CORPORATE GOVERNANCE AND THE RISE OF INTEGRATING CORPORATE SOCIAL RESPONSIBILITY CRITERIA IN EXECUTIVE COMPENSATION: ANTECEDENTS AND OUTCOMES

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ABSTRACT

This study examines the antecedents and consequences of integrating corporate social responsibility (CSR) criteria in executive compensation, a relatively recent practice in corporate governance. Using a novel database of CSR contracting, we find that CSR contracting is more prevalent in emission-intensive industries and has become more prevalent over time. We further find that the adoption of CSR contracting leads to i) a reduction in short-termism; ii) an increase in firm value; iii) an increase in social and environmental performance; iv) a reduction in emissions; and v) an increase in green innovations. These findings are consistent with our theoretical arguments highlighting a new form of agency conflict—the misalignment between shareholders' and managers' preferences for stakeholder engagement—and suggest that CSR contracting can enhance corporate governance.

Keywords: corporate governance; corporate social responsibility; executive compensation; agency theory; short-termism.

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INTRODUCTION

A recent development in corporate governance is the integration of corporate social responsibility (CSR) criteria in executive compensation—that is, linking executive compensation to social and environmental performance (e.g., CO_2 emission targets, employee satisfaction targets, compliance with ethical standards in developing countries). Practitioners commonly refer to this incentive provision as "CSR contracting" or "pay for social and environmental performance" (as opposed to the traditional "pay for performance" based on financial targets). While this incentive provision has become increasingly prevalent, little is known about its antecedents and consequences.

In this paper, we aim to make ground on these questions. First, we develop a theory of CSR contracting based on agency theory. Second, we empirically examine the antecedents and consequences of CSR contracting. To conduct this analysis, we construct a novel database that compiles information on CSR contracting from the compensation information that companies report in their proxy statements filed with the Securities and Exchange Commission (SEC). Our sample covers all S&P 500 firms during a 10-year period (2004-2013). To the best of our knowledge, this database is the first longitudinal database of CSR contracting.

From a theoretical perspective, we argue that CSR contracting helps address a novel type of agency conflict, namely the misalignment between shareholders' and managers' preferences for stakeholder engagement. More specifically, we argue that shareholders aim to invest in those stakeholders that improve long-term firm value, while managers focus on salient stakeholders that help meet short-term goals. This misalignment is especially severe if stakeholders that are key for long-term value creation have little "voice" and cannot exert immediate pressure on managers.

Whether or not CSR contracting helps mitigate this misalignment is far from obvious. Indeed, several arguments would suggest otherwise. For example, the integration of CSR criteria in executive compensation may lack substance and be merely symbolic; it may be ill-designed; or it may dilute other incentives. Accordingly, CSR contracting might not be an effective incentive tool.

In the empirical analysis, we start by documenting a series of stylized facts pertaining to CSR contracting. First, we show that the integration of CSR criteria in executive compensation is more prevalent in emission-intensive industries (e.g., mining, oil extraction, transportation). Second, we document a strong trend towards more CSR contracting over time. While only 12% of the S&P 500 companies had adopted CSR contracting by 2004, this ratio increased to 37% by 2013.

When we examine firm-level outcomes, we find that the adoption of CSR contracting leads to i) a reduction in short-termism (measured by a reduction in the earnings response coefficient (ERC) that captures the stock price sensitivity to unexpected fluctuations in short-term earnings, and an increase in the long-term index of Flammer and Bansal, 2016); ii) an increase in firm value (measured by Tobin's Q); iii) an increase in social and environmental performance (measured by the KLD-index), especially with respect to the natural environment and communities; iv) a reduction in emissions (measured by the toxic release inventory (TRI)); and v) an increase in green patents.

These findings support our theoretical arguments that CSR contracting enhances the governance of a company by incentivizing managers to i) adopt a longer time horizon and ii) shift their attention towards stakeholders who contribute to long-term value creation but have little voice and less salient claims. Furthermore, our findings suggest that CSR contracting

incentivizes managers to iii) engage in more sustainable practices that reduce emissions, and iv) undertake more complex initiatives such as the development of "green innovations" in order to create long-term firm value.

These findings are robust to a large number of robustness checks. In particular, we address the potential endogeneity of CSR contracting by using the enactment of state-level constituency statutes as instrumental variable (IV) for CSR contracting. Constituency statutes allow directors to consider stakeholders' interests when making business decisions (Flammer, 2016; Flammer and Kacperczyk, 2016) and hence provide exogenous shifts in companies' propensity to adopt CSR contracting.

This study makes several contributions to the literature. To our knowledge, it is the first to provide a longitudinal analysis of CSR contracting. As such, it establishes several facts pertaining to CSR contracting. In particular, it documents the increasing prevalence of CSR contracting as a new phenomenon in corporate governance. Second, we identify a new form of agency conflict—the misalignment between shareholders' and managers' preferences for stakeholder engagement. While shareholders aim to invest in those stakeholders that contribute to long-term value creation, managers focus on stakeholders that are salient and help achieve short-term goals. Third, this paper highlights a novel mechanism that boards of directors can use to mitigate managerial myopia and align managers' incentives with those of shareholders—the integration of CSR criteria in executive compensation. Such criteria incentivize managers to give more attention to stakeholders that have little voice (and hence exert little direct pressure on managers) but are financially material to a firm's operating context and long-term success.

MISALIGNMENT OF PREFERENCES FOR STAKEHOLDER ENGAGEMENT

Traditional agency models highlight managers' preferences for, e.g., shirking (e.g., Bertrand and

Mullainathan, 2003; Holmstrom, 1979), "empire building" (e.g., Jensen, 1986), or too little risk taking (e.g., Holmstrom, 1999). In all these settings, managers take actions that are not in the shareholders' best interests. Building on this literature, we highlight a different type of agency conflict—a misalignment between managers' and shareholders' preferences in terms of stakeholder engagement.

Stakeholders—i.e., "any group or individual who can affect or is affected by the achievement of an organization's purpose" (Freeman 1984, p. 53)—can be essential for sustaining a firm's competitiveness and long-term growth. A large literature supports this view. For example, by treating their employees well, firms can enhance employee engagement (Flammer and Luo, 2016), innovative productivity (Flammer and Kacperczyk, 2016), and ultimately improve firm performance (e.g., Edmans, 2011, 2012). In addition, customers are responsive to companies' stakeholder engagement. Indeed, stakeholder engagement can serve as valuable signal of the seller's quality and non-opportunistic behavior, generating goodwill, sales, and profits (e.g., Du, Bhattacharya, and Sen, 2011; Elfenbein, Fisman, and McManus, 2012; Kotler, Hessekiel, and Lee, 2012; Luo and Bhattacharya, 2006). Relatedly, companies' actions pertaining to communities and the natural environment have been shown to affect financial performance (e.g., Flammer, 2013; Hamilton, 1995; Klassen and McLaughlin, 1996). In particular, by improving their environmental footprint, companies can benefit from a better reputation and cleaner work environment, enhancing the satisfaction of employees and consumers (e.g., Bansal and Roth, 2000; Delmas and Pekovic, 2013; Hart, 1995; Russo and Fouts, 1997). At the same time, eco-harmful behavior can negatively impact a firm's bottom line if, e.g., the firm lacks the social license to operate, stricter government regulations are imposed, or the firm is boycotted (e.g., *Harvard Business Review*, 2015; Henisz, Dorobantu, and Nartey,

2014).[1] For example, in their study of the mining industry, Henisz *et al.* (2014) find that stakeholder conflicts resulting from the social, political, and environmental consequences of mining—including increased pollution and environmental risks—lead to costly delays and disruptions in project development and execution. In sum, a large literature suggests that stakeholder engagement (or the lack thereof) influences firms' competitiveness and long-term value creation.

