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CSR-Contingent Executive Compensation Contracts

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Abstract

Firms have increasingly started tying their executives' compensation to CSR-related objectives. In this paper, we attempt to understand why firms offer CSR-contingent compensation and the conditions under which such compensation improves corporate social performance. Using hand-collected data from proxy statements, we find that this emerging compensation practice varies significantly across industries and across different CSR categories. Further, well-governed firms are more likely to offer CSR-contingent compensation, and such compensation does lead to higher corporate social standing. Such firms are more likely to offer formula-based, *Objective* CSR-contingent compensation. However, our results suggest that non-formulaic, *Subjective* CSR-contingent compensation also helps improve companies' social performance when firm outcomes are more volatile and unpredictable, and therefore executives' effort and performance are harder to evaluate, and when firms have better corporate governance.

Keywords: corporate social responsibility, CSR-contingent compensation, executive compensation, corporate governance

“...if multinational corporations are sincere about sustainability, then they must link compensation for the senior executives directly to meeting goals such as cutting carbon emissions, and lowering water and energy use. Otherwise those targets will always be far down the list of executives’ priorities – if even on the list.”

Hugh Welsh, President of DSM North America¹

1. Introduction

In recent times, many firms have started tying executive compensation to sustainability metrics. Intel, for example, has been linking a portion of its executive and employee compensation to corporate responsibility factors since 2008, and presently links 3% of all its employees’ annual bonuses to environmental sustainability metrics.² Similarly, Alcoa links 20% of its executive bonus plan to carbon dioxide reduction and other environmental and safety-related goals. Many other firms, such as American Electric Power, Novo Nordisk and Xcel Energy, have instituted similar initiatives (Harvard Business Review, 2015). Popular press and practitioners have praised and advocated more widespread use of such CSR-contingent compensation contracts,³ arguing that they can be more effective at increasing shareholder value compared to standard pay-for-performance initiatives that can induce myopic managerial decision-making by unduly prioritizing short-term shareholder returns over long-term shareholder value (Kaplan and Norton, 1992; Jensen, 2002; Lenssen, Bevan, and Fontrodona, 2010).

Several strands of literature can help explain why firms likely offer these CSR-contingent compensation contracts to executives. For instance, the literature on the use of non-financial

¹ *The Guardian* <https://www.theguardian.com/sustainable-business/2014/aug/11/executive-compensation-bonuses-sustainability-goals-energy-water-carbon-dsm>

² Corporate Responsibility at Intel https://csrreportbuilder.intel.com/PDFfiles/CSR-2017_Full-Report.pdf

³ “... at the end of the day people are motivated by their pocketbooks ... if you want companies to take (sustainability) seriously, you are going to have to link it to people’s compensation.” By Veena Ramani, Senior Director of Corporate Programs (CERES), <https://www.greenbiz.com/article/why-tying-ceo-pay-sustainability-still-isnt-slam-dunk>

metrics in executive compensation suggests that CSR-contingent compensation can constitute optimal contracting under certain situations since they can provide information about managerial effort beyond that captured by financial performance measures and can induce managers to focus on long-term value creation (Holmstrom, 1979; Ittner, Larcker, and Rajan, 1997). The *institutional theory* of governance offers a slightly different perspective; it argues that firms take actions that allow them to establish and enforce their social legitimacy (e.g. Bansal, 2005; Scott, 2008). According to this view, by offering CSR-contingent compensation, firms are trying to cater to the expectations that various financial and non-financial institutions have of firms regarding their CSR-engagement. One indication of such increasing expectations is that over the last five years, total assets in socially responsible mutual funds have grown by 59% to \$72.6 billion.⁴ Large institutional investors (such as CalPERS) have also started investing more in socially responsible firms (Guenster, Bauer, Derwall, and Koedijk, 2010), and that even credit rating agencies now use firms' CSR engagement to assess their credit-worthiness (Weber, Scholz, and Fenchel, 2010; Attig, El Ghouli, Guedhami, and Suh, 2013). In fact, to cope with these heightened institutional expectations, more than 90 percent of the 250 largest companies in the world annually report on their CSR initiatives, despite the increasingly rigorous reporting standards.⁵

Another likely reason for firms to offer CSR-contingent compensation could be that firms are increasingly moving towards the *stakeholder view* of corporate governance (e.g. Freeman, 1984). Unlike the shareholder theory of corporate governance (Jensen and Meckling, 1976; Fama and Jensen, 1983) which solely focuses on shareholder wealth maximization, the stakeholder

⁴ "Investors Follow Their Conscience" by Anna Prior <http://www.wsj.com/articles/investors-follow-their-conscience-1437154588>, accessed January 22, 2016.

⁵ "CSR Reporting: The Expanding Field of Corporate Citizenship" by Rosalind McLymont <https://tnj.com/csr-reporting-the-expanding-field-of-corporate-citizenship/>, accessed March 25, 2019.

theory argues that executives act as agents for all *stakeholders*, including shareholders, customers, employees, suppliers, etc. To the extent that self-interested managers have an interest in pursuing their own agendas at the expense of this broad set of stakeholders, CSR-contingent compensation can help align the interests of managers with those of the stakeholders (Jawahar and McLaughlin, 2001; Coombs and Gilley, 2005). The stakeholder theory of governance can be seen as an ‘enlightened’ version of the shareholder theory (e.g. Jensen, 2002) since it effectively argues that corporations should pursue shareholder wealth with a long-run orientation that seeks sustainable growth based on responsible attention to stakeholder interests. This approach contrasts with a short-term focus on current share price even when that objective entails immediate or longer-term negative effects on other stakeholders. The combination of a long-run, sustainable conception of value coupled with acknowledgement of the importance of stakeholder considerations resonates with notions of corporate social responsibility (Millon, 2011).

Shareholder, stakeholder and institutional theories of governance share one common theme: all three suggest that at the end of the day, firms have increasingly started offering CSR-contingent compensation contracts in order to make a positive impact on corporate social standing and hence firm value. This view is not shared by critics who argue that CSR-contingent compensation creates the same perverse incentives that its pay-for-performance counterpart does. A proponent of this view, who believes in the *managerial power* theory (e.g. Bebchuk and Fried, 2004), may argue that managers have a significant say in determining their own pay, especially when boards are co-opted and board monitoring is weak (Wechsler-Linden and Lenzner, 1995). Thus, it is no coincidence that more firms have started using CSR-contingent compensation contracts recently as regular bonuses have come under increased scrutiny in the wake of the

financial crisis (Kolk and Perego, 2014).⁶ Relatedly, Ittner et al. (1997) suggest that one way managers can increase their compensation (at the expense of shareholders/stakeholders) is by tying it to the achievement of non-financial performance measures, including sustainability metrics, that are potentially easy to manipulate and hard to verify.

In this paper, we primarily investigate whether granting executives CSR-contingent compensation constitutes optimal contracting or an agency problem. To do this, we adopt a two-pronged approach. First, we examine the variables that help explain the likelihood of firms granting CSR-contingent compensation contracts and assess the extent to which they support some of the implications that emerge from the different governance theories about what constitutes optimal contracting. If the managerial power theory is true, then CSR contracts represent a manifestation of agency cost at the expense of shareholders/stakeholders and we should expect that firms' tendency to grant these suboptimal contracts *decreases* with improvements in governance. On the other hand, if CSR increases shareholder/stakeholder value, or if it helps a firm establish/reinforce its social legitimacy, then better corporate governance and/or higher product market competition should predict a higher likelihood of observing CSR-contingent compensation contracts.

The other angle we adopt is that we focus on the firms that granted CSR-contingent compensation contracts to their executives and examine the variables that help explain why some firms in our sample offered *subjective* CSR-contingent compensation to their executives while others offered *objective* CSR-contingent compensation. A strand of literature has examined the

⁶ A study by GMI Ratings indicates that at some firms as much as 40% of an executive's annual bonus could be tied to CSR goals. Xcel Energy, for instance, tied one-third of its CEO's annual bonus to renewable energy and emission reduction in 2013. <http://www.greenbiz.com/blog/2013/08/15/benefits-tying-executive-compensation-sustainability>.

circumstances under which subjective performance assessment can be more value-enhancing compared to objective evaluation.⁷ For instance, in situations where performance is an imperfect indicator of executives' underlying effort, or where relevant information regarding performance attainment cannot be entirely foreseen *ex ante*, subjective *ex post* evaluation of performance by the principal can provide better incentives for the agent (Baker, Gibbons and Murphy, 1994; Budde, 2007) and can even improve the efficiency of job assignments (Holmstrom and Milgrom, 1991).

There are different ways in which compensation contracts can be categorized as subjective vs. objective. For the purposes of this study, we define a CSR-contingent contract as *Objective* if the executive receiving the contract knows *ex ante* how much he/she can expect to earn from pursuing pre-specified CSR-related activities. That is, an *Objective* CSR-contingent compensation is 'formulaic' in that the contract specifies the *weights* attached to the accomplishment of *specific* CSR-related activities. Conversely, we define a CSR-contingent contract as *Subjective* if the executive receiving the contract is *ex ante* unaware of how much he/she can expect to earn. That is, the percentage or amount of compensation is *ex ante* unknown to the executive and subject to the discretion of the Compensation Committee *ex post*.

To conduct our tests, we comb through the annual proxy statements filed with the U.S. Securities and Exchange Commission (SEC), of all companies that were part of the S&P 500 index at the end of 2013, and carefully note whether any portion of the named executives' pay at these firms was tied to specific CSR-related objectives between 2009 and 2013. For firms that did incentivize CSR-engagement in this fashion in any given year, we make note of the CSR-related variables to which the firms tied executive compensation (e.g., safety, customer satisfaction,

⁷ Bol (2008) provides an excellent survey of this literature.

diversity initiative, etc.). This allows us to examine intra- and inter-industry differences in firms with respect to their CSR-contracting behavior. Additionally, we categorize each CSR contract as *Objective* or *Subjective*, depending on whether the proxy statement clearly states the weights assigned to each of the CSR-related activities expected of the executives.

Our empirical investigation suggests that CSR-contingent contracts are unlikely to be the result of managerial power, i.e. likely do not represent a manifestation of agency costs. We find that firms' tendency to grant CSR-contingent compensation to executives varies considerably across industries, and our results suggest that they usually contract on those CSR-related variables that are likely to be more important (or subject to increased attention by market participants) in their respective industries. For instance, firms in the *Oil and Petroleum Products*, *Mining and Minerals* and *Utilities* industries had the highest percentage of firms that offer CSR-contingent compensation contracts, and that most contracts in these industries are tied to milestones related to Safety, Health and Environment (SHE) concerns that are more likely to exist in these industries.

We also find that after controlling for these industry effects, the likelihood of firms granting CSR-contingent compensation increases with better governance and decreases with executive power/entrenchment. For instance, our data suggest that independent boards are *more* likely to offer CSR-contingent compensation, whereas firms with classified or co-opted boards are *less* likely. Our results suggest that well-governed firms offer CSR-contingent compensation as a way to *mitigate* agency problems and signal their commitment either to all stakeholders or to shareholders. Additionally, we find that CSR ratings of firms increase after firms grant these contracts, which suggests that CSR contracts do help accomplish what they set out to do, which is to improve the firm's corporate social standing (either as a means to an end to increase firm value

for *shareholders*, or as an end in itself to cater to *all stakeholders*). All in all, these results cast doubt on CSR-contingent contracts being the result of managerial power.

We further explore firms' tendency to grant *Subjective* vs. *Objective* CSR-contingent contracts. In particular, we find that roughly 2/3rds of the firms in our sample offered *Subjective* CSR-contingent contracts to their executives; firms are more likely to offer *Subjective* contracts when firm outcome is more volatile (e.g. volatility of earnings and stock returns) and is hence a noisy measure of underlying performance. Relatedly, we find that firms are more likely to offer *Subjective* CSR contracts when they have more growth opportunities, as measured by the firm's Tobin's Q. In such firms with unpredictable outcomes, the boards should exhibit greater discretion over how to compensate the executives according to their effort and performance. Thus, subjective contracting could avoid managers being rewarded for pure luck. Finally, while both *Objective* and *Subjective* CSR contracts result in improved subsequent CSR ratings for firms, *Subjective* CSR contracts become effective only at firms whose outcomes are volatile and where corporate governance is rather strong. This finding is consistent with Bol (2008) who argues that firms are more likely to introduce subjectivity if the monitoring intensity of the board is high, i.e. when the board is better able to monitor the executives and/or gather the requisite information to effectively conduct a subjective performance evaluation.

