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Say on ESG: The Adoption of Say-on-Pay Laws, ESG Contracting, and Firm ESG Performance

Finance Working Paper N° 886/2023
February 2023

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ECGI Working Paper Series in Finance

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Abstract

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Keywords: corporate social responsibility, compensation contracting, say on pay laws, corporate governance, regulations

JEL Classifications: G15, G34, G38, M12

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First version: November 2021
Current version: January 2023

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1. Introduction

Consideration of environmental, social, and governance (ESG) priorities in firms' operations has gained significant attention from market participants. For example, flows of funds to sustainable mutual funds have surged (Reuters, 2021) and institutional investors are increasingly expressing interest in firm sustainability and considering climate risk implications when making investment decisions (e.g., Barber et al., 2021; Pastor et al., 2021, 2022; Krueger et al., 2020).

Concurrent with this increased focus on ESG performance is the increased use of ESG metrics in executive compensation contracts (hereafter ESG contracting). A recent study of larger U.S. companies finds that approximately 60% include ESG in compensation contracting (Meridian, 2021), while a study in Europe identifies a nearly tenfold increase from 2008 to 2021 in the number of companies that link CEO pay to ESG metrics (Diligent, 2021).[1] However, whether compensation tied to ESG measures promotes ESG performance is a topic of debate. Concerns exist that ESG contracting may be "greenwashing" to appease investors or be self-serving to managers (e.g., Bebchuk and Fried, 2010; Bebchuk and Tallarita, 2022).

To inform this debate, we examine whether ESG contracting provides a pathway for shareholders to promote improved ESG performance. A challenge in answering this question is that the inclusion of ESG metrics in compensation contracts is not exogenous. To address this, we exploit the country-level adoption of Say-on-Pay (SOP) laws. SOP affords shareholders greater influence over executive compensation design and country-level adoptions are arguably exogenous to individual firms. If investors on average seek improved ESG performance, we expect them to use their greater voting power under SOP to advocate for the inclusion of ESG-related metrics in executive pay. For example, in 2020, Europe's largest asset management company,

[1] https://www.diligentinstitute.com/commentary/the-growing-influence-of-esg-in-executive-compensation/

Amundi, voted against companies that did not include ESG measures in compensation contracts.[2]

We first validate our setting by demonstrating the impact of SOP laws on ESG contracting, exploiting the staggered adoption of SOP laws across countries using a difference-in-differences design. We use firm-level data for 44,379 firm-year observations across 36 countries from 2002–2019. Our identification compares the changes in treatment firms in countries that adopted SOP laws with those in a set of control firms from countries that *never* did so, mitigating potential concerns of biased estimates of a standard staggered specification (Baker et al., 2022). Because we include firm and year fixed effects, our identification exclusively exploits within-firm changes in ESG contracting and ESG performance for firms in SOP-adopting countries, relative to those in non-adopting countries. To ensure our results are not driven by other regulatory changes, we also control for changes in the compensation disclosure rules (Fernandes et al., 2013) and ESG disclosure mandates (Krueger et al., 2021)

We construct a measure of firms' ESG contracting practices using data from Thomson Reuters Asset4 that captures whether a firm has an ESG compensation policies or links a portion of executive compensation to CSR targets.[3] We find an increase in ESG contracting after the passage of SOP laws. In the subsample of firms for which we have detailed plan-based grant award data from ISS Incentive Lab, we document an increase in the use of ESG performance metrics in grants after SOP adoption. We validate the parallel trends assumption by conducting a dynamic analysis around SOP adoption and find that our treatment and control firms behave similarly before the event; the increase in ESG contracting only begins after SOP adoption and persists for at least three years. These findings show that SOP laws lead to an increase in the inclusion of sustainability as a determinant of executive compensation.

[2] https://content.irmagazine.com/story/ir-magazine-spring-2021/page/10/7
[3] We use the terms ESG and CSR interchangeably.

Greater ESG contracting, however, does not necessarily translate into better performance. Researchers raise concerns that ESG contracting may simply represent "greenwashing" to appease investors (Gillan et al., 2021; Haque, 2017) or even crowd out the intrinsic motivations of managers (Gneezy et al., 2011), leading to little or no effect on ESG performance. Using changes in ESG contracting around the passage of SOP laws as a source of variation, we examine whether ESG contracting, by incentivizing sustainable actions, improves firms' ESG performance. We find that increases in ESG contracting by firms after SOP laws are adopted lead to better ESG scores. We also show that ESG contracting induces firms to implement more environmental policies, such as toxic and CO_2 emission reduction and initiatives in environmental products, alleviating concerns that increases in ESG scores result solely from ESG contracting itself (i.e., the inclusion of ESG metrics mechanically increases the ESG score because the score reflects ESG contracting). Our results are also robust to excluding U.S. firms and limiting analysis to firms in developed economies. Our conclusions are also unchanged when we conduct analysis using nearest neighbor matching or entropy balancing. Collectively, these results suggest that ESG contracting helps facilitate better ESG performance.

To further validate our interpretations, we examine whether changes are concentrated among firms that may be pressured by shareholders to meaningfully change ESG contracting. We find that increases in ESG contracting are greater among firms with greater institutional ownership, with greater initial dissent in the first SOP votes, and in countries for which the SOP vote is binding. We also find that improvements in ESG performance, related to increases in ESG contracting, are greater among firms with more institutional ownership and those subject to binding SOP votes. Improvements in ESG performance are also greater when the board has a CSR committee and an

independent compensation committee, suggesting that implementation of ESG contracting has greater success with board support.

Finally, to address whether investors' efforts to achieve ESG performance through ESG contracting comes at the expense of shareholder value, we examine the relation between the changes in firms' ESG contracting, triggered by SOP laws, and firm value. We find that the increases in firms' ESG contracting after SOP adoption are associated with higher Tobin's Q, suggesting that the inclusion of ESG metrics in compensation contracts reflects stronger incentive contracting aligned with shareholder interests.

We make several contributions to the literature. First, our findings add to a growing body of evidence that investors have preferences for ESG performance. We extend the U.S. based findings of Hartzmark and Sussman (2019), providing global evidence of investors' interest in promoting ESG. Our findings underscore the importance of regulatory attention to ESG reporting and disclosures.

Second, we add to an emerging literature examining the inclusion of ESG metrics in compensation contracts. We are among the first researchers to document that the increased inclusion of these metrics appears to come, at least partly, at the behest of shareholders. A concurrent working paper (Cohen et al., 2022) suggests that shareholder engagement is associated with greater ESG contracting. We provide causal evidence that greater shareholder voice afforded by SOP laws provides another important pathway to incentivize managers to pursue desired ESG goals and increase ESG performance. We also contribute evidence that investors' preference for sustainability can translate to greater firm ESG performance. Because our approach uses an exogenous source of change in ESG contracting resulting from SOP adoption, concerns that anticipated improvements in ESG performance endogenously lead to ESG contracting are reduced.

Our approach also allows better identification of the link between ESG contracting and ESG performance. Greater attention by management to stakeholder concerns (Flammer et al., 2019) or greater engagement by institutional investors (Cohen et al., 2022) may result in multiple actions that improve ESG performance concurrent with, but independent from, ESG contracting,

Finally, we add to the understanding of the effect of SOP laws. We show that SOP adoption enables shareholders to influence CEO compensation consistent with their preferences. Our results provides support for the "voice" mechanism studied by Broccardo et al. (2020). Those authors model voice versus exit strategies in promoting socially desirable outcomes and find that when most investors are socially responsible, voice succeeds. We demonstrate that SOP is one means of enabling social engagement. We further point to improved ESG performance as a specific source of increased firm value after the adoption of SOP laws, as documented by Correa and Lel (2016).

2. Related Research and Hypothesis

2.1. Say-on-Pay Voting and ESG Compensation Contracting

ESG issues have drawn increasing attention from investors, practitioners, and firms. Despite disagreement about the relation between ESG investment and firm profit, growing evidence shows that investors increasingly value ESG and that consideration of sustainability as an investment strategy can deliver long-term returns.[4] Hartzmark and Sussman (2019) show that high-sustainability funds (i.e., those holding assets with superior CSR performance) attract substantial fund flows, demonstrating investor demand for ESG performance.[5]

[4] Traditional shareholder primacy views (e.g., Friedman, 1970) suggest ESG investment comes at the expense of financial returns. More recent work takes a nuanced view, suggesting the beliefs about the profitability of ESG investment may depend on investors' long-term expectations about firms' prospects, sustainability and trends (e.g., climate regulation, consumer preferences for "green" products) (Pastor et al., 2021, Pastor et al., 2022).

[5] There is a debate around whether asset managers stated ESG preferences align with their true intentions or whether some claims represent greenwashing to attract fund flows. While research suggests green funds vote and invest in line with their stated missions (e.g., Curtis et al., 2021; Dikolli et al. 2021), Kim and Yoon (2020) do not find evidence UN PRI signatories on average behave consistently.

Institutional investors can seek improved firm ESG performance through various means (e.g., Chen et al., 2020; Dyck et al., 2019; Kim et al., 2019). These include shareholder proposals (e.g., Baloria et al., 2019) or direct management engagement (e.g., Becht et al., 2009; Dimson et al., 2015).[6] Engine 1's successful proxy battle with ExxonMobil demonstrates another means of ESG engagement (Phillips, 2021). Yet these means for shareholders to express their preferences can be costly (e.g., initiating a shareholder proposal) or unavailable to many investors (e.g., directly conversing with management).

One channel for improved ESG performance is through ESG contracting. Indeed, the use of ESG criteria within compensation contracts (ESG contracting) has increased substantially over the last decade. Diligent Institute, covering 14 European countries, finds that the percentage of companies using ESG contracting increased from 3% to 34% from 2008 to 2021 and was most common among French companies (74% in 2021) (Diligent, 2021). In a 2020 Towers Watson survey of board members in over 20 countries, 63% of respondents reported the use of ESG metrics in annual bonus plans and 41% in long-term incentives.[7]

We examine whether ESG contracting can help improve ESG performance. A challenge in answering this question is that the inclusion of ESG metrics in executive compensation contracts is not exogenous. Of particular concern is that firms may implement ESG contracting in anticipation of improvements in ESG performance, leading to reverse causality. We address this concern by first examining whether SOP laws, an exogenous shock to investor influence over compensation, enable investors to encourage the inclusion of ESG performance metrics in

[6] Consistent with institutional investors' interest in engaging on ESG issues, research documents that they can encourage improved disclosure around related issues (Pawliczek et al., 2021; Solomon et al., 2011).
[7] https://www.willistowerswatson.com/en-US/Insights/2020/12/2020-esg-survey-of-board-members-and-senior-executives

executive compensation contracts.[8]

Research has documented that SOP voting leads to changes in executive compensation (Ertimur et al., 2013) and argues that the act of shareholder voting motivates discussions between directors and investors and can call into question directors' choices, raising reputational concerns in the director labor market (Ferri and Maber, 2013). In addition, UN PRI guidance for asset managers encourages investors to incorporate an approach to voting on climate-related issues that extends to other votes, including those on remuneration, suggesting that SOP might impact the inclusion of ESG contracting.[9] If, on average, investors prefer ESG performance, we expect them to exercise the voting power afforded by SOP laws to encourage firms to add ESG criteria to compensation contracts.

There are several reasons why we may not see changes in firms' ESG contracting following SOP adoption. First, investors have varying preferences for ESG investment. For example, Chen et al. (2018) find that Chinese investors perceive CSR as profit-reducing and react negatively to mandatory CSR disclosure. If this kind of response prevails in our sample, investors would not advocate for the inclusion of ESG metrics in compensation, and we will not observe an effect. In addition, firms must balance any additional ESG efforts against the demands of investors with different preferences, especially in instances when ESG investment may harm financial performance (e.g., Chen et al., 2018, Di Giuli and Kostovetsky, 2014). Firms could be hesitant to alienate these investors at a time when compensation contracts are receiving increased scrutiny with SOP. So, while some investors may have ESG preferences, firms may not alter compensation

[8] Another stream of literature examines the influence of ESG on compensation more broadly beyond the explicit inclusion of ESG in compensation contracts with mixed results. For example, Cai et al. (2011) find that CEOs are penalized (i.e., receive lower compensation) for CSR investments, likely due to the delayed impact of such investments. Callan and Thomas (2011) find a positive pay-for-CSR-performance sensitivity in a multi-equation framework.
[9] https://www.unepfi.org/wordpress/wp-content/uploads/2021/04/16-Elevating-Climate-Diligence-2.pdf

to cater to those preferences. Third, whether and to what extent SOP voting alters managerial incentives is ambiguous, with some studies suggesting that firms may perceive limited costs from poor voting outcomes and thus have little incentive to alter their behavior.[10] Finally, the primary focus of SOP laws is on executive compensation, not ESG practices. Firms may believe investors will anchor on key aspects of compensation contracts (such as pay level or pay-for-performance sensitivity) and focus on those. Given these counterarguments, it is important for us to first determine whether SOP leads to an increase in ESG contracting.

