


Tournament Incentives and Corporate Social Responsibility Performance

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Abstract

Management incentives for engaging and excelling in corporate social responsibility (CSR) performance is an important theme as business sustainability gains momentum. We examine the role of tournament incentives, which are created by competition among non-CEO (chief executive officer) senior executives (vice presidents [VPs]) for promotion to the CEO position, in firms' CSR performance. Using a sample of U.S. Standard & Poor (S&P) 1500 firms from 1993 to 2014, we find that tournament incentives proxied by pay gaps between CEOs and VPs are negatively associated with CSR performance, suggesting that competition for promotion could be detrimental for CSR performance. We further show that such association is more pronounced when the perceived probability of promotion increases prior to CEO turnover. This article provides policy, practical, and education implications and contribute to the literature on the integration of CSR into the business culture and strategic management processes.

Keywords

tournament incentives, CSR performance, corporate governance, management promotion

Introduction

Societal interest in corporate social responsibility (CSR) has increased considerably in the past two decades. Anecdotal evidence (Ernst Young [EY], 2017; Investor Responsibility Research Center Institute [IRRCi], 2018) indicates that investors value a firm's CSR performance, regulators require disclosure of CSR performance (European Commission, 2014), and companies disclose their CSR activities (Global Reporting Initiative [GRI], 2013; Rezaee & Fogarty, 2019). Prior studies also suggest that corporate executives' commitment is vital in achieving high levels of CSR (e.g., Chen et al., 2019; Deckop et al., 2006; Di Giuli & Kostovetsky, 2014; McGuire et al., 2003). Another line of research shows that

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rank-order tournament incentives, captured by a large compensation gap between CEOs (chief executive officers) and non-CEO senior executives (vice presidents [VPs]), affect firm performance (Kale et al., 2009; Lazear & Rosen, 1981), managerial risk-taking (Kini & Williams, 2012), and audit fees (Jia, 2017). Motivated by both anecdotal and empirical evidence, we examine whether VPs' incentives to become the next CEO, commonly referred to as "tournament incentives," are associated with the firm's CSR performance.

There are three major theories relevant to our study. First, agency theory suggests that CSR programs are often initiated to achieve firms' objectives of creating shareholder value and could be used as a mechanism to maximize personal visibility within management (e.g., Friedman, 1970; Jensen & Meckling, 1976). Agency theory also suggests the notion of managers acting in their own best interest, even at the detriment of shareholders, by possibly overinvesting in CSR or by abstaining from engaging in CSR because of effort aversion or poor compensation incentives (e.g., Bénabou & Tirole, 2010; Cheng et al., 2013; Krüger, 2015; Masulis & Reza, 2015). Second, stakeholder theory suggests that firms engage in sustainability activities including CSR to improve financial performance in creating shared value for all stakeholders (e.g., Jensen, 2001; Rezaee, 2016; Wood, 1991). Stakeholder theory predicts that CSR improves firm financial performance by gaining support from various stakeholders, such as employees (Greening & Turban, 2000), customers (Maignan et al., 1999), creditors (Goss & Roberts, 2011), and the public (Orlitzky et al., 2003).

The third theory relevant to this study is tournament theory, which suggests that the VPs' incentives affect firm policies including the level of CSR. The upper echelon theory (Hambrick & Mason, 1984) predicts that firm policies are largely affected by top managers and CSR is no exception (e.g., Chen et al., 2019; Deckop et al., 2006; Di Giuli & Kostovetsky, 2014; McGuire et al., 2003). Tournament theory suggests that competition for promotion incentivizes candidates to adopt different strategies to win promotion (e.g., Lazear & Rosen, 1981). Consistent with the theories, prior studies report that managers may exert greater effort or adopt more risky projects to increase the firm financial performance (Jia, 2017; Kale et al., 2009; Kini & Williams, 2012). Alternatively, managers could take opportunistic actions (e.g., Haß et al., 2015; Harbring & Irlenbusch, 2011; Kubick & Masli, 2015; Shi et al., 2015) that increase their promotion probability but are harmful to the firm's financial performance.