We fill the gap in the relatively nascent literature that lies at the intersection of executive compensation and corporate social responsibility (e.g. Hong, Li and Minor, 2016; Brooks and Oikonomou, 2018). Most prior studies that have investigated how executive compensation influences corporate social responsibility have examined how traditional measures of executive pay, like base salary, stock ownership, total compensation etc. influence (or are influenced by) a firm's socially responsible behavior (Cai, Jo, and Pan, 2011; Francoeur, Melis, Gaia, and Aresu,

2017; Karim, Lee, and Suh, 2018; Rekker et al., 2014; Jian and Lee, 2015). Ours is one of the first studies to provide a direct panel-data analysis of CSR-contingent executive compensation contracts to help understand whether offering CSR contracts to executives constitutes optimal contracting or not. Moreover, since we analyze firms that compensate executives for pursuing environment-friendly initiatives, our paper also adds to the relatively new research field of “climate finance” (e.g. Baker, Bergstresset, Serafeim, and Wurgler, 2018; Painter, 2019; Karolyi, 2019).⁸ Specifically, our paper helps understand the role that executive compensation contracts can play in helping reduce adverse climate change.

Perhaps more importantly, we conduct a thorough investigation of the potential value-relevance of CSR contracts by not only attempting to understand their relevance in the context of different theories of corporate governance, but also by exploring the circumstances under which firms choose to offer *Subjective* vs. *Objective* CSR-contingent contracts. This mode of investigation not only adds more rigor to our analysis, but also helps us better understand when firms may optimally choose to evaluate their executives subjectively vs. objectively. In the process, we also add to the growing body of literature looking to understand the efficacy of subjective performance evaluation of executives (Bol, 2008). To the best of our knowledge, the only other closely related paper in this respect is Maas (2018). Maas examines how corporate social performance targets affect CSR outcomes. The difference is that they focus on *hard* CSR targets vs. *soft* targets, while we study *subjective* and *objective* executive compensation and incentive aspects of the CSR contracts, based on whether dollar amount or compensation percentage are assigned in the contracts.

⁸ We are thankful to an anonymous referee for making this point.

The rest of this paper is organized as follows. In Section 2, we review the literature and develop the hypotheses. Section 3 explains our data sample. Section 4 provides results and discussion. Section 5 includes robustness tests, and Section 6 concludes.

2. Literature Review and Hypotheses Development

2.1. CSR-Contingent Compensation as Optimal Contracting

The literature offers several reasons why firms would want to grant CSR-contingent compensation to its executives. The most straightforward way to understand why firms offer CSR-contingent compensation to their executives is via the lens of the stakeholder theory of governance. According to this view, a firm must cater to the expectations of all its stakeholders since the firm's responsibility extends beyond mere economics or financial performance (e.g. Freeman, 1984, 2010; Freeman and Velamuri, 2006; Edmans, 2012), and that the fulfillment of these responsibilities is important for long-run value creation. Related empirical evidence indicates, for instance, that firms which focus on improving employee engagement (Flammer and Luo, 2017) or try to cater to their customers by promoting a cleaner environment (Russo and Fouts, 1997) benefit from a better social reputation and economic performance. In contrast, firms that engage in eco-harmful behavior suffer from reduced value due to customer boycotts and increased government scrutiny (Harvard Business Review, 2015; Henisz, Dorobantu, and Narthey, 2014).

Another explanation emerges from the *shareholder theory* of corporate governance, which argues that the objective behind any executive compensation structure (and more generally, any corporate governance mechanism) should be to mitigate the agency problem arising from the separation of ownership and control (Jensen and Meckling, 1976; Grossman and Hart, 1980). By tying executive pay to performance, firms can better align the incentives of managers to those of

shareholders. The problem is that sometimes accounting or market performance indicators (like stock price) can be imperfect or noisy measures of managers' underlying efforts. In situations like these, compensating managers for achieving specific CSR-related milestones can constitute optimal contracting because including such performance measures in the portfolio of performance measures can provide additional information about the managers' actions (Holmstrom, 1979; Banker and Datar, 1989) and can induce management to take actions that are more congruent with shareholder wealth maximization (Feltham and Xie, 1994).

From the *shareholder theory* perspective, then, the reason firms compensate executives for CSR-related milestones is that this constitutes 'optimal contracting' in response to agency problems and to constraints that limit contracting entirely on financial performance measures (usually with a short time horizon). Executives tend to boost short-term performance at the expense of long-term value creation, because they usually face short-term pressure such as meeting analyst quarterly earnings forecasts (Jensen and Fuller, 2002).⁹ Therefore, myopic executives may not want to engage in CSR initiatives which usually only pay off in the long term (Kotler, Hessekiel, and Lee, 2012; Edmans, 2012). To shift focus to long-term value creation, firms should provide proper incentives such as CSR-contingent contracts to their decision makers. Accordingly, if the shareholder theory of governance holds true, we should expect firms' tendency to grant CSR-contingent contracts to increase with better governance, such as increased board independence or better corporate control.

From the perspective of the stakeholder theory of corporate governance, CSR-contingent compensation contracts cater to the needs of all its stakeholders, particularly those that control

⁹ A survey by Graham, Harvey, and Rajgopal (2005) report that 78% of managers favor boosting short-term earnings at the expense of long-term performance.

important resources and can have a significant impact on firm value (Deegan, 2009). In this respect, the stakeholder theory of corporate governance is not too different from the shareholder theory, because they both view CSR-contingent contracts as an ‘optimal’ way to induce managers to take actions that can help improve firm value. The difference between the two approaches lies on the ultimate goal of the CSR contracting: the shareholder theory argues that with shareholder wealth maximization as the only goal, the CSR contracts mitigate the problems of information asymmetry and managerial short-termism; the stakeholder theory believes that CSR and CSR contracts must consider and create value for all stakeholders, with long-term shareholder wealth maximization as a natural result of it. This also helps explain why researchers have attempted to reconcile the two views by proposing a revised, “enlightened shareholder wealth maximization” view of corporate governance (Jensen, 2002).

Whether the firm adopts a shareholder perspective or a stakeholder perspective of governance, one should expect better corporate governance to increase the likelihood of firms offering CSR-contingent contracts. Thus, we hypothesize as follows:

H1a: If the stakeholder or the shareholder theory is true, measures of better corporate governance should positively predict the likelihood of firms offering CSR-contingent compensation contracts.

Moreover, because the importance of specific stakeholders varies across industries, the stakeholder theory of corporate governance would imply that, to the extent that firms have a greater incentive to cater to more important stakeholders, firms in each industry will contract on different CSR-contracting variables, depending on which variables are likely to be more important in their respective industries:

H2: If the stakeholder theory is true, CSR-related performance measures underpinning the CSR contracts should vary across industries depending on the relative importance of concerned stakeholders in the industry.

The above hypothesis implies, for instance, that we should expect to see firms in environmentally sensitive industries (e.g. *Mining, Oil and Petroleum*) to contract on variables relating to safety, health and environment. Because health and safety concerns of employees in these industries are likely to be more salient, we hypothesize:

H3a: Firms in environmentally sensitive industries are more likely to offer CSR-contingent contracts to their executives, as implied by the stakeholder theory and the institutional theory.

Finally, one additional theory of governance that can help explain the existence of CSR contracts is the *institutional theory*. The theory posits that firms operate within a social framework of norms, values and taken-for-granted assumptions about what constitutes appropriate or acceptable economic behavior (Carpenter and Feroz, 2001). Thus, firms stand to gain legitimacy by conforming to these expectations of institutions and stakeholders (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Oliver, 1991; Aldrich and Fiol, 1994; Bansal, 2005; Scott, 2008). This, in turn, can have several advantages, including reducing the probability of organizational failure (Scott, 1995), improving exchange conditions with partners and access to resources (DiMaggio and Powell, 1983), allowing firms to innovate with lower exposure to risk of loss (Sherer and Lee, 2002), lowering cost of capital (Bansal and Clelland, 2004), and improving financial performance (King and Lenox, 2002). To the extent that firms are increasingly expected to engage in CSR-related activities, one can see CSR-contingent executive compensation as a way firms help establish or reinforce their social legitimacy (Deegan, 2009; Berrone and Gomez-Mejia,

2009). The pressure to offer CSR-contingent compensation can also arise as organizations try to emulate other firms' doing the same so as to gain a competitive advantage in terms of legitimacy (DiMaggio and Powell, 1983; Unerman and Bennett, 2004).

To the extent that catering to institutional expectations and establishing/reinforcing the firm's legitimacy can result in a higher firm value, we expect better governance to positively predict the likelihood of firms offering CSR-contingent compensation contracts. This is the same hypothesis we made with shareholder and stakeholder theories of corporate governance.

In contrast to all the above governance theories, which in one way or another make a case for why firms use CSR-contingent compensation as a way of optimal contracting, the managerial power theory argues that these contracts represent a *manifestation* of agency costs. (e.g., Bebchuk, Fried, and Walker, 2002; Bertrand and Mullainathan, 1999). When managers have excessive power, become entrenched, or co-opt members on the board of directors, they can exert greater influence over how they are compensated, leading to undue overcompensation (Wechsler-Linden and Lenzner, 1995; Bebchuk and Fried, 2004). By setting loosely defined contract terms, or easy-to-reach CSR goals, executives can attain higher bonuses through CSR-contingent compensation than they otherwise could (Ittner et al., 1997; Kolk and Perego, 2014). Thus, it is no coincidence (according to this view) that more firms have started using CSR-contingent compensation recently as regular bonuses have come under increased scrutiny by market participants in the wake of the financial crisis (Kolk and Perego, 2014). Assessing CSR-related accomplishments sometimes requires considerable subjective judgment, and even when they are objectively measurable, managers who have captured the board can potentially set easy-to-achieve measurable targets just to boost their compensation (Holmstrom and Milgrom, 1991; Courty and Marschke, 2004).

If CSR contracts, as a manifestation of agency problems, provide an opportunity for managers to manipulate their compensation, firms' tendency to grant CSR-contingent contracts should *decrease* in measures of good governance. Conversely, we should expect firms to offer more CSR-contingent contracts as the quality of governance declines. Thus, we hypothesize:

H1b: If the managerial power theory is true, then measures of better corporate governance should negatively predict the likelihood of firms offering CSR-contingent compensation contracts.

Moreover, because such CSR contracts would be self-serving rather than driven by fundamentals, the theory does not make any specific predictions about which industries we should expect to see firms contract on CSR the most, or about which CSR-related activities firms should contract on. This leads to the following hypothesis:

H3b: If the managerial power theory is true, then we should not observe meaningful inter-industry differences, neither in terms of percentage of firms that offer CSR-contracts in each industry nor in terms of the CSR-variables that firms contract on.

The managerial power theory contrasts with all other governance perspectives in terms of its predictions about the factors that determine a firm's motivation to offer CSR-contingent contracts. Since CSR contracts are self-serving under the managerial power theory perspective, there is no real reason why one should expect such CSR contracts to have a significantly positive impact on a firm's corporate social standing in subsequent years. After all, if CSR-milestones set in these contracts are deliberately set at low/easily attainable levels, or are hard to measure, then there is no reason to expect any meaningful CSR-related accomplishment. In contrast, if any of the other governance theories are true, then one should expect CSR-contingent contracts to provide

proper incentives for managers to focus on CSR initiatives. Therefore, the contracts should have a positive impact on a firm's corporate social standing in subsequent years. This leads to our next set of hypotheses:

H4a: If either the shareholder theory, or the stakeholder theory, or the institutional theory of governance is true, then one should expect CSR-contingent contracts to have a positive impact on a firm's corporate social standing in subsequent years.

H4b: If the managerial power theory is true, then one should not expect CSR-contingent contracts to have any significant impact on a firm's corporate social standing in subsequent years.

2.2. Subjective vs. Objective CSR-Contingent Contracts

Granting a CSR-contingent compensation contract to executives is one thing; whether such attainment is measured objectively or subjectively is quite another. The literature has examined the issue of whether executive compensation should be contracted objectively or subjectively. One way to introduce discretion in compensation contracts is to allow the *ex post* performance evaluation to be subjective, either by using subjective performance *measures*, by allowing for (ex post) flexibility in the weighting of *objective* performance measures, or by allowing for (ex post) discretionary adjustments based on factors *other than* the performance measures specified *ex ante* (Gibbs, Merchant, Van der Stede, and Vargus, 2004; Bol, 2008).¹⁰ We focus on subjectivity in weights, dollar amount or compensation percentage linked to the target, because this allows us to look at the monetary incentive that executives receive. While collecting data on the CSR contracts, we find this subjectivity in weights often overlaps with the subjectivity in performance measures.

¹⁰ These forms of ex post performance assessment are not mutually exclusive; compensation contracts often include a combination of these forms of subjectivity.