2.2. ESG Contracting and ESG Performance

Whether ESG contracting leads to better ESG performance remains under debate. Research provides evidence of a positive association between ESG contracting and firm characteristics and outcomes. For instance, studies suggest that better-governed firms are more likely to include ESG criteria in executive compensation contracts (Hong et al., 2012; Ikram et al., 2019). Grabner et al. (2020) propose ESG metrics in compensation contracts complement ESG disclosures and argue that they increase the credibility of the disclosures. More closely related to our work are studies that document associations between ESG contracting and measures of ESG performance. Maas (2018) examines 400 firms over the period 2008–2014 for the inclusion of corporate social performance (CSP) targets in executive compensation, finding limited evidence that the use of hard, but not soft, targets is associated with CSP and improvements in CSP. Haque (2017) examines 256 UK firms over the period 2002–2014 and finds that having an ESG-based compensation policy is positively associated with having carbon reduction initiatives but not lower

[10] Several studies suggest SOP adoption induces beneficial changes in pay, such as reduced compensation, increased pay-for-performance sensitivity, and the removal of controversial pay practices (Alissa, 2015; Correa and Lel, 2016; Ertimur et al., 2013; Ferri and Maber, 2013; Kimbro and Xu, 2016). On the other hand, some studies question the influence (Fisch 2018) and suggest no change in pay practices (Conyon and Sadler, 2010) or even detrimental effects, such as increases in excessive compensation (Sanchez-Marin et al., 2017).

greenhouse gas emissions. Flammer et al. (2019) examine the use of CSR criteria in executive compensation contracts of S&P 500 firms between 2004–2013. Examining the percentage of contracts with CSR criteria (approximately 24% of firm-years in their sample), they find that the inclusion of CSR criteria is associated with more long-term orientation, higher Tobin's Q, higher KLD scores, more green patenting, and lower emissions. To address endogeneity, they use a two-stage approach with the adoption of constituency statutes in two states (Texas and Nebraska), which give officers and directors a mechanism to consider stakeholder interests in operating the firm, as an instrument to the inclusion of CSR contracting. Finally, in a concurrent working paper, Cohen et al. (2022), using a sample of 4,395 firms from 2011–2020, examine factors explaining whether firms adopt ESG contracting and the ensuing ESG performance. They find that engagement by institutional investors increases the likelihood of adopting ESG contracting and that adopters receive higher scores from rating agencies and have lower CO_2 emissions.

We make several contributions over these studies. First, a challenge of interpreting the evidence of Flammer et al. (2019) as causal is that improvements in ESG performance could result from increased focus on stakeholder interests, independent of ESG contracting. Further, changes in ESG contracting that result from stakeholder laws do not speak to the role of investors in using ESG contracting to seek improvements in ESG performance. Second, while Cohen et al. (2022) specifically examine the role of institutional investors in ESG contracting, it is difficult to interpret their evidence as causal. Institutional investor engagement in sustainability can be multifaceted; if these investors press for ESG contracting alongside other sustainability actions, what ultimately influences ESG performance is unclear. Our approach sidesteps these confounding factors. Assuming that SOP laws were not established with the goal of increasing ESG contracting, changes in ESG after SOP enactment plausibly identify exogenous adoption of ESG contracting.

As a result, our evidence provides a causal link between ESG contracting and ESG performance.

However, it is unclear whether pressure from ESG-focused investors, through ESG contracting, actually translates to better firm ESG performance. ESG contracting may not enhance stakeholder value but instead may be used by managers to advance their self-interest (Bebchuk and Tallarita, 2022). Executives may lobby for the inclusion of ESG metrics in anticipation of improved ESG performance that would occur regardless. Alternatively, the inclusion of ESG metrics in compensation contracts could be window-dressing and may not result in meaningful improvements to ESG performance (Gillan et al., 2021; Haque, 2017). Given the competing views on the impact of ESG contracting, whether it leads to meaningful changes in firm behavior and improvement in ESG performance is unclear. SOP laws empower shareholders to influence executive compensation contracts, and so changes in those contracts may lead to enhanced ESG performance. This leads to our primary research question: does ESG contracting, influenced by SOP laws, enhance firms' ESG performance?

3. Variable Measurement

3.1. Sample and Data Sources

We obtain data from several sources: (1) firm-level financial data from the Thomson Reuters Worldscope database, (2) data on firms' ESG compensation contracting and ESG performance from the Thomson Reuters ASSET4 ESG database, (3) global institutional ownership data from the Factset ownership database, and (4) shareholder voting data from ISS US and Global Voting Analytics. Thomson Reuters acquires information from various sources, including corporate annual reports, nongovernmental organizations, and news media. The database provides detailed information on social and environmental commitments for public companies in more than 45 countries. ASSET4 is widely used in research on firms' ESG performance (e.g., Dai et al., 2020;

Dyck et al., 2019). Since institutional investors are an important driver for corporate ESG performance, we also obtain global institutional ownership data from Factset. To provide a deeper analysis linking shareholder voting actions to executive compensation changes, we also bring in shareholder voting data from ISS U.S. and Global Voting Analytics, which record detailed information on whether shareholders voted for, against, or abstained from each proposal in each firm-meeting for both U.S. and global firms.

Our initial sample starts with the intersection of Worldscope, Thomson Reuters ASSET4, and Factset ownership databases. Our sample period begins in 2002, the start of firm coverage in the ASSET4 ESG database (e.g., Dyck et al., 2019), and ends in 2019, the last year that institutional data from Factset is available. We require firms to have total assets greater than $1 million (Correa and Lel, 2016) and nonmissing values for country-level macroeconomic variables (e.g., GDP, GDP per capita, etc.). After deleting missing values in regression variables, our final sample consists of 44,379 firm-year observations for 6,408 unique firms from 36 countries from 2002–2019. Table 1 Panel A reports the sample selection details. For some analyses, our sample size may be smaller due to additional data requirements.

3.1. Measure of ESG Contracting

Our measure of ESG contracting is a firm-year measure, which captures firms' incorporation of ESG-related performance metrics into executive compensation. Using Thomson Reuters ASSET4 classifications, we focus on two key aspects of firms' ESG compensation practices: general ESG compensation policies or tying executive pay to CSR targets.[11] Our

[11] As an example of ESG contracting, AstraZeneca's 2018 remuneration report explains how the final evaluation of annual bonus payouts (based on scientific and financial metrics) also considers the CEO's individual performance. Two aspects of individual performance are "*Embedding a culture focused on integrity and sustainability*" and "*Making AstraZeneca a great place to work – achieve demonstrable advances in inclusion, diversity and employee engagement*." The company also issues performance shares, which include scientific, commercial, and financial metrics, but no ESG metrics. As an example of CSR linking, in 2016 at Barratt Developments, a UK-based homebuilder, 10% of the annual bonus payout for each named executive is determined based on the company's score on the safety, health, and

measure, *ESG_CONTRACT*, is an indicator variable that equals one if the company has adopted an ESG-related compensation policy or has linked part of senior executives' compensation to CSR performance targets in a given year. [12]

3.2. Measures of ESG Performance

To capture firms' overall ESG performance, we use the composite ESG score (*ESG_Score*) reported in ASSET4. *ESG_Score* is the overall CSR score based on reported information about environmental, social, and corporate governance issues. Firms are rated based on both their ESG compliance (regulatory requirements) and engagement (voluntary initiatives) and the effectiveness of their endeavors. A firm's composite CSR score reflects a comprehensive evaluation of how the firm engages in stakeholder issues and complies with related regulations.

We also examine separately the environmental (*Environ_Score*) and social responsibility (*Social_Score*) scores.[13] ASSET4 evaluates environmental commitments in three areas: emissions reduction, product innovation, and toxic substance reduction. Social commitments are evaluated via seven aspects: community, diversity and opportunity, employment quality, health and safety, human rights, product responsibility, and training and development. We scale the ESG performance measures to range from zero to one, with higher values indicating better performance.

3.3. Control Variables

3.3.1. Controls for Firm-level Characteristics

environmental compliance audit. A score of 94% or higher on the audit report results in maximum payout for this portion of the annual bonus.

[12] As an additional (untabulated) sensitivity analysis, we decompose ESG contracting index into two components: ESG_POLICY (equals one if the company has adopted an ESG related compensation policy or CSR_LINK (equals one if the company links a portion of executive compensation to CSR metrics). Our inferences remain unchanged using two separate measures.

[13] Consistent with the literature (e.g., Dai et al., 2020), we focus on E and S because the corporate governance component of CSR may not reflect the typical corporate governance issues in academic research (Hong et al., 2012).

Following the literature (e.g., Dai et al., 2020; Dyck et al., 2019), we include an array of firm- and country-level variables to control for factors that may affect firms' compensation practices and ESG performance. We include institutional ownership (*IO*), as studies show that institutional investors help drive firms' ESG performance (e.g., Chen et al., 2020; Dyck et al., 2019). We also control for firm fundamentals, including firm size (*SIZE*), market-to-book ratio (*MTB*), tangibility (*KL_RATIO*), profitability (*SALE_GROWTH* and *ROA*), and age (*FIRM_AGE*). We control for capital structure with leverage (*LEV*) and internal cash flows (*INT_CASH*). Finally, we control for industry product market competition with the Herfindahl index (*HERFINDAHL*).

3.3.2. Controls for Time-varying Country-level Macroeconomic Conditions

Since the adoption of SOP laws is a country-level decision, we also include time-varying country-level variables to control for differences in macroeconomic conditions that may affect the adoption of SOP laws. We include gross domestic product (*GDP*), GDP per capita (*PERCAPITA*), and total foreign direct investments (*FDI*) to account for their general effect on a country's economic well-being (La Porta et al., 1998).

3.3.3. Controls for Concurrent Regulatory Changes related CEO Pay and ESG Disclosure

We control for the confounding effects of two concurrent regulations that may affect firms' compensation contracting and ESG performance. We first control for the mandated disclosure of executive pay based on data from Fernandes et al. (2013). We construct an indicator variable, *AFTER_PAY_LAW*, for firm-year observations in countries after the adoption of mandatory compensation disclosure. We also control for the country-level mandates for ESG disclosure and create an indicator variable, *AFTER_ESG_DISCLOSURE*, for firm-year observations after the adoption of ESG disclosure (Krueger et al., 2021). These controls help isolate the effects of SOP regulation from the effects of other disclosure changes.

3.4. Descriptive Statistics

Table 1 Panel B reports the sample distribution across countries, the enactment year of SOP law in each country, and the average ESG contracting index and ESG scores. We obtain SOP law enactment dates from several sources. For SOP laws before 2012, we obtain the year of SOP passage from Correa and Lel (2016). To expand their list, we search Factiva to identify adoptions after 2012. For example, Spain passed a law in 2014, and France enacted one in 2016. ESG scores vary considerably across countries.

Our sample countries also exhibit substantial variation in ESG contracting. The highest ESG contracting is in Australia, where 38% of firm-years either adopted ESG compensation policies or link part of executive compensation to ESG performance targets. It is followed by the Netherlands and the U.K. Countries with the highest ESG performance concentrate in Europe. For example, Spain, France, and Portugal are the top three in terms of composite ESG scores. As expected, about 33.92% of firm-year observations come from the United States. To ensure our results are not driven by U.S. firms, as an additional analysis in Section 6, we drop them and find that our results endure.

Table 2 Panel A reports the summary statistics for SOP-adopting and non-SOP countries. On average, firms in SOP countries have greater ESG contracting than those in non-SOP countries. For example, 21.5% of firm-years in SOP countries adopted ESG-related compensation policies, whereas only 8.0% of firm-years in non-SOP countries did so. ESG performance scores are similar between firms in SOP countries and those in non-SOP countries on average. The mean value of overall ESG performance scores is 40.85 (40.07) for firm-years in SOP (non-SOP) countries. On average, firms in both groups are comparable in terms of firm size (*SIZE*), profitability (*ROA*) and leverage (*LEV*).