While managers may very well perceive the relevance of stakeholder engagement for long-term value creation, they may be reluctant to address all stakeholder claims. First, stakeholder interests are heterogenous and may conflict with each other. For example, increased investments in green technologies may increase production costs that translate into higher prices, lower consumer demand, and ultimately lower profits. As a result, managers will likely give priority to stakeholder claims that are more salient to the firm's profits (e.g., customers as opposed to the natural environment)—the greater the power, legitimacy, and urgency of the stakeholder claim, the more likely the firm will respond (e.g., Eesley and Lenox, 2006; Mitchell, Agle, and Wood, 1997).

Second, we argue that managerial preferences may be misaligned with those of the firm's shareholders, leading managers to favor some stakeholders over others. In particular, short-term pressures—such as quarterly earnings expectations (e.g., DeGeorge, Patel, and Zeckhauser, 1999) or career concerns (e.g., Gibbons and Murphy, 1992)—can lead managers to become more myopic than shareholders (Flammer and Bansal, 2016) and favor investments that pay off in the short run at the expense of long-term investments (e.g., Graham *et al.* 2005; Holmstrom, 1999;

[1] A prime example is the Keystone XL Pipeline project that was supposed to transport carbon-heavy petroleum from the Canadian oil sands to the Gulf Coast. While economically promising, it faced strong resistance from local communities and environmental activists. After a seven-year review, President Obama rejected the Keystone project due to its negative impact on the natural environment (*New York Times*, 2015).

Porter, 1992; Stein, 1988, 1989). Accordingly, we expect managers to focus their attention on those stakeholder claims that help in meeting managers' short-term targets.

Taken together, the above arguments suggest a misalignment between managers' and shareholders' preferences with respect to stakeholder engagement—that is, *shareholders aim to invest in those stakeholders that improve long-term firm value, while managers focus on salient stakeholders that help meet short-term goals*. This misalignment is a form of agency conflict, as managers take actions that are not in shareholders' best interests.

To mitigate this misalignment, shareholders need to provide proper incentives to their managers. In this vein, a relatively recent corporate governance practice is the integration of CSR criteria in executive compensation—i.e., linking executive compensation to social and environmental performance (e.g., CO_2 emission targets, employee satisfaction, consumer satisfaction, compliance with ethical standards in developing countries). In the following, we discuss the antecedents and consequences of CSR contracting.

THE INTEGRATION OF CSR CRITERIA IN EXECUTIVE COMPENSATION

The view that incorporating CSR criteria in executive compensation is good governance in the long run is echoed by several companies, including Alcoa, American Electric Power (AEP), Intel, Novo Nordisk, and Xcel Energy (*GreenBiz*, 2012; *Harvard Business Review*, 2015; *Wall Street Journal*, 2008). For example, Xcel Energy includes a sustainability quotient in its salary reviews and bonus allocations. While 75% of its incentives continue to be based on earnings per share growth, the remaining 25% include environmental footprint and decreases in carbon emissions (*Forbes*, 2010). Similarly, Intel ties executive compensation to corporate sustainability goals such as the energy efficiency of its products, reductions in greenhouse gas emissions and energy use, and improvements in environmental leadership reputation (*GreenBiz*, 2012). Xcel

and Intel are not the only companies to include CSR criteria in their executive compensation structure; others have introduced similar compensation structures to align managers' incentives with long-term value creation.[2] In their view, and as Lars Rebien Sørensen—CEO of Novo Nordisk and recently named the "Best-Performing CEO of the World" by *Harvard Business Review*—stated: "corporate social responsibility is nothing but maximizing the value of your company over a long period of time, because in the long term, social and environmental issues become financial issues" (*Harvard Business Review*, 2015).

CSR contracting is a new phenomenon in the corporate landscape. Since this development has not been previously studied, one objective of our study is to describe this phenomenon. In particular, we document two broad trends in CSR contracting: 1) CSR contracting is more prevalent in emission-intensive industries, and 2) CSR contracting has become more prevalent over time.[3] In the following section, we discuss potential explanations for these two trends.

CSR contracting across industries

We document that the adoption of CSR contracting differs across industries. In particular, CSR contracting is more prevalent in emission-intensive industries. There are several reasons to expect this heterogeneity. First, managing the environmental impact and obtaining the social license to operate are key elements of business strategy in emission-intensive industries (e.g., mining, oil and gas, transportation). In this vein, the Sustainability Accounting Standards Board (SASB) identifies environmental issues as financially material for firms in emission-intensive

[2] The view that CSR contracting is good governance is also reflected in the recent change in ranking methodology of *Harvard Business Review*'s annual "Best Performing CEOs in the World" assessment, which shifted away from only looking at "hard stock market numbers" towards also considering each company's environmental, social and governance (ESG) performance. The journal states that the revised ranking methodology aims to "account for the many aspects of leadership that go beyond mere market performance" (*Harvard Business Review*, 2015).
[3] For details, see the empirical section.

industries.[4] In fact, environmental issues are identified as the most important factor influencing the financial performance in these industries (e.g., Khan, Serafeim, and Yoon, 2016). Furthermore, in their study of the mining industry, Henisz *et al.* (2014) find that obtaining the social license to operate is essential to conducting business and a key driver of financial performance. Accordingly, the adverse consequences of losing the social license to operate and stricter government regulations due to eco-harmful behavior are particularly pronounced in these industries.

Second, the misalignment between managers' and shareholders' interests is likely higher in emission-intensive industries given the temporal separation of benefits and costs. Indeed, the benefits of eco-friendly behavior only accrue in the long run, while managers are unlikely to bear the full consequences of eco-harmful behavior in the short run. Moreover, the natural environment does not contribute directly to the bottom line; in Hirschman's (1970) terminology, it is a stakeholder with no (or at best little) "voice" that cannot exert immediate pressure on managers. As a result, the natural environment's salience is marginal and managers are likely to neglect this stakeholder's claims.

Taken together, the above arguments suggest that the misalignment between managers' and shareholders' preferences for stakeholder engagement—and hence the need to incentivize managers—is particularly pronounced for companies operating in emission-intensive industries. Consequently, we would expect CSR contracting to be more prevalent in these industries.

CSR contracting over time

As mentioned above, CSR contracting is a new phenomenon in corporate governance that has been on the rise in recent years. This trend is clearly visible in the data, and is further confirmed

[4] SASB is an independent non-profit organization that provides guidance to publicly-listed companies on the disclosure of material sustainability issues in mandatory SEC filings.

by anecdotal accounts (e.g., *Harvard Business Review*, 2015; *Wall Street Journal*, 2008). In the following, we consider several reasons for the trend towards more CSR contracting over time.

First, the risks and costs associated with climate change have increased. Recent studies (e.g., Risky Business, 2014) highlight that more extreme temperatures are expected to increase energy demand and decrease labor productivity, public health, water supply, and agricultural production. Moreover, rising sea levels and increased storm surges are expected to damage coastal property and infrastructure. In short, climate change represents an increasing economic risk for companies with potentially severe losses for investors. Accordingly, the misalignment between managers' and shareholders' attitude towards the environment has become costlier, and hence the need to properly incentivize managers has become more imperative.

Second, governments are increasingly taking actions to curb climate change and impose stricter environmental regulations (e.g., Allen and Shonnard, 2011). For example, at the recent 2015 United Nations Climate Change Conference, 195 nations reached an agreement (the Paris Agreement) that aims to limit global warming to well below two degrees Celsius.[5] By April 2016, 175 countries had signed the agreement and began adopting it within their own legal systems (*CNN*, 2016; United Nations, 2016). More generally, (the threat of) stricter environmental regulations can induce firms to reduce emissions (Maxwell, Lyon, and Hackett, 2000), and send a strong signal to investors of carbon-intensive companies. Indeed, a low-carbon future creates a long-term challenge to their business model, even if the financial impact may not be felt immediately. For example, a major financial risk faced by energy companies pertains to so-called "stranded assets"—coal, oil, and gas reserves that companies list as part of their assets, but might in fact be worthless, since those reserves may never be drilled and instead become left

[5] Two degrees is regarded as the danger zone for climate change when droughts get even worse and low-lying islands disappear.

stranded by tougher regulations to curb climate change (e.g., *Financial Times*, 2015; *Fortune*, 2015).