Regardless of how subjectivity is introduced into CSR contracting, there are several reasons why introducing such subjectivity can be optimal. For instance, subjectivity can improve incentive contracting because it allows value-enhancing efforts that are not easily quantified to be included (e.g. Baker et al., 1994; Budde, 2007). This subjectivity is likely to be more useful in mitigating such incentive distortions when available objective performance measures are noisy or imperfect (Murphy and Oyer, 2003; Rajgopal, Shevlin and Zamora, 2006; Höppe and Moers, 2008). Subjectivity is also valuable in mitigating manager's risk because it allows the principal to incorporate new information that becomes available during the contract period to evaluate the manager (Bol, 2008). Additionally, Bushman, Indjejikian and Smith (1996) and Gibbs et al., (2004) show that use of subjectivity to assess performance can be particularly useful in situations when the principal's objective is to encourage the agent to take a long-run view of the firm. Murphy and Oyer (2003), in particular, argue that firms with strong growth or greater investment opportunities should make more use of subjective performance assessment, since in these firms it is important for managers to focus on more long-run value creation. If any of the governance theories outlined above are true, i.e. CSR-contingent contracts constitute optimal contracting, then one would expect firms to be more inclined to offer *Subjective* CSR-contingent contracts compared to *Objective* ones if they have more growth opportunities. The same relationship should be true with respect to earnings volatility, since the more volatile the earnings, the less informative they are of underlying effort and hence the more room for *subjective* assessment. Accordingly, we hypothesize the following:

H5: The likelihood of firms offering Objective CSR contracts to executives should be (a) decreasing in firms' investment opportunities, and (b) decreasing in volatility of firm outcomes.

While introducing subjectivity in CSR-contingent contracts can be useful in certain situations, it can also be costly. Perhaps the biggest concern with subjective performance contracts is that these contracts are not enforceable in the court of law, which means that the board can assess executive performance untruthfully (Bol, 2008). The greater the expectation (by executives) that the board will evaluate them untruthfully, the more likely it is that introducing subjectivity in performance assessment will distort incentives and reduce firm value (Bénabou and Tirole, 2002). Collusion between board and management, in situations where the board is co-opted or composed of many inside executives, can make subjective contracts ineffective. This problem is also likely to get inflated if the board's information gathering costs are rather high. Höppe and Moers (2008) show that information gathering costs negatively affect the introduction of subjectivity. They provide empirical evidence indicating that companies that could benefit from discretion are less likely to introduce subjectivity if the monitoring intensity of the board is low.

That said, we expect the usefulness of subjective contracts to increase if firms have better governance. For example, board independence can remedy the above-stated impediments to the effectiveness of subjective CSR contracts. First, independent board members are likely to be concerned about their reputation as truthful performance evaluators, since they usually serve on multiple boards. Consequently, they are much less likely to renege on subjective contracts than insider directors (Carmichael, 1989). Secondly, a plethora of literature shows that independent boards are better monitors of firms than non-independent boards and are less likely to collude. This again implies that such board members will be more effective at implementing optimal *Subjective* CSR-contingent contracts. Thus, we hypothesize as follows:

H6: Subjective CSR contracts should become more effective in improving firms' CSR rating when firm outcomes are more volatile and firms have better governance.

3. Data and Variable Description

We identify S&P 500 companies at the end of December 2013 and examine their Proxy Statements filed to U.S. SEC for the fiscal years 2009–2013. In carefully going through these statements, we note whether any portion of executives' compensation was tied to “safety”, “environment”, “customer satisfaction”, “social responsibility”, and/or other variables related to corporate social responsibility.¹¹ Specifically, in the spirit of Maas (2018), we search for the following keywords:

- Community (to capture phrases like community development, community engagement)
- Ethic (like ethical standards, ethics training)
- Corporate (like corporate social responsibility, corporate citizenship)
- Satisfaction (like customer satisfaction, client satisfaction, employee satisfaction)
- Environment (like environmental compliance, environmental goals)
- Sustainability (like sustainable, sustainability)
- Performance (like individual performance, performance measures, performance metrics)
- Engage (like employee engagement, engage employees, community engagement)
- Safety
- Health
- Injury
- Accident
- Diverse/Diversity

¹¹ Prior literature (e.g. Ittner et al., 1997) has examined the existence of compensation contracts tied, more broadly, to non-financial measures. Our focus is specifically on compensation tied to CSR-related variables, which are a *subset* of non-financial measures. Thus, we do *not* consider any compensation that is tied to variables like “market share”, “leadership and vision”, “succession planning”, integration of acquired operations, etc., which are non-financial measures but *not* CSR measures.

- Qualitative (to see if there are any other CSR-related variables that firms specifically mention as one of the qualitative measures that link to executive compensation)
- Non-financial/nonfinancial (to see if there are any other CSR-related variables that firms specifically mention as one of the non-financial measures that link to executive compensation)

In most cases, searching for all these words give us a fairly good idea about how, if at all, the firm pays its executives for achieving CSR-related milestones.¹² We subsequently differentiate between executives who receive CSR-contingent compensation and those who do not by using a dummy variable *CSR_contract*, which takes a value of 1 if the proxy statement indicates that the executive's pay was tied to achievement of CSR-related milestones, 0 otherwise. For the CSR contracts, we make note of the underlying CSR variables to which executive compensation is tied. We operationalize this perspective by first putting all of our CSR-related variables into six broad buckets:

- (a) Safety, Health and Environment: Safety, health, environment
- (b) Customer Satisfaction: Customer/client Satisfaction
- (c) Employee Satisfaction: Employee satisfaction/engagement
- (d) Diversity
- (e) Corporate Citizenship/Responsibility & Sustainability
- (f) Ethics/Corporate Culture

We introduce these six broad categories in order to create six dummy variables respectively: *SHE_D*, *CSAT_D*, *ESAT_D*, *Diversity_D*, *Sust_D*, and *Ethics_D*.

Finally, for each CSR contract, we introduce an additional dummy variable *Objective_contract*, which takes a value of 1 if the contract provides a formulaic relationship

¹² Sometimes we find firms using phrases like “client relationships”, “employee well-being”, etc. While these do not appear in our list directly, searching for our words does eventually lead us to the specific sections in the Proxy Statements where firms provide details about executive compensation tied to these measures. We then read the sections thoroughly. In this sense, our list of search words is fairly comprehensive.

between CSR and executive compensation, i.e. if the compensation contract is *Objective*. Conversely, this dummy variable takes a value of 0 if the contract does not provide a formulaic relationship between CSR and executive compensation, i.e. if the CSR contract is *Subjective*.¹³ Appendix 2 shows excerpts from Objective and Subjective CSR-contingent compensation contracts across the six broad CSR categories identified in this paper.

Data on firm-level variables (assets, leverage, etc.) comes from COMPUSTAT. Data on stock returns come from CRSP and data on executive compensation is obtained from EXECUCOMP. Ownership structure data is from CapitalIQ. Board information is from ISS. We also secure data on firms' social performance scores from Kinder, Lydenberg, and Domini (KLD), a third-party data vendor that provides CSR ratings for publicly traded firms. We use data from these sources primarily to identify control/explanatory variables in our regressions. Where applicable, we classify firms into industries based on the Fama-French's 17 Industry Classification (obtained from Fama and French's website).¹⁴

We collect data on many commonly used variables that have been shown to be important in determining CSR and compensation contracting. These variables fall into three categories: firm fundamentals (firm size, firm risk, Tobin's Q, ROA, Leverage, Earnings volatility, Credit rating, CSR rating, Life cycle stage), corporate governance measures (Board independence, Board size, Board diversity, Classified board, Board cooption, CEO Duality, Analyst coverage, Industry competition, Institutional ownership, Institutional ownership concentration), and executive

¹³ Sometimes firms clearly specify that they deliberately offer a *Subjective* contract. For instance, Air Products & Chemicals Inc.'s 2011 Proxy Statement states that "... the Company does not apply a formula or use a pre-determined weighting when comparing overall performance against the various objectives and no single objective is material in determining individual performance...variables that the Committee consider... safety, sustainability, diversity, and continuous improvement."

¹⁴ We also used Fama-French 30 and Fama-French 48 Industry classification for robustness, and the economic significance of our estimates remained qualitatively unchanged. Since our sample size is relatively small, we chose to use Fama-French 17 Industry Classification for our analysis.

characteristics (Age, Gender, CEO title, CEO tenure, board membership, Total compensation, Share ownership%, Tenure). In addition to many readily usable variables, we also construct some more complicated measures, such as board diversity index and firm life cycle stage, to better and more comprehensively reflect the environment around the CSR contracting. In particular, a diversified board likely reflects more stakeholder representation on boards (Luoma and Goodstein, 1999) as well as better board governance due to better information and stronger scrutiny from different perspectives of the board members (Carter, Simkins, and Simpson, 2003; Bernile, Bhagwat, and Yonker, 2018). Firms in different life cycle stages have different resources and limitations that may affect firms' CSR investments and performance (Withisuphakorn and Jiraporn, 2016). We provide all the definitions of these variables in Appendix 1.

4. Results and Discussion

4.1. Summary Statistics and Univariate Analysis

Table 1 shows how our sample firms are distributed across Fama-French 17 industries and across years. Specifically, it shows the number and percentage of firms in each industry that offered CSR-contingent compensation to at least one of their executives. We separately report these numbers and percentages for each of our sample years. The results indicate that more than 40% of the S&P 500 firms tied executive compensation to CSR variables in each sample year. We also see a mild upward trend in CSR contracting, with the percentage of firms rising monotonically from 42.48% in 2009 to 47.61% in 2013.

Table 1 also suggests that industry membership is an important determinant of whether a firm offers CSR contracts. For instance, 100% of the firms in the *Mining and Minerals* industry offered CSR-contingent compensation to their executives in every sample year. This percentage was rather high in *Oil and Petroleum Products* (77% - 91%) and *Utilities* (88% - 91%) industries

as well. In contrast, less than 15% of the firms in the *Textile Apparel & Footwear* industry offered such contracts. Notably, *Mining and Minerals*, *Oil and Petroleum Products*, and *Utilities* are all heavily regulated industries due to the high levels of pollution, natural resource depletion, and other adverse environmental consequences they create for society. Firms in these industries are more likely to be scrutinized by shareholders, regulators, and other stakeholders for lack of engagement in CSR. The finding that firms in these industries have a greater tendency to offer CSR contracts suggests that firms believe that tying executive compensation to CSR variables, particularly those related to Safety and Environment, is the right way of incentivizing executives.

To better understand how industry membership likely influences firms' tendency to offer CSR contracts, we further examine the use of different CSR-contracting variables, specifically, how many firms (number and percentage) in each industry contract on the six CSR categories. Note that the categories are not mutually exclusive, i.e. firms could (and mostly do) contract on several CSR-related variables at the same time. We expect that firms in *Mining and Minerals*, *Oil and Petroleum Products*, and *Utilities* industries would exhibit greater use of CSR variables related to "Safety" or "Environment" due to the regulated nature of their business.

Table 2 reports the results of this exercise and confirms our priors. Among the six categories, firms mostly contract on Safety, Health and Environment concerns (approximately 50% of the firms in each year), and firms in *Mining and Minerals*, *Oil and Petroleum Products*, and *Utilities* industries all had more than 90% of the firms contracting on these CSR-variables. Customer Satisfaction is the other popular CSR metric, with almost 40% of our sample firms contracting on some measure of customer/client satisfaction. Supporting our Hypothesis 2 that industry membership is an important determinant of the choice of CSR-contracting variables, Customer Satisfaction is more commonly contracted upon in *Retail* industry; none of the firms in

Mining and Minerals, Oil and Petroleum Products industry contracted on customer/client satisfaction in our sample. Similarly, *Ethical Conduct and Corporate Culture* was mostly contracted upon in the *Financial* industry, which is hardly surprising considering that our sample period of 2009 – 2013 immediately follows the financial crisis of 2008. Overall, our findings seem consistent with Ittner et al. (1997) who find that industry membership is an important determinant of the likelihood of firms offering executive compensation related to the achievement of non-financial measures. The results are also consistent with Berrone and Gomez-Mejia (2009) who find that firms in regulated industries tie executive pay to environmental performance.

In Table 3 we examine the number and percentage of firms that offered an *Objective* CSR contract compared to a *Subjective* one. We limit our analysis here to firms that offered a CSR contract to at least one of their executives. As in Table 1, we look at the distribution of these contracts across Fama-French 17 industries in each sample year. Table 3 shows that, on average, roughly one-third of the CSR contracts offered by S&P 500 firms between 2009 and 2013 were *Objective*. Firms in *Oil and Petroleum Products* and *Utilities* industries depict the highest percentage of *Objective* CSR contracts, approximately 50% and 65% respectively across the sample years.¹⁵ Thus, our results seem to suggest that industry membership not only influences the *likelihood* of firms offering a CSR contract but also the *nature* (objective vs. subjective) of the underlying CSR contract.

Oil and Petroleum Products and *Utilities* are 2 of the same 3 industries which, according to Table 1, also had the highest percentage of firms that offered CSR contracts in the first place. One possible explanation is that CSR-related concerns of firms in these industries are relatively

¹⁵ Table 3 shows that 100% of the firms in *Textile Apparel & Footwear* and *Steel Works* industries offer *Objective* CSR contracts. However, there are less than 5 firms in these industries. For that reason, we mainly focus on *Oil and Petroleum Products* and *Utilities* industries for the purpose of this discussion.

more easily measurable compared to firms in other industries, thereby making it easier for firms to write *Objective* contracts. For instance, to the extent that firms in *Oil and Petroleum Products* and *Utilities* industries care more about “Safety” or “Environment” (as Table 2 does suggest), it might be easier for them to write contracts that clearly specify targets related to, say, Co2 or greenhouse gas emissions, energy consumption, etc. and then assign a *specific* dollar amount or percentage of executive compensation. In contrast, firms that value “ethical conduct” or “diversity” may not be able to write such *Objective* contracts because it is hard to set specific CSR and compensation targets related to these measures.¹⁶ Thus, it is not industry membership, per se, but the relative *measurability* of the CSR variable(s) important to firms in those industries that determines whether the executives receive an *Objective* or a *Subjective* CSR contract.

While this may be a plausible explanation for our results, we believe that it likely does not tell the entire story behind why firms choose to offer *Objective* vs. *Subjective* contracts. First, in Table 1 we identified *Mining and Minerals* as one of the industries that had the highest percentage (100% in fact!) of CSR-contracting firms in each sample year. Environmental, safety, and regulatory concerns are likely to be as relevant in this industry as they are in *Oil and Petroleum Products* and *Utilities*. Yet, in Table 3, we find that between 2009 and 2012, only 20%-25% of firms in the *Mining and Minerals* industry offered an *Objective* CSR contract.¹⁷

Second, the way we define *Objective* and *Subjective* CSR contracts is more in terms of whether it establishes a *formulaic relationship* between executive compensation and executives’ CSR-related accomplishments. Thus, a CSR contract that explicitly ties 10% of executives’ bonus

¹⁶ We are grateful to one anonymous referee for making this point in an earlier version of this paper.

¹⁷ The number of observations is small (only 5 firms) compared to *Oil and Petroleum Products* and *Utilities*; perhaps the comparison is not fair.

to, say, diversity-related accomplishments classifies as an *Objective* contract. Whether or not the firm concurrently states the specific diversity *milestone* that needs to be achieved in order to get that 10% does not influence our classification.¹⁸ For the same reason, we classify a CSR contract as *Subjective* if the firm does not specify the exact compensation that the executive will receive related to, say, reducing Co2 emissions, but does state that a portion of executives' compensation is tied to reducing Co2 emissions by a *specific* amount. Here the target CSR-milestone is measurable but the portion of executive compensation is not.

Third, our reading of sample firms' Proxy Statements suggests that almost all CSR-related variables are measurable (albeit some more than others). For instance, in its 2011 Proxy Statement, Pepco Holdings Inc. states that it ties 10% of executive compensation to diversity initiatives "... as measured by the attainment of ... established affirmative action goals."¹⁹ Elsewhere in the document, the firm mentions that it measures attainment of diversity goals by looking at factors such as "...presenting at and attending Company- or subsidiary-sponsored diversity events, and expenditures made to minority-owned businesses." In these cases, diversity-related accomplishments are being explicitly measured. Similarly, CSR variables like promoting an ethical culture can be measured as well; for instance, the 2011 Proxy Statement of CA Technologies, Inc., states that "... executive compensation is also tied to the ethical standards of the Company. A failure to complete annual ethics training results in a mandatory 10% reduction of an executive's annual performance cash incentive."²⁰ The point is that in all these cases, the

¹⁸ For example, in its 2011 Proxy Statement, Automatic Data Processing assigned 5% of the bonus to "... Actively engag(ing) in diversity strategies and continu(ing) improving the representation of female and minority executives." https://www.sec.gov/Archives/edgar/data/8670/000120677412004138/adp_def14a.htm

¹⁹ <https://www.sec.gov/Archives/edgar/data/1135971/000119312512137709/d317477ddef14a.htm>

²⁰ <https://www.sec.gov/Archives/edgar/data/356028/000095012311058367/y91589def14a.htm>

underlying CSR variables are, to some extent, measurable. Thus, it is not necessarily the case that the measurability of the underlying CSR variable begets the *nature* of the CSR contract.

That said, our reading of firms' proxy statements does suggest at least some overlap between the measurability of underlying CSR variables and the *nature* of executive compensation offered to executives. Generally, but not always, firms seem more inclined to offer an *Objective* CSR contract if the underlying CSR contract variables are relatively more measurable. To shed additional light on this issue, we examine the number and percentage of firms that offered an *Objective* or a *Subjective* CSR contract conditional on (one of the six broad) underlying CSR-contracting variables.

The results of this exercise in Table 4 confirm our suspicion that the relative measurability of the underlying CSR-contracting variable possibly plays some role in explaining why firms offer *Objective* CSR contracts. For instance, the *total* number of firms contracted on Safety, Health and Environment, roughly 50% offered an *Objective* contract. In contrast, of the total number of firms that contracted on *Ethics*, less than 30% offered an *Objective* CSR contract. To the extent that Safety, Health and Environmental targets are easier to establish and measure as compared to those related to *Ethics*, these results suggest that the measurability of the underlying CSR variable is an important determinant of whether firms offer *Objective* vs. *Subjective* CSR-contingent contracts. Nonetheless, we also observe that this is likely not the complete story: even if we argue that Safety, Health and Environment targets are more easily measurable, Table 4 suggests that roughly 50% of the firms that contracted on Safety, Health and Environment offered a *Subjective* (non-formulaic) contract to their executives. Similarly, while Customer/Client satisfaction is relatively easy to measure (using customer surveys, for instance), about 60% of the firms that contracted on some measure of Customer/Client satisfaction offered a *Subjective* contract.

Overall, our results from Tables 1-4 indicate that while industry membership and relative measurability of underlying CSR variables play an important part in influencing the likelihood of firms offering a CSR contract as well as the *nature* of the CSR contract, there are likely other factors that help explain the observed inter-industry and intra-industry heterogeneity among firms.

To reflect on these other potential determinants, we turn our attention to other firm-level differences between firms that contracted on CSR and those that did not, and between firms that offered *Subjective* contracts and those with *Objective* contracts. Table 5 Panel A shows summary statistics of these firm-level differences. Column 1 of Panel A shows that, on average, firms that offered CSR-contingent contracts are larger, less risky, have lower Tobin's Q, ROA, leverage, and have a higher credit rating and CSR rating. In terms of corporate governance, CSR contracting firms are more likely to have independent boards, larger boards, CEO duality structure, more analyst coverage, more industry competition and less institutional ownership. They are less likely to have classified boards and co-opted boards. In particular, analyst coverage and industry competition are considered effective external governance mechanisms (Chen, Harford, and Lin, 2015; Giroud and Mueller, 2011), while CEO duality (CEO also serving as board chairman), classified board (board with staggered election), and co-opted board (the proportion of board members appointed after the CEO assumes office) suggest weak governance structures where the CEOs can capture the boards more easily (Jensen, 1993; Bebchuk and Cohen, 2005; Coles, Daniel, and Naveen, 2014). See all variable definitions in Appendix 1.

In Column 2, we explore the difference between firms that offered *Objective* contracts to their executives, and those that offered *Subjective* CSR contracts.²¹ On average, firms with

²¹ Note that a rare case is that a firm offers Subjective contracts to some executives and objective contracts to others at the same time. If this is the case, we include the firm in both categories.

Objective CSR contracts tend to have low ROA, high leverage, low Q-ratios, high credit rating and low CSR rating, and be less mature, compared to firms that offer *Subjective* CSR contracts. For corporate governance measures, firms with *Objective* CSR contracts have smaller and more independent boards, less CEO duality, less analyst coverage, more industry competition, less institutional ownership and higher ownership concentration.

In sum, firms with *Objective* contracts are significantly different from those with *Subjective* contracts, just as firms with CSR contracts are so different from those without.

The correlations in Table 5 Panel B suggest that CSR-contracting firms are generally larger, less risky, have lower Q and ROA, and have higher leverage, credit rating, CSR rating, and board independence. While results in Table 5 are helpful in preliminarily identifying important firm-level differences between our sample firms, it is hard to draw any meaningful conclusions based on these findings due to their univariate nature. For instance, both panels in Table 5 show that firms that contract on CSR are, on average, larger, i.e. have significantly more net assets. At the same time, however, Table 1 and Table 2 show that CSR contracts (as well *Objective* CSR contracts) are more pervasive in industries like *Utilities, Mining and Minerals*, which tend to be very capital intensive. Thus, the large size of CSR-contracting firms could simply be capturing the effect of industry membership on CSR contracting. Therefore, we subsequently conduct multivariate analysis, by controlling for industry fixed effects, to isolate the impact of correlated variables on firms' tendency to award CSR contracts.

4.2. Multivariate Analysis

4.2.1. The Determinants

In Table 6, we report the results from running various logistic regressions at the firm level in which the dependent variable is *CSR_contract*, a dummy variable which takes the value of 1 if

the firm offered CSR-contingent compensation contract to at least one of its executives, and 0 otherwise. Based on our Table 1 results, we include industry fixed effects in all our regression specifications to control for the effect of industry membership on CSR contracting.²² *CSR_contract* is recorded on a firm-year basis; thus it can take values of 0 and 1 for the *same* firm in *different* years during our sample period, depending on whether the firm granted a CSR contract in a given year or not.

Table 6 confirms our earlier finding that industry membership strongly influences the probability of a firm offering a CSR contract. Five industry dummies are particularly significant in all of our specifications: *Mining and Minerals*, *Oil and Petroleum Products*, *Construction/Materials*, *Steel Works*, and *Utilities*. The dummy variables for all these industries are positive and significant, suggesting that, all else equal, firms in these industries are more likely to offer CSR-contingent compensation compared to firms in other industries. Consistent with Hypothesis 3a, this finding lends credence to our earlier conjecture (based on simple summary statistics in Table 1) that regulatory compliance and reduction in negative externalities (like pollution, environmental damage, etc.) are important determinants of CSR contracting.

Table 6 also shows that, controlling for industry membership, the sign of *Earnings_volatility* changes from positive to negative. It is plausible that industries that are more volatile are more likely to offer CSR contracts, and therefore the *Earnings_volatility* captures this industry effect if we do not control for it.

Size is an important determinant of CSR contracting. We find that *firm_size* is both economically and statistically significant in all our regression specifications. This is unsurprising,

²² In order to minimize the effects of any outliers we use Firth's penalized likelihood approach to address potential issues of separability and small sample size.

given that large firms tend to have a global presence and are generally more susceptible to analyst and media coverage. Thus, it is possible that these firms motivate executives to pursue CSR because of PR-related concerns.

Turning to corporate governance, we find that firms with strong governance are more likely to offer CSR-contingent contracts. More independent boards, larger boards, and more industry competition predict CSR contracting, while firms with classified boards, co-opted boards, CEO duality are less likely to offer CSR contracts. For example, *Classified_board* (dummy variable which takes a value of 1 if the board is classified) is significantly negative in all regressions. Similarly, *Board_independence*, which captures the fraction of independent directors on the board, is significantly positive. Combined, these findings support the view that firms with weak boards – boards that are classified and/or boards that lack independence ((Bebchuk and Cohen, 2005; Cohen and Wang, 2013) – are less likely to offer CSR contracts. To the extent that better-governed boards have a positive impact on firm performance, these results, consistent with our Hypothesis 1a, seem to indicate that CSR contracts are optimally offered with the intent of increasing firm value.

In Table 7, we use a multinomial logit regression to study the likelihood of offering Objective and Subjective CSR-contingent contracts, as compared to no CSR contract, at the *executive* level. Our dependent variable is the choice between (1) no CSR contract, (2) subjective CSR contract, and (3) Objective CSR contract. The executive characteristics may also affect what kind of contracts they are receiving. On the one hand, executives may self-select into these contracts initially and may have a say on their compensation subsequently as they gain power in the firms. On the other hand, firms may design different incentives for executives of different characteristics.

The results in Panel A suggest that female managers and managers with higher total compensation are more likely to receive any kind of CSR contract, while measures proxied for executive power or entrenchment such as share ownership, job tenure, CEO tenure (tenure in the CEO position) predict CSR contracts negatively in general. Although firms feel obliged to give CSR contracts to higher ranked executives (CEOs and managers with higher pay), managerial power seems to also play a role in CSR contracting. In Panel B, we directly compare objective and subjective contracts conditional on the existence of any kind of CSR contracts. We find that firms are more likely to offer *Objective* CSR contracts when firm outcomes are less volatile (as indicated by *Earnings_volatility*), firm growth opportunities are fewer (*Tobin's Q*), CSR rating is lower, corporate governance is stronger (*Board_independence*, *Board_diversity*, *Board_cooption*, *Analyst_coverage*, and *Industry_HHI*), and executives are less entrenched (*CEO tenure*, *Executive_director*, *Share_ownership%*, *Tenure*, and *Duality*). The results support Hypothesis 5 that Objective CSR contracts are offered optimally.