Table 2 Panel B reports descriptive statistics for treatment firms before and after SOP adoption. Before adoption, the mean value of *ESG_CONTRACT* is 15.43% for treatment firms, increasing to 23.89% afterward. We also observe a similar increase in ESG performance score, increasing to 41.32 after SOP adoption from 36.64 before adoption.

4. Research Design

4.1. SOP Laws and ESG Contracting

Our first analysis examines the impact of SOP laws on ESG contracting using a difference-in-differences design. We exploit the staggered enactment of SOP laws across countries to examine their impact on firms' ESG contracting. Following Correa and Lel (2016), we identify our treatment group as the firms from 14 countries that have adopted SOP laws during the sample period (see Table 1). Our control firms are those from the remaining 22 countries that have not adopted SOP laws during our sample period. One benefit of a staggered design is that it allows us to better disentangle the treatment effect of SOP laws from confounding concurrent events. In all regressions, we control for concurrent regulatory changes, including mandatory executive pay and ESG disclosures.

Our identification compares changes in ESG contracting in treatment firms to those in control firms around the adoption of SOP laws. If SOP laws enable investors to voice their demand for ESG performance through their influence on executive compensation, we expect the laws to lead to an increase in ESG contracting. To test this, we estimate the following regression model:

$$ESG\_Contract_{ijt} = \beta_0 + \boldsymbol{\beta_1 SOP_{ijt}} + \beta_k \Sigma Controls_{ijt} + \Sigma Firms + \Sigma Years + \varepsilon_{ijt}, \qquad (1)$$

where subscripts i, j, t denote firm, country and year, respectively. The dependent variable is ESG contracting (*ESG_CONTRACT*), an indicator variable that takes the value one if a firm adopts general ESG compensation policies or links part of CEO pay to CSR targets. *SOP* is an indicator

variable that equals one for firm-year observations in treatment countries after the adoption of SOP laws and zero otherwise. The control variables are described in section 3.4.

In all regressions, we include firm and year fixed effects to absorb time-invariant cross-firm heterogeneity and common time trends, respectively. Since SOP laws are measured at the country level, we cluster robust standard errors at that level. The estimate of β_1 is the difference-in-differences estimator of the change in firms' ESG contracting around the passage of SOP laws.[14] If firms are more likely to include ESG measures in compensation contracts after the adoption of SOP, we expect β_1 to be positive.

4.2. SOP Laws, ESG Contracting, and ESG Performance

The increasing use of ESG contracting can be driven by shareholders' demand for better ESG performance. However, it may also reflect greenwashing rather than a serious effort to improve ESG performance. For example, ESG metrics may only influence a small portion of executive compensation, or targets in contracts may be easily achievable. To address this question, we evaluate whether increases in ESG contracting, driven by SOP law adoption, improve firms' ESG performance. We estimate the following regression models with firm and year fixed effects:

$$ESG\_Score_{ijt} = \beta_0 + \boldsymbol{\beta_1 SOP_{ijt}} + \boldsymbol{\beta_2 SOP_{ijt}} * \Delta \boldsymbol{ESG\_CONTRACT_{jt}} + \beta_k \Sigma Controls_{ijt} + \Sigma Firms + \Sigma Years + \varepsilon_{ijt}, \quad (2)$$

where subscripts i, j, and t denote firm, country, and year, respectively. The dependent variable, *ESG_Score*, is proxied by the composite ESG score (*ESG_Score*), the environmental score (*Environ_Score*), and the social score (*Social_Score*). $\Delta ESG\_CONTRACT$ is a firm-level measure that equals one if a firm has newly adopted ESG contracting following the passage of SOP laws and zero otherwise. To construct this variable, we first calculate the average pre- and post-SOP

[14] Our results remain robust to double clustering at both the country and firm levels. The main effects of SOP-adopting countries are subsumed by firm level fixed effects.

values of *ESG_CONTRACT* for each firm over a three year window surrounding the passage of SOP laws. We identify firms switching from 0 in the pre-period to 1 in the post-period as those newly adopted ESG contracting.[15] Because this variable is measured at the firm level, its main effect is subsumed by firm fixed effects. The estimate of β_1 is the difference-in-differences estimator of the change in firms' ESG performance around the passage of SOP laws. The interaction of *SOP* with Δ*ESG_CONTRACT* assesses whether the post-SOP improvement in firms' ESG performance is more pronounced among firms that adopted ESG compensation contracting following SOP laws. If SOP laws induce meaningful changes to executive compensation contracts and these changes result in improvements in ESG performance, we expect β_2 to be positive.

5. Empirical Results

5.1. Do Say-on-Pay Laws Increase ESG Contracting?

5.1.1. Difference-in-Differences Regression Results

Table 3 Panel A reports the results of changes in compensation contracts around the passage of SOP laws. In column (1), we find that SOP laws significantly increase the likelihood of firms adopting ESG-related compensation contracting (*ESG_CONTRACT*). Our result continues to hold in column (2) where we control for confounding effects of mandated executive pay (*AFTER_PAY_LAW*) and ESG performance (*AFTER_ESG_DISCLOSURE*) disclosures, suggesting that SOP laws have an incremental impact on firms. This impact is also economically meaningful. Taking the coefficient in column (2), the passage of SOP laws leads to a 19.71% increase in *ESG_CONTRACT*, relative to its pre-SOP mean value.[16] In all regressions, we include

[15] Since firms may vary in their speed of implementing compensation changes, we consider adoption firms as those switching from "0" to "1" in ESG contracting during the first three years in the post-SOP period. For those early adopters (e.g., firms adopted in year t+1), we require them to sustain ESG contracting (with ESG_CONTRACT=1) in the subsequent years (years t+2 and t+3) after adoption.

[16] Computed as 0.037 (the coefficient on SOP in column (2)) divided by 0.187 (the pre-SOP mean value of *ESG_CONTRACT* a reported in Table 2 Panel B).

firm and year fixed effects so that our results are unlikely driven by cross-firm heterogeneity or common time trends that affect both treatment and control firms.

5.1.2 The Dynamic Changes in ESG Contracting Around SOP Laws

We conduct a dynamic analysis to evaluate the parallel-trends assumption. Following prior research (e.g., Hall, 2002; Loureiro and Taboada, 2015), we create six indicator variables to capture the subperiods surrounding the adoption of SOP laws in each treatment country. *PRE_SOP2* for year t-2 relative to the adoption year, *PRE_SOP1* for year t-1, *EVENT_SOP* for the adoption year t, *POST_SOP1* for year t+1, *POST_SOP2* for year t+2, and *POST_SOP3+* for years t+3 and beyond. Our base period is comprised of years prior to t-2.

As reported in Table 3 Panel B, we find that the coefficient estimates of *PRE_SOP* indicators are statistically insignificant, suggesting that our treatment and control firms followed similar trends before the SOP laws, validating the parallel-trend assumptions. The coefficients on *POST_SOP* indicators are positive and significant, and the effect persists for at least three years following the passage of SOP laws.[17] This analysis suggests that the increase in ESG contracting is indeed driven by SOP laws, not other confounding events or pre-event trends.

In Figure 1, we plot the time series of the coefficient estimate on *SOP_COUNTRY*k years to treatment*. As shown in the left panel, before the adoption of SOP laws, the estimated difference between the treatment and control groups is virtually zero, suggesting that firms follow a similar trend in ESG contracting, However, afterward ESG contracting in the treatment group increases significantly. A similar pattern is also observed for changes in ESG performance.

5.1.3. Implementation of ESG Contracting: Evidence from Executive Plan-based Award Grants

[17] Consistent with the literature (e.g., Hall, 2002; Loureiro and Taboada, 2015), we aggregate firm-year observations that are prior to t-3 or after t+3. Nevertheless, our results remain inferentially unchanged if we include separate indicators for each year relative to SOP adoption (i.e., the event study difference-in-difference as discussed in Baker et al., 2022) or restrict our observations within a three-year event window.

To provide more specific evidence on ESG contracting, we use detailed data from 2002–2019 of executive plan-based grant awards from ISS Incentive Lab. Our sample drops to 12,475 firm-years due to the limited coverage of firms in the ISS US and Europe databases. However, the more granular nature of this data allows better identification of specific metric types and illuminates whether SOP laws indeed lead to an increase in the use of ESG metrics in executive grants. We classify grants based on their performance metrics. For each grant, we classify the metrics within the grant as earnings, stock return, or ESG performance.[18] Then, for each type of metric, we aggregate the number of grants using that metric at the firm-year level. Lastly, we calculate a ratio capturing the proportion of grants using each metrics (e.g., the number of grants tied to ESG scaled by the total number of grants in a given firm and year). Appendix B describes our procedures for classifying metrics in grants.

Table 4 Panel A reports the results examining the likelihood of issuing each type of grant awards, including ESG, accounting, and stock-based grants. In column (1) we find that SOP laws lead to a significant increase in the issuance of ESG-based grants (p-value<0.01). We do not find a similar increase for accounting-based grants in column (2). SOP also increases the use of stock-based grant awards (p-value<0.01). In Table 4 Panel B, we further examine the changes in composition of plan-based grant awards based on each type of performance metric. As shown in columns (1)–(3), we find that the passage of SOP laws leads to an increase in incorporating ESG performance targets in executives' grant awards, holding the total number of grants constant. Our results in panel B point to a shift of performance metrics used in executive incentive scheme toward ESG metrics; for example, the passage of SOP laws lead to a 4.72% increase in the portion of ESG performance-based grants relative to others. These results reinforce our main findings and support

[18] We categorize grants using any other metric as "other non-financial." An untabulated analysis shows that SOP laws do not impact this type of grant.

that the passage of SOP laws leads to an increase in ESG contracting.[19]

5.1.4. Stacked Difference-in-Differences Regression Results

Baker et al. (2022) discuss potential estimation bias in a staggered difference-in-difference design where all countries are treated at some point during the sample period. This should be less of a concern in our setting because 22 of 36 countries in our sample (61%) did not experience any SOP law changes, providing a clean "never-treated" control group. Furthermore, by including firm and year fixed effects, our identification comes only from "within-firm" pre-and post-changes in ESG performance for treatment firms, relative to the set of control firms.

To reinforce our findings, we employ a stacked difference-in-differences approach, introduced by Cengiz et al. (2019) and recommended by Baker et al. (2022) to resolve these issues associated with a staggered design. For this analysis, we create event-specific datasets. For each SOP adoption event, we construct a cohort of SOP-law affected firms as our treatment firms and a clean set of SOP-law unaffected firms or future treated firms as control firms over a *three-year* event window. [20] This approach is equivalent to a setting where the events happen contemporaneously, and it prevents using past-treated units as controls, which may introduce bias. Both the clean sample consisting of never-treated firms and a larger control sample including future-treated firms are considered untreated at the time of stacked events, alleviating concerns of treatment heterogeneity (Baker et al. 2022).

Table 5 reports the results. We incorporate both firm-by-cohort and year-by-cohort fixed effects, along with country fixed effects, to allow the firm and year fixed effects to vary by cohort (Gormley and Matsa, 2011). As reported in column (1), treatment firms experience a larger

[19] To ensure our results are not driven by U.S. firms, we conduct additional analysis by excluding U.S. firms and find consistent results (untabulated).

[20] We create the stacked events by modifying the codes shared by Barrios (2021). To avoid potential confounding events, we conduct the analysis using a three-year event window. Our results are similar if we use a five-year window.

increase in the likelihood of adopting ESG compensation contracting (*ESG_CONTRACT*) after the adoption of SOP laws, relative to never-treated firms. We find similar results in column (2) using a larger control sample by including future-treated firms in the control group. These results confirm our earlier findings and suggest that SOP laws can have a causal impact on firms' ESG contracting.

The results in Tables 3–5 support that SOP laws enable investors to tie CEO compensation to ESG performance targets.[21] While research documents the influence of SOP laws on reducing poor pay practices (Ferri and Maber, 2013), we are, to our knowledge, the first to document how SOP provides a vehicle for investors to voice ESG preferences and implement ESG contracting.

5.2. Does ESG Contracting Effectively Promote ESG Performance?

We next evaluate whether this increase in ESG contracting impacts firms' ESG performance. To evaluate this question, we evaluate whether, after SOP, those firms that adopt ESG contracting see improvement in ESG performance. We also investigate whether ESG contracting is the mechanism through which SOP laws improve firms' incentives to adopt more environmentally friendly policies.

5.2.1. ESG Contracting and Performance

Table 6 reports the results of estimating model (2) on the average changes in firms' ESG performance around SOP laws. We report the results of composite ESG scores (*ESG_SCORE*) in column (1), environment scores (*Environ_Score*) in column (2), and social scores (*Social_Score*) in column (3). Interestingly, we find no main effect of SOP adoption on overall ESG scores or social scores and a negative effect on environmental scores.[22] The lack of significance suggests

[21] SOP laws could lead to changes in ESG contracting through two mechanisms: (1) investors directly engage with the firm, requesting ESG metrics, or vote against pay contracts that lack ESG performance targets, or (2) the board recognizes that investors seek superior ESG performance and restructures compensation accordingly. Our aim is not to distinguish between these mechanisms but rather to understand changes in ESG contracting and performance.

[22] In untabulated analyses, we estimate Equation (2) excluding the interaction terms and find the main effect of SOP to be positive and significant.

that, while firms may implement other non-ESG contracting CSR activities concurrent with the adoption of SOP, any such activities do not appear to have an on-average impact on ESG performance. However, across all three columns, we find consistent evidence that SOP laws lead to a greater improvement in ESG performance for firms that have newly adopted ESG contracting after the law change *(*$\Delta ESG\_CONTRACT$ =1).[23] In terms of economic significance, firms that adopt ESG contracting after SOP laws experience a 5.30%, 10.31%, 1.96% larger increase in their ESG, environmental, and social scores, relative to non-adopters.[24] F-tests on the joint significance of β_1 and β_2 show that SOP laws on average enhance ESG performance among adopters of ESG contracting after the law change.

Overall our results suggest that increases in ESG contracting after SOP represent an effective way for investors to influence managerial incentives, leading to a meaningful improvement in firms' ESG performance.

5.2.2. ESG Contracting and Environmental Risk

To corroborate our findings, we examine whether ESG contracting leads to the adoption of environmental policies. Analyzing changes in firms' operational decisions related to ESG allows us to address the concern that ESG scores may have a mechanical, positive association with ESG contracting (i.e., the inclusion of ESG contracting is a factor in determining the ESG score). We focus on environmental issues because evidence shows shareholders care about climate risk and enforce real changes in corporate environmental policies (e.g., Bolton and Kacperczyk, 2021;

[23] How long it takes for firms to improve ESG performance and for such improvements to be reflected in ESG scores may vary. We measure ESG scores in year t+1 to better capture the impact of ESG contracting on subsequent performance. Research documents that at least some changes are perceptible within a year after increased institutional ownership (Chen et al., 2020) and environmental shareholder proposals (Grewal et al., 2016). In an untabulated analysis, we find our results remain unchanged if we measure ESG scores in year t.

[24] The mean values of ESG_Score, Environ_Score, and Social_Score are 0.396, 0.291, and 0.409 respectively. The incremental increases in corresponding scores associated with the use of ESG contracting in the post-SOP period are 5.30% (2.92%=0.021/0.396), 10.31% (0.030/0.291), and 1.96% (0.008/0.409).

Stroebel and Wugler, 2021). Specifically, we examine whether ESG contracting creates an incentive for firms to adopt environmentally friendly policies, including a policy on CO_2 emissions (*CO2_PROCESS*), a policy to improve emission reduction (*EMISSION_REDUCE*), product lines designed to generate positive environmental impact (*ENVIRON_PRODUCT*), and initiatives to reduce toxic substances (*TOXIC_REDUCE*).

If ESG contracting provides a pathway for firms to adopt environmental policies, we expect the coefficient estimate on *SOP**Δ*ESG_CONTRACT* to be positive and significant. As reported in Table 7 column (1), the coefficient is positive and significant (p-value<0.01), suggesting that ESG contracting does increase firms' incentive to adopt policies to reduce CO_2 and CO_2 equivalents after the passage of SOP laws. We find similar results in columns (2)–(4) for the initiation of policies to reduce waste emissions (*EMISSION_REDUCE*), add environmental product lines (*ENVIRON_PRODUCT*), and reduce toxic substances (*TOXIC_REDUCE*). Again F-tests show that the combined effects of β_1 and β_2 are positive and significant in most cases from columns (1) to (3), suggesting that SOP laws on average lead to an increase in the adoption of environmental policies among firms adopted ESG contracting. These results corroborate our results in Table 6 and reinforce that ESG contracting enables investors to promote the adoption of policies to generate positive environmental impacts.

5.2.3. Robustness Tests

We conduct a battery of sensitivity analyses to evaluate the robustness of our findings. To ensure our results are not primarily driven by the large sample of U.S. firms, we exclude U.S. firms and rerun our main analyses linking ESG contracting to ESG performance. As reported in Table 8 Panel A, we find that our results remain robust. The magnitudes of the coefficients are similar to or even larger than those reported in Table 6.

In our main analyses, we control for an array of firm and country characteristics, which should largely mitigate concerns that our results may be driven by systematic differences between treatment and control firms. To provide greater assurance, we employ two additional strategies. First, we require treatment and control countries to be of similar economic development. Since most treatment countries are from developed economies (e.g., U.S. U.K., France, etc.), we restrict our control firms to those from developed economies. We use the Human Development Index (HDI) to measure a country's economic development and consider an economy as developed if its index exceeds 0.80.[25] This provides greater confidence that our results are not driven by institutional differences between treatment and control countries. As reported in Table 8 Panel B, our results remain robust.

Next we follow Correa and Lel (2016) and employ nearest-neighbor matching with the Mahalanobis metric as the weighting criterion.[26] Since the adoption of SOP laws is a country-level choice, we first match our treatment firms with controls based on two country-level characteristics: legal origin and HDI. Matching on these two covariates ensures that our treatment and control firms are from countries of similar legal and economic environments. Next we match each firm in the treatment group to one in the control group based on multiple firm characteristics as of the year prior to the passage of SOP laws, including ESG scores, institutional ownership, size, and industry-adjusted ROA (Correa and Lel, 2016). This ensures that treatment and control firms are similar in these characteristics pre SOP. Like Correa and Lel (2016), we match U.S. firms and non-U.S. firms separately to avoid the potential bias associated with the relative size and CEO compensation

[25] https://worldpopulationreview.com/country-rankings/developed-countries

[26] We also employ entropy balancing, weighting each control observation so that the mean, variance, and skewness of observable characteristics (legal origin, HDI, and all firm-level covariates in our regressions) are similar between treatment and control firms (Hainmueller and Xu, 2013). For both ESG contracting and ESG performance, we find our results (untabulated) endure.

levels of U.S. firms. As reported in Table 8 Panel C, our conclusions remain unchanged. The robustness and consistency across all these tests suggest that our findings are unlikely driven by sample bias or heterogeneity between treatment and control firms.

Overall our findings suggest that the inclusion of ESG-related metrics in compensation contracts is not greenwashing. Rather, they are consistent with SOP laws providing a means for investors to communicate demand for firms' ESG performance.

6. Additional Analyses

6.1. Linking Shareholder Voting Action/Power to ESG Outcomes

Although we find that ESG contracting provides a pathway for investors to promote ESG performance, shareholders may have varying incentives and power to advocate for these changes. In this section, we examine the post-SOP increase in firms' ESG contracting and performance in situations where shareholders are likely to have greater power. These analyses help further establish the causal inferences from SOP laws to ESG contracting and performance.

6.1.1. The Role of Shareholder Voting Action/Power

If SOP laws enable shareholders to better voice demand for ESG, we expect that the post-SOP increase in ESG contracting positively covaries with shareholder dissent or shareholder voting power. To examine dissent, we obtain detailed shareholder voting data from ISS US and Global Voting Analytics and merge it with our main sample at the firm-year level.[27] Consistent with the literature (e.g., Correa and Lel, 2016; Ferri and Maber, 2013), we focus on SOP votes on executive compensation and partition our treatment firms based on the degree of shareholder dissent (*DISSENT*). *DISSENT* is an indicator variable that equals one if a firm's first post-SOP year

[27] Due to the requirement of having nonmissing voting data from ISS, our sample size for shareholder dissent analysis drops from 44,379 to 20,920. The sample attrition rate is comparable to prior studies using a similar setting; Correa and Lel's (2016) sample shrinks from 89,175 to 50,679 for shareholder dissent analysis.

voting outcome has shareholder dissent greater than 20% and zero otherwise. Shareholder dissent is defined as the ratio of total SOP opposing votes and abstentions to the total number of votes. We expect firms facing high initial dissent to feel greater pressure to change compensation and thus adopt ESG contracting. To examine shareholder voting power, we use binding votes (*BINDING*). Under binding (versus advisory) SOP laws, firms must revise their pay policies in response to negative voting outcomes (Correa and Lel, 2016).

As shown in column (1) of Table 9 Panel A, we find that the impact of SOP laws on ESG contracting is significantly stronger when treatment firms experienced greater shareholder dissent in the first year after the adoption of SOP laws (p-value<0.01). The coefficient on *SOP*DISSENT* in column (1) suggests that, compared with low-dissent firms, firms with high shareholder dissent experience a greater increase in ESG contracting, equivalent to 38.35% of its pre-SOP mean value. Column (2) shows that the impact of SOP laws is greater when shareholders have greater voting power (i.e., when their votes are binding). We find similar results in Panel B column (1) when we examine ESG performance: firms experienced a larger increase in ESG performance through ESG contracting when shareholder votes are binding. These results provide evidence on shareholders' voice and their voting actions in driving the increase in ESG contracting and performance following the passage of SOP laws.

6.1.2. The Role of Shareholder Influence/Preferences

Not all shareholders can equally influence firm actions. Institutional owners are much more likely to cast ballots and do so strategically (Morgan et al., 2011). They also have greater ability to take subsequent (though more costly) actions if they are unsatisfied with a firm's response to voting outcomes. Thus we expect firms to be more responsive to institutional owners CSR demands (Chen et al., 2020; Dyck et al., 2019), as compared to those of other investors.

We expect that increases in firms' ESG contracting following SOP laws are more pronounced when firms have greater institutional ownership (*IO*). As reported in Table 9 Panel A column (3), we find that the positive effect of SOP laws on ESG contracting is more pronounced for firms with greater institutional ownership (*IO*).[28] Examining ESG performance in Panel B column (2), we find that the increase in ESG performance through ESG contracting is greater when firms have greater institutional holdings. These findings are consistent with institutional owners holding greater sway over management, leading to greater ability to promote effective ESG compensation policies.

6.2. Governance Mechanism to Support Shareholder Voice

Shareholders rely on boards to implement compensation changes: a board dedicated to delivering stakeholder value can better support shareholder voice and redesign contracts to promote firm ESG performance. Therefore we examine whether the effect of ESG contracting on performance varies with the strength of the board's commitment. We expect the impact of SOP laws to be greater when firms have a strong board dedicated to improving sustainability, for example, when firms have a CSR committee (*CSR_COMM*) or a compensation committee composed solely of independent directors (*INDEP_COMP*).

Table 10 reports these results. In columns (1) and (2), we find that the incremental impact of ESG contracting on ESG performance following SOP laws is greater for firms with a separate CSR committee (*CSR_COMM*) and those with more independent compensation committee (*INDEP_COMP*) and compared to those firms without such strong enforcement mechanisms. These results suggest that SOP laws and corporate governance are likely complements.

[28] These findings also help rule out an alternative explanation that firms include ESG contracting because they expect good ESG performance, and, by contracting on ESG, they can justify higher executive compensation. Institutional investors would likely not lobby to include measures for executive self-enrichment.

Overall, the results in Tables 9–10 further support that ESG contracting can lead to improved ESG performance after SOP laws. The results reinforce our main findings and enhance the causal link between changes in firms' ESG contracting policies and subsequent improvement in ESG performance after SOP laws.

6.3. Does ESG Contracting Matter for Firm Value?

To complete our analysis, we evaluate whether ESG contracting serves as a source of firm value. Correa and Lel (2016) show that a tighter link between CEO pay and financial performance can reduce excess CEO pay, contributing to higher firm value. If shareholders value firms' ESG performance, we expect they will place a higher value on firms with greater increase in ESG contracting following SOP laws. We measure firm value using Tobin's Q, calculated as the ratio of the firm's market value to the replacement value of its assets. Similarly, we calculate the changes in a firm's ESG contracting ($\Delta ESG\_CONTRACT$) by taking its difference in the year before and after the SOP laws.