Given the prominent role of top managers in affecting firm policies and decisions (Hambrick & Mason, 1984), there are many rationales for executives, including CEOs, to engage in CSR activities (e.g., Deckop et al., 2006; Di Giuli & Kostovetsky, 2014; McGuire et al., 2003). Anecdotal evidence (Kuehn, 2010) also suggests that VPs and CFOs (chief financial officers) may engage in CSR activities that affect bottom-line earnings. Some other companies have created the position of a chief sustainability officer (CSO) in their C-suite executives (Rezaee & Fogarty, 2019; Strand, 2013). A survey reveals that the establishment of CSO is important in promoting CSR initiatives in more advanced stages of CSR sustainability (Miller & Serafeim, 2014). In addition, the chief operating officer (COO) may be in a better position to influence high-quality products that are not detrimental to society and the environment, whereas the chief human resources officer (CHRO) is more likely to have greater influence over the employee-related CSR performance measure, as illustrated in Appendix A.

We argue that tournament incentives may have two alternative implications for firm CSR performance (see Figure 1). First, stakeholder theory suggests that CSR promotes financial sustainability performance, and therefore, VPs have stronger incentives to engage

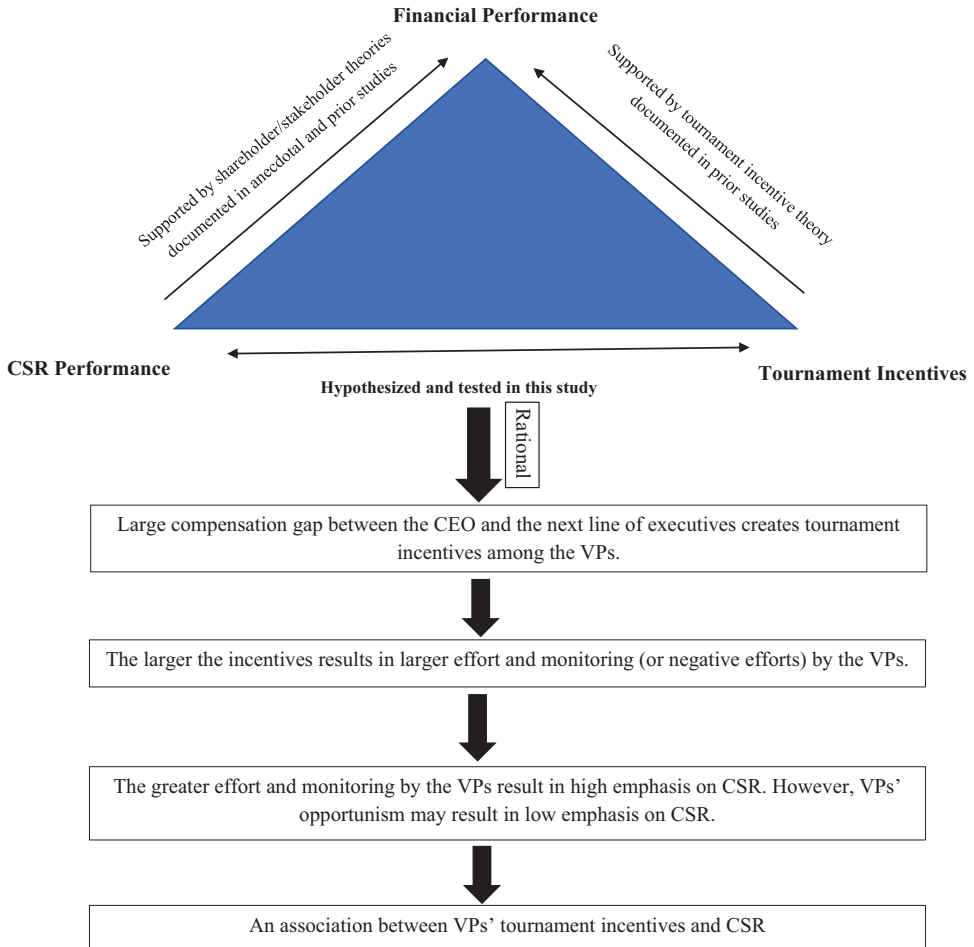


Figure 1. Interactions between CSR performance, financial performance, and tournament incentives.
 Note. CSR = corporate social responsibility; VPs = vice presidents.

in CSR activities that may increase financial performance in creating shareholder value (Carroll & Shabana, 2010; Rezaee, 2016).¹ Although there are some benefits for firms to engage in CSR actions, tournament incentives may deter VPs from pursuing these goals. In this context, VPs’ explicit incentives (promotion and bonuses) and implicit motivations (career goals) are primarily driven by alignment between VPs’ interests and shareholders’ value maximizations, which could discourage VPs to actively engage in CSR activities. In addition, mutual monitoring argument of tournament incentives (Fama & Jensen, 1983a, 1983b; Li, 2014) suggests that VPs’ pursuit of financial performance at the expense of stakeholders’ interest is strictly monitored and scrutinized by their peers. Therefore, these arguments suggest a negative relationship between tournament incentives and CSR performance.