Third, the recent financial and economic crisis has triggered an outcry against large bonuses based on short-term financial performance and a policy debate stressing the need for executive compensation reform (*Financial Times*, 2011; Martin, 2011; Polsky and Lund, 2013; *Wall Street Journal*, 2015). This discussion is also reflected in the rise of shareholder activism demanding to have a "say-on-pay" (Cuñat, Giné, and Guadalupe, 2016) and improvements in corporate sustainable practices (Flammer, 2013; 2015a), all of which are likely to contribute to the rise of integrating CSR criteria in executive compensation in recent years.

Lastly, companies face pressure from activist groups to address social and environmental issues such as those related to the natural environment, working conditions in developing countries, and human rights (e.g., Baron and Diermeier, 2007; Den Hond and De Bakker, 2007; McDonnell, King, and Soule, 2015; Soule, 2009). While activist groups do not affect a firm's bottom line directly, they can use their "voice" (Hirschman, 1970) through, e.g., consumer boycotts, protests, and media reports to bring about organizational change and indirectly impact a firm's financial performance (e.g., Baron, 2004; Fombrun, Gardberg, and Barnett, 2000; King and Soule, 2007; Pruitt and Friedman, 1986). This pressure has become more prevalent with the increased use of social media in past years. Indeed, social media facilitate the dissemination of information globally as well as the coordination and mobilization of consumer boycotts, street demonstrations, etc. (Van Laer and Van Aelst, 2010). Moreover, social media have expanded and complemented traditional repertoires of social movements with virtual activities such as online petitions, email bombings, and the hacking of company websites. Accordingly, the risk of being targeted by activist groups has likely increased over time.

In sum, the environmental, regulatory, and societal developments witnessed in recent years likely induced the trend towards more CSR contracting.

IMPLICATIONS FOR TIME HORIZONS AND FIRM-LEVEL OUTCOMES

Organizational time horizon and long-term value creation

From an agency theory perspective, the inclusion of nonfinancial performance measures in executive compensation contracts can increase their effectiveness if the nonfinancial performance measures contain additional information about a manager's effort beyond that of financial measures (Holmstrom, 1979). This holds even if the primary objective is improving stock market performance and managers are already incentivized with stock-based compensation (Feltham and Xie, 1994).

While financial measures can serve as a reasonable measure of competence in managing a firm's current operations, they do not reflect the benefits of many longer-term strategies, such as investments in new growth opportunities or new product development (Bushman *et al.*, 1996). In contrast, nonfinancial performance measures (e.g., customer satisfaction, employee satisfaction, environmental footprint) are likely indicative of longer-term benefits. Consistent with this argument, several articles document a link between customer satisfaction and long-term financial performance (e.g. Banker, Potter, and Srinivasan, 2000; Behn and Riley, 1999; Ittner and Larcker, 1998; Sen and Bhattacharya, 2001). Similarly, employee satisfaction (e.g., Edmans, 2011, 2012; Flammer, 2015a) and environmental performance (e.g., Flammer, 2013; Klassen and McLaughlin, 1996) have been shown to increase firm value. Accordingly, to the extent that nonfinancial performance measures are predictive of long-term value creation, the inclusion of

such measures will likely improve the effectiveness of executive compensation contracts.[6]

Given that the achievement of superior social and environmental performance is typically the outcome of long-term efforts that require a long-term orientation (Eccles, Ioannou, and Serafeim, 2014; Flammer and Bansal, 2016), we expect that providing incentives based on social and environmental performance is likely to shift managers' attention towards a longer-term orientation and ultimately increase long-term firm value. This leads to the following hypotheses:

> *Hypothesis 1. The adoption of CSR criteria in executive compensation has a positive impact on organizational time horizons.*
>
> *Hypothesis 2. The adoption of CSR criteria in executive compensation has a positive impact on firm value.*

Based on the insights of the existing literature, it is far from obvious whether the adoption of CSR criteria in executive compensation has a positive impact (if at all). Indeed, several arguments would point to the alternative hypothesis. First, the extant literature (e.g., Westphal and Zajac, 1994; Zajac and Westphal, 1995) suggests that governance mechanisms may lack substance and be merely symbolic. In particular, Westphal and Zajac (1994) show that many companies that announce the adoption of pay-for-(financial) performance incentive plans implement them only incrementally, if at all, suggesting a potential separation of substance and symbol in executive compensation contracts. In keeping with this view, CSR-based compensation may only represent a very small fraction of the overall compensation package a manager receives and be too incremental to be an effective incentive tool.[7]

Second—and in contrast to measuring financial performance—quantifying and tracking a

[6] Consistent with this view, Ittner, Larcker, and Rajan (1997) find that the use of nonfinancial measures increases with the extent to which a firm pursues innovation- and quality-oriented strategies.

[7] Relatedly, the adoption of CSR criteria may be a PR strategy instead of an incentive scheme. In this vein, it has been argued that, in certain situations, the reporting of CSR activities might be "symbolic" rather than "substantive" (e.g., Marquis and Qian, 2014).

firm's social and environmental impact is non-trivial (see, e.g., *The Guardian*, 2011). For example, it is unclear how to quantify and compare employees' volunteering efforts, a company-led training program in sustainable production for suppliers, or recycling efforts. This challenge makes an assessment of the actual CSR target completion difficult and, in turn, may induce managers to be unresponsive to the integration of CSR criteria in their compensation contract.

Third, CSR-based compensation may partially crowd out other motivations (e.g., to gain social approval), resulting in a zero (or even negative) net effect on managers' behavior. In this vein, extant research finds that extrinsic incentives can have detrimental effects on prosocial behavior as they might dilute the signaling value of prosocial behavior and one's prosocial identity (e.g., Ariely, Brach, and Meier, 2009; Bénabou and Tirole, 2006; Gneezy *et al*., 2012).

Finally, even if managers are responsive to CSR contracting, the compensation policy may be ill-designed. For example, the CSR performance metric may focus on short-term performance targets that do not contribute to long-term value creation, thereby incentivizing managers to pursue inferior strategies. Also, the CSR performance metric may be broad and encourage a wide set of CSR initiatives. If managers find it difficult to differentiate between financially material and immaterial stakeholder initiatives, they may (continue to) focus on the most vocal stakeholders at the expense of other, financially material stakeholders.

In sum, if any of the above forces prevail, we should observe a negative impact (or no impact at all) of the adoption of CSR criteria in executive compensation on organizational time horizons and firm value.

Heterogeneity across stakeholders

The aim of integrating CSR criteria in executive compensation is to incentivize managers to improve the firm's social and environmental performance in order to create long-term

shareholder value. Naturally, we expect companies to expand their stakeholder engagement following the adoption of CSR contracting.

Yet, the integration of CSR criteria may not lead to improvements for all stakeholder groups—considerable heterogeneity may exist. In particular, as managers shift their focus away from stakeholder claims that are salient and help meet short-term goals towards activities with long-term benefits, some stakeholders may benefit more than others. For example, consumers, employees, and suppliers are key stakeholders that directly contribute to a firm's bottom line and typically use their "voice" (Hirschman, 1970) to make their claims heard by the management. Hence, there might be less of a need to incentivize managers to address these stakeholders' claims. In contrast, a firm's natural environment and the communities in which a firm operates are more likely to benefit from the integration of CSR criteria in executive compensation. This is because neither one of these stakeholders contribute directly to meeting managers' short-term targets. Moreover, these stakeholders only have little "voice" (Hirschman, 1970), if at all, and are unlikely to exert immediate pressure on a company to address their claims. As a result, the claims of the natural environment and communities are less salient and managers may ignore them absent proper incentives. In other words, the stakeholders that are likely to benefit the most from the integration of CSR criteria in executive compensation are those who contribute to long-term value creation but have little voice and less salient claims.

In sum, while we predict a positive relationship between the integration of CSR criteria in executive compensation and stakeholder engagement, we expect this relationship to be stronger for the natural environment and communities. This motivates the following hypothesis:

> *Hypothesis 3. The adoption of CSR criteria in executive compensation has a positive impact on stakeholder engagement, especially with respect to the natural environment and local communities.*

Underlying mechanisms: sustainable practices and the development of green innovations

In the previous section, we argued that the integration of CSR criteria in executive compensation enhances the governance of a company by incentivizing managers to improve the firm's environmental footprint and retain its social license to operate. In this section, we discuss potential mechanisms through which companies may do so.

Firms can improve their environmental footprint and community relations in many ways. For example, they can reduce their use of pesticides, reduce energy consumption, introduce recycling programs, engage their employees in community cleanups and greening initiatives, upgrade their facilities to prevent oil spills and other industrial accidents, construct "green buildings," shift towards using renewable energy and clean fuels, source from eco-friendly and socially responsible suppliers, develop energy-efficient products and technology-based solutions to prevent pollution, and contribute to the creation of sustainable cities and a circular economy.

Some of these initiatives—e.g., resource efficiency and waste management—are "low-hanging fruits" as they are relatively incremental, require few financial resources, take little time to implement, and pay off relatively quickly (e.g., Clelland *et al.*, 2000; Rusinko, 2007; Russo and Harrison, 2005). Arguably, CSR contracting may induce managers to exploit these low-hanging fruits and, as a result, reduce the firm's emissions.

Other activities—e.g., the development of green innovations—are more complex and require substantial time and resource commitments. In particular, innovative activities are characterized by long gestation periods, substantial resource commitments, and a high rate of failure (e.g., Aghion and Tirole, 1994; Griliches, 1990; Hall, Jaffe, and Trajtenberg, 2005). Despite these challenges—or rather, *due to* these challenges—we expect CSR contracting to foster the pursuit of green innovations. Indeed, as discussed above, CSR contracting is likely to

shift managers' attention towards a longer-term orientation, which is essential for innovation (e.g., Aghion, Van Reenen, and Zingales, 2013; Azoulay, Graff Zivin, and Manso, 2011; Flammer and Bansal, 2016). Moreover, stakeholder orientation can foster a work environment that is more tolerant of failure, thereby encouraging experimentation and enhancing employees' innovative productivity (Flammer and Kacperczyk, 2016).

In sum, we expect that CSR contracting incentivizes managers to i) engage in more sustainable practices that reduce emissions, and ii) undertake more complex initiatives such as the development of "green innovations". This leads to the following hypothesis:

> *Hypothesis 4. The adoption of CSR criteria in executive compensation incentivizes managers to i) reduce emissions, and ii) increase their green innovations.*

DATA

Data and variable definitions

CSR contracting

To construct a database of executive compensation incentives for CSR, we manually collect executive compensation data from annual proxy statements filed with the Securities and Exchange Commission (SEC) for each firm in the Standard & Poor's 500 Index (S&P 500) for the years 2004 through 2013. Our sample consists of 4,533 firm-year observations for which we could retrieve proxy statements (SEC Form DEF 14A) from the SEC's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) database.

Proxy statements provide descriptive information regarding the structure of managerial compensation contracts (e.g., salary, bonus, stock-based compensation) for the top five executives of the firm, including the performance metrics used for performance-based compensation. To identify the provision of incentives for CSR, we manually searched through

the description of each executive's compensation to identify performance metrics that were linked to social and environmental performance. Those included the following: community, compliance with ethical standards, corporate social responsibility, diversity, employee well-being, energy efficiency, environmental compliance, environmental goals, environmental performance, environmental projects, greenhouse gas emissions reductions, health, performance relative to a corporate responsibility index (e.g., Dow Jones Sustainability Index), product safety, reduced injury rates, safety, and sustainability. If incentives were provided that were linked to CSR, the executive was coded with a dummy variable equal to one for that year.

For example, Freeport-McMoRan Copper & Gold Inc. bases a significant portion of its executives' performance-based compensation on safety, environmental, and social responsibility metrics. More specifically, according to its 2013 Proxy Statement, the Annual Incentive Plan (AIP) bases 25% of the aggregate award on the achievement of pre-established safety (15%), environmental and social responsibility performance (10%) goals. Similarly, Valero Energy's AIP rewards safe operations and environmental responsibility. According to its 2013 Proxy Statement, 13.33% of executives' AIP is based on the achievement of health, safety, and environmental goals.

To construct a firm-level measure of CSR-based incentives (*CSR contracting*) we compute the percentage of executives whose compensation includes CSR criteria for that year. *CSR contracting* is essentially binary—almost all companies that use CSR-based criteria do so for all executives.[8]

[8] More precisely, this is the case for 94% of the firms that use CSR contracting. For ease of exposition, we will typically interpret *CSR contracting* as a binary variable that indicates whether the company uses CSR-based incentives.

Dependent variables

To test our hypotheses, we regress various dependent variables on the adoption of CSR contracting. In the following, we describe each dependent variable.

Time horizon. We use two measures that capture the degree of long-term orientation. The first measure is the earnings response coefficient (ERC), which we compute for each firm-year following the approach of Asker *et al.* (2015). The ERC measures the stock price sensitivity to unexpected quarterly earnings. For firms with a shorter-term orientation, stock prices should have higher sensitivity to unexpected quarterly earnings, and hence exhibit a higher ERC. By contrast, firms with a longer-term orientation should be less sensitive to quarterly earnings surprises since short-term fluctuations in performance carry relatively little weight. Accordingly, firms with a longer-term orientation should exhibit a lower ERC. To calculate the ERC, we regress abnormal changes in stock prices against the difference between the median of analysts' expectations prior to the release of quarterly earnings announcements and actual realized quarterly earnings.[9]

The second measure of time horizon is the long-term index ("LT-index") of Flammer and Bansal (2016). The LT-index is obtained by conducting a textual analysis of the companies' annual reports. The rationale behind this index is that an organization's time orientation is reflected by its discourse (Slawinski and Bansal, 2012)—companies that use long-term keywords more frequently in their discourse are more likely to have a longer-term orientation. To construct this index, we perform a textual analysis of the firms' 10-K filings, which are obtained from the

[9] More formally, we follow Asker *et al.* (2015) and estimate ERC by regressing abnormal returns AR_{itq} on a constant and unexpected earnings UE_{itq} for firm i, year t, and quarter q. ERC for firm i in year t is the coefficient estimated for UE_{itq}. AR_{itq} is firm i's abnormal return in the 3-day window centered on the day the firm announced the quarterly earnings. Abnormal returns are computed by subtracting market returns (based on the CRSP value-weighted market index) from the raw returns. UE_{itq} is firm i's earnings surprise, measured as actual earnings per share minus the analyst consensus (i.e., the median outstanding earnings forecast from the IBES database).

Securities and Exchange Commission's (SEC) EDGAR database, and count the number of keywords referring to the short term ("short run," "short-run," "short term," "short-term") and long term ("long run," "long-run," "long term," "long-term"), respectively. We then compute the LT-index as the ratio of the number of long-term keywords to the sum of long- and short-term keywords.

Firm value. We use Tobin's Q to measure firm value. Tobin's Q is constructed from Compustat as the ratio of the market value of total assets (obtained as the book value of total assets plus the market value of common stock minus the sum of the book value of common stock and balance sheet deferred taxes) to the book value of total assets. To mitigate the impact of outliers, Tobin's Q is winsorized at the 5^{th} and 95^{th} percentiles of its empirical distribution.