Table 11 reports the results. In column (1), like prior studies (e.g., Correa and Lel, 2016), we find that the coefficient estimate on SOP is positive and significant (p-value<0.01), suggesting that the passage of SOP laws leads to a higher firm value. When we interact *SOP* with $\Delta ESG\_CONTRACT$ in column (2), we find that the increase in firm value positively covaries with the increase in ESG contracting, while the main effect of SOP remains significant. These results suggest that the adoption of ESG contracting serves as a potential means through which SOP laws enhance shareholder value. They also support the notion that the inclusion of ESG-related metrics in compensation contracts after SOP laws does not reflect greenwashing. Instead, it reflects sustained incentives to improve ESG performance through value-increasing activities.

7. Conclusion

Concurrent with increased investor focus on ESG performance is the increased use of ESG metrics in executive compensation contracts. However, whether these contracts facilitate improved ESG performance is not well-understood. We use the adoption of SOP laws, a means for investors to express a preference for ESG through the inclusion of ESG metrics in executive compensation contracts, to provide exogenous variation in ESG contracting. Using a sample of firms from 36 countries during the period 2002–2019, we exploit the staggered adoption of SOP laws to identify increases in ESG contracting. Our approach exploits within-firm changes in ESG contracting and ESG performance for firms in SOP-adopting countries, relative to those in non-adopting countries. We find that the adoption of SOP laws leads to greater ESG contracting, defined as the general adoption of ESG-related compensation policies, linking of compensation to CSR targets, or both. We confirm this evidence a subsample of firms for which we can observe specific performance metrics in compensation contracts. We find firms that adopt ESG contracting after SOP adoption have improved ESG performance and greater adoption of environmentally friendly policies. Our results are robust to a variety of additional analyses, including entropy-balancing and an alternative difference-in-differences approach that mitigates biases related to staggered event timing (Baker et al., 2022).

We show that the impact of ESG contracting on ESG performance is stronger when SOP votes are likely to have a greater influence on the firm behavior: when shareholders have dissented more on executive compensation or when votes are binding. The impact on performance is also greater when shareholders have greater influence on firms and when the ability to effect change is stronger, namely firms with more independent compensation committees and those with a separate CSR committee. Finally, to further validate our interpretation that the inclusion of ESG metrics in

compensation contracts reflects stronger incentive contracting and not greenwashing, we find that increases in ESG contracting after SOP adoption are associated with higher Tobin's Q.

Our study provides new evidence on investors' preferences for ESG performance. We document that investors empowered to influence ESG contracting through SOP laws use ESG contracting to translate their preferences into performance. Further, our study contributes to the call for additional academic research into ESG contracting from the UN PRI[29] to better understand if and when such contracting practices represent a meaningful pathway to improve ESG performance or simply reflect greenwashing.

[29] https://www.unpri.org/executive-pay/esg-linked-pay-what-does-the-research-say/7863.article

References

Albuquerque, R., Koskinen, Y., Zhang, C., 2019. Corporate social responsibility and firm risk: Theory and empirical evidence. Management Science 65, 4451-4469.

Alissa, W., 2015. Boards' response to shareholders' dissatisfaction: The case of shareholders' say on pay in the UK. European Accounting Review 24, 727-752

Azar, J., Duro, M., Kadach, I., Ormazabal, G., 2021. The big three and corporate carbon emissions around the world. Journal of Financial Economics 142, 674-696.

Baker, A.C., Larcker, D.F., Wang, C.C., 2022. How much should we trust staggered difference-in-differences estimates? Journal of Financial Economics 144, 370-395.

Baloria, V.P., Klassen, K.J., Wiedman, C.I., 2019. Shareholder activism and voluntary disclosure initiation: The case of political spending. Contemporary Accounting Research 36, 904-933

Barber, B.M., Morse, A., Yasuda, A., 2021. Impact investing. Journal of Financial Economics 139, 162-185.

Barrios, J.M., 2021. Staggeringly problematic: A primer on staggered DiD for accounting researchers. Available at SSRN 3794859

Bebchuk, L.A., Fried, J.M., 2010. Paying for long-term performance. University of Pennsylvania Law Review, 1915-1959.

Bebchuk, L.A., Tallarita, R., 2022. Will Corporations Deliver Value to All Stakeholders? Forthcoming, Vanderbilt Law Review 75.

Becht, M., Franks, J., Mayer, C., Rossi, S., 2009. Returns to shareholder activism: Evidence from a clinical study of the Hermes UK Focus Fund. The Review of Financial Studies 22, 3093-3129

Bolton, P., Kacperczyk, M., 2021. Do investors care about carbon risk? Journal of Financial Economics 142, 517-549

Broccardo, E., Hart, O.D., Zingales, L., 2020. Exit vs. voice. National Bureau of Economic Research

Cai, Y., Jo, H., Pan, C., 2011. Vice or virtue? The impact of corporate social responsibility on executive compensation. Journal of Business Ethics 104, 159-173

Callan, S.J., Thomas, J.M., 2011. Executive compensation, corporate social responsibility, and corporate financial performance: a multi-equation framework. Corporate Social Responsibility and Environmental Management 18, 332-351

Chen, T., Dong, H., Lin, C., 2020. Institutional shareholders and corporate social responsibility. Journal of Financial Economics 135, 483-504

Chen, Y.-C., Hung, M., Wang, Y., 2018. The effect of mandatory CSR disclosure on firm profitability and social externalities: Evidence from China. Journal of Accounting and Economics 65, 169-190.

Cohen, S., Kadach, I., Ormazabal, G., Reichelstein, S., 2022. Executive Compensation Tied to ESG Performance: International Evidence. European Corporate Governance Institute–Finance Working Paper.

Conyon, M., Sadler, G., 2010. Shareholder voting and directors' remuneration report legislation: Say on pay in the UK. Corporate Governance: An International Review 18, 296-312

Correa, R., Lel, U., 2016. Say on pay laws, executive compensation, pay slice, and firm valuation around the world. Journal of Financial Economics 122, 500-520

Curtis, Q., Fisch, J.E., Robertson, A., 2021. Do ESG Mutual Funds Deliver on Their Promises? U of Penn, Inst for Law & Econ Research Paper

Dai, R., Liang, H., Ng, L., 2020. Socially responsible corporate customers. Journal of Financial Economics
Deng, X., Kang, J.-k., Low, B.S., 2013. Corporate social responsibility and stakeholder value maximization: Evidence from mergers. Journal of financial Economics 110, 87-109.
Dhaliwal, D.S., Radhakrishnan, S., Tsang, A., Yang, Y.G., 2012. Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. The Accounting Review 87, 723-759
Di Giuli, A., Kostovetsky, L., 2014. Are red or blue companies more likely to go green? Politics and corporate social responsibility. Journal of Financial Economics 111, 158-180.
Dikolli, S.S., Frank, M.M., Guo, M.Z., Lynch, L.J., 2021. Walk the Talk: ESG Mutual Fund Voting on Shareholder Proposals. Available at SSRN 3849762
Diligent, 2021. The Growing Influence of ESG in Executive Compensation. Diligent Institute, https://www.diligentinstitute.com/commentary/the-growing-influence-of-esg-in-executive-compensation/
Dimson, E., Karakaş, O., Li, X., 2015. Active ownership. The Review of Financial Studies 28, 3225-3268
Dyck, A., Lins, K.V., Roth, L., Wagner, H.F., 2019. Do institutional investors drive corporate social responsibility? International evidence. Journal of Financial Economics 131, 693-714
Eaglesham, J., Hirtenstein, A., 2021. ESG disclosure rules from Europe challenge U.S. fund managers. . The Wall Street Journal
Ertimur, Y., Ferri, F., Oesch, D., 2013. Shareholder votes and proxy advisors: Evidence from say on pay. Journal of Accounting Research 51, 951-996
Fernandes, N., Ferreira, M.A., Matos, P., Murphy, K.J., 2013. Are US CEOs paid more? New international evidence. The Review of Financial Studies 26, 323-367.
Ferri, F., Göx, R.F., 2018. Executive compensation, corporate governance, and say on pay. Corporate Governance, and Say on Pay (May 1, 2018). Fabrizio Ferri and Robert F. Göx, 1-103
Ferri, F., Maber, D.A., 2013. Say on pay votes and CEO compensation: Evidence from the UK. Review of Finance 17, 527-563
Fisch, J.E., 2018. Making sustainability disclosure sustainable. Geo. LJ 107, 923
Flammer, C., Hong, B., Minor, D., 2019. Corporate governance and the rise of integrating corporate social responsibility criteria in executive compensation: Effectiveness and implications for firm outcomes. Strategic Management Journal 40, 1097-1122
Friedman, M., 1970. A Friedman doctrine: The social responsibility of business is to increase its profits. The New York Times Magazine, 13(1970), pp.32-33.
Gibson, R., Glossner, S., Krueger, P., Matos, P., Steffen, T., 2020. Responsible institutional investing around the world. Swiss Finance Institute Research Paper
Gillan, S.L., Koch, A., Starks, L.T., 2021. Firms and social responsibility: A review of ESG and CSR research in corporate finance. Journal of Corporate Finance 66, 101889
Glazer, E., 2021. Companies Brace Themselves for New ESG Regulations Under Biden. The Wall Street Journal
Gneezy, U., Meier, S., Rey-Biel, P., 2011. When and why incentives (don't) work to modify behavior. Journal of Economic Perspectives 25, 191-210
Gormley, T.A., Matsa, D.A., 2011. Growing out of trouble? Corporate responses to liability risk. The Review of Financial Studies 24, 2781-2821

Grabner, I., Renders, A., Yang, L., 2020. The complementarity between CSR disclosures and the use of CSR-based performance measures in CEO annual incentive contracts. Available at SSRN 3670738
Grewal, J., Serafeim, G., Yoon, A., 2016. Shareholder activism on sustainability issues. Available at SSRN 2805512
Hainmueller, J., Xu, Y., 2013. Ebalance: A Stata package for entropy balancing. Journal of Statistical Software 54
Hall, B.H., 2002. The financing of research and development. Oxford Review of Economic Policy 18, 35-51
Haque, F., 2017. The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms. The British Accounting Review 49, 347-364
Hartzmark, S.M., Sussman, A.B., 2019. Do investors value sustainability? A natural experiment examining ranking and fund flows. The Journal of Finance 74, 2789-2837
Hong, H., Kacperczyk, M., 2009. The price of sin: The effects of social norms on markets. Journal of Financial Economics 93, 15-36.
Hong, H., Kubik, J.D., Scheinkman, J.A., 2012. Financial constraints on corporate goodness. National Bureau of Economic Research
Ikram, A., Li, Z.F., Minor, D., 2019. CSR-contingent executive compensation contracts. Journal of Banking & Finance, 105655
Kim, I., Wan, H., Wang, B., Yang, T., 2019. Institutional investors and corporate environmental, social, and governance policies: Evidence from toxics release data. Management Science 65, 4901-4926
Kim, S., Yoon, A., 2020. Analyzing Active Managers' Commitment to ESG: Evidence from United Nations Principles for Responsible Investment. Available at SSRN 3555984
Kimbro, M.B., Xu, D., 2016. Shareholders have a say in executive compensation: Evidence from say-on-pay in the United States. Journal of Accounting and Public Policy 35, 19-42
Krueger, P., Sautner, Z. and Starks, L.T., 2020. The importance of climate risks for institutional investors. The Review of Financial Studies, 33(3), pp.1067-1111.
Krueger, P., Sautner, Z., Tang, D.Y., Zhong, R., 2021. The Effects of Mandatory ESG Disclosure around the World. Available at SSRN 3832745
La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1998. Law and Finance. Journal of Political Economy 106, 1113-1155
Loureiro, G., Taboada, A.G., 2015. Do improvements in the information environment enhance insiders' ability to learn from outsiders? Journal of Accounting Research 53, 863-905
Maas, K., 2018. Do corporate social performance targets in executive compensation contribute to corporate social performance? Journal of Business Ethics 148, 573-585
Meridian, 2021. Meridian Study on Use of ESG Metrics in Incentive Plans.
Morgan, A., Poulsen, A., Wolf, J. and Yang, T., 2011. Mutual funds as monitors: Evidence from mutual fund voting. Journal of Corporate Finance, 17(4), pp.914-928.
Painter, M., 2020. An inconvenient cost: The effects of climate change on municipal bonds. Journal of Financial Economics 135, 468-482
Pástor, Ľ., Stambaugh, R.F. and Taylor, L.A., 2021. Sustainable investing in equilibrium. Journal of Financial Economics, 142(2), pp.550-571.
Pástor, Ľ., Stambaugh, R.F. and Taylor, L.A., 2022. Dissecting green returns. Journal of Financial Economics, 146(2), pp.403-424.