A recent move toward CSR investing has encouraged the board of directors and management to integrate CSR strategies into operational and investing activities and decisions (Rezaee & Fogarty, 2019). However, tournament incentives may discourage VPs to invest

their limited resources in CSR, as they could otherwise invest in other financial projects with a focus on shareholder wealth creation (e.g., Mahapatra, 1984; Ogden & Watson, 1999). In addition, tournament incentives may give rise to sabotage in the CSR process (Harbring & Irlenbusch, 2011), resulting in poor CSR performance. These arguments suggest a negative relation between tournament incentives and VPs' engagement in CSR activities. Because of these two competing arguments, the ex-ante relation between tournament incentives and CSR performance is unclear. It is possible that both the CEO and VPs can engage in CSR, and the tournament incentives and CEO turnover can affect CEO and VP behavior. It is also possible that either the CEO or VPs affect CSR activities within the firm. These possibilities introduce tensions in our research question of whether promotion-based tournament incentives are associated with CSR performance. We address this research question by testing the association between tournament incentives and CSR performance empirically.

We conduct our analyses by using a sample of U.S. Standard & Poor (S&P) 1500 firms, from 1993 to 2014 with 14,983 firm-year observations. We extract executive pay data from EXECUCOMP and measure tournament incentives as the pay difference between that of the CEO and the median of VPs, following the literature (e.g., Jia, 2017; Kale et al., 2009; Kini & Williams, 2012).² We construct CSR performance based on CSR ratings provided by Morgan Stanley Capital International (MSCI) Environmental, Social, and Governance (ESG) KLD Research & Analytics, INC. (KLD) Stats (hereafter KLD) following prior research (Dhaliwal et al., 2011; Jain et al., 2016; Kim et al., 2014; Ng & Rezaee, 2015).

Our results show that stronger tournament incentives are associated with lower CSR performance level after controlling for CEO incentives and other determinants, supporting the argument that competition for promotion may have a detrimental effect on CSR. In terms of economic significance, results show that a pay gap increase of one standard deviation is associated with a CSR performance decrease of 0.016 and 0.025 for our two measures of CSR. Our results hold after correcting for endogeneity problems using a two-stage least square (2SLS) method, propensity-score matching (PSM) method, change model, and firm fixed effect. We also perform a battery of robustness checks using alternate tournament incentives and CSR performance measures, and our results remain intact.

CEO turnover is an important event that affects both CEOs' and VPs' incentives to engage in CSR. The limited horizon argument of CEO turnover suggests that CEO retirement has a negative effect on firm commitment to CSR (Kang, 2016). As such, if CEOs dominate the top management team (TMT), firms with CEOs close to turnover are less likely to engage in CSR regardless of the intensity of tournament incentives. On the contrary, VPs perceive a greater probability of promotion because of the possible CEO turnover (e.g., Kale et al., 2009). Therefore, it is also likely that CEO turnover intensifies tournament incentives, and thus strengthens the relation between tournament incentives and CSR. We measure the perceived promotion probability primarily using an indicator variable that is equal to 1 if the firm-year falls in the period of 3 (5) years prior to CEO turnover, and 0 otherwise. The result based on the measure renders support to the intensified tournament incentives of CEO turnover hypothesis. In addition, we find that the moderating effect of CEO turnover on the association between tournament incentives and CSR is more pronounced for insider-CEO turnover than outsider-CEO turnover cases. These results consistently support the notion that intensified promotion competition is even more detrimental to CSR and partially excludes the CEO power interpretation of our tournament incentive measure (e.g., Bebchuk et al., 2011), as a CEO's power is lower as the CEO approaches turnover. In addition, we use CEO age as another proxy for the perceived promotion probability and find consistent results. However, regardless of our effort, we cannot conclude that the effect of tournament

incentives on CSR is attributed to VPs only, because both VPs' and CEOs' incentives to engage in CSR are influenced by tournament incentives and CEO turnover.