CSR performance. The CSR data are obtained from the Kinder, Lydenberg, and Domini (KLD) database. KLD is an independent social choice investment advisory firm that compiles ratings of how companies address the needs of their stakeholders. For each stakeholder group, strengths and concerns are measured to evaluate positive and negative aspects of corporate actions toward stakeholders. These ratings are compiled from multiple data sources including annual questionnaires sent to companies' investor relations offices, firms' financial statements, annual and quarterly reports, general press releases, government surveys, and academic publications (see KLD, 2010). KLD ratings are widely used in CSR studies (e.g., Chatterji and Toffel, 2010; Flammer, 2015b). We construct a composite KLD-index by adding up the number of CSR strengths with respect to employees, customers, the natural environment, and communities. In the analysis, we also consider subindices based on specific stakeholder groups.[10]

[10] In addition to CSR strengths, the KLD database also contains a list of CSR weaknesses, labeled "concerns". Accordingly, an alternative approach is to construct a "net" KLD-index by subtracting the number of concerns from the number of strengths. In robustness checks, we show that our results are similar if we use this net KLD-index instead.

Emissions. To measure emissions, we use the Toxic Release Inventory (TRI) data maintained by the U.S. Environmental Protection Agency (EPA). The TRI database contains annual data on emissions of over 650 toxic chemicals from thousands of facilities in the U.S. To create a measure of toxic emissions, we first weigh each chemical by its toxicity. Toxicity-weighted emissions are calculated by multiplying the quantity of each chemical emitted by the inverse of its reportable quantity, following the method used by King and Lenox (2000). Then, toxicity-weighted emissions of each chemical are summed up at the facility level, and ultimately the firm level. The final dependent variable used in the regressions is the logarithm of one plus the toxicity-weighted emissions at the firm level (*log(TRI)*).

Green patents. We obtain the patent data from the NBER patent database, which contains annual information on the patent assignee name, the technology class, the number of citations, and the year of patent.[11] To identify green patents, we use the classification of Amore and Bennedsen (2016, p. 68).[12] The final dependent variable is the ratio of the number of green patents divided by the total number of patents filed by the company that year (*green patents*). In auxiliary analyses, we further distinguish between green patents pertaining to i) pollution and recycling, and ii) renewable energies.

Control variables

In the regressions, we control for a vector of firm-level characteristics that may affect the adoption of CSR contracting and the dependent variables of interest. All controls are constructed

[11] The NBER patent database ends in 2006, but can be extended using the raw files of the U.S Patent and Trademark Office (USPTO). We thank Deepak Hegde for sharing the 2007-2013 data with us.

[12] The relevant categories are as follows: air pollution control (USPTO codes 015, 044, 060, 110, 123, 422, 423); alternative energy (049, 062, 204, 222, 228, 242, 248, 425, 428, 708, 976); alternative energy sources (062, 222, 425); geothermal energy (060, 436); recycling (060, 075, 099, 100, 106, 162, 164, 198, 201, 205, 210, 216, 229, 264, 266, 422, 425, 431, 432, 460, 502, 523, 525, 536, 902); solid waste control (034, 060, 065, 075, 099, 106, 118, 119, 122, 137, 162, 165, 203, 205, 209, 210, 239, 241, 266, 405, 422, 423, 431, 435, 976); solid waste disposal (122, 137, 239, 241, 405, 523, 588, 976); solid waste prevention (065, 119, 137, 165, 205, 210, 405, 435); water pollution (203, 210, 405); wind energy (073, 104, 180, 242, 280, 340, 343, 374, 422, 440).

from Compustat. *Size* is the natural logarithm of the book value of total assets. *Return on assets* (ROA) is the ratio of operating income before depreciation to the book value of total assets. *Leverage* is the ratio of debt (long-term debt plus debt in current liabilities) to the book value of total assets. *Cash holdings* is the ratio of cash and short-term investments to the book value of total assets. To mitigate the impact of outliers, all ratios are winsorized at the 5th and 95th percentiles of their empirical distribution.

Summary statistics

Table 1 provides descriptive statistics for the variables used in this paper, along with the corresponding correlation matrix. Note that the mean of *CSR contracting* is 0.238, which indicates that about 24% of the S&P 500 companies use CSR criteria in executive compensation. We also note the positive correlation (6.7%) between *CSR contracting* and *log(TRI)*, which is suggestive of our previous argument that CSR contracting is more prevalent in emission-intensive industries.

------Insert Table 1 about here------

METHODOLOGY

Ordinary least squares (OLS) regressions

To examine whether the adoption of CSR contracting affects firm-level outcomes, we estimate the following regression:

$$y_{it} = \alpha_i + \alpha_t + \beta \times CSR\ contracting_{it-1} + \boldsymbol{\gamma}'\mathbf{X}_{\boldsymbol{it}-1} + \varepsilon_{it}, \quad (1)$$

where i indexes firms; t indexes years; α_i and α_t are firm and year fixed effects, respectively; y is the dependent variable of interest; *CSR contracting* is the CSR contracting variable in the

preceding year; **X** is the vector of control variables (size, ROA, leverage, and cash holdings) in the preceding year; ε is the error term. To account for dependence across firms within the same industry, we cluster standard errors at the 2-digit SIC industry level. The coefficient of interest is β, which captures the change in y following the adoption of CSR criteria in executive compensation (i.e., when *CSR contracting* switches from 0 to 1).

The inclusion of control variables mitigates the possibility that our findings are driven by omitted variables. For example, it could be that more profitable companies are more likely to adopt CSR contracting (since they can more easily afford to devote resources to stakeholder engagement), while at the same time they are more likely to generate, e.g., green patents (since they might be better able to invest in R&D). Controlling for profitability (ROA) addresses this potential confound. Similarly, the other controls mitigate issues that our results are confounded by differences in size or financing policies (leverage and cash holdings). Importantly, the inclusion of firm fixed effects accounts for any time-invariant firm characteristics that may affect both the adoption of CSR contracting and firm-level outcomes. Finally, the inclusion of year fixed effects accounts for economy-wide factors that could affect both CSR contracting and the outcome variables of interest.

Two-stage least squares (2SLS) regressions

While the controls and fixed effects help address potential confounds, they do not fully rule out the possibility that *unobservable* time-varying firm characteristics may drive a spurious relationship between *CSR contracting* and y. In other words, equation (1) is subject to a standard endogeneity problem—the adoption of CSR-based criteria in executive compensation is not random and can correlate with unobservables that may also affect the outcome variables of interest. In such cases, the estimate of β would be inconsistent.

To obtain a consistent estimate of β, we need an instrument for CSR contracting—that is, a variable that triggers exogenous shifts in the propensity to adopt CSR-based criteria in executive compensation. The specific instrument that we exploit in this paper is the enactment of state-level constituency statutes. This follows the methodology of Flammer and Kacperczyk (2016) and Flammer (2016), who use constituency statutes to study the effect of stakeholder orientation on corporate innovation and the allocation of procurement contracts, respectively.