Pawliczek, A., Skinner, A.N., Wellman, L., 2021. A New Take on Voice: The Influence of BlackRock's Dear CEO Letters. Available at SSRN 3763042

Peters, F.S., Wagner, A.F., 2014. The executive turnover risk premium. The Journal of Finance 69, 1529-1563

Phillips, M., 2021. How a Tiny Green Fund Turned the Exxon Tanker. p. 3. New York edition

Reuters, 2021. Sustainable fund inflows hit record high in Q1 - Morningstar. Jessop S & Murugaboopathy P (Eds.). Reuters, https://www.reuters.com/business/sustainable-business/sustainable-fund-inflows-hit-record-high-q1-morningstar-2021-04-30/

Saeidi, S.P., Sofian, S., Saeidi, P., Saeidi, S.P., Saaeidi, S.A., 2015. How does corporate social responsibility contribute to firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction. Journal of Business Research 68, 341-350.

Sanchez-Marin, G., Lozano-Reina, G., Baixauli-Soler, J.S., Lucas-Perez, M.E., 2017. Say on pay effectiveness, corporate governance mechanisms, and CEO compensation alignment. BRQ Business Research Quarterly 20, 226-239

Solomon, J.F., Solomon, A., Norton, S.D., Joseph, N.L., 2011. Private climate change reporting: an emerging discourse of risk and opportunity? Accounting, Auditing & Accountability Journal

Stroebel, J., Wurgler, J., 2021. What do you think about climate finance? Journal of Financial Economics 142, 487-498

Appendix A. Variable Descriptions

Variables	Description	Source
ESG Compensation Contracting		
ESG_CONTRACT	=An indicator variable that equals one if the company has adopted an ESG related compensation policy or links a portion of executive compensation to CSR metrics, and zero otherwise	Thomson Reuters ESG ASSET4
ESG Performance Scores		
ESG_Score	=The overall score of a firm's ESG performance (scaled from 0 to 1), based on the average of a firm's environmental (E), social (S) and corporate governance (G) performance. The score captures a firm's commitment to the environment, including resource use, emissions, and green innovation; non-shareholder stakeholders and social themes, including employee welfare, human rights, and the ethical treatment of customers, suppliers, and the communities in which the firm operates; and operationalizing and implementing corporate social responsibility (CSR) activities.	Thomson Reuters ESG ASSET4
Environ_Score	=Score of a firm's environmental performance (scaled from 0 to 1). The score covers factors related to resource usage, emission reduction, and green innovation, reflecting a company's performance and capacity to reduce the use of materials, energy, or water and to find more eco-efficient solutions by improving supply chain management, commitment and effectiveness toward reducing environmental emissions in the production and operational processes, and capacity to reduce the environmental costs and burdens for its customers, thereby creating new market opportunities through new environmental technologies and processes or eco-designed products.	Thomson Reuters ESG ASSET4
Social_Score	=Score of a firm's social performance (scaled from 0 to 1). The score covers factors Index aggregating information on the extent to which firms enhance employee welfare (Workforce), promote human rights (Human Rights), engage in community development (Community), and fulfill their responsibilities to consumers (Product Responsibility).	Thomson Reuters ESG ASSET4
Corporate Environmental Policies		
CO2_PROCESS	=An indicator variable that equals one if the company report on initiatives to reduce, reuse, recycle, substitute, or phase out CO_2 and CO_2 equivalent, and zero otherwise.	Thomson Reuters ESG ASSET4
EMISSION_REDUCE	=An indicator variable that equals one if the company have a policy to improve emissions reduction, and zero otherwise.	Thomson Reuters ESG ASSET4
ENVIRON_PRODUCT	=An indicator variable that equals one if the company report on at least one product line or service that is designed to have positive effect on the environment or which is environmentally labeled and marketed, and zero otherwise.	Thomson Reuters ESG ASSET4
TOXIC_REDUCE	=An indicator variable that equals one if the company report on initiatives to reduce, reuse, substitute or phase out toxic chemicals or substances, and zero otherwise.	Thomson Reuters ESG ASSET4
CEO Plan-based Grant Awards		
ESG-related Grant	=Number of plan-based grants awarded based on ESG-related issues, including CSR matters, environmental issues, social/employee/safety issues, and other sustainability issues	ISS Incentive Lab
-Tied to general ESG/CSR Metrics	=Number of ESG-related grants tied to CSR performance targets	ISS Incentive Lab
-Tied to Environment Metrics	=Number of ESG-related grants tied to environmental issues, e.g., toxic reduction, green house gas emissions, waste reduction, energy saving objectives etc.	ISS Incentive Lab
-Tied to Social/Employee Metrics	=Number of ESG-related grants tied to social/employee related issues, e.g., human capital, employee engagement, employee diversity, employee safety, fatality reduction etc.	ISS Incentive Lab
Earnings-based Grant	=Number of plan-based grants awarded based on accounting-based performance targets, such as earnings, core EPS, operating income etc.	ISS Incentive Lab
Stock-based Grant	=Number of plan-based grants awarded based on stock performance	ISS Incentive Lab
Other non-financial Grant	=Number of remaining grants awarded based on non-financial metrics, e.g., individual, culture,	
Test variable		
SOP	=An indicator variable that equals one for time period following the staggered passage of SOP laws, if any, and zero otherwise.	Correa and Lel (2016), Factiva search and media News
Control variables		
Firm-level Controls		
IO	=Percent of total institutional ownership	Factset Ownership
SALES	=Natural log of sales in thousands of US$	Worldscope

EMPLOYMENT	=Natural log of one plus total number of employees in thousands	Worldscope
MTB	=Market value of equity divided by book value of equity	Worldscope
K/L	=Ratio computed as net property, plant and equipment scaled by total number of employees	Worldscope
SALES_GROWTH	=Annual change in net sales scaled by beginning total assets	Worldscope
STD_CFO	=Standard deviation of cash flows from operations calculated over a rolling five-year window ending in the current fiscal year.	Worldscope
ROA	=Net income before extraordinary items and preferred dividends scaled by beginning total assets	Worldscope
FIRM_AGE	= Natural log of one plus the number of years listed on Worldscope	Worldscope
LEV	=Total liabilities scaled by total assets	Worldscope
CASH	=Internally generated cash computed as after-tax income before extraordinary items plus depreciation and amortization plus R&D expense	Worldscope
HERFINDAHL	=Industry Herfindahl index based on all firms within each country, where industries are defined by 3-digit SIC code	Worldscope
Country-Level Macroeconomic Variables		
Log_GDP	Natural log of total Gross Domestics Product (current US$)	The World Bank World Development Indicators
Log_Capita	Natural log of per capita Gross Domestic Product (current US$)	The World Bank World Development Indicators
Log_FDI	Natural log of foreign direct investments (current US$)	The World Bank World Development Indicators
Country-level Confounding Events		
AFTER_PAY_LAW	=An indicator variable that equals one for time period following the mandatory executive compensation laws, if any, and zero otherwise.	Ferbabdes et al. (2012)
AFTER_ESG_DISCLOSURE	=An indicator variable that equals one for time period following the mandatory ESG disclosure regulations, if any, and zero otherwise.	Krueger et al. (2021)
Shareholder Preferences and Enforcement Mechanism		
Shareholder Voting Action and Voting Power		
DISSENT	=A dummy variable that equals one if a firm's first post-SOP year voting outcome has shareholder dissent greater than 20% (Ferri and Maber 2013; Correa and Lel 2016). Shareholder dissent is defined as the ratio of total say on pay votes, against and abstained, to the total number of votes casted.	ISS U.S. and Global Voting Analytics
BINDING	=An indicator variable that equals one if the SOP law is binding, and zero otherwise.	Correa and Lel (2016)
Shareholder Preference for ESG		
IO	=Percent of total institutional ownership	FactSet Ownership
Board Function to Support ESG Contracting		
INDEP_COMP	=The percentage of independent directors on compensation committee	Thomson Reuters ESG ASSET4
CSR_COMM	=An indicator variable that equals one if the firm has a corporate social responsibility (CSR) committee, zero otherwise	Thomson Reuters ESG ASSET4

Appendix B. Classification of Plan-based Grant Awards

In this section, we provide details about our classification of plan-based grant awards. We obtain executive-level grant award data from ISS Incentive lab. Our data covers both U.S. firms and firms from the Europe file. After merging the firms from ISS with our main sample and deleting missing values, we go through the description for each performance metric to determine whether a grant is awarded based on accounting, stock, ESG-related, or other nonfinancial performance targets.

We start with the "MetricType" variable from ISS, which is the main categorization variable provided by ISS. If "MetricType" contains 'CSR', 'Environmental', or 'Social', we classify the grants as ESG-related grants into corresponding ESG-performance categories. We also record a grant as accounting-based or stock performance-based if "MetricType" reports the grant as 'Accounting' or 'Stock price'.

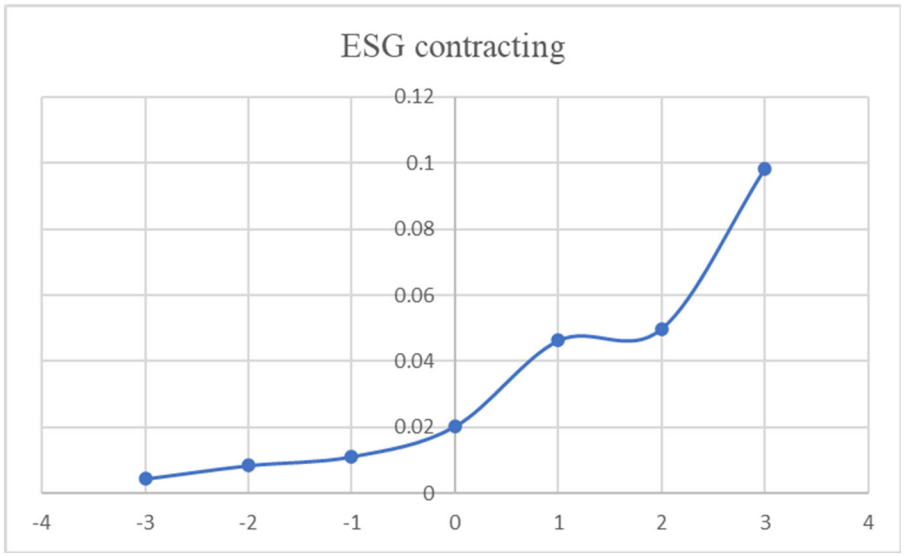
For those grants with "MetricType" as "Other" or "Nonfinancial" Metrics, we look into the detailed description in "MetricOther" to further evaluate the type of performance metrics used in each grant. To provide finer classification, we define a pool of keywords to capture each type of grants as follows.

1. **Accounting-based grant**: tier one, KPI, operational performance, EPS, earnings growth, sales, capital
2. **Stock-based grant**: stock, stock return, shareholder return
3. **ESG-related grant**: grants that fall into any of the following categories
    a. *General CSR grant*: GRI, HSSE, HSE, CSR, ESG, sustainability, CSR responsibility
    b. *Environmental grant*: environmental, water, planet, carbon, coal, earth, gas, energy, solar, electricity, greenhouse, GHG, waste, CO2, emission, nuclear
    c. *Social grant*: social, safe, public, reputation, staff, team, ethnic, skill, consumer, societal, safety, safe, injury, employee, people, stakeholder, talent, diversity, diverse, health, death, fatal, hurt, incident, accident, HSEC,
4. **Other Nonfinancial grant**: all the remaining nonfinancial grants unidentified as any of the above categories.

Figure 1 : Evolution of ESG Contracting/Performance around SOP Law Adoption

This Figure presents the coefficient estimate β_k from the equation below, against years to treatment k. The estimate represents the difference in ESG contracting and performance variables between treatment and control observations, before and after the change in the adoption of SOP laws.

$$\text{ESG Contract (Score)}_{ijt}=\alpha+\sum\beta_k \{\text{SOP\_Country}_{jt}*\text{K years to adoption}\}+\text{Controls}_{ijt}+\text{Firm FE}+\text{Year FE}+\varepsilon$$



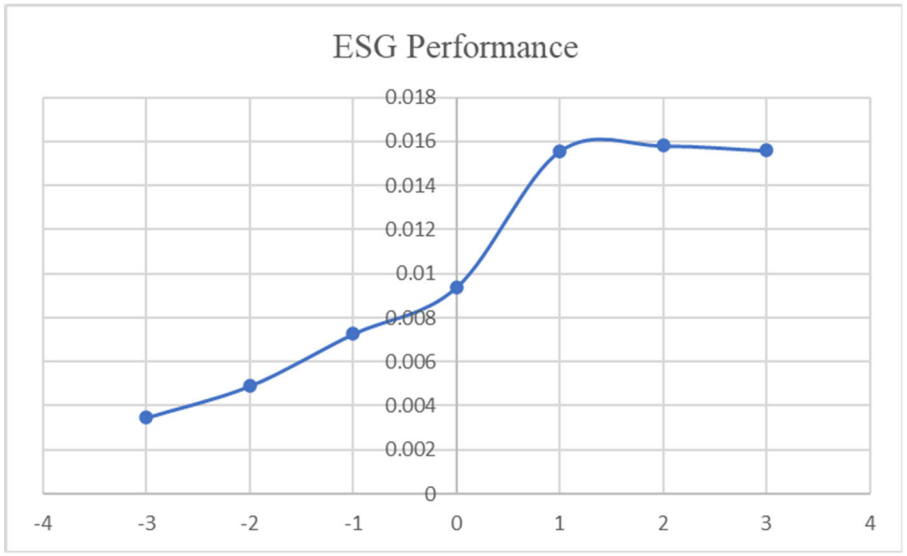


Table 1

Panel A: Sample Selection Process

	Obs.	Firms
Initial Sample: Public firms (exclude financial and utility firms) from Worldscope database during 2002-2019	590,139	55,533
Less: observations with total assets less than one million	(54,557)	(2,339)
Less: observations with missing values of country-level macroeconomic variables	(48,730)	(4,275)
Less: observations with missing values of firm-level control variables	(199,338)	(11,738)
less: observations with missing values of ESG-related variables from Thomson Reuters ESG ASSET4	(243,135)	(30,773)
Baseline Sample used in main analysis	44,379	6,408
Less: observations with missing values from ISS U.S. and Global Voting Analytics	(23,459)	(3,230)
Sample used for analysis on shareholder dissent	20,920	3,178
Less: observations with missing values from ISS Plan-based Grant Award	(12475)	(2077)
Sample used for analysis on CEO incentive plan	8,445	1,101

Table 1

Panel B: Sample Distribution by Country

Country	N	#Firms	SOP Year	ESG Contracting	ESG Score
Argentina	100	38		0.01	30.29
Australia	3212	439	2005 (A)	0.38	32.96
Austria	118	13		0.14	41.58
Belgium	185	22	2012 (A)	0.16	37.54
Brazil	570	88		0.07	44.60
Canada	2809	382		0.26	33.68
Chile	165	23		0.01	33.01
China	1483	470		0.01	29.37
Denmark	278	36	2007(B)	0.10	45.43
Finland	298	37		0.12	50.59
France	1304	143	2016(B)	0.23	53.22
Germany	1208	168		0.14	47.40
Greece	223	24		0.04	33.96
Hong Kong	1334	163		0.03	34.93
India	716	110		0.06	47.19
Indonesia	303	40		0.06	43.08
Israel	149	18	2012(A)	0.10	33.05
Italy	467	78	2011(A)	0.15	47.71
Japan	4592	404		0.01	41.11
South Korea	1007	131		0.05	40.72
Malaysia	412	54		0.08	41.00
Mexico	316	44		0.06	44.23
Netherlands	516	64	2004(C)	0.33	49.18
Norway	274	57	2008(B)	0.25	44.33
Peru	70	16		0.00	35.45
Philippines	134	16		0.06	39.01
Poland	154	26		0.01	36.42
Portugal	125	14	2010(A)	0.10	51.03
Singapore	476	54		0.08	37.08
Spain	502	62	2014(B)	0.15	54.29
Sweden	676	131	2006(B)	0.11	49.31
Switzerland	658	103	2013(B)	0.10	44.10
Thailand	284	70		0.10	50.99
Turkey	226	41		0.05	44.81
U.K.	3980	423	2003(A)	0.30	43.48
U.S.	15055	2406	2011(A)	0.17	36.19

Table 1, Panel B reports the sample composition by country and descriptive statistics on ESG contracting and ESG scores by country. (A) indicates countries in which SOP votes are advisory, while (B) indicates SOP votes are binding on firms, and (C) indicates comply-or-explain SOP laws. All variables are defined in Appendix A.

Table 2

Descriptive Statistics of Selected Firm-level Variables

Panel A: SOP Countries vs. Non-SOP Countries (N=44,379)

	SOP Countries (N=27,381)		Non-SOP Countries (N=16,998)	
Variable	**Mean**	**Std Dev**	**Mean**	**Std Dev**
ESG_CONTRACT	0.215	0.411	0.080	0.271
ESG_Score (raw)	40.851	20.336	40.069	20.944
Envrion_Score (raw)	35.275	28.507	29.905	28.641
Social_Score (raw)	42.771	22.830	37.887	24.158
IO	0.207	0.279	0.164	0.172
SIZE	14.794	1.578	15.269	1.274
MTB	3.681	4.922	2.645	3.472
KL_RATIO	4.033	1.947	6.650	3.510
SALE_GROWTH	0.074	0.231	0.064	0.213
ROA	0.037	0.191	0.054	0.112
FIRM_AGE	2.780	0.909	2.890	0.752
LEV	0.256	0.218	0.238	0.191
CASH	0.097	0.200	0.117	0.202
Herfindahl	0.352	0.297	0.364	0.306
LOG_GDP	29.332	1.287	28.293	1.204
LOG_CAPITA	10.809	0.172	10.113	0.948
LOG_FDI	0.779	0.809	0.403	1.583

Panel B: Pre-SOP vs. Post-SOP Period for Treatment Firms (N=27,381)

	Pre-SOP Period (N=7,675)		Post-SOP Period (N=19,706)	
Variable	**Mean**	**Std Dev**	**Mean**	**Std Dev**
ESG_CONTRACT	0.154	0.361	0.239	0.426
ESG_Score (raw)	36.642	20.375	41.322	20.302
Envrion_Score (raw)	26.131	29.531	30.206	28.282
Social_Score (raw)	37.913	23.068	43.494	22.696
IO	0.491	0.313	0.097	0.164
SIZE	15.506	1.149	14.517	1.635
MTB	3.443	4.088	3.774	5.209
KL_RATIO	4.334	1.489	3.916	2.087
SALE_GROWTH	0.074	0.216	0.073	0.236
ROA	0.068	0.105	0.026	0.214
FIRM_AGE	2.836	0.820	2.758	0.940
LEV	0.250	0.195	0.259	0.227
CASH	0.123	0.121	0.088	0.223
Herfindahl	0.354	0.306	0.351	0.294
LOG_GDP	29.437	1.286	29.291	1.286
LOG_CAPITA	10.757	0.188	10.829	0.161
LOG_FDI	0.631	0.650	0.837	0.856

Table 2 reports the descriptive statistics for selected variables. Panel A reports the descriptive statistics for firms in SOP countries and non-SOP countries. Panel B reports the descriptive statistics for treatment firms in the pre-SOP and post-SOP periods.

Table 3

Say-on-Pay (SOP) Laws and ESG Compensation Contracting

Panel A: Difference-in-Differences Regression

Dependent Variable	**ESG_CONTRACT**		**ESG_CONTRACT**	
	(1)		**(2)**	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	**0.034**	**4.42*** **	**0.037**	**4.76*** **
IO	-0.020	-1.74*	-0.018	-1.47
SIZE	0.006	1.17	0.007	1.48
MTB	0.000	0.17	0.000	0.26
KL_RATIO	0.009	2.34**	0.008	2.12**
SALE_GROWTH	-0.005	-0.58	-0.005	-0.6
ROA	0.029	1.08	0.031	1.14
FIRM_AGE	-0.011	-1.32	-0.012	-1.50
LEV	-0.020	-1.35	-0.019	-1.26
CASH	-0.002	-0.12	-0.003	-0.14
Herfindahl	0.005	0.17	0.007	0.27
LOG_GDP	0.525	5.32***	0.387	3.81***
LOG_CAPITA	-0.546	-4.79***	-0.402	-3.45***
LOG_FDI	-0.003	-1.20	-0.002	-0.94
After_Pay_Law			0.058	4.82
After_ESG_Disclosure			0.040	4.85
S.E. clustering by	**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**	
Adjusted R^2	**0.470**		**0.471**	
Model p-value	**<0.0001**		**<0.0001**	
N	44379		44379	

Table 3, panel A reports the results of Say-on-Pay (SOP) laws on executives' ESG compensation contracting. SOP is an indicator variable that equals one for firm-years following the adoption of SOP laws in treatment countries, and zero otherwise. In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

Table 3

Say-on-Pay (SOP) Laws and ESG Compensation Contracting

Panel B: Dynamic Changes around SOP Adoption

Dependent Variable	**ESG_CONTRACT**	
	(1)	
	Coeff.	**t-Stat.**
PRE_SOP2	0.012	1.21
PRE_SOP1	0.014	1.30
EVENT_SOP	**0.021**	**1.68***
POST_SOP1	**0.046**	**2.21****
POST_SOP2	**0.050**	**2.44****
POST_SOP3+	**0.076**	**6.48*****
After_Pay_Law	0.059	4.63***
After_ESG_Disclosure	0.043	5.16***
Other Controls	**YES**	
S.E. clustering by Country	**YES**	
Firm Fixed Effects	**YES**	
Year Fixed Effects	**YES**	
Adjusted R^2	**0.658**	
Model p-value	**<0.0001**	
N	44379	

Table 3, panel B reports the results of dynamic analysis on Say-on-Pay (SOP) laws and ESG compensation contracting. In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed),

Table 4

Incorporation of ESG Metrics in CEO Incentive Plan after Say-on-Pay (SOP) Laws

Panel A: Issuance of Plan-based Grant Awards

Dependent Variable:	**ESG Grants**		**Accounting Grants**		**Stock Grants**	
	(1)		**(2)**		**(3)**	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	**0.043**	**2.33****	**0.010**	**0.68**	**0.041**	**2.65*****
Controls	**YES**		**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**	
Adjusted R^2	**0.587**		**0.542**		**0.404**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**	
N	8445		8445		8445	

Panel B: Compositon of Plan-based Grant Awards (as a Proportion of Total Grants)

Dependent Variable:	**% ESG Grants**		**%Accounting Grants**		**%Stock Grants**	
	(1)		**(2)**		**(3)**	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	**0.047**	**3.98*****	**-0.002**	**-0.60**	**0.013**	**1.68***
Controls	**YES**		**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**	
Adjusted R^2	**0.625**		**0.695**		**0.417**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**	
N	8445		8445		8445	

Table 4 reports the results of analysis exploiting changes in executive incentive plan around the adoption of SOP laws. Panel A reports the results on the issuance of each type of grants, including ESG grants, accounting (earnings)-based grants, and stock-based grants. Panel B reports the results on the changes in the porportion of each type of grants (scaled by number of total grants issued), measured by % ESG grants, % accounting (earnings)-based grants, and % stock-based grants. In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

Table 5

Stacked Difference-in-Differences Regression Results

Dependent Variable=ESG_CONTRACT

	Use Never Treated Firms as Controls		Include Future Treated Firms as Controls	
	(1)		(2)	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	**0.039**	**4.82*****	**0.014**	**2.28****
After_Pay_Law	0.038	2.61**	0.044	6.87***
After_ESG_Disclosure	0.043	4.45***	0.032	3.78***
Other Controls	**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**	
Firm*Cohort Fixed	**YES**		**YES**	
Year*Cohort Fixed Effects	**YES**		**YES**	
Country fixed effects	**YES**		**YES**	
Adjusted R^2	**0.575**		**0.576**	
Model p-value	**<0.0001**		**<0.0001**	
N	64644		91516	

Table 5 reports the results of Say-on-Pay (SOP) laws and ESG contracting using stacked difference-in-differences regression over a three-year window. Column (1) reports the results using never treated firms as controls. Column (2) reports the results by including future treated firms in the control group. In all regressions, we include dataset specific two-way fixed effects, including firm*cohort and year*cohort fixed effects, along with country fixed effects. Coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

Table 6
Does ESG Contracting Lead to Better ESG Performance?

Dependent Variable:	**ESG Score$_{t+1}$**		**Environmental Score$_{t+1}$**		**Social Score$_{t+1}$**	
	(1)		**(2)**		**(3)**	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	-0.002	-0.98	-0.008	-2.19**	0.002	0.52
SOP*ΔESG_CONTRACT	**0.021**	**6.01*** **	**0.030**	**6.28*** **	**0.008**	**1.82***
After_Pay_Law	0.032	8.85***	0.035	6.93***	0.053	11.86***
After_ESG_disclosure	0.018	7.35***	0.020	5.82***	0.026	8.57***
F-test for $\beta_1+\beta_2=0$	F=18.29 (p<0.01)		F=5.37 (p<0.01)		F=11.40 (p<0.01)	
Other Controls	**YES**		**YES**		**YES**	
S.E. clustering by	**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**	
Adjusted R^2	**0.853**		**0.851**		**0.827**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**	
N	44379		44379		44379	

Table 6 reports the results linking firm-level changes in ESG contracting (ΔESG_CONTRACT) to the improvement in firms' subsequent ESG performance after the adoption of SOP. SOP is an indicator variable that equals one for firm-years following the adoption of SOP laws in treatment countries, and zero otherwise. In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All other controls are included but not reported for brevity. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

Table 7
ESG Contracting and Firm Adoption of Environmental-Friendly Policies

Dependent Variable:	Policy on CO2 Emission Process ($CO2\_PROCESS_{t+1}$) (1)		Policy in Emission Reduction ($EMISSION\_REDUCE_{t+1}$) (2)		Initiatives in Environmental Products ($ENVIRON\_PRODUCT_{t+1}$) (3)		Initiatives in Toxic Reduction ($TOXIC\_REDUCE_{t+1}$) (4)	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	-0.008	-0.86	-0.011	-3.06***	0.017	1.71*	-0.100	-2.95***
SOP*ΔESG CONTRACT	**0.057**	**4.58*** **	**0.031**	**6.26*** **	**0.022**	**1.98** **	**0.184**	**3.20*** **
IO	0.053	4.01***	-0.045	-8.69***	0.062	5.08***	-0.209	-3.42***
SIZE	0.049	8.97***	0.048	21.92***	-0.010	-1.96**	0.509	16.80***
MTB	0.001	2.24**	0.000	2.17**	0.003	5.85***	0.000	0.22
KL_RATIO	-0.003	-0.62	-0.006	-3.14**	-0.004	-0.99	-0.043	-2.13**
SALE_GROWTH	-0.038	-3.92***	-0.010	-2.59***	0.003	0.28	-0.396	-8.19***
ROA	-0.010	-0.33	-0.002	-0.14	0.015	0.51	-0.710	-3.38***
FIRM_AGE	0.088	8.19***	0.045	12.01***	-0.053	-5.32***	0.233	4.10***
LEV	0.061	3.69	0.008	1.21	-0.021	-1.36	0.140	1.59
CASH	-0.037	-1.76*	0.003	0.36	0.007	0.35	0.594	3.40***
Herfindahl	-0.042	-1.49	-0.029	-2.50**	-0.058	-2.20**	-0.001	-0.01
LOG_GDP	0.581	5.13***	-0.004	-0.08	-1.034	-9.84***	-0.574	-1.12
LOG_CAPITA	-0.186	-1.44	0.243	4.56***	1.309	10.92***	0.326	0.55
LOG_FDI	-0.008	-3.33***	-0.006	-4.84***	-0.003	-1.50	0.011	1.31
After_Pay_Law	0.054	6.35***	0.017	4.61***	0.028	2.02**	0.237	2.28**
After_ESG_Disclosure	-0.028	-1.87*	0.047	9.37***	0.012	1.56	0.164	5.29***
F-test for $\beta_1+\beta_2=0$	F=5.62 (p<0.05)		F=23.16 (p<0.01)		F=9.04 (p<0.01)		F=1.51 (p=0.218)	
S.E. clustering by Country	**YES**		**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**		**YES**	
Adjusted R^2	**0.725**		**0.857**		**0.727**		**0.855**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**		**<0.0001**	
N	34863		34863		34863		34863	

Table 7 reports the results of ESG contracting and firm adoption of environment policies. Columns (1)-(4) report the results on firm policy on CO_2 emission process to reduce waste (CO2_PROCESS), policies to reduce emission (EMISSION_REDUCE), initiaves in environmental products (ENVIRON_PRODUCT), and intiatives in developing toxic reduction technology (TOXIC_REDUCE) In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

Table 8

Robustness Tests on ESG Contracting and Performance Around SOP Laws

Panel A: Excluding U.S. Firms

Dependent Variable:	**ESG Score**		**Environmental Score**		**Social Score**	
	(1)		**(2)**		**(3)**	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	0.004	0.89	0.000	0.01	0.019	3.71***
SOP*ΔESG_CONTRACT	**0.022**	**3.70*****	**0.017**	**1.98****	**0.023**	**3.05*****
F-test for $\beta_1+\beta_2=0$	F=36.30 (p<0.01)		F=5.31 (p<0.05)		F=55.35 (p<0.01)	
Controls	**YES**		**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**	
Adjusted R^2	**0.855**		**0.842**		**0.833**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**	
N	29324		29324		29324	

Panel B: Restricting Benchmark Countries to Developed Economies

Dependent Variable:	**ESG Score**		**Environmental Score**		**Social Score**	
	(1)		**(2)**		**(3)**	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	0.000	-0.06	-0.005	-1.28	0.004	1.16
SOP*ΔESG_CONTRACT	**0.020**	**5.82*****	**0.030**	**6.09*****	**0.007**	**1.67***
F-test for $\beta_1+\beta_2=0$	F=18.29 (p<0.01)		F=5.37 (p<0.05)		F=11.40 (p<0.01)	
Controls	**YES**		**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**	
Adjusted R^2	**0.850**		**0.851**		**0.849**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**	
N	40520		40520		40520	

Panel C: Using Nearest Neighbor Matched Sample

Dependent Variable:	**ESG Score**		**Environmental Score**		**Social Score**	
	(1)		**(2)**		**(3)**	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	0.002	0.82	0.003	0.86	0.000	0.03
SOP*ΔESG_CONTRACT	**0.018**	**4.56*****	**0.024**	**4.14*****	**0.007**	**1.32**
F-test for $\beta_1+\beta_2=0$	F=30.32 (p<0.01)		F=11.42 (p<0.01)		F=17.94 (p<0.01)	
Controls	**YES**		**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**	
Adjusted R^2	**0.837**		**0.833**		**0.810**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**	
N	27722		27722		27722	

Table 8 reports the results of robustness tests on Say-on-Pay (SOP) laws, ESG contracting and subsequent ESG performance. In all three panels, we report the results for three measures of ESG performance. SOP is an indicator variable that equals one for firm-years following the adoption of SOP laws in treatment countries, and zero otherwise. In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

Table 9

Linking Shareholder Voting Actions to ESG Contracting/Performance

Panel A: Shareholder Voting and ESG Contracting (Dependent Variable=ESG_CONTRACT$_{t+1}$)

Proxy=	Shareholder Dissent (DISSENT) (1)		Voting Power (BINDING) (2)		Shareholder Influence (IO) (3)	
	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.
SOP	0.016	1.95*	-0.001	-0.18	0.025	2.76***
SOP*Proxy	**0.065**	**2.41****	**0.080**	**7.01*****	**0.042**	**3.40*****
Proxy					-0.011	-1.52
Controls	**YES**		**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**	
Adjusted R^2	**0.666**		**0.659**		**0.471**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**	
N	20920		20920		44379	

Panel B: Shareholder Voting and ESG Performance (Dependent Variable=ESG_SCORE$_{t+1}$)

Proxy=	Voting Power (BINDING) (1)		Shareholder Influence (IO) (2)	
	Coeff.	t-Stat.	Coeff.	t-Stat.
SOP	-0.003	-1.31	-0.003	-1.29
SOP*ΔESG_CONTRACT	**0.016**	**4.37*****	**0.018**	**4.93*****
SOP*ΔESG_CONTRACT*Proxy	**0.023**	**3.13*****	**0.027**	**2.19****
Proxy			-0.012	-3.07***
Controls	**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**	
Adjusted R^2	**0.853**		**0.853**	
Model p-value	**<0.0001**		**<0.0001**	
N	20920		44379	

Table 9 reports the results linking shareholder voting actions to ESG contracting and performance. Panel A reports the results on ESG contracting, conditional on shareholders dissent (DISSENT), shareholder influence (high_IO) and voting power (BINDING). Panel B reports the results on ESG performance, conditional on shareholder influence (high_IO) and voting power (BINDING). SOP is an indicator variable that equals one for firm-years following the adoption of SOP laws in treatment countries, and zero otherwise. In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

Table 10

Governance Mechanisms To Implement the Changes in ESG Contracting

Dependent Variable=ESG_Score

Dependent Variable:	**CSR Committee**				**Independent Compensation Committee**			
	YES		**NO**		**YES**		**NO**	
	(1)		**(2)**		**(3)**		**(4)**	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	-0.010	-3.07***	0.010	2.86***	-0.010	-1.11	-0.007	-0.88
SOP*ΔESG_CONTRACT	**0.045**	**8.27*** **	**0.015**	**3.26*** **	**0.024**	**5.47*** **	**0.005**	**0.80**
After_Pay_Law	0.048	6.08***	0.024	5.8***	0.025	6.65***	-0.002	-0.20
After_ESG_disclosure	0.003	1.00	0.036	9.05***	0.010	3.40***	0.047	9.01***
YES-NO	F=3.73 (p<0.05)				F=5.08 (p<0.05)			
Other Controls	**YES**		**YES**		**YES**		**YES**	
S.E. clustering by Country	**YES**		**YES**		**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**		**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**		**YES**		**YES**	
Adjusted R^2	**0.853**		**0.851**		**0.827**		**0.827**	
Model p-value	**<0.0001**		**<0.0001**		**<0.0001**		**<0.0001**	
N	18003		26376		37710		6669	

Table 10 reports the results of subsample analysis on the improvement in firms' ESG performance, conditional on the level of board functions to support ESG contracting changes (ΔESG_CONTRACT). SOP is an indicator variable that equals one for firm-years following the adoption of SOP laws in treatment countries, and zero otherwise. In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All other controls are included but not reported for brevity. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

Table 11

Say-on-Pay Laws (SOP), ESG Contracting and Firm Value

Dependent Variable=Tobin's Q

	(1)		(2)	
	Coeff.	**t-Stat.**	**Coeff.**	**t-Stat.**
SOP	**0.254**	**12.29*****	**0.152**	**4.01*****
SOP*ΔESG_CONTRACT			**0.075**	**2.87*****
IO	0.245	7.59***	0.268	6.85***
SIZE	-0.438	-33.58***	-0.467	-29.71***
KL_RATIO	-0.069	-6.54***	-0.078	-5.53***
SALE_GROWTH	0.345	15.25***	0.424	15.25***
ROA	0.969	13.29***	-0.423	-4.24***
FIRM_AGE	-0.193	-8.81***	-0.210	-8.05***
LEV	0.295	7.29***	0.328	6.70***
CASH	0.384	7.32***	1.722	18.86***
Herfindahl	0.175	2.48**	0.126	1.44
LOG_GDP	-0.405	-1.49	-2.237	-4.01***
LOG_CAPITA	0.236	0.76	4.346	5.68***
LOG_FDI	0.006	0.96	0.011	1.23
After_Pay_Law	-0.096	-2.98***	-0.150	-3.44***
After_ESG_Disclosure	0.006	0.29	-0.055	-1.72*
S.E. clustering by Country	**YES**		**YES**	
Firm Fixed Effects	**YES**		**YES**	
Year Fixed Effects	**YES**		**YES**	
Adjusted R^2	**0.845**		**0.845**	
Model p-value	**<0.0001**		**<0.0001**	
N	44379		44379	

Table 11 reports the results linking the changes in ESG compensation contracting to shareholder value. Columns (1) establishes the baseline result of SOP laws on shareholder value, proxied by Tobin's Q. Column (2) reports the results on the impact of SOP laws on shareholder value conditional on post-SOP changes in firms' ESG contracting. SOP is an indicator variable that equals one for firm-years following the adoption of SOP laws in treatment countries, and zero otherwise. In all regressions, firm and year fixed effects are included and coefficient estimates and p-values are based on robust standard errors clustered at the country-level. All variables are as defined in Appendix A.

***, ** and * denote significance at 1%, 5% and 10% levels (two tailed), respectively.

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