The low volatility of earnings (and lower Q perhaps) suggests that it makes sense to offer *Objective* CSR-contingent contracts because firm outcomes are more predictable, making *Objective* contracts more effective to evaluate and incentivize executives. We also see evidence that firms with rather low CSR ratings are more likely to offer *Objective* CSR-contingent contracts. Agency problems are potentially severe when the board members are co-opted (possibly the CEO played a role hiring them), when the CEO is also the chairman of the board, and when analyst coverage and industry competition are low (i.e. weaker external governance). Independent boards and diversified boards, which are considered better monitors, strongly predict *Objective* contracts. We also find that executives who serve on the board are more likely to receive *Subjective* contracts.

Overall, firms with better governance, lower risk, and lower executive power are more likely to offer *Objective* CSR-contingent contracts, compared to those who offer *Subjective* contracts.

To the extent that industry membership and measurability of underlying CSR-contracting variables have a potential impact on the likelihood of firms offering an *Objective* contract, we also study the industry dummies and the six CSR category dummy variables in all our regressions (controlling for all the executive characteristics, firm fundamentals and corporate governance measures).²³ These CSR dummy variables represent the six broad categories of CSR variables that our sample firms have contracted on. For instance, one of the dummy variables that we introduce is *SHE_D* which takes a value of 1 if the firm offered a CSR contract related to Safety, Health or Environment, 0 otherwise. The dummy variables *CSAT_D*, *ESAT_D*, *Diversity_D*, *Sust_D* and *Ethics_D* are defined similarly. Some of these CSR variables are relatively easier to measure (e.g. those related to Safety, Health and Environment) than others (e.g. those related to Ethics), and we expect this measurability (or the lack thereof) has an impact on the *nature* of CSR contract. In general, we find that the CSR-contracting variables *do* have an impact on the *nature* of the contract. In particular, firms are more likely to offer an *Objective* CSR contract if the executive compensation is being tied to Safety, Health, Environment and Customer Satisfaction goals. To the extent that these CSR variables are ‘more’ measurable than, say, Employee engagement or Ethics, these results suggest that firms are more likely to offer an *Objective* CSR contract the more measurable the underlying CSR-contracting variable is. For industry effects, similar to our univariate analysis, we find that *Oil and Petroleum Products*, *Textile*, *Consumer Durables*, *Steel*

²³ The results on these dummies are not shown in some tables for brevity, but they are available upon request.

Works, Utilities, and Retail are more likely to offer *Objective* contracts, possibly because CSR is more measurable in these industries.

4.2.2. Impact of CSR Contracts on Firms' Social Standing

Having gained some understanding of why firms offer CSR contracts as well as why they decide to offer *Objective* vs. *Subjective* CSR contracts, we next investigate the impact of these contracts, if any, on a firm's social standing. Our objective is to evaluate whether offering CSR-contingent contracts, *Subjective* or *Objective*, to executives has the desired impact of improving corporate social performance. To do this, we estimate various specifications at the firm level in which we regress firms' one year-ahead KLD CSR ratings on *CSR_contract* and all other firm-level and industry-level control variables. These regressions help inform us as to whether granting CSR contract to its executives in a given year subsequently helps improve the firm's future social standing, after controlling for the firm's current social standing.

In Table 8 we compare firms with *Objective* or *Subjective* CSR contracts to those that did not grant any CSR contracts. The dependent variable is again the *CSR_rating* at year $t+1$. *Objective_contract* takes a value of 1 if the firm granted at least one *Objective* contract in that year, and 0 if the firm did not grant any CSR contracts. The coefficient of *Objective_contract* is significantly positive, suggesting that such contracts are effective in increasing CSR ratings. The negative interaction effect between *Objective_contract* and *CSR_rating_t* implies that such contracts are more (less) effective in firms with low (high) CSR standings. Interestingly, we find evidence suggesting that *Objective* contracts are less effective when firm outcomes are more volatile and firm risk is higher. This is consistent with our Hypothesis 6 that *Objective* contract loses its incentive effect when outcomes are volatile and unpredictable.

In terms of underlying CSR variables, we find in Column 2 that contracting *Objectively* on safety, health and environment (*SHE_D*), customer/client satisfaction (*CSAT_D*) and sustainability (*Sust_D*) are more effective than contracting on employee satisfaction/engagement (*ESAT_D*), diversity (*Diversity_D*) and Ethics (*Ethics_D*).

In Columns 3 and 4 we repeat the exercise by only comparing firms with *Subjective* CSR contracts to those with none. Here we find that the coefficient on *Subjective_contract* is positive and significant. This is similar to the result we observed in Columns 1 and 2 on *Objective_contract*, suggesting both kinds of contracts are effective. This is consistent with Hypothesis 4a that firms that offer CSR contracts experience an increase in their subsequent CSR ratings. This result stands even after we control for firms' current CSR ratings. The differences are found when studying interaction terms, none of which are significant.

For underlying CSR variables in Column 4, contracting *Subjectively* on *SHE_D*, *ESAT_D*, *Diversity_D*, *Sust_D*, and *Ethics_D* are more effective than on *CSAT_D*. Comparing to Column 2, *Objective* contracts on customer satisfaction (*CSAT_D*) are more effective than *Subjective* contracts; *Subjective* contracts on diversity and ethics are more effective than *Objective* contracts. These results provide some guidance on when to use *Objective* contracts and when to use *Subjective* ones.

Finally, in Table 9, we directly compare the effectiveness of *Objective* contracts and *Subjective* contracts, after excluding all firms without CSR contracts. Column 1 suggests that both contracts are not significantly different in improving CSR standing. Column 2 shows that *Objective* contracts are more useful in firms with currently low CSR rating. Arguably, assigning a specific dollar amount or compensation percentage is a stronger incentive to managers than using vague terms in the compensation contract, all else equal. In Column 3, we find that *Objective*

contract is not as effective when firm risk is high. This is consistent with our previous findings and Hypothesis 6 that *Subjective* contracts are specifically useful in firms with volatile outcomes. Column 4 implies *Subjective* contracts are more useful under good corporate governance, proxied by board independence and board diversity. *Subjective* contracts are arguably more difficult for the boards to monitor and evaluate, and easier for the executives to manipulate, especially when board governance is weaker. The results remain robust in Column 5 when we include all independent variables.

5. Robustness Tests

5.1. Granger Causality Analysis

Reverse causality is possible, although it is not very likely that the CSR contracting can significantly impact firm fundamentals such as firm size. To study which direction of causality dominates, we conduct the Granger Causality tests (Granger, 1969) to examine the nature of relations between CSR contract and firm characteristics and the direction of causality. Given the time series of the data on two variables X and Y, X is said to “Granger cause” Y if the lagged values of X are significant predictors of Y incremental to lagged values of Y.

To determine the optimal lag lengths n , we refer to the Bayesian information criterion (BIC) (Schwarz, 1978; Risannen, 1978) and the Hannan-Quinn information criterion (QIC) (Hannan and Quinn, 1979) and conclude the appropriate lengths should be 2 years for most firm characteristics.²⁴

²⁴ For robustness, we also test 1, 2, and 3 year lags and obtain similar results.

Consistent with our hypothesis, the evidence in Table 10 suggests that, in general, the causality from firm-level variables to CSR contract is much stronger than the reverse causality. The only exception we find is that CSR contract seems to affect firms' CSR standings significantly, while the reverse causality is only marginally significant.

5.2.GMM and Propensity Score Matching

CSR contract and CSR rating may have two-way causality as indicated by the Granger Causality test. In our main results in Tables 8 and 9, we address this issue by controlling for the *current* CSR rating and using CSR contract to predict *future* CSR rating. We find CSR contract has incremental explanatory power in all our regressions.²⁵

In this section, we further mitigate the endogeneity problem. The first method we use is the Generalized Method of Moments (GMM). We apply the dynamic GMM estimator to our panel data to control for the dynamic nature of the relationship between CSR contract and CSR rating. Unlike the traditional fixed-effects estimates we use in our main tests, GMM allows the current CSR contracting to be influenced by previous realizations of, or shocks to, past CSR rating. If the underlying economic process itself is dynamic – in our case, if current contract is related to past rating – then it is possible to use some combination of variables from the firm's history as valid instruments to account for simultaneity (Arellano and Bond, 1991). Specifically, we include all the independent variables (including past CSR rating and industry fixed effects), which we use in Table 6 to predict CSR contract, as instruments for the current CSR contract. Table 10 Panel B

²⁵ Using lagged dependent variable as an explanatory variable allows corporate finance empiricists to control for potential dynamic panel bias (Flannery and Hankins, 2013).

shows that the predicted value of CSR contract still has a significantly positive effect on future CSR rating.

The second method we use is the Propensity Score Matching (PSM). In particular, we match treatment firms with control firms based on the propensity score (Rosenbaum and Rubin, 1983), and then study the future CSR ratings of these two groups of firms that appear similar, but one group adopted CSR contracts and the other did not. We use the logistic regression in Table 6 to estimate propensity score for each firm and then match CSR-contracting firms with non-CSR-contracting firms that have the closest propensity scores, so that these two groups appear similar in terms of firm fundamentals, corporate governance metrics, industry membership as well as current CSR ratings. We find a significant difference in subsequent CSR performance between the two groups. Specifically, the CSR-contracting group has future CSR rating of 2.82 on average, while the non-CSR contracting group has only 2.51. The multivariate analysis on the matched subsample also suggests a positive effect of CSR contract on future CSR rating. Firms offering CSR contracts to their executives are more likely to improve their CSR performance in the future than similar firms that do not offer such contracts.

6. Conclusion

An emerging practice in executive compensation incentive is to link a portion of a manager's compensation to CSR-related initiatives. In this paper, we collect novel data on such compensation contracts and attempt to understand whether they generally constitute optimal contracting or represent a manifestation of agency problems.

Firms' CSR engagements have become particularly important to stakeholders in recent times; many corporations now dedicate a section of their annual reports to CSR activities. Whether

these activities increase firm value/performance has been the subject of much research, and the evidence in favor of CSR increasing firm value/performance is (at best) mixed. One reason for this mixed evidence is that some firms tout CSR engagement merely for window-dressing purposes. Popular press and practitioners have advocated that firms should directly tie their executives' compensation to achieving CSR targets in order to overcome such window-dressing incentives. However, as the managerial power theory suggests, tying executive compensation to CSR can create perverse incentives as well; executives can use such 'sustainability bonuses' to gear up their compensation to the detriment of firm value.

In this paper, we inform the debate on the worth of CSR-contingent compensation contracts by examining the nature of firm-specific, industry-specific, and executive-specific factors that correlate with their existence. Specifically, using hand-collected data on CSR-contingent compensation contracts, we classify S&P 500 firms as having no CSR contract, a *Subjective* CSR contract, or an *Objective* CSR contract, and identify the CSR-contracting variables underlying these contracts. We then examine the factors that are characteristically different about the firms granting such contracts and the efficacy of these contracts under different situations. Our comprehensive analysis of the CSR-contingent compensation generates four sets of findings:

First, we find that CSR-contracting practice varies significantly across industries and across CSR variables contracted on. These variations seem to be consistent with the Stakeholder theory and the Institutional theory.

Second, CSR-contracting firms tend to be larger, have lower volatility of firm outcomes (e.g., volatilities of earnings and stock returns) and have stronger corporate governance.

Third, *Objective* CSR contracts, as compared to *Subjective* ones, are offered more often in firms with lower volatility of outcomes, fewer investment opportunities, lower CSR ratings, and stronger governance.

Fourth, CSR contracts are effective in improving future CSR ratings, especially for firms with low volatility and currently low CSR ratings. *Subjective* CSR contracts become more effective for firms with high volatility, strong governance, and currently high CSR rating.

These findings are generally consistent with our hypotheses of optimal contracting. In conclusion, our paper attempts to understand the increasingly popular practice of CSR-contingent compensation contracting and adds another important and emerging perspective to the extensive literature on the optimal design of executive compensation. Using detailed CSR-contracting data, ours is the first paper to perform a thorough examination of the factors correlating with CSR-contingent compensation contracts and to differentiate between *Subjective* and *Objective* CSR contracts and between different CSR-contracting variables that the compensation is contracted on. Our findings will be particularly useful for boards and policymakers in designing CSR-contingent compensation contracts in terms of when to use CSR contract, what CSR variables to contract on, and what type of CSR contracts to offer. Managers with proper incentives through such contracts can then create value for shareholders and stakeholders.

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Appendix 1: Variable Description and Construction

1. Variable Description

Variable	Definition
Firm Fundamentals	
Firm_size	The natural logarithm of Net Asset where Net Asset is total asset less cash and short-term investments.
Firm_risk	Idiosyncratic volatility: the standard deviation of daily excess stock returns using the Fama and French (1993) three-factor model.
Tobin's Q	The ratio of the sum of market value of equity and the book value of debt to total assets
ROA	Return on assets: Net income before extraordinary items and discontinued operations divided by total assets
Leverage	The market value of firm's debt
Earnings_volatility	Variance of past five years of earnings.
Credit_rating	The S&P credit ratings from AAA (1) to D (24).
CSR_rating	KLD scores (total strengths minus total concerns) aggregated across the categories of community, diversity, employee relations, environment, human rights, and product.
Life_stage	Takes values of 1 to 5 according to the five firm life cycle stages (Dickinson, 2011): introduction, growth, mature, shake-out, and decline, based on expected cash flow generated separately from operating, investing, and financing.
Corporate Governance	
Board_independence	The number of independent outside directors divided by board size.
Board_size	The number of directors in the board.
Board_diversity	A multidimensional index of board diversity in gender, age, tenure, ethnicity, financial expertise, and breadth of board experience.
Classified_board	A dummy variable = 1 if the directors in the board are elected to staggered terms instead of annual term and 0 if not.
Board_cooption	the number of directors appointed after the CEO assumes office divided by board size (Coles, Daniel, and Naveen, 2014)
Duality	A dummy variable = 1 if the firm's CEO also serves as the chairman of the board
Analyst_coverage	The number of analysts following
Industry_HHI	Herfindahl–Hirschman Index (HHI) of industry concentration, as a proxy for product market competition, defined as the sum of the squares of market shares of the firms operating in the industry
Institutional_ownership	Percentage of company's outstanding common shares held by institutions.
Institutional_ownership_HHI	Herfindahl–Hirschman Index (HHI) of institutional investor ownership concentration, which is the sum of the squared ownerships in a firm.
Executive Characteristics	
Age	Executive's age
Female	A dummy variable = 1 for female and 0 for male.
CEO	A dummy variable = 1 for the CEO of the firm year and 0 for non-CEO executives
CEO tenure	the number of years the executive has been CEO at this firm
Executive_director	A dummy variable = 1 if an executive is also a board member and 0 otherwise.
Total_compensation	Executive's total compensation, including salary, bonus, grants of restricted stock, grants of stock options, long-term incentive plan payouts, gross-ups for tax liabilities, perquisites,

	preferential discounts on stock purchases, contributions to benefit plans, severance payments, and all other compensation.
Share_ownership%	The percentage of shares owned by the executive.
Tenure	the number of years the executive has worked in this firm
CSR Contract characteristics	
CSR_contract	A dummy variable = 1 if an executive's compensation contract has a CSR-related incentive component and 0 otherwise
Objective_contract	A dummy variable = 1 if the CSR contract is formulaic, i.e., clearly specifying the weights (the percentage or amount of compensation) attached to specific CSR-related activities and 0 otherwise
Subjective_contract	A dummy variable = 1 if the CSR contract is not formulaic, i.e., without any information about the weights attached to specific CSR-related activities and 0 otherwise
Industry dummies	Dummy variables for each of the Fama-French 17 industries
SHE_D	Dummy variable, that takes a value of 1 if executive compensation is tied to Safety, Health or Environment.
CSAT_D	Dummy variable, that takes a value of 1 if executive compensation is tied to customer or client satisfaction.
ESAT_D	Dummy variable, that takes a value of 1 if executive compensation is tied to employee satisfaction/engagement.
Diversity_D	Dummy variable, that takes a value of 1 if executive compensation is tied to promoting diversity.
Sust_D	Dummy variable, that takes a value of 1 if executive compensation is tied to sustainability, community engagement, corporate social responsibility, etc.
Ethics_D	Dummy variable, that takes a value of 1 if executive compensation is tied to promoting ethical conduct.

2. Variable Construction

Below we provide details about our construction of some more complicated variables we use.

For the Board_diversity index, we collect each board member's individual information from the ISS (formerly Riskmetrics) database. Then we calculate the number of female members in the board, the number of finance experts, the average number of outside board seats, the standard deviations of age and tenure in the board, and the Herfindahl index of ethnicity (categorized as White/Caucasian, African American, Asian, Hispanic, and other). These six dimensions include both demographic and cognitive aspects as suggested by the literature (e.g., Milliken and Martins, 1996). We normalize each diversity dimension to make their scale comparable. Then we construct the *Board_diversity* index with each component equally weighted:

Board_diversity = normalized female% + normalized age standard deviation + normalized tenure standard deviation + normalized number of outside board seats + normalized finance expert% + normalized (1- ethnicity Herfindahl index).

For the Life_stage measure, we follow Dickinson (2011) to assign a company's life cycle stage based on the evaluation of operating cash flows, investing cash flows, and financing cash flows. The life stage is determined by a company's cash flow patterns, according to the table below. The variable Life_stage takes values of one to five according to the five life cycle stages: introduction, growth, mature, shake-out, and decline. For example, if a company constantly has positive financing cash flows but negative operating and investing cash flows, then the company is categorized into the introduction stage.

Definition	Calculation	Introduction	Growth	Mature	Shake-out			Decline	
Operating CF	Sign	-	+	+	-	+	+	-	-
Investing CF	Sign	-	-	-	-	+	+	+	+
Financing CF	Sign	+	+	-	-	+	-	+	-

Appendix 2: Examples of Language Used in *Subjective* and *Objective* CSR Contracts

The table below shows examples of language used in *Objective* and *Subjective* CSR-contingent compensation contracts across the six broad CSR categories identified in this paper. We classify *Objective* contracts if the proxy statement clearly indicates how (in terms of dollar amount or compensation %) executive compensation is tied to achievement of CSR-related milestones. The table below highlights [in bold] the exact percentage of payout promised to executives with respect to achievement of CSR-related initiatives. In contrast, the language used in *Subjective* contracts does not give any such indication.

CSR Category	Sample Contracting Language in an <i>Objective</i> CSR Contract (Paraphrased)	Sample Contracting Language in a <i>Subjective</i> CSR Contract (Paraphrased)
Safety, Health and Environment	10% weight assigned to "positive year-to-year trend in <u>number of serious accidents</u> ", <u>successful implementation of safety programs</u> scheduled for implementation in AES business, and "positive year-to-year trend in <u>Lost Time Incidents recorded</u> ". [1]	"In determining individual awards , the Compensation Committee evaluated each officer's performance in conjunction with division and overall corporate performance. These objectives related to ... <u>health and safety metrics</u> ..." [7]
Customer/Client Satisfaction	5% - 10% weight (for each of the top executives) assigned to " <u>Customer Satisfaction - Utility Customers</u> " where "...performance is measured based on customer satisfaction through surveys performed by an outside vendor..." [2]	" Incentive awards based on various financial measures including ... <u>customer satisfaction</u> and employee satisfaction..." [8]
Employee Satisfaction	10% weight assigned to "People Leadership and Talent Management" with the goal to "...effectively lead, maximize development opportunities, and ensure <u>employee engagement</u> and productivity." [3]	"... (Mr. Frazier got compensated for maintaining) strong <u>employee engagement</u> during difficult economic circumstances, as evidenced by employee surveys and low turnover." [9]
Diversity	3.3% of the target payout (for all top executives) is assigned to <u>diversity</u> with the goal to "... to support the Company's <u>inclusive and diverse workplace</u> ." [4]	"... the bonuses of each of our (NEOs)... may be modified up or down based on the extent to which each executive promotes actions that promote <u>diversity</u> ..." [10]
Corporate Citizenship/Sustainability/Corporate Social Responsibility	10% weight is assigned to <u>Environmental and Social Responsibility</u> Initiatives as part of the Annual Incentive Program (AIP). [5]	The Compensation Committee determined awards based on executives' ongoing commitment towards <u>corporate citizenship and sustainability</u> initiatives, including "...the continued expansion of its Skills to Succeed corporate citizenship initiatives..." [11]
Ethics	Mandatory 10% reduction of target performance incentive for failure to complete annual <u>ethics</u> training." [6]	"... the compensation plan balances financial results with other Company values such as ... ethical conduct." [12]

[1] AES Corp., 2011 Proxy Statement:

<https://www.sec.gov/Archives/edgar/data/874761/000119312512089733/d303957ddef14a.htm>

[2] Integrys Holding Inc., 2010 Proxy Statement:

<https://www.sec.gov/Archives/edgar/data/916863/000119312511084974/ddef14a.htm>

- [3] NRG Energy Inc., 2013 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/1013871/000104746914002997/a2219239zdef14a.htm>
- [4] PepCo Holdings Inc., 2013 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/1135971/000157104914000929/t1400402-proxy.htm>
- [5] Kohl's Corp., 2009 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/885639/000119312510068565/ddef14a.htm>
- [6] CA Inc., 2011 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/356028/000119312512266860/d363732ddef14a.htm>
- [7] Aptiv PLC., 2012 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/1521332/000119312513101013/d494867ddef14a.htm>
- [8] Aetna Inc., 2011 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/1122304/000095012311034425/y89007def14a.htm>
- [9] Genworth Financial Inc., 2011 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/1276520/000119312511087588/ddef14a.htm>
- [10] Bristol-Myers Squibb Co., 2011 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/14272/000119312512123606/d287079ddef14a.htm>
- [11] Accenture PLC, 2011 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/1467373/000119312511345770/d262678ddef14a.htm>
- [12] Air Products and Chemicals Inc., 2011 Proxy Statement:
<https://www.sec.gov/Archives/edgar/data/2969/000119312511340294/d195834ddef14a.htm>

Table 1: Distribution of CSR-Contracting Firms across Industries

This table presents the distribution of sample firms with CSR contracts vs. firms without across the Fama-French 17 industries in each sample year. *Yes* indicates the number of sample firms that offered a CSR-contingent contract, while *No* indicates the number of firms that did not. *Yes (%)* expresses *Yes* as a percentage. We classify a firm as having granted a CSR-contingent compensation contract if its proxy statement indicates that one or more of its executives received compensation linked to CSR-related metrics.

FF17 Industries	2009			2010			2011			2012			2013		
	Yes	No	Yes (%)	Yes	No	Yes (%)	Yes	No	Yes (%)	Yes	No	Yes (%)	Yes	No	Yes (%)
Food	12	11	52.17%	12	11	52.17%	11	12	47.83%	12	12	50.00%	9	9	50.00%
Mining and Minerals	5	0	100.00%	5	0	100.00%	4	0	100.00%	5	0	100.00%	4	0	100.00%
Oil & Petroleum Products	24	7	77.42%	25	7	78.13%	28	5	84.85%	27	6	81.82%	32	3	91.43%
Textile App. & Footwear	1	6	14.29%	1	6	14.29%	1	6	14.29%	1	7	12.50%	0	3	0.00%
Consumer Durables	3	4	42.86%	3	4	42.86%	2	5	28.57%	3	4	42.86%	1	6	14.29%
Chemicals	7	2	77.78%	5	5	50.00%	6	4	60.00%	6	3	66.67%	7	3	70.00%
Drugs, Soap, Tobacco	12	15	44.44%	10	16	38.46%	10	16	38.46%	11	16	40.74%	9	18	33.33%
Construction	8	6	57.14%	8	6	57.14%	7	7	50.00%	7	7	50.00%	5	8	38.46%
Steel Works	2	1	66.67%	2	1	66.67%	2	1	66.67%	2	2	50.00%	2	1	66.67%
Fabricated Products	0	2	0.00%	0	2	0.00%	0	2	0.00%	0	2	0.00%	0	2	0.00%
Machinery & Bus. Equip.	14	44	24.14%	11	48	18.64%	17	43	28.33%	22	39	36.07%	21	35	37.50%
Automobiles	1	6	14.29%	3	5	37.50%	3	6	33.33%	4	5	44.44%	4	5	44.44%
Transportation	9	10	47.37%	8	10	44.44%	9	10	47.37%	9	10	47.37%	8	9	47.06%
Utilities	30	4	88.24%	30	4	88.24%	31	3	91.18%	31	3	91.18%	31	3	91.18%
Retail	9	20	31.03%	11	18	37.93%	13	17	43.33%	12	18	40.00%	4	6	40.00%
Financials	23	59	28.05%	28	55	33.73%	32	51	38.55%	31	53	36.90%	33	51	39.29%
Other	32	63	33.68%	35	63	35.71%	34	64	34.69%	33	68	32.67%	29	57	33.72%
TOTAL	192	260	42.48%	197	261	43.01%	210	252	45.45%	216	255	45.86%	199	219	47.61%

Table 2: Distribution of CSR-Contracting Firms across Primary CSR Categories

The table shows the distribution of CSR-contracting firms across six primary contracting variables in each of Fama-French 17 industries during 2009 - 2013. We consider a firm as having contracted on a particular CSR category in a given year if at least one of its executives' compensation was tied to that CSR category in that year. *Total* indicates the total number of firms that offered a CSR contract in a particular CSR category and industry, while the percentage in parenthesis indicates how much the total is as a percentage of the total number of firms that offered *any type* of CSR contract in that industry. Finally, *Obj.* indicates the number of "Objective" CSR contracts offered in a given industry. Thus, the difference between *Total* and *Obj.* indicates the number of "Subjective" CSR contracts. See Section 3 "Data and Variable Description" for details

FF17 Industries	Safety, Health and Environment		Customer Satisfaction		Employee Satisfaction		Diversity		Sustainability / Corporate Responsibility		Ethics	
	Obj.	Total	Obj.	Total	Obj.	Total	Obj.	Total	Obj.	Total	Obj.	Total
Food	8	20 (35.7%)	0	15 (26.8%)	0	21 (37.5%)	3	32 (57.1%)	0	13 (23.21%)	3	17 (30.4%)
Mining and Minerals	6	23 (100.0%)	0	0 (0.0%)	1	3 (13.0%)	0	0 (0.0%)	1	8 (34.78%)	0	3 (13.0%)
Oil and Petroleum	71	131 (96.3%)	0	1 (0.7%)	1	1 (0.7%)	8	21 (15.4%)	6	11 (8.09%)	11	24 (17.7%)
Textile App. & Footwear	4	4 (100.0%)	0	0 (0.0%)	0	0 (0.0%)	4	4 (100.0%)	0	0 (0%)	0	0 (0.0%)
Consumer Durables	6	8 (66.7%)	1	1 (8.3%)	0	2 (16.7%)	0	1 (8.3%)	0	1 (8.33%)	0	0 (0.0%)
Chemicals	10	30 (96.8%)	4	5 (16.1%)	3	5 (16.1%)	7	9 (29.0%)	1	9 (29.03%)	0	5 (16.1%)
Drugs, Soap, Tobacco	1	14 (26.9%)	5	13 (25.0%)	0	17 (32.7%)	24	26 (50.0%)	0	5 (9.62%)	6	13 (25.0%)
Construction	7	17 (48.6%)	6	17 (48.6%)	0	1 (2.9%)	4	4 (11.4%)	0	0 (0%)	2	9 (25.7%)
Steel Works	10	10 (100.0%)	5	5 (50.0%)	0	0 (0.0%)	0	5 (50.0%)	0	0 (0%)	5	5 (50.0%)
Fabricated Products	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Machinery and Bus. Equip.	2	27 (31.8%)	13	56 (65.9%)	8	30 (35.3%)	24	27 (31.8%)	1	17 (20%)	0	13 (15.3%)
Automobiles	0	3 (20.0%)	0	5 (33.3%)	0	2 (13.3%)	9	9 (60.0%)	0	0 (0%)	0	4 (26.7%)
Transportation	0	22 (51.2%)	5	23 (53.5%)	0	8 (18.6%)	12	18 (41.9%)	0	10 (23.26%)	0	10 (23.3%)
Utilities	99	143 (93.5%)	56	82 (53.6%)	18	22 (14.4%)	12	45 (4.4%)	3	6 (3.92%)	14	28 (18.3%)
Retail	0	5 (10.2%)	18	34 (69.4%)	1	9 (18.4%)	11	18 (36.7%)	7	7 (14.29%)	3	8 (16.3%)
Financials	8	15 (10.2%)	18	64 (43.5%)	9	54 (36.7%)	38	44 (30.0%)	7	26 (17.69%)	4	44 (29.9%)
Other	5	26 (15.9%)	24	76 (46.6%)	14	54 (33.1%)	47	56 (34.4%)	2	39 (23.93%)	10	39 (23.9%)
TOTAL	237	498 (49.1%)	155	397 (39.2%)	55	229 (22.6%)	203	319 (31.5%)	28	152 (15.0%)	58	222 (21.9%)

Table 3: Distribution of *Objective* and *Subjective* CSR-Contracting Firms across Industries

This table presents the distribution of sample firms with *Objective* CSR contracts vs. firms with *Subjective* contracts across the Fama-French 17 industries in each sample year. Ob. indicates the number of CSR-contracting firms that offered an *Objective* CSR-contingent contract, while Sub. indicates the number of CSR-contracting firms that offered a *Subjective* CSR contract. Ob. (%) expresses Ob. as a percentage. We classify a firm as having granted a *Subjective* CSR-contract if the proxy statement does not clearly indicate how (in terms of dollar amount or compensation %) executive compensation is tied to achievement of CSR-related milestones. In contrast, we classify a firm as having granted an *Objective* contract if the proxy statement clearly indicates how compensation is tied to achievement of CSR-related milestones.

FF17 Industries	2009			2010			2011			2012			2013		
	Ob.	Sub.	Ob.(%)	Ob.	Sub.	Ob.(%)	Ob.	Sub.	Ob.(%)	Ob.	Sub.	Ob.(%)	Ob.	Sub.	Ob.(%)
Food	1	11	8.33%	1	11	8.33%	2	9	18.18%	2	10	16.67%	2	7	22.22%
Mining and Minerals	1	4	20.00%	1	4	20.00%	1	3	25.00%	1	4	20.00%	2	2	50.00%
Oil and Petroleum Products	12	12	50.00%	13	12	52.00%	15	13	53.57%	14	13	51.85%	17	15	53.13%
Textile App. & Footwear	1	0	100.00%	1	0	100.00%	1	0	100.00%	1	0	100.00%	0	0	NA
Consumer Durables	1	2	33.33%	1	2	33.33%	2	0	100.00%	1	2	33.33%	1	0	100.00%
Chemicals	2	5	28.57%	3	2	60.00%	2	4	33.33%	1	5	16.67%	2	5	28.57%
Drugs, Soap, Tobacco	2	10	16.67%	2	8	20.00%	1	9	10.00%	1	10	9.09%	2	7	22.22%
Construction	2	6	25.00%	2	6	25.00%	2	5	28.57%	3	4	42.86%	2	3	40.00%
Steel Works	2	0	100.00%	2	0	100.00%	2	0	100.00%	2	0	100.00%	2	0	100.00%
Fabricated Products	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA
Machinery and Bus. Equip.	3	11	21.43%	2	9	18.18%	4	13	23.53%	4	18	18.18%	3	18	14.29%
Automobiles	0	1	0.00%	0	3	0.00%	0	3	0.00%	0	4	0.00%	0	4	0.00%
Transportation	2	7	22.22%	2	6	25.00%	2	7	22.22%	2	7	22.22%	2	6	25.00%
Utilities	20	10	66.67%	21	9	70.00%	21	10	67.74%	19	12	61.29%	21	10	67.74%
Retail	4	5	44.44%	4	7	36.36%	5	8	38.46%	5	7	41.67%	3	1	75.00%
Financials	4	19	17.39%	5	23	17.86%	5	27	15.63%	6	25	19.35%	5	28	15.15%
Other	6	26	18.75%	10	25	28.57%	9	25	26.47%	7	26	21.21%	6	23	20.69%
TOTAL	63	129	32.81%	70	127	35.53%	74	136	35.24%	69	147	31.94%	70	129	35.18%

Table 4: Distribution of *Objective* and *Subjective* CSR-Contracting Firms across Primary CSR-Contracting Variables

This table shows the number (percentage) of firms that offered *Objective* and *Subjective* CSR-contracts with respect to the primary CSR-contracting variables in each sample year. The six primary CSR-contracting categories indicate the CSR targets that the CSR contracts are linked to. We classify a firm as having granted a Subjective CSR-contract if the proxy statement does not clearly indicate how (in terms of dollar amount or compensation %) executive compensation is tied to achievement of CSR-related milestones. In contrast, we classify a firm as having granted an Objective contract if the proxy statement clearly indicates how compensation is tied to achievement of CSR-related milestones.

Primary CSR-Contracting Categories	Contract Type	2009	2010	2011	2012	2013
Safety, Health and Environment	Objective	43 (46%)	46 (49%)	49 (48%)	47 (45%)	52 (48%)
	Subjective	50 (54%)	48 (51%)	54 (52%)	56 (54%)	55 (51%)
Customer/Client Satisfaction	Objective	29 (36%)	33 (42%)	35 (43%)	30 (37%)	28 (37%)
	Subjective	52 (64%)	46 (58%)	46 (57%)	48 (63%)	48 (63%)
Employee Satisfaction/Engagement	Objective	9 (21%)	10 (22%)	13 (25%)	9 (20%)	10 (22%)
	Subjective	34 (79%)	35 (78%)	40 (75%)	36 (80%)	34 (77%)
Diversity	Objective	22 (34%)	18 (28%)	18 (25%)	15 (21%)	15 (24%)
	Subjective	42 (66%)	46 (72%)	53 (75%)	58 (80%)	48 (76%)
Sustainability and Social Responsibility	Objective	6 (22%)	7 (27%)	5 (18%)	5 (14%)	5 (14%)
	Subjective	21 (78%)	19 (73%)	23 (82%)	31 (86%)	30 (86%)
Ethics	Objective	12 (26%)	12 (29%)	13 (29%)	11 (22%)	10 (23%)
	Subjective	34 (74%)	30 (71%)	32 (71%)	40 (78%)	33 (77%)

Table 5: Summary Statistics and Correlations

This table shows a univariate analysis of our data sample. Panel A provides the summary statistics. Column 1 compares firms that granted a CSR-contingent contract to those that did not. Column 2 compares firms that granted an *Objective* CSR-contingent contract to those with a *Subjective* one. Panel B shows the Pearson correlation coefficients between CSR_contract dummy variable and some key firm-level variables. Variable definitions are in Appendix 1. T-statistics are obtained from a difference-in-means test. *, ** and *** denote significance at 10%, 5% and 1% level of significance, respectively.

Panel A: Summary Statistics

	Column 1			Column 2		
	CSR Contract	No CSR Contract	T-Statistic	Objective	Subjective	T-Statistic
Firm Fundamentals						
<i>Firm_size</i>	9.82	9.26	11.01***	9.77	9.84	-1.36
<i>Firm_risk</i>	0.34	0.43	-8.19***	0.35	0.34	-0.75
<i>Tobin's Q</i>	1.66	2.06	-18.07***	1.45	1.76	-14.11***
<i>ROA (%)</i>	13.81	14.70	-8.57**	12.98	14.24	-7.66***
<i>MktLev (%)</i>	18.63	15.67	13.08***	22.22	16.77	16.30***
<i>Earnings_volatility</i>	0.04	0.04	-1.24	0.04	0.04	0.55
<i>Credit_rating</i>	7.64	6.85	6.79***	8.24	7.36	9.86***
<i>CSR_rating</i>	2.68	2.45	1.18	1.97	3.01	-8.55***
<i>Life_stage</i>	2.82	2.87	-4.36***	2.71	2.87	-10.64***
Corporate Governance Variables						
<i>Board_independence</i>	0.83	0.80	6.33***	0.84	0.82	7.63***
<i>Board_size</i>	11.16	10.49	15.93***	11.04	11.22	-3.27***
<i>Board_diversity</i>	20.84	21.11	-1.08	20.94	20.80	1.26
<i>Classified_board</i>	0.32	0.46	-6.34***	0.28	0.29	0.63
<i>Board_cooption</i>	0.41	0.45	-5.32***	0.41	0.41	-0.21
<i>Duality</i>	0.66	0.61	4.08***	0.62	0.68	-4.18***
<i>Analyst_coverage</i>	24.32	23.33	1.74*	23.77	24.54	-2.14**
<i>Industry_HHI</i>	0.15	0.18	-8.73***	0.11	0.17	-15.09***
<i>Institutional_ownership (%)</i>	70.19	75.7	-10.49***	64.32	73.18	-10.55***
<i>Institutional_ownership_HHI</i>	0.04	0.05	-2.25**	0.05	0.04	3.62***

Panel B: Correlations between Key Firm-Level Variables

	CSR_contract	Firm_size	Firm_risk	Tobin's Q	ROA	Leverage	Credit_rating	CSR_rating	Board_independence
CSR_contract	1	0.22***	-0.07***	-0.15***	-0.07***	0.11***	0.10***	0.03***	0.15***
Firm_size		1	0.03***	-0.51***	-0.45***	0.21***	0.11***	0.21***	0.20***
Firm_risk			1	-0.06***	-0.17***	0.04***	0.07***	-0.18***	-0.03***
Tobin's Q				1	0.63***	-0.41***	-0.38***	0.01	-0.14***
ROA					1	-0.31***	-0.23***	0.01	-0.13***
Leverage						1	0.43***	-0.11***	0.05***
Credit_rating							1	-0.09***	0.06***
CSR_rating								1	0.17***
Board_independence									1

Table 6: Likelihood of Offering CSR–Contingent Contracts - Firm-Level Regressions

This table shows the results from estimating the penalized logistic regressions, with *CSR_contract* as the dependent variable. *CSR_contract* takes a value of 1 if the firm offers CSR contract to at least one executive, 0 otherwise. Definitions of all the variables are in Appendix 1. All firm-level variables are measured at the end of preceding fiscal year. Industry dummies are based on the Fama-French 17 industries. *, ** and *** denote statistical significance at 10%, 5% and 1% respectively.

	1	2	3	4
<i>Intercept</i>	-3.66***	-5.06***	-2.54***	-5.87***
Firm Fundamentals				
<i>Firm_size</i>	0.36***	0.44***	0.43***	0.37***
<i>Firm_risk</i>	-3.08***	-0.66	-0.13	-0.28
<i>Tobin's Q</i>	-0.15*	-0.08	-0.19**	-0.13
<i>ROA</i>	2.23**	1.84*	1.15	1.74*
<i>Leverage</i>	1.62***	0.38	1.90***	0.95
<i>Earnings_volatility</i>	2.45**	-3.01*	2.98**	-2.73
<i>Credit_rating</i>	0.02*	0.01	0.02	-0.02
<i>CSR_rating</i>	0.02	0.03*	0.01	0.03*
<i>Life_stage</i>	-0.14*	0.12	-0.17*	0.25*
Corporate Governance				
<i>Board_independence</i>			2.18***	1.54**
<i>Board_size</i>			0.20***	0.09***
<i>Board_diversity</i>			-0.03	-0.02
<i>Classified_board</i>			-0.33***	-0.25**
<i>Board_cooption</i>			-0.63***	-0.66***
<i>Duality</i>			-0.05*	-0.11**
<i>Analyst_coverage</i>			0.02*	0.02
<i>Industry_HHI</i>			-1.47***	-1.25*
<i>Institutional_ownership</i>			0.01	-0.00
<i>Institutional_ownership_HHI</i>			0.41	0.55
Industry Dummies				
Food		0.47*		0.77**
Mining and Minerals		4.82***		4.54***
Oil and Petroleum Products		1.84***		1.91***
Textile		-0.55		-0.23
Consumer Durables		0.20		0.67
Chemicals		0.98**		0.52
Drugs, Soap & Tobacco		0.19		0.14
Construction / Materials		0.98***		1.08***
Steel Works		1.81***		1.67***
Fabricated Products		-0.21		-2.03
Mach. and Bus. Equip		-0.02		-0.36*
Automobiles		0.24		0.30
Transportation		0.22		0.25
Utilities		2.49***		2.46***
Retail		0.17		0.40
Financials		-0.70***		-0.45*
N	1760	1710	1688	1681
R ²	0.09	0.20	0.14	0.28
<i>CSR_contract = 1</i>	811	787	785	781

Table 7: Likelihood of *Objective* vs. *Subjective* CSR-contingent Contracts

This table shows the results from a multinomial logit regression at the executive level. The dependent variable *CSR_contract* takes a value of 0 for no CSR contract, 1 for a *Subjective* CSR contract, and 2 for an *Objective* contract. Panel A assumes no contract as the base category, and Panel B assumes *Subjective* contract as the base category. Variable definitions are in Appendix 1. Industry dummies are used based on Fama-French 17 industries. *, ** and *** denote statistical significance at 10%, 5% and 1% respectively.

	Panel A:		Panel B:
	Base category: No contract		Base category: Subjective
	Subjective	Objective	Objective
	1	2	3
<i>Intercept</i>	-3.97***	-6.64***	-2.63***
Executive Characteristics			
<i>Age</i>	-0.00	-0.02	-0.01
<i>Female</i>	0.25***	0.57***	0.30**
<i>CEO</i>	0.12	0.04	-0.10
<i>CEO tenure</i>	-0.02*	0.01	0.02
<i>Executive_director</i>	-0.01	-0.22*	-0.24**
<i>Total_compensation</i>	0.02***	0.05***	0.03**
<i>Share_ownership%</i>	0.14	-0.30**	-0.43**
<i>Tenure</i>	-0.00	-0.02**	-0.02*
Firm Fundamentals			
<i>Firm_size</i>	0.33***	0.33***	0.01
<i>Firm_risk</i>	-0.86	-0.59	-0.32
<i>Tobin's Q</i>	0.23	-0.28*	-0.50***
<i>ROA</i>	-0.56	2.29***	2.72***
<i>Leverage</i>	-0.58	1.76***	2.28***
<i>Earnings_volatility</i>	6.80***	-9.95***	-14.74***
<i>Credit_rating</i>	0.01	0.01	0.00
<i>CSR_rating</i>	0.03***	0.01	-0.02**
<i>Life_stage</i>	0.15***	-0.13***	-0.27***
Corporate Governance			
<i>Board_independence</i>	0.41	3.08***	2.69***
<i>Board_size</i>	0.11***	0.08***	-0.04
<i>Board_diversity</i>	-0.08***	-0.02	0.07***
<i>Classified_board</i>	-0.29***	-0.18	0.10
<i>Board_cooption</i>	-0.50***	-0.95***	-0.45***
<i>Duality</i>	0.24	-0.62***	-0.89***
<i>Analyst_coverage</i>	0.00	0.01*	0.01*
<i>Industry_HHI</i>	2.24***	-3.65***	-5.95***
<i>Institutional_ownership</i>	0.04	-0.03	-0.08
<i>Institutional_ownership_HHI</i>	-1.79***	-1.03***	0.77
N	8349		3797
R ²	0.23		0.30

Table 8: CSR Ratings: *Subjective* and *Objective* CSR Contracts vs. No CSR Contracts

This table shows the results from estimating various firm-level specifications in which we assess how the firm's decision to grant a *Subjective* or an *Objective* CSR contract in Year t influences its subsequent KLD CSR rating in Year $t+1$, as compared to firms without CSR contracts. The dependent variable is CSR_rating_{t+1} . Columns 1 and 2 compare firms with *Objective_contract* and firms without any CSR contracts. *Objective_contract* takes a value of 1 if the firm granted a *Objective* CSR contract in a given year, and 0 if the firm did not grant any CSR contracts (the base category). Columns 3 and 4 compare firms with *Subjective_contract* and firms without any CSR contracts. *Subjective_contract* takes a value of 1 if the firm granted an *Subjective* CSR contract in a given year, and 0 if the firm did not grant any CSR contracts (the base category). We also control for CSR_rating_t in all specifications. We include dummy variables for each of the six primary CSR-contracting variables (e.g. *SHE_D* takes a value of 1 if the firm offered a CSR-contingent contract related to Safety, Health and Environment, 0 otherwise). Control variables include all variables used in Table 6. Variable definitions are in Appendix 1. Industry dummies are included in all regression specifications, but the estimated coefficients are not reported for brevity. *, ** and *** denote statistical significance at 10%, 5% and 1% respectively.

	1	2	3	4
<i>Intercept</i>	-1.92***	-2.30***	-2.25***	-2.22***
<i>CSR_rating_t</i>	0.68***	0.66***	0.68***	0.67***
<i>Objective_contract</i>	1.20***			
<i>Objective_contract</i> × <i>CSR_rating_t</i>	-0.14***			
<i>Objective_contract</i> × <i>Earnings_volatility</i>	-6.95***			
<i>Objective_contract</i> × <i>Firm_risk</i>	-1.01***			
<i>Subjective_contract</i>			0.67***	
<i>Subjective_contract</i> × <i>CSR_rating_t</i>			-0.03	
<i>Subjective_contract</i> × <i>Earnings_volatility</i>			-1.86	
<i>Subjective_contract</i> × <i>Firm_risk</i>			0.12	
<i>SHE_D</i>		0.62***		0.31**
<i>CSAT_D</i>		0.47***		-0.00
<i>ESAT_D</i>		-0.45**		0.78***
<i>Diversity_D</i>		-0.03		0.28**
<i>Sust_D</i>		0.63***		0.29**
<i>Ethics_D</i>		0.06		0.42**
Industry Dummies	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes
N	1063	1063	1286	1286
R ²	0.59	0.59	0.59	0.59

Table 9: CSR Ratings: *Objective* vs. *Subjective* CSR Contracts

This table below shows the results from estimating various executive-level specifications in which we assess how the firm's decision to grant an *Objective* CSR contract vs. a *Subjective* contract in Year t influences its subsequent KLD CSR rating in Year $t+1$. The dependent variable is CSR_rating_{t+1} . *Objective_contract* takes a value of 1 if the executive received an *Objective* CSR contract in a given year, and 0 if the executive received a *Subjective* CSR contract. We exclude the firms that did not grant any CSR contracts. We also control for CSR_rating_t in all specifications. We include dummy variables for each of the six primary CSR-contracting variables (e.g. *SHE_D* takes a value of 1 if the firm offered a CSR-contingent contract related to Safety, Health and Environment, 0 otherwise). Control variables include all variables used in Table 8. Variable definitions are in Appendix 1. All firm-level variables are measured at the end of preceding fiscal year. Industry dummies are included in all regression specifications, but the estimated coefficients are not reported for brevity. *, ** and *** denote statistical significance at 10%, 5% and 1% respectively.

	1	2	3	4	5
<i>Intercept</i>	-2.43***	-2.46***	-2.54***	-4.60***	-4.43***
<i>CSR_rating_t</i>	0.61***	0.63***	0.64***	0.60***	0.61***
<i>Objective_contract</i>	-0.06	0.09	0.65***	4.16***	4.44***
<i>Objective_contract</i> × <i>CSR_rating_t</i>		-0.07***	-0.12***	-0.05**	-0.10***
<i>Objective_contract</i> × <i>Earnings_volatility</i>			-0.17		-1.57
<i>Objective_contract</i> × <i>Firm_risk</i>			-1.20***		-1.26***
<i>Objective_contract</i> × <i>Board_independence</i>				-1.90*	-1.72
<i>Objective_contract</i> × <i>Board_diversity</i>				-0.12***	-0.11***
<i>Board_independence</i>				1.52***	1.43**
<i>Board_diversity</i>				0.10***	0.10***
Industry Dummies	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes
N	3271	3271	3271	3271	3271
R ²	0.61	0.62	0.62	0.62	0.63

Table 10: Robustness Tests

This table presents the results of the robustness tests. Panel A presents the results of the Granger causality tests applied to the vector autoregression (VAR) residuals corresponding to *CSR_contract* and firm characteristics. Panel B uses the generalized method of moments (GMM) to assess how the firm's decision to grant a CSR contract in Year *t* influences its subsequent KLD CSR rating in Year *t+1*. The dependent variable is *CSR_rating_{t+1}*. Control variables include all variables used in Table 6. Column 1 follows Arellano and Bond (1991) to use a difference-GMM estimator that takes the first difference of the regression equation and uses lagged levels of the variables as instruments for the differenced variables. Column 2 follows Blundell and Bond (1998) to use a system-GMM estimator to simultaneously estimate the equation in both differences and levels while using both sets of instruments. One- and two-year lags are used. The reliability of the GMM estimates is checked using Hansen's (1989) test for instrument validity and Arellano and Bond's (1991) test for serially uncorrelated error terms. Variable definitions are in Appendix 1. Industry dummies are included in all regressions. *, ** and *** denote statistical significance at 10%, 5% and 1% respectively.

Panel A: Granger Causality Tests

Firm Variables	H0: Firm Variables Do Not Cause CSR Contract		H0: CSR contract Do Not Cause Firm Variables	
	Chi-square	P-value	Chi-square	P-value
<i>Firm_size</i>	10.15	0.00	0.56	0.75
<i>Firm_risk</i>	3.75	0.15	1.86	0.40
<i>Tobin's Q</i>	5.70	0.11	3.13	0.21
<i>ROA</i>	2.40	0.30	1.04	0.60
<i>Leverage</i>	6.46	0.04	2.89	0.24
<i>Earnings_volatility</i>	1.14	0.28	0.16	0.87
<i>Credit_rating</i>	5.43	0.05	1.59	0.45
<i>CSR_rating</i>	4.15	0.10	7.73	0.04
<i>Life_stage</i>	4.87	0.04	0.72	0.71
<i>Board_independence</i>	5.35	0.05	0.13	0.93
<i>Board_size</i>	7.24	0.03	1.80	0.44
<i>Classified_board</i>	6.28	0.04	4.99	0.17
<i>Board_cooption</i>	4.37	0.06	3.29	0.20
<i>Duality</i>	2.47	0.24	4.17	0.55
<i>Analyst_coverage</i>	1.38	0.37	2.01	0.32
<i>Industry_HHI</i>	4.42	0.09	3.30	0.27
<i>Institutional_ownership</i>	3.57	0.18	0.62	0.73
<i>Institutional_ownership_HHI</i>	2.76	0.29	2.36	0.31

Panel B: GMM

	Difference GMM	System GMM
<i>CSR_contract</i>	0.22***	0.27***
Industry dummies	Y	Y
Control variables	Y	Y
N	856	856
Hansen J test p-value	0.25	0.31
AR(1) test p-value	0.00	0.00
AR(2) test p-value	0.18	0.22