Constituency statutes

Constituency statutes allow corporate officers and directors to take into account the interests of a variety of corporate stakeholders in carrying out their fiduciary duties to the corporation. The statutes suggest that a corporation should, or at least may, be run in the interests of more groups than just shareholders. Hence, under these statutes, a corporation's officers and directors are allowed to consider the interests of employees, customers, suppliers, the environment, the local community, and any other potentially affected constituency (e.g., Orts 1992). Prior to the enactment of stakeholder statutes, fiduciary duties required corporate directors to act in accordance with shareholders' interests and were not explicitly permitted by written law to consider stakeholders' interests in their decision-making. Therefore, the enactment of constituency statutes sent a strong signal and provided corporate leaders with a mechanism for considering stakeholder interests without breaching their fiduciary obligations to shareholders. Proponents of those statutes sought to reflect their belief that corporations are more than just investment vehicles for owners of financial capital in corporate law (Bainbridge 1992). For example, the Pennsylvania statute reads:

> "In discharging the duties of their respective positions, the board of directors, committees of the board and individual directors of a domestic corporation may, in considering the best interests of the corporation, consider the effects of any

> action upon employees, upon suppliers and customers of the corporation and upon communities in which offices or other establishments of the corporation are located, and all other pertinent factors." (15 Pa. Cons. Stat. § 516(a))

Though the language may be state-specific, the core content of the legislation remains the same: constituency statutes emphasize the importance of considering the interests of nonfinancial stakeholders and hence pursuing interests that are not restricted to the bottom line. In fact, most statutes give corporate leaders permission to consider stakeholder interests in any circumstance, including any structural and operational decisions, or whenever corporate leaders wish to consider them.

To date, a total of 35 states in the U.S. have adopted constituency statutes (see Karpoff and Wittry, 2015). Two of them adopted a constituency statute during the sample period—Texas in 2006 and Nebraska in 2007. Accordingly, we can exploit these two legislations to obtain a 2SLS estimate of the impact of CSR contracting on firm-level outcomes. Importantly, because the enactment of the statutes does not reflect any firm's strategic decision, such "treatments" offer plausibly exogenous variation in a firm's propensity to use CSR criteria in executive compensation.

First-stage regression

In the first-stage regression, we regress *CSR contracting* on the enactment of constituency statutes. Specifically, we estimate the following regression:

$$CSR\ contracting_{it} = a_i + a_t + b \times constituency\ statute_{it} + \mathbf{c'X_{it}} + e_{it}, \quad (2)$$

where *constituency statute* is the "treatment dummy," which is equal to one if firm *i* is

incorporated in a state that has enacted a constituency statute by year t.[13] The other variables are the same as in equation (1). Effectively, equation (2) is a difference-in-differences specification, that is, the coefficient b measures the change in the probability of adopting CSR contracting after the treatment (first difference) in the treatment versus control groups (second difference).

In their evaluation of the difference-in-differences methodology, Bertrand, Duflo, and Mullainathan (2003) recommend that standard errors be clustered at the dimension of the treatment. Accordingly, when estimating equation (2), we cluster standard errors at the state of incorporation level. (We obtain similar results if standard errors are clustered at the 2-digit SIC level.)

Second-stage regression

The predicted values from equation (2) provide *CSR contracting (instrumented)*—that is, the exogenous component of *CSR contracting*. In the second-stage regression, we then re-estimate equation (1) using *CSR contracting (instrumented)* instead of *CSR contracting*:

$$y_{it} = \alpha_i + \alpha_t + \beta_{2SLS} \times CSR\ contracting\ (instrumented)_{it-1} + \boldsymbol{\gamma}'\mathbf{X}_{it-1} + \varepsilon_{it}. \quad (3)$$

The coefficient β_{2SLS} then provides a consistent estimate of the effect of CSR contracting on y.

RESULTS

CSR contracting across industries and over time

Table 2 provides summary statistics on the prevalence of CSR contracting across industry sectors. We partition sectors according to SIC major groups.[14] As is shown, CSR contracting is

[13] States of incorporation are obtained from Compustat. A caveat is that Compustat only reports the state of incorporation for the latest available year. Nevertheless, this caveat is unlikely to matter for our results. Indeed, prior research suggests that changes in states of incorporation are very rare (e.g., Cheng, Nagar, and Rajan, 2004; Romano, 1993).

most prevalent in "mining" (56.6%) and "transportation, electric, gas" (45.4%). This evidence is supportive of our previous arguments, according to which CSR contracting is more prevalent in emission-intensive industries. [15]

------Insert Table 2 about here------

In Table 3, we further examine the evolution of CSR contracting over time. As can be seen, CSR contracting is becoming increasingly more prevalent over the years. While only 12.1% of the S&P 500 companies had adopted CSR contracting by 2004, this ratio increased to 36.7% by 2013. This evolution confirms our previous arguments on the trend towards more CSR contracting over time.

------Insert Table 3 about here------

CSR contracting and firm-level outcomes

OLS regressions

In Table 4, we regress firm-level outcomes on CSR contracting. The underlying specification is equation (1)—that is, each regression includes controls as well as firm and year fixed effects. All right-hand side variables are lagged by one year.

------Insert Table 4 about here------

Time horizons. In column (1), the dependent variable is the earnings response coefficient (ERC). As is shown, the adoption of CSR contracting significantly reduces ERC. Given a mean ERC of 0.470, the coefficient of –0.045 (t = 2.25) represents a 9.6% decrease in the stock price

[14] The SIC major groups are as follows: Agriculture, Forestry, and Fishing (SIC 100-999); mining (SIC 1000-1499); construction (SIC 1500-1799); manufacturing (SIC 2000-3999); transportation, communications, electric, gas and sanitary service (SIC 4000-4999); wholesale trade (SIC 5000-5199); retail trade (SIC 5200-5999); finance, insurance and real estate (SIC 6000-6799); services (SIC 7000-8999).

[15] Note that the incidence of CSR appears high in "agriculture, forestry, and fishing" as well. While this sector is emission-intensive, it only represents a very minor fraction of the overall sample (10 firm-year observations).

sensitivity to unexpected short-term fluctuations in earnings. In column (2), the dependent variable is the long-term index (LT-index). Following the adoption of CSR contracting, the LT-index increases by 1.2 percentage points (t = 3.00). These findings are in line with Hypothesis 1 stating that the adoption of CSR contracting has a positive impact on organizational time horizons.

Firm value. In column (3), we find that the adoption of CSR contracting is value-enhancing. Following the adoption of CSR contracting, Tobin's Q increases by 0.064 (t = 2.06). Since the average Tobin's Q is 1.984, this corresponds to an increase in firm value by 3.2%. This evidence is supportive of Hypothesis 2 and highlights the misalignment between shareholders' and managers' preferences for stakeholder engagement. By alleviating this misalignment, CSR contracting benefits shareholders, thereby increasing firm value.

CSR performance. In column (4), we examine how the adoption of CSR contracting affects the KLD-index. As is shown, the KLD-index increases by 0.2 index points (t = 1.95). In columns (5)-(6) we further distinguish between the less salient stakeholders (the natural environment and communities) and the more salient ones (employees and customers). As is shown, the increase in CSR performance is more pronounced for the less salient stakeholders. This finding supports Hypothesis 3. Arguably, the misalignment between shareholders' and managers' preferences for stakeholder engagement is likely stronger for those stakeholders that have little "voice" but are important to the firm's long-term success.

Emissions. In column (7), we use the TRI data to examine the relationship between CSR contracting and emissions. As can be seen, we find that emissions decrease by 8.6% (t = 3.58) following the adoption of CSR contracting. This evidence is supportive of Hypothesis 4 according to which CSR contracting incentivizes managers to reduce emissions.

Green patents. In columns (8)-(10), we examine how CSR contracting affects the pursuit of green innovations. In column (8), we find that the ratio of green patents to total patents increases by 2.9 percentage points (t = 2.42) following the adoption of CSR contracting, which lends further support to Hypothesis 4. The increase is especially pronounced for green patents pertaining to pollution and recycling (column (9)) as opposed to renewable energies (column (10)).

2SLS regressions

As discussed in the methodology section, a potential caveat of the analysis presented in Table 4 is the endogeneity of CSR contracting with respect to the firm-level outcomes of interest. The inclusion of controls as well as firm and year fixed effects helps mitigate this caveat, but does not fully rule it out. In the following, we further address this point by using the enactment of constituency statutes as an instrument for the adoption of CSR contracting.

The first stage regression is provided in Appendix Table A1. As can be seen, the enactment of constituency statutes triggers a significant increase in the propensity to adopt CSR contracting. On average, firms incorporated in the treated states are 14.8% more likely to adopt CSR criteria in executive compensation following the enactment of constituency statutes. The *F*-statistic of the instrument is 97.4, which lies well above Staiger and Stock's (1997) threshold for "strong" instruments (*F*-statistic > 10).

The second-stage regressions are provided in Table 5. As is shown, the results mirror very closely those in Table 4. Note that the significance is generally lower in Table 5. This is not surprising given that only two states adopted a constituency statute during the sample period—i.e., relatively few observations contribute to the identification. As such, the second-stage regressions presented in Table 5 have less power. Importantly, however, the point estimates

remain similar to the baseline estimates in Table 4.

------Insert Table 5 about here------

Robustness

Appendix Table A2 provides several robustness checks. In the upper panel, we re-estimate our baseline regressions from Table 4, excluding controls. As is shown, the results are very similar to before.

In the bottom panel, we address the possibility that boards of directors may redesign the executives' entire compensation package when incorporating CSR performance criteria. If, for some reason, boards systematically adjust other components of executive pay (e.g., stock options) when implementing CSR criteria, such adjustments may confound our findings. To address this issue, we augment our baseline specification by including compensation-level controls from Execucomp. Specifically, we include as additional controls i) log(total compensation); ii) the ratio of stock-based compensation to total compensation; and iii) the ratio of option-based compensation to total compensation. As is shown, our results are robust to this inclusion.

Finally, in Appendix Table A3, we provide a variant of the analysis in columns (4)-(6) of Table 4, in which we use the "net" KLD-index (i.e., the number of KLD strengths net of the number of KLD concerns) instead of the KLD-index based on the number of KLD strengths. As can be seen, the estimates are very similar to those in Table 4.

DISCUSSION AND CONCLUSION

A recent phenomenon in corporate governance is the inclusion of CSR criteria in executive compensation. In this study, we shed light on this new phenomenon. From a theoretical

perspective, we highlight a misalignment between shareholders' and managers' preferences for stakeholder engagement. More specifically, we argue that shareholders aim to invest in those stakeholders that improve long-term firm value, while managers focus on salient stakeholders that help meet short-term goals. This misalignment is especially severe if stakeholders that have little "voice" are key for long-term value creation. To the extent that CSR contracting re-aligns managers' and shareholders' preferences for these stakeholders, we expect CSR contracting to mitigate this governance issue.

To examine our theoretical arguments empirically, we construct a novel database that compiles information on CSR contracting covering all S&P 500 firms during a 10-year period (2004-2013). We start by documenting a series of stylized facts pertaining to CSR contracting. First, we show that CSR contracting is more prevalent in emission-intensive industries. Second, we show that CSR contracting has become more prevalent over the years.

We then examine how the adoption of CSR contracting affects firm-level outcomes. Our results indicate that CSR contracting helps counteract managerial myopia and incentivize managers to pursue projects that are longer-term, financially material, and have socially more desirable outcomes, hereby enhancing long-term shareholder value. Furthermore, we examine potential mechanisms underlying these relationships. Specifically, we find that CSR contracting incentivizes managers to i) engage in more sustainable practices that reduce emissions and ii) undertake more complex initiatives—such as the development of "green innovations"—which help improve the firm's environmental footprint and retain the firm's social license to operate.

Our study contributes to the literature in several ways. First, to the best of our knowledge, this study is the first to explore the rising phenomenon of integrating CSR criteria in executive compensation. This analysis is made possible by the novel database we compiled for this study.

As such, our study establishes several key results pertaining to CSR contracting—its evolution over time, its prevalence across industries, and how it affects firm-level outcomes.

Second, we highlight a novel type of agency conflict—shareholders' and managers' preferences are misaligned in terms of stakeholder engagement. By raising the question of the social dimension of corporate governance and the optimal design thereof, our study contributes to the vast literature on corporate governance and executive compensation (for recent surveys, see Edmans and Gabaix, 2016; Frydman and Jenter, 2010).

Third, this study explores whether and under what conditions CSR contracting helps improve the governance of a company by shifting managerial attention towards stakeholders that are not salient to managers in the short run, yet financially material to the firm in the long run. As such, the insights of this study contribute to the multi-disciplinary dialogue on the role of time horizon and intertemporal decision-making in organizations (e.g., Flammer and Bansal, 2016; Laverty, 1996, 2004; Slawinski and Bansal, 2015; Souder and Bromiley, 2012). They also provide a refined view of the shareholder-stakeholder debate and contribute to the few but notable studies in the intersection of corporate governance and CSR practices (e.g., Aguilera and Jackson, 2003; Aguilera *et al.*, 2006; Amore and Bennedsen, 2016; Berrone and Gomez-Mejia, 2009; Hong, Li, and Minor, 2016; Walls, Berrone, and Phan, 2012). Specifically, while extant work has viewed corporate governance in a traditional sense (i.e., distinct from stakeholder engagement) and examined its relation to CSR practices, we take a fundamentally different approach—we argue that managers' degree of attention to different stakeholders is *part of* corporate governance.

Lastly, our study has important managerial and policy implications. In particular, our findings suggest that private incentives help mitigate agency issues with respect to stakeholder

engagement, improving firm value and a firm's sustainable practices. However, it is important to note that achieving shareholders' optimum does not imply that the global optimum is achieved from a broader societal perspective. For example, private incentives may improve firms' environmental footprint (e.g., through more green innovations) and align managers' interests with those of shareholders. Yet, shareholders' optimum likely differs from the global optimum as shareholders (and managers) are unlikely to internalize the full extent of the firm's negative (and positive) externalities in their decision-making. As a result, private incentives are unlikely to be sufficient to tackle grand challenges such as climate change. Other mechanisms, such as effective government regulations (e.g., carbon pricing), are needed. Making ground on this issue is an exciting avenue for future research.

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Table 1. Summary statistics

		N	Mean	Std. dev.	1	2	3	4	5	6	7	8	9	10
1	CSR contracting	4,533	0.238	0.423										
2	ERC	3,749	0.470	0.495	-0.152									
3	LT-index	4,533	0.752	0.149	0.087	-0.017								
4	KLD-index	3,154	3.841	3.545	0.142	-0.078	0.012							
5	Log(TRI)	4,533	0.265	1.283	0.067	-0.005	0.054	0.010						
6	Green patents	716	0.232	0.235	0.101	-0.088	0.137	-0.170	0.091					
7	Tobin's Q	3,478	1.984	1.147	-0.214	0.315	-0.179	-0.055	-0.026	-0.234				
8	ROA	4,152	0.038	0.021	-0.095	0.221	0.020	-0.007	0.037	-0.097	0.629			
9	Size	4,519	9.495	1.427	0.172	-0.355	-0.038	0.452	-0.043	-0.014	-0.514	-0.442		
10	Leverage	4,283	0.228	0.149	0.085	-0.134	0.218	0.038	-0.001	0.202	-0.279	-0.180	0.084	
11	Cash holdings	4,519	0.120	0.121	-0.142	0.150	-0.217	0.028	-0.044	-0.405	0.565	0.250	-0.247	-0.347

Notes. This table reports means, standard deviations, and Pearson correlation coefficients. The sample includes all firm-year observations for companies in the S&P 500 Index from 2004-2013.

Table 2. CSR contracting across industries

		% Firms with CSR contracting	
Major SIC sector	N	Mean	Std. dev.
Agriculture, forestry, and fishing	10	0.500	0.527
Construction	59	0.275	0.431
Finance, insurance, and real estate	796	0.114	0.317
Manufacturing	1,819	0.220	0.410
Mining	281	0.566	0.497
Retail trade	383	0.091	0.289
Services	477	0.180	0.378
Transportation, communications, electric, gas, and sanitary services	631	0.454	0.494
Wholesale trade	77	0.026	0.160
All	4,533	0.238	0.423

Notes. The sample includes all firm-year observations for companies in the S&P 500 Index from 2004-2013 ($N = 4,533$).

Table 3. CSR contracting over time

	% Firms with CSR contracting	
Year	Mean	Std. dev.
2004	0.121	0.321
2005	0.151	0.354
2006	0.206	0.396
2007	0.246	0.422
2008	0.285	0.444
2009	0.227	0.420
2010	0.234	0.424
2011	0.241	0.428
2012	0.261	0.439
2013	0.367	0.483
All	0.238	0.423

Notes. The sample includes all firm-year observations for companies in the S&P 500 Index from 2004-2013 (N = 4,533).

Table 4. CSR contracting and firm outcomes

	Short-termism	Long-termism	Firm value	CSR performance			Emissions	Green patents		
Dependent variable:	ERC	LT-index	Tobin's Q	KLD-index	KLD-index (environment & communities)	KLD-index (employees & customers)	Log(TRI)	Green patents	Green patents (pollution & recycling)	Green patents (renewable energies)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
CSR contracting	-0.045	0.012	0.064	0.213	0.129	0.083	-0.086	0.029	0.018	0.011
	(0.020)	(0.004)	(0.031)	(0.109)	(0.061)	(0.079)	(0.024)	(0.012)	(0.010)	(0.015)
Controls										
Size	-0.151	-0.002	-0.313	-0.160	-0.219	0.060	-0.007	-0.004	-0.026	0.021
	(0.034)	(0.005)	(0.040)	(0.127)	(0.072)	(0.106)	(0.023)	(0.030)	(0.025)	(0.024)
ROA	-0.732	0.235	7.507	2.704	-0.849	3.553	0.426	-0.125	0.348	-0.473
	(0.471)	(0.111)	(1.372)	(2.807)	(1.564)	(2.326)	(0.577)	(0.340)	(0.324)	(0.334)
Leverage	-0.175	0.044	-0.434	0.180	0.469	-0.288	0.011	-0.026	-0.132	0.106
	(0.096)	(0.027)	(0.189)	(0.480)	(0.261)	(0.360)	(0.072)	(0.064)	(0.101)	(0.123)
Cash	-0.166	0.002	1.269	-1.668	-0.993	-0.675	-0.134	0.154	0.101	0.053
	(0.182)	(0.027)	(0.299)	(0.762)	(0.347)	(0.595)	(0.142)	(0.100)	(0.110)	(0.084)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.64	0.53	0.86	0.84	0.79	0.79	0.93	0.84	0.81	0.59
Observations	3,293	3,891	2,996	2,689	2,689	2,689	3,891	592	592	592

Notes. All right-hand side variables are lagged by one year. Standard errors (clustered at the 2-digit SIC industry level) are reported in parentheses.

Table 5. CSR contracting and firm outcomes—2SLS regressions

	Short-termism	Long-termism	Firm value	CSR performance			Emissions	Green patents		
Dependent variable:	ERC	LT-index	Tobin's Q	KLD-index	KLD-index (environment & communities)	KLD-index (employees & customers)	Log(TRI)	Green patents	Green patents (pollution & recycling)	Green patents (renewable energies)
	(1)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CSR contracting (instr.)	-0.044	0.012	0.064	0.216	0.129	0.086	-0.086	0.029	0.017	0.011
	(0.026)	(0.005)	(0.036)	(0.123)	(0.065)	(0.093)	(0.042)	(0.014)	(0.010)	(0.023)
Controls										
Size	-0.153	-0.002	-0.311	-0.154	-0.216	0.062	-0.009	-0.003	-0.025	0.022
	(0.021)	(0.006)	(0.037)	(0.119)	(0.055)	(0.091)	(0.019)	(0.016)	(0.016)	(0.025)
ROA	-0.720	0.232	7.491	2.648	-0.883	3.531	0.449	-0.133	0.343	-0.476
	(0.463)	(0.084)	(0.610)	(1.903)	(0.811)	(1.854)	(0.297)	(0.325)	(0.231)	(0.444)
Leverage	-0.167	0.042	-0.447	0.140	0.444	-0.304	0.027	-0.032	-0.136	0.104
	(0.093)	(0.029)	(0.121)	(0.590)	(0.322)	(0.314)	(0.150)	(0.072)	(0.074)	(0.120)
Cash	-0.164	0.001	1.265	-1.680	-1.000	-0.680	-0.130	0.153	0.100	0.052
	(0.135)	(0.016)	(0.255)	(0.563)	(0.325)	(0.456)	(0.054)	(0.108)	(0.059)	(0.112)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.64	0.53	0.86	0.84	0.79	0.79	0.93	0.84	0.81	0.59
Observations	3,293	3,891	2,996	2,689	2,689	2,689	3,891	592	592	592

Notes. All right-hand side variables are lagged by one year. Standard errors (clustered at the 2-digit SIC industry level) are reported in parentheses.

Appendix Table A1. First-stage regression

Dependent variable:	CSR contracting
Constituency Statute	0.148
	(0.015)
Controls	
Size	0.025
	(0.037)
ROA	-0.257
	(0.386)
Leverage	-0.191
	(0.125)
Cash	-0.053
	(0.144)
Year fixed effects	Yes
Firm fixed effects	Yes
R-squared	0.58
Observations	4,519

Notes. Standard errors (clustered at the state of incorporation) are reported in parentheses.

Appendix Table A2. Robustness

	Short-termism	Long-termism	Firm value	CSR performance			Emissions	Green patents		
Dependent variable:	ERC	LT-index	Tobin's Q	KLD-index	KLD-index (environment & communities)	KLD-index (employees & customers)	Log(TRI)	Green patents	Green patents (pollution & recycling)	Green patents (renewable energies)
a. Specification without controls										
CSR contracting	-0.044	0.011	0.072	0.206	0.121	0.085	-0.086	0.032	0.020	0.012
	(0.020)	(0.004)	(0.033)	(0.109)	(0.061)	(0.078)	(0.024)	(0.011)	(0.010)	(0.015)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.64	0.53	0.86	0.84	0.79	0.79	0.93	0.84	0.81	0.59
Observations	3,293	3,891	2,996	2,689	2,689	2,689	3,891	592	592	592
b. Specification with firm- and compensation-level controls										
CSR contracting	-0.046	0.012	0.064	0.210	0.126	0.084	-0.086	0.029	0.018	0.011
	(0.020)	(0.004)	(0.031)	(0.109)	(0.061)	(0.079)	(0.024)	(0.012)	(0.010)	(0.015)
Firm-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Compensation-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.64	0.53	0.86	0.84	0.79	0.79	0.93	0.84	0.81	0.60
Observations	3,293	3,891	2,996	2,689	2,689	2,689	3,891	592	592	592

Notes. All right-hand side variables are lagged by one year. Standard errors (clustered at the 2-digit SIC industry level) are reported in parentheses.

Appendix Table A3. Robustness (continued)

Dependent variable:	Net KLD-index	Net KLD-index (environment & communities)	Net KLD-index (employees & customers)
	(1)	(2)	(3)
CSR contracting	0.270	0.176	0.094
	(0.144)	(0.086)	(0.095)
Controls			
Size	-0.706	-0.556	-0.150
	(0.140)	(0.095)	(0.105)
ROA	5.394	-2.653	8.047
	(3.373)	(1.897)	(2.904)
Leverage	0.193	0.413	-0.220
	(0.543)	(0.279)	(0.418)
Cash	-2.356	-1.110	-1.246
	(0.893)	(0.279)	(0.689)
Year fixed effects	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
R-squared	0.79	0.76	0.74
Observations	2,689	2,689	2,689

Notes. All right-hand side variables are lagged by one year. Standard errors (clustered at the 2-digit SIC industry level) are reported in parentheses