Our study contributes to the literature on CSR and tournament incentives in several ways. First, it contributes to the literature on the determinants of CSR by showing that VPs' tournament incentives are related to CSR performance. The literature has mainly investigated the influence of CEOs on CSR based on the premise that VPs have little effect on firm operations.³ While a recent study shows that the chief marketing officer (CMO) has a significant influence on firm product safety decisions (Kashmiri & Brower, 2016), it is unclear whether VPs' incentives could affect their firm's overall CSR performance. We extend the literature by highlighting the importance of VPs' incentives for CSR and by showing a negative relationship between tournament incentives and CSR performance.

Second, our article adds to the literature of firm-level tournament incentives. Prior studies show mixed results on whether tournament incentives could induce executives to act in the best interest of shareholders and therefore improve firm value (e.g., Jia, 2017; Kale et al., 2009; Kini & Williams, 2012; Kubick & Masli, 2015; Shen & Zhang, 2018; Shi et al., 2015). We contribute to this debate by showing that tournament incentives and CEO turnover could be detrimental to CSR achievement, consistent with the negative effort hypothesis of tournament incentives (e.g., Kubick & Masli, 2015; Shi et al., 2015).

Third, our study offers important practical and policy implications. As CSR is integrated into corporate culture, business models, and practices (Rezaee, 2017), our study is informative to the board of directors in assessing the costs and benefits of pay structure among TMT. Social performance can be viewed by VPs as a non-value adding activity that may not necessarily increase shareholder value, but it could improve the image and reputation of the firm as a socially responsible citizen. Thus, the board of directors should encourage not only CEOs but also VPs to engage in CSR activities to obtain social capital. Our study is also useful for investors in assessing a firm's CSR performance by considering the tone at the top commitment to CSR by all senior executives, because many investment professionals use CSR in their investment decisions (Chartered Financial Analyst [CFA] Institute, 2015; Global Sustainable Investment [GSI] Alliance, 2017).

Finally, results pertaining to the role of tournament incentives for VPs for promotion to the CEO position are relevant in response to the 2020 COVID-19 pandemic in the sense that they may be asked to step up in addressing ongoing challenges of adverse financial performance, stock prices, and firm value. Corporate executives including CEOs and VPs should act during the crisis to build firm value, while also paying attention to redefining the corporate purpose of focusing on the safety and health of all stakeholders including employees, customers, and suppliers as well as generating sustainable CSR performance.

The remainder of our article is organized as follows. The "Literature Review and Hypothesis Development" section reviews the related literature and develops our hypotheses. The "Research Methodology" section discusses our empirical model, sample, and definition of the variables. The "Empirical Results" section presents our empirical results. Finally, the "Conclusion" section concludes.

Literature Review and Hypothesis Development

Literature Review

CSR. According to both agency and stakeholder theories, CSR activities can be viewed as value-increasing or value-decreasing to shareholders, and thus there are two differing views

regarding the relation between CSR performance and firm financial performance (Rezaee, 2016). The first view is that socially responsible behavior is costly due to increased expenses, but no immediate increase in benefits (e.g., Mahapatra, 1984; Ogden & Watson, 1999), suggesting that management (CEOs and VPs) should refrain from CSR engagements. Thus, CSR initiatives are viewed by executives as value-decreasing when CSR activities benefit other stakeholders at the expense of shareholders.

The second view is that there is a positive association between CSR performance and firm financial performance, because CSR programs and activities help to enhance firm reputation (Orlitzky et al., 2003), retain high-quality employees (Greening & Turban, 2000) and customers (Maignan et al., 1999), have better analyst forecast accuracy (Dhaliwal et al., 2012), enjoy a lower cost of capital (Dhaliwal et al., 2011; Ge & Liu, 2015; Ng & Rezaee, 2015), and have lower stock market risks (Jain et al., 2016; Kim et al., 2014). However, little, if any, is known about the role of VPs in CSR activities with a notable exception of Kashmiri and Brower (2016). This study contributes to the literature by examining the link between VPs' tournament incentives and CSR performance.

Tournament incentives. Tournament incentives are likely to induce VPs to adopt various strategies to increase their probability of promotion, resulting in two distinct consequences, called "positive effort" and "negative effort." The positive effort hypothesis suggests that VPs have incentives to spend efforts to promote performance to increase the promotion probability in a fair manner (Kale et al., 2009; Lazear & Rosen, 1981). Goel and Thakor (2008) and Kini and Williams (2012) consider the promotion contest as an option: Promotion to CEO represents being "in the money," and the tournament prize is the increase in pay, which suggests that VPs respond to tournament incentives by implementing risky policies. Consistent with the argument, Shen and Zhang (2018) show that tournament incentives are associated with more innovation efficiency. Prior studies also show that firms with greater tournament incentives exhibit better performance (Kale et al., 2009), suggesting that tournament incentives have positive implications for firms. Luo et al. (2020) use the setting of financial analysts to examine whether non-star analysts avoid direct competition with star analysts in their coverage decisions and find that non-stars avoid competing with stars in situations when star analysts are highly ranked, institutional ownership is lower, and winning the tournament generates higher rewards. The positive effort can also be explained by the argument that unethical behavior can be curtailed by increased mutual monitoring among VPs under the tournament scheme (Fama & Jensen, 1983a, 1983b).

Alternatively, tournament incentives are also likely to induce VPs to take opportunistic actions that could be detrimental to the firm's performance. As promotion carries higher remuneration, authority, and status, VPs are likely to be tempted to resort to self-serving actions to attain rewards and to rationalize that the risk of opportunistic behavior is worth the significant payoff of promotion (Bainbridge, 2003; Shi et al., 2015). Consistent with the argument, Kubick and Masli (2015) observe that tax aggressiveness increases with CFO tournament incentives. Similarly, Haß et al. (2015) and Shi et al. (2015) show that VPs' tournament incentives raise the likelihood of fraud and a securities class action lawsuit. In addition, experimental studies reveal that sabotage emerges due to tournament incentives as the candidates could pull down their competitors' performance and therefore increase their promotion probability (Harbring & Irlenbusch, 2011). This study extends prior studies and examines whether VP's tournament incentives affect CSR.

Hypothesis Development

Prior studies as reviewed in the previous section do not adequately address the effect of tournament incentives on CSR performance. Built on the tournament theory, we argue that VPs who compete for promotion to CEO have incentives to influence CSR to increase their promotion probability. On one hand, tournament incentives could motivate executives to exert effort, including CSR, to promote operations and firm's performance to increase their promotion probability in a fair manner. Stakeholder theory suggests that CSR promotes an array of performance metrics covering branding (Orlitzky et al., 2003), finance (El Ghoul et al., 2011; Ge & Liu, 2015; Goss & Roberts, 2011), human resources (Greening & Turban, 2000), and marketing (Maignan et al., 1999) sectors. Thus, VPs from respective departments should engage in CSR actively to improve their performance. Conversely, VPs' career prospects may be jeopardized because certain CSR performance can negatively affect their departments' performance (Kashmiri & Brower, 2016). In addition, poor CSR performance could impair firms' financial performance, signaling VPs' inability in steering the company and forcing the board to seek outsiders to replace the VPs. Furthermore, promotion-based incentives encourage VPs to monitor others to win the promotion contest using unsporting actions. In other words, the mutual monitoring argument of tournament incentives (Fama & Jensen, 1983a, 1983b; Li, 2014) suggests that VPs' pursuit of financial performance at the expenses of stakeholders' interest is strictly monitored and scrutinized by their peers. These arguments collectively suggest a positive relation between tournament incentives and CSR performance.

On the other hand, tournament incentives may induce opportunistic behaviors that are harmful to CSR performance. First, the uncertainty of CSR investment may discourage VPs from actively engaging in such investment when they could otherwise invest in projects with more predictable performance. Indeed, prior studies (e.g., Deckop et al., 2006; McGuire et al., 2003) show that CEOs with a significant proportion of performance-based compensation are more myopic in CSR actions as CSR could divert their limited resources and the contribution of CSR to firm performance is uncertain. Second, the tournament incentives may give rise to the sabotage phenomenon in the CSR process (Harbring & Irlenbusch, 2011). VPs who are unwilling to let other VPs be promoted are likely to refuse to cooperate or may even conceal critical information during the CSR process, leading to lower CSR performance.

Taken together, the relation between tournament incentives and CSR performance can be affected by many factors and such relationship is not clear ex-ante, and therefore, we state our hypothesis as follows:

Hypothesis 1 (H1): There is a relationship between promotion-based tournament incentives and CSR performance.

We further explore whether the relation between tournament incentives and CSR is affected by CEO turnover. The effect of CEO turnover on CSR is complex, as it is unclear who has dominant influence on CSR decisions within the firm among the C-suite executives, and whether the CEOs who are under pressure of improving financial performance or who know their term will be ending soon might put less emphasis on the CSR investments. Consistent with the limited horizon argument of CEO turnover, Kang (2016) shows that CEO retirement has a negative effect on firm commitment to CSR. Thus, when CEOs

dominate TMT, firms with CEOs close to turnover are less likely to engage in CSR regardless of the intensity of tournament incentives. However, when CEO is approaching turnover, a new succession contest round is likely to start and therefore increases VPs' perceived probability of promotion, suggesting intensified tournament incentives. Consistent with the argument, Kale et al. (2009) find that the effect of tournament incentives is stronger when VPs perceive a greater probability of promotion as CEOs are getting closer to retirement, a prominent type of CEO turnovers.

In a similar vein, Jia (2017) and Shen and Zhang (2018) also show that the effect of tournament incentives is more pronounced before CEO turnover. However, it is unclear whether CEOs or VPs dominate CSR decisions, and whether and how CEO turnover affects the relation between tournament incentives and CSR, and thus, it is challenging to distinguish if it is the CEO actions or VP actions that lead to the link between tournament incentives and CSR performance. We posit that the perceived promotion probability strengthens the relation between tournament incentives and CSR. We expect CEO turnover to intensify the relationship between tournament incentives and CSR, because it increases the perceived probability of promotion for VPs, and it can also increase the pressure on the CEOs. Thus, the moderating effect can manifest itself both through VP actions and/or CEO actions. As such, we state our second hypothesis as follows:

Hypothesis 2 (H2): CEO turnover moderates the relationship between promotion-based tournament incentives and CSR performance.

Research Methodology

CSR Performance Measures

We measure CSR performance based on the KLD filed by MSCI, a global company that provides independent CSR rating and analysis for institutional investors worldwide. The database provides strength (positive rating) and concerns (negative rating) on various dimensions of CSR performance based on predetermined standards. The overall rating for each dimension is equal to the sum of the strengths minus the number of concerns in five dimensions of community, diversity, employee relations, environment, and product (Jain et al., 2016; Kim et al., 2014; Ng & Rezaee, 2015). We employ two commonly used methods to transform the original ratings on strengths and concerns to our main dependent variables using industry and/or year adjusted CSR measures. Our first measure of CSR (*CSRI*) is based on Kim et al. (2014). We first calculate the CSR net counts as total strengths minus total concerns for each dimension. We then add up all the CSR net counts from each dimension to have the total CSR net counts (*CSR_NET*) for each firm–year observation. The five dimensions used to construct the CSR measure are labeled with $n = 1$ to 5 in the following formula for *CSR_NET*:

$$CSR_NET_{i,t} = \sum_{n=1}^5 (STR_{i,n,t} - CON_{i,n,t}). \quad (1)$$

In each Fama–French-48 industry, we obtain the highest *CSR_Net* (Max *CSR_Net*) and lowest *CSR_Net* (Min *CSR_Net*), and then transform CSR net counts (*CSR_Net*) for firm i in industry j in year t to *CSRI*, using the following formula:

$$CSR1_{i,t} = \frac{CSR_NET_{i,t} - \min(CSR_NET_{i,t}) \text{ in industry } j}{\max(CSR_NET_{i,t}) \text{ in industry } j - \min(CSR_NET_{i,t}) \text{ in industry } j}. \quad (2)$$

Similarly, we calculate the second measure of CSR performance (*CSR2*) following Deng et al. (2013). First, for each dimension, we calculate the strength percentage (in fractions of all the available strength indicators in that year) and the concerns percentage (in fractions of all the available concerns indicators in that year). The difference in the two above percentages is the net score for the dimension, and then, we add up all five net scores to calculate *CSR2*.⁴ The five dimensions used to construct CSR measure are labeled with $n = 1$ to 5 in the following formula for *CSR_NET*:

$$CSR2_{i,t} = \sum_{n=1}^5 \frac{STR_{i,n,t}}{\max(STR_{i,n,t}) \text{ in year } t} - \sum_{n=1}^5 \frac{CON_{i,n,t}}{\max(CON_{i,n,t}) \text{ in year } t}. \quad (3)$$

Tournament Incentive Measures

We construct tournament incentive measures based on executive compensation data from EXECUCOMP, which covers top executives from S&P 1500 U.S. firms per year.⁵ We identify a person as the CEO in the dataset (CEOANN = 1) and define other executