (–1.911)	–0.122*** (–3.462)	0.171*** (4.143)	–0.064* (–1.790)
INTERCEPT	0.779*** (3.187)	–1.325*** (–4.678)	0.737*** (2.910)	0.802*** (3.273)	–1.308*** (–4.600)	0.740*** (2.905)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	4,536	3,435	4,437	4,494	3,394	4,437

regressions where the dependent variable is the change in the representation of Actual Peers in the set of ISS Peers ($\Delta\text{ACT}/\text{ISS}$), the coefficients of the three Paygap variables are positive and significantly different from 0, following the pattern of the corresponding coefficients in the ISS_TURNOVER regressions. However, the coefficients of the control variables in the $\Delta\text{ACT}/\text{ISS}$ regressions are mostly insignificantly different from 0. This lack of significance may be expected because there is no reason that the focal firm changes that are represented by these control variables should affect the representation of Actual Peers in the set of ISS Peers in any direction. In summary, the estimates in Panel A of Table 4 indicate that the primary turnover variables are positively and highly significantly associated with the Paygap variables.

In the regressions that are reported in Panel B of Table 4, we examine additional aspects of the changes in the set of ISS Peers that are associated with the incentive of focal firms to lobby ISS. The specification of the control variables is the same as in Table 3. That is, we expect changes in the control variables to be associated with directional changes in the median CEO compensation of the subsets of the ISS Peers. Thus, the changes appear as directional, not in absolute values. The coefficients of the Paygap variables in the logit regressions in which the dependent variables are ADD_INDICATOR, DEL_INDICATOR, and OVERLAP_INDICATOR

are positive and significantly different from 0 at the 1%, 5%, and 1% levels, respectively. In unreported regressions, the dependent variables are ADD_COMP, DEL_COMP, and OVERLAP_COMP, respectively. Qualitatively, the estimates from these regressions yield the same conclusions as those we draw from the reported regressions, except that the impact of discarding peers on the median CEO compensation of the ISS Peers is less significant. Thus, we conclude that the median CEO compensation of the ISS Peers is increased by adding high-paying peers and discarding low-paying peers.

The estimates in the first relationship of the mechanisms indicate that firms that intend to compensate their CEOs in the current year by more than the median CEO compensation of ISS Peers in the previous year tend to lobby ISS to revise its set of peers. This lobbying causes ISS to change their peer groups' composition and includes a higher fraction of Actual Peers in the current year's group, thereby supporting [Hypothesis 2](#).

2. Stage 2: The Impact of ISS Peer Turnover on the Percent Changes in ISS Peers' Median CEO Compensation and Size

In this stage, we examine whether changes in the composition of ISS peer groups that are proxied by the primary variables in the first stage indeed result in increases in the median CEO compensation and size of their ISS Peers. This examination should help determine whether these changes in the set of ISS Peers are part of the ISS response to focal firms' lobbying. [Table 5](#) presents the estimates from these regressions where the control variables include past excess returns, and percentage changes in assets, capital expenditures, and leverage. Because we control for these variables, the coefficients of the turnover variables should represent the impacts of the turnover variables on the dependent variables for reasons that exclude the impacts of these control variables (including firm size and performance). The estimates indicate that the percent changes in the median CEO compensation and size of ISS Peers are positively and significantly related to the primary turnover variables (ISS_TURNOVER and Δ ACT/ISS). All the coefficients of the focal firm's past performance and size change are positive and significant at the 1% level. These findings support [Hypothesis 3](#).

To summarize the conclusions from the two stages mentioned above, we observe that focal firms that have a strong incentive to sway ISS are associated with high levels of our primary turnover variables. These variables represent the extent of revisions in the composition of the ISS Peers and increases in the representation of Actual Peers. We find that high levels of these ISS Peers' turnover variables are also associated with high percentage changes in the medians of the ISS Peers' CEO compensation and size. Finally, the increases in these medians are induced by adding large, high-paying peers into the set of ISS Peers and discarding low-paying peers.

C. Incentives for Focal Firms' Intervention

[Table 6](#) presents the estimates from the test of [Hypotheses 4a](#) and [4b](#). In Panel A, we present estimates from regressions in which future firm performance is related to focal firms' incentives to lobby ISS (the Paygap variables). In the regressions that are reported in Panel B, we replace the Paygap variables with a

TABLE 5
Impact of Turnover Variables on ISS Peer Compensation, Assets, and Sales

The dependent variables in Table 5 are percentage changes in medians of CEO Total Compensation, Sales, and Assets of ISS Peers. The explanatory variables of interest are the primary turnover variables (ISS_TURNOVER and Δ ACT/ISS). The control variables ISS_REC_AGAINST, ISS_REC_MISSING, and CEO_CHANGE are indicator variables equal to 1 if ISS recommended to vote against in the Say-on-Pay vote, if such vote is missing, and if the CEO tenure is equal to 0 or 1, respectively, otherwise equal to 0. The other controls are excess returns relative to S&P 500 index measured over the previous 3 years, percent changes in focal firm assets, capital expenditures, leverage, and logarithm of the number of institutional owners. Explanatory variables that are percentage changes between 2 years are contemporaneous with the dependent variable. Other explanatory variables are as of the initial year of the percentage change in the dependent variable. All regressions use, year and industry fixed effects, and robust standard errors. We report *t*-values in parentheses, where ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Appendix B contains the variable definitions.

	Variables					
	%_CHANGE_ IN_MEDIAN_ PEER_CEO_TC	%_CHANGE_ IN_MEDIAN_ PEER_SALES	%_CHANGE_ IN_MEDIAN_ PEER_ASSETS	%_CHANGE_ IN_MEDIAN_ PEER_CEO_TC	%_CHANGE_ IN_MEDIAN_ PEER_SALES	%_CHANGE_ IN_MEDIAN_ PEER_ASSETS
ISS_TURNOVER	0.129*** (4.824)	0.112** (2.227)	0.131*** (3.273)	–	–	–
Δ ACT/ISS	–	–	–	0.192*** (6.941)	0.274*** (6.398)	0.273*** (7.291)
ISS_REC_AGAINST	–0.007 (–0.593)	0.000 (0.018)	–0.012 (–0.705)	–0.002 (–0.189)	0.004 (0.257)	–0.007 (–0.425)
ISS_REC_MISSING	–0.002 (–0.177)	0.018 (0.985)	–0.003 (–0.202)	0.000 (0.047)	0.020 (1.089)	–0.000 (–0.013)
CEO_CHANGE	–0.009 (–0.997)	–0.016 (–1.418)	–0.023* (–1.859)	–0.008 (–0.844)	–0.014 (–1.269)	–0.021* (–1.727)
EXCESS_RETURNS	0.122*** (7.609)	0.203*** (7.367)	0.177*** (8.354)	0.126*** (7.876)	0.204*** (7.346)	0.180*** (8.404)
PERCENT_CHANGE_ IN_ASSETS	0.091*** (5.401)	0.171*** (5.077)	0.160*** (6.930)	0.095*** (5.682)	0.177*** (5.291)	0.165*** (7.251)
PERCENT_CHANGE_ IN_CAPEX	0.029 (0.196)	0.376* (1.786)	0.213 (1.098)	0.023 (0.157)	0.359* (1.737)	0.198 (1.037)
PERCENT_CHANGE_ IN_LEVERAGE	0.008 (0.169)	0.010 (0.124)	–0.101 (–1.633)	0.011 (0.225)	0.008 (0.106)	–0.101 (–1.636)
ln(NUM_INST_OWNERS)	0.001 (0.168)	0.015** (2.245)	0.016*** (2.652)	–0.004 (–1.104)	0.011 (1.584)	0.010* (1.792)
INTERCEPT	0.014 (0.440)	–0.160*** (–3.332)	–0.120*** (–2.835)	0.072** (2.465)	–0.126*** (–2.975)	–0.073* (–1.936)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	5,618	5,618	5,618	5,618	5,618	5,618
F^2	0.060	0.062	0.065	0.066	0.073	0.076
Adj. R^2	0.056	0.058	0.061	0.062	0.069	0.072

measure that reflects the response of ISS to focal firms' lobbying – the increase in the median CEO compensation of ISS Peers. We measure focal firms' future performance in terms of their 1-year forward return on assets (ROA_{t+1}) and 1-year forward buy-and-hold abnormal returns ($BHAR_{t+1}$). In addition to the firm characteristics that we use as controls in previous tests, we incorporate lagged dependent variables to address the possibility of mean reversion, and a measure of excess CEO compensation to address its possible direct impact on firm performance. The excess CEO compensation is constructed as the ratio of the dollar value that corresponds to the residual from a CEO compensation regression to total assets. The specification of this regression follows Lewellen, Loderer, and Martin (1987), Smith and Watts (1992), and Core, Holthausen, and Larcker (1999). Further details are presented in the Supplementary Material. We also incorporate a lagged market-to-book measure in the regressions in which the dependent variable is the buy-and-hold abnormal return. Finally, we incorporate the standard deviations of the respective performance measure.

The regressions that are reported in Panel A of Table 6 indicate that the coefficients of the Paygap variables are insignificant when the dependent variable is accounting performance. When the dependent variable is equity performance, the coefficients of FOCAL_ISS_PAYGAP and FOCAL_PSM_PAYGAP are negative and significantly different from 0 at the 5% level. These estimates are consistent

TABLE 6
Performance Regressions

The dependent variables in Table 6 are firm performance in terms of ROA and Buy-and-Hold Abnormal Returns (BHAR) in year $t + 1$. The explanatory variables of interest that reflect changes between 2 years are between years $t - 1$ and t . Other explanatory variables are measured in year t unless otherwise specified. Panel A contains results that estimate the influence of FOCAL_ISS_PAYGAP (percent difference between CEO total compensation in current fiscal year and median CEO total compensation of ISS Peers at the end of previous fiscal year), and the corresponding FOCAL_PSM_PAYGAP (percent difference between CEO Total Compensation in the current fiscal year and the median CEO Total Compensation of propensity-score-matched focal firm peers at the end of previous fiscal year), and PSM_ISS_PAYGAP (percent difference between median CEO total compensation of propensity-score-matched focal firm peers and the median CEO total compensation of ISS peers at the end of previous fiscal year) on performance. Panel B contains results that estimate the impact of ISS response proxied by the percentage change in median CEO compensation of ISS Peers and the decomposition in terms of predicted change and residual change in the median CEO compensation of ISS Peers. Control variables are contemporaneous ROA, BHAR, standard deviation of ROA, and stock returns, market-to-book, EXCESS_COMPENSATION, EXCESS_COMPENSATION_MISSING_DUMMY, logarithm of focal firm assets, capital expenditures, leverage, and logarithm of the number of institutional owners. All the regressions contain the year, industry fixed effects, and robust standard errors. We report t -values in parentheses, where ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Appendix B contains the variable definitions.

Panel A. Future Performance and Paygap Variables

	Variables			
	ROA $_{t+1}$	ROA $_{t+1}$	BHAR $_{t+1}$	BHAR $_{t+1}$
FOCAL_ISS_PAYGAP	-0.001 (-0.547)	-	-0.027** (-2.263)	-
FOCAL_PSM_PAYGAP	-	-0.001 (-0.506)	-	-0.028** (-2.121)
PSM_ISS_PAYGAP	-	0.003 (1.073)	-	0.008 (0.282)
ROA	0.746*** (21.213)	0.795*** (24.125)	-	-
STDROA	-0.042 (-0.531)	0.040 (0.581)	-	-
STDSTOCKRET	-	-	0.030 (0.084)	-0.028 (-0.070)
MKBK	-	-	0.040*** (2.587)	0.035** (2.126)
BHAR	-	-	-0.251*** (-14.190)	-0.246*** (-13.222)
EXCESS_COMPENSATION $_{t+1}$	-0.323 (-0.633)	0.206 (0.344)	2.246 (0.775)	3.592 (1.120)
EXCESS_COMPENSATION_MISSING_DUMMY $_{t+1}$	0.005 (0.857)	0.009 (1.439)	-0.032 (-0.879)	-0.007 (-0.197)
ln(ASSETS)	-0.000 (-0.193)	0.001 (0.746)	0.044*** (4.370)	0.038*** (3.472)
CAPEX	-0.113* (-1.656)	-0.099 (-1.385)	-1.199*** (-4.357)	-1.190*** (-4.058)
LEVERAGE	-0.013 (-1.073)	-0.007 (-0.693)	-0.309*** (-5.281)	-0.333*** (-5.306)
ln(NUM_INST_OWNERS)	0.013*** (3.024)	0.009** (2.199)	-0.004 (-0.251)	0.007 (0.389)
INTERCEPT	-0.023 (-1.345)	-0.029* (-1.920)	-0.307*** (-3.263)	-0.287*** (-2.931)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of obs.	3,683	3,338	2,381	2,211
R^2	0.661	0.687	0.151	0.151
Adj. R^2	0.659	0.685	0.143	0.142

(continued on next page)

TABLE 6 (continued)
Performance Regressions

Panel B. Future Performance and Percent Change in CEO Compensation of ISS Peers

	Variables			
	ROA _{T+1}	ROA _{T+1}	BHAR _{T+1}	BHAR _{T+1}
%_CHANGE_IN_MEDIAN_PEER_CEO_TC	-0.008 (-1.327)	-	-0.165*** (-4.003)	-
RESIDUAL_%_CHANGE_IN_MEDIAN_PEER_CEO_TC	-	0.001 (0.138)	-	-0.109** (-2.568)
PREDICTED_%_CHANGE_IN_PEER_TC	-	-0.126** (-2.263)	-	-2.538*** (-9.281)
ROA	0.750*** (21.865)	0.768*** (21.238)	-	-
STDROA	-0.019 (-0.254)	0.040 (0.453)	-	-
STDSTOCKRET	-	-	0.145 (0.404)	0.683* (1.875)
MKBK	-	-	0.042*** (2.814)	0.061*** (3.966)
BHAR _T	-	-	-0.249*** (-14.402)	-0.244*** (-13.745)
EXCESS_COMPENSATION _{T+1}	-0.438 (-0.875)	-0.602 (-1.147)	0.525 (0.182)	-0.263 (-0.088)
EXCESS_COMPENSATION_MISSING_DUMMY _{T+1}	0.006 (1.097)	0.000 (0.059)	-0.026 (-0.796)	-0.042 (-1.238)
ln(ASSETS)	-0.000 (-0.193)	0.001 (0.514)	0.048*** (4.707)	0.056*** (5.583)
CAPEX	-0.113* (-1.742)	-0.076 (-1.241)	-1.141*** (-4.373)	-1.290*** (-4.894)
LEVERAGE	-0.010 (-0.876)	-0.014 (-1.197)	-0.312*** (-5.463)	-0.398*** (-6.915)
ln(NUM_INST_OWNERS)	0.012*** (3.047)	0.009** (2.087)	-0.010 (-0.605)	-0.019 (-1.225)
INTERCEPT	-0.022 (-1.354)	-0.004 (-0.243)	-0.313*** (-3.387)	-0.234** (-2.440)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of obs.	3,895	3,664	2,522	2,395
R ²	0.659	0.657	0.151	0.188
Adj. R ²	0.657	0.655	0.144	0.180

with our expectations. Negative future equity performance is associated with lobbying that is motivated by an intent to award excessive CEO compensation, but not by an intent to correct a low ISS benchmark. We note that the coefficients of the lagged dependent variables are consistent with persistence in accounting performance and negative autocorrelation (which is likely to indicate mean reversion) in abnormal equity returns. The coefficients of the excess CEO compensation are not significantly different from 0.

We next examine whether the focal firms' future performance is also associated with the response of ISS to focal firms' lobbying. The measure of this response is proxied by the percent change in the median ISS Peers' CEO total compensation. In the first and third regressions that are reported in Panel B of Table 6, the percentage changes in the medians of the ISS Peers' total CEO compensation replace the Paygap variables in Panel A's corresponding regressions. However, the percent changes in the median ISS Peers' CEO total compensation may also be induced by focal firm changes other than its intention to sway ISS. Thus, for the

second and fourth regressions, we first ran a regression that is similar to the first regression in [Table 3](#) but does not include the Paygap variables. The residuals (a proxy for focal firms' lobbying efforts) and the predicted values of the percent changes in median ISS Peer CEO total compensation (a proxy for the impact of other changes) from that regression replace FOCAL_PSM_PAYGAP and PSM_ISS_PAYGAP.

The explanatory variables of interest in Panel B of [Table 6](#) are the %_CHANGE_IN_MEDIAN_PEER_CEO_TC in the first and third regressions, and RESIDUAL_%_CHANGE_IN_MEDIAN_PEER_CEO_TC in the second and fourth regressions. The insights that we obtain from the regressions in Panel B are consistent with those from the regressions in Panel A. The coefficient of the variables of interest is negative and significantly different from 0 in the BHAR regressions and insignificantly different from 0 in the ROA regressions.

We conclude that the estimates in [Table 6](#) provide support for [Hypothesis 4b](#) (and are inconsistent with [Hypothesis 4a](#)). The estimated coefficients imply that focal firms lobby ISS, intending to camouflage excessive CEO compensation paid to mediocre CEOs rather than adjust peers' compensation to the appropriate market compensation of a talented CEO.

VI. Robustness and Sensitivity Analyses

In this section, we report analyses of the sensitivity of our findings to focal firm characteristics and check robustness using alternative definitions of our Paygap variables. We examine the sensitivity of our findings to two Say-on-Pay variables: first, ISS' recommendation regarding the previous year's Say-on-Pay vote; second, the level of support that a focal firm obtained from its shareholders in that Say-on-Pay vote. In each of these examinations, we interact the relevant firm characteristic with our Paygap variables.

The changes in the set of ISS Peers may be related to a previous negative ISS recommendation regarding a vote for two reasons. First, firms for which ISS has issued an "Against" recommendation for the previous Say-on-Pay vote may have a stronger incentive to lobby ISS to revise its set of ISS Peers because this may help convince ISS to recommend a "For" vote in the coming year. Second, once ISS has issued a recommendation for an "Against" Say-on-Pay vote, it may be less willing to revise the set of ISS Peers that served as a basis for this recommendation. The results are reported in [Table 7](#).

The left-most regression in [Table 7](#) adds to the left-most regression in [Table 3](#) an interaction of FOCAL_ISS_PAYGAP and ISS_REC_AGAINST. The coefficient of this interaction is negative and significant at the 1% level (and its magnitude is slightly less than half of the magnitude of the positive coefficient of FOCAL_ISS_PAYGAP). Thus, the estimates indicate that the reluctance of ISS dominates the enhanced incentive of focal firms for which ISS has previously issued a recommendation for an "Against" vote on the Say-on-Pay proposal. In the second regression in [Table 7](#), FOCAL_PSM_PAYGAP and PSM_ISS_PAYGAP replace FOCAL_ISS_PAYGAP. In that specification, the coefficient of the interaction of FOCAL_PSM_PAYGAP with ISS_REC_AGAINST is negative and significantly different from 0. In contrast, the coefficient of the

TABLE 7
 Role of ISS Recommendations on Say-on-Pay and Shareholders' Support

The dependent variable in Table 7 is the percentage change in median CEO Total Compensation of ISS Peers. The explanatory variables of interest are ISS Recommendation at the end of the prior fiscal year (ISS_REC_AGAINST equal to 1 if ISS recommended to vote against in the Say-on-Pay vote, otherwise equal to 0), the fraction of Say-on-Pay votes cast by shareholders in favor of the focal firm's CEO compensation plan at the end of the previous fiscal year (SoP), and their interaction with FOCAL_ISS_PAYGAP (percent difference between CEO Total Compensation in current fiscal year and median CEO total compensation of ISS Peers at the end of previous fiscal year), and the corresponding variables FOCAL_PSM_PAYGAP (percent difference between CEO Total Compensation in the current fiscal year and the median CEO Total Compensation of propensity-score-matched focal firm peers at the end of previous fiscal year), and PSM_ISS_PAYGAP (percent difference between median CEO total compensation of propensity-score-matched focal firm peers and the median CEO total compensation of ISS peers at the end of previous fiscal year). The other controls are excess returns relative to S&P 500 index measured over the previous 3 years, percent changes in focal firm assets, capital expenditures, leverage, and logarithm of the number of institutional owners. Explanatory variables that are percentage changes between 2 years are contemporaneous with the dependent variable. Other explanatory variables are as of the initial year of the percentage change in the dependent variable. All the regressions contain the year, industry fixed effects, and robust standard errors. We report *t*-values in parentheses, where ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Appendix B contains the variable definitions.

	Variables			
	%_CHANGE_ IN_MEDIAN_ PEER_CEO_TC	%_CHANGE_ IN_MEDIAN_ PEER_CEO_TC	%_CHANGE_ IN_MEDIAN_ PEER_CEO_TC	%_CHANGE_ IN_MEDIAN_ PEER_CEO_TC
FOCAL_ISS_PAYGAP	0.072*** (11.811)	-	-0.031 (-1.435)	-
FOCAL_PSM_PAYGAP	-	0.055*** (9.700)	-	-0.020 (-0.912)
PSM_ISS_PAYGAP	-	0.226*** (19.436)	-	0.121 (1.486)
FOCAL_ISS_PAYGAPxISS_ REC_AGAINST	-0.032*** (-2.726)	-	-	-
FOCAL_PSM_PAYGAPxISS_ REC_AGAINST	-	-0.021** (-1.971)	-	-
PSM_ISS_PAYGAPxISS_ REC_AGAINST	-	-0.009 (-0.262)	-	-
ISS_REC_AGAINST	-0.028** (-2.023)	-0.029** (-2.132)	-	-
ISS_REC_MISSING	-0.012 (-1.125)	0.004 (0.346)	-	-
FOCAL_ISS_PAYGAPxSoP	-	-	0.122*** (4.601)	-
FOCAL_PSM_PAYGAPxSoP	-	-	-	0.091*** (3.489)
PSM_ISS_PAYGAPxSoP	-	-	-	0.122 (1.362)
SoP	-	-	0.069* (1.819)	0.083** (2.272)
CEO_CHANGE	0.000 (0.038)	-0.000 (-0.022)	-0.002 (-0.250)	0.002 (0.183)
EXCESS_RETURNS	0.085*** (5.160)	0.086*** (5.246)	0.082*** (4.612)	0.085*** (4.887)
PERCENT_CHANGE_ IN_ASSETS	0.078*** (4.613)	0.070*** (3.977)	0.059*** (3.221)	0.058*** (3.146)
PERCENT_CHANGE_ IN_CAPEX	-0.017 (-0.107)	-0.095 (-0.573)	-0.009 (-0.048)	-0.111 (-0.622)
PERCENT_CHANGE_ IN_LEVERAGE	0.004 (0.083)	0.047 (1.016)	0.021 (0.402)	0.030 (0.584)
ln(NUM_INST_OWNERS)	-0.007* (-1.746)	-0.007* (-1.791)	-0.009** (-2.151)	-0.007* (-1.929)
INTERCEPT	0.098*** (3.340)	0.113*** (3.870)	0.056 (1.182)	0.054 (1.177)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
No. of obs.	5,237	4,773	4,495	4,347
R^2	0.101	0.177	0.111	0.184
Adj. R^2	0.097	0.172	0.106	0.180

interaction of PSM_ISS_PAYGAP with ISS_REC_AGAINST is not significantly different from 0. These estimates may imply that for focal firms for which ISS has previously issued a recommendation for an “Against” vote on Say-on-Pay, the reluctance of ISS to revise the set of the ISS Peers dominates the enhanced incentive of focal firms to sway ISS. However, this only holds when the incentive to sway ISS is due to an intent to pay a CEO excessively, not when it is due to an initial selection of low-paying ISS Peers.

In the third and fourth regressions that are reported in Table 7, we replace the indicators of the ISS recommendation on the voting in the most recent Say-on-Pay proposal with the measure of the shareholders’ support of that proposal. The coefficient of the interaction in the third regression is positive and significant at the 1% level. The two coefficients in the fourth regression are positive. One of them is significantly different from 0, but the two are not statistically different from one another. The positive coefficients of the interactions in these regressions are consistent with the view that high shareholder support may either embolden firms to lobby ISS more aggressively or weaken ISS’ resistance to increasing their benchmark (i.e., the median CEO compensation of their peers).¹⁵

We also examine the robustness of our estimates to alternative definitions of our Paygap variables. The derivation of the estimates that are reported in the previous section follows the literature in using medians as the central tendency measure of peer characteristics (see, Bizjak et al. (2008), (2011), and Faulkender and Yang (2010), (2013)). Under one alternative definition of the Paygap variables, the CEO compensation and the size of the ISS Peers are represented by their averages rather than by their medians. Using averages may have an advantage because they may be more sensitive to year-to-year changes in the composition of peer sets. Under another alternative definition, FOCAL_ISS_PAYGAP is calculated as the percentage difference between the contemporaneous values of the focal firm CEO compensation and the median of the CEO compensation of the ISS Peers. This definition would be more appropriate if focal firms knew the current CEO compensation of the ISS Peers and other potential peers when they provide their comments to ISS. Some of this information may be known during the session with ISS (especially for firms assisted by compensation consultants). However, because focal firms and ISS hold their discussions at different times, peer information for all peers cannot be available for all focal firms. Our estimates under either of these alternative definitions, which are available upon request, are very similar to their counterparts reported in the article. Our results are also robust to employing Sales instead of Total Assets as a control for focal firm size.

VII. Conclusion

Proxy advisors are very powerful, and consequently, the SEC has attempted to curb their power. For example, one of the requirements by the SEC is that proxy

¹⁵The implication of the coefficient of the interaction between SoP_{t-1} and FOCAL_ISS_PAYGAP should be interpreted with caution because, as previous studies indicated, SoP support is negatively related to excess compensation, for which FOCAL_ISS_PAYGAP proxies. Indeed, in our sample, the correlation between these variables is -0.2357 , significant at the 0.0001 level.

advisors provide their recommendations to focal firms prior to (or at the time of) sending them to their institutional clients and provide access to focal firms' responses.¹⁶ The regulation is intended to allow firms to alert institutional investors if they consider the recommendations of proxy advisors to be baseless or biased. However, this regulation may facilitate the transmission to institutional investors of biased information that advances the interests of focal firms and their CEOs. The current study adds to these concerns. It documents that ISS, the major proxy advisor, yields to focal firm lobbying and provides its clients with information that benefits focal firms and their CEOs.

Our research is the first academic study that examines the sets of peer firms that ISS reports to its institutional clients as benchmarks for focal firms' CEO compensation. We make the following contributions. First, we document that focal firms that expect their CEOs' compensation to exceed the median compensation of the CEOs of their ISS peers influence ISS to revise the membership of their ISS Peers. This revision biases upward the peers' median size and CEO compensation. The highly significant coefficients on our Paygap variables indicate that the revisions in the sets of ISS Peers are due to lobbying by focal firms rather than solely due to an ISS-initiated action. Second, our results indicate the likelihood of a camouflaging behavior, consistent with previous studies (see Bebchuk et al. (2002), Morse et al. (2011), and Abernethy et al. (2015)).

We examine the sensitivity of our findings to whether ISS recommended that its clients vote against the previous year's Say-on-Pay proposals and the support levels that firms obtained from their shareholders in these Say-on-Pay votes. We find that ISS resists lobbying from focal firms for whom it issued an "Against" recommendation regarding the Say-on-Pay proposal. More detailed examinations of the impacts on focal firms' influence, and on the associated ISS response, of Say-on-Pay support, the use of consultants, and focal firm size, are left for future research.

Appendix A. Data Availability

Appendix A reports the number of missing observations for the variables in Table 1 and accounts for the number of firm years in the overall sample. Combinations of the variables given below along with the ISS peer group data are the reason for differences in the number of observations in the regressions we report.

¹⁶See <https://corpgov.law.harvard.edu/2020/08/18/sec-tightens-regulations-on-proxy-advisory-firms/>.

<u>Variables</u>	<u>Total No. of Firm Years</u>	<u>No. of Missing Observations</u>	<u>Overall Sample (N)</u>
<i>Firm Characteristics</i>			
ASSETS (\$ million)	9,038	14	9,024
SALES (\$ million)	9,038	393	8,645
MKBK	9,038	26	9,012
CAPEX	9,038	15	9,023
LEVERAGE	9,038	15	9,023
ADVERTISING	9,038	15	9,023
<i>Firm Performance</i>			
STOCKRET	9,038	95	8,943
STDSTOCKRET	9,038	95	8,943
ROA	9,038	15	9,023
STDROA	9,038	15	9,023
BHAR	9,038	2,039	6,999
EXCESS_RETURNS	9,038	904	8,134
<i>CEO Characteristics</i>			
TOTAL_COMPENSATION	9,038	585	8,453
FOCAL_ISS_PAYGAP	9,038	3,194	5,844
PSM_ISS_PAYGAP	9,038	3,843	5,195
FOCAL_PSM_PAYGAP	9,038	3,843	5,195
EXCESS_COMPENSATION	9,038	1,029	8,009
TENURE	9,038	2,877	6,161
DUALITY	9,038	3,853	5,185
<i>Governance Characteristics</i>			
NUM_INST_OWNERS	9,038	437	8,601
ISS_REC_AGAINST	9,038	1,883	7,205
SoP	9,038	1,834	7,204
<i>Turnover Variables</i>			
ISS_TURNOVER	9,038	2,197	6,841
ΔACT/ISS	9,038	2,197	6,841
ADD_INDICATOR	9,038	3,594	5,444
DEL_INDICATOR	9,038	3,258	5,780
OVERLAP_INDICATOR	9,038	4,234	4,804
ADD_COMP	9,038	3,594	5,444
DEL_COMP	9,038	3,258	5,780
OVERLAP_COMP	9,038	4,234	4,804

Appendix B. Variable Definitions

Firm Characteristics

ASSETS (\$ million): Total assets. Source: COMPUSTAT.

SALES (\$ million): Total sales. Source: COMPUSTAT.

MKBK: Market value of equity scaled by the book value of equity. Source: COMPUSTAT.

CAPEX: Capital expenditures scaled by total assets. Source: COMPUSTAT.

LEVERAGE: Total liabilities divided by the sum of total liabilities and market value of equity (MVE). Source: COMPUSTAT.

MVE: The product of common shares outstanding and year-end price per share. Source: COMPUSTAT.

ADVERTISING: Advertising expenses scaled by total assets. Source: COMPUSTAT.

Firm Performance

STOCKRET: 1-year stock returns. Source: CRSP.

STDSTOCKRET: Standard deviation of stock returns for the previous year. Source: CRSP.

ROA: Operating income scaled by total assets. Source: COMPUSTAT.

STDROA: Standard deviation of ROA over previous 5 years. Source: COMPUSTAT.

BHAR: Buy-and-Hold Abnormal Returns. Source: CRSP.

EXCESS_RETURNS: The average of the difference between Stockret and S&P500 returns from $t - 3$ through $t - 1$. Source: CRSP.

CEO Characteristics

TOTAL_COMPENSATION: CEO total compensation. Source: directEDGAR.

FOCAL_ISS_PAYGAP: Percent difference between focal firm CEO compensation in year t and median CEO compensation of ISS Peers in year $t - 1$. Source: directEDGAR, ISS PEER Data.

PSM_ISS_PAYGAP: Percentage difference between the median CEO compensation of the PSM Peers and the median CEO compensation of the corresponding ISS Peers in year $t - 1$. Source: directEDGAR, ISS PEER Data.

FOCAL_PSM_PAYGAP: The percentage difference between the compensation of the focal firm's CEO in year t and the median CEO compensation of the PSM Peers at time $t - 1$. Source: directEDGAR, ISS PEER Data.

EXCESS_COMPENSATION: Excess CEO compensation scaled by total assets (see Section IA3 in the Supplementary Material). Source: directEDGAR, Thomson 13F.

TENURE: Number of years since the current CEO appointment. Source: EXECUCOMP.

DUALITY: Indicator variable that takes a value of 1 if the CEO also serves as Chair of the Board, and 0 otherwise. Source: EXECUCOMP.

CEO_CHANGE: Indicator variable equal to 1 if the CEO tenure is equal to 0 or 1, and 0 otherwise. Source: EXECUCOMP.

Governance Characteristics

ln(NUM_INST_OWNERS). Logarithm of the total number of institutional owners. Source: Thomson 13F.

ISS_REC_AGAINST: Indicator variable that takes on a value of 1 if ISS votes against a Say-on-Pay proposal, and 0 otherwise. Source: ISS Voting Analytics.

SoP: The fraction of Say-on-Pay votes cast by shareholders in favor of the focal firm's CEO compensation plan. Source: ISS Voting Analytics.

Turnover Variables

ISS_TURNOVER: The sum of added and deleted peer firms from the ISS Peers during fiscal year t as a fraction of the sum of ISS Peers in fiscal year t and fiscal year $t - 1$. Source: ISS PEER Data.

ΔACT/ISS: The fraction of ISS Peers that are also Actual Peers in fiscal year t minus the corresponding fraction in fiscal year $t - 1$. Source: ISS PEER Data.

ADD_INDICATOR: ADD_COMP is calculated as the ratio between the median CEO compensation of the ISS Peers that were added between year $t - 1$ and year t and the median of the CEO compensation of the ISS Peers in year t . ADD_INDICATOR is set to equal 1 when ADD_COMP exceeds 1, and 0 otherwise. Source: directEDGAR, ISS PEER Data.

DEL_INDICATOR: DEL_COMP is calculated as the ratio between the median CEO compensation of the ISS Peers that were discarded between year $t - 1$ and year t and the median of the CEO compensation of the ISS Peers in year $t - 1$. DEL_INDICATOR is set to equal 1 when DEL_COMP is below 1, and 0 otherwise. Source: directEDGAR, ISS PEER Data.

OVERLAP_INDICATOR: OVERLAP_COMP is calculated as the difference between the medians of CEO compensation of the subsets of ISS peers that serve as both ISS Peers and Actual Peers in years t and year $t - 1$, divided by the average of these numbers. OVERLAP_INDICATOR is set to equal 1 when OVERLAP_COMP is positive, and 0 otherwise. Source: directEDGAR, ISS PEER Data.

Supplementary Material

To view supplementary material for this article, please visit <http://doi.org/10.1017/S0022109022000965>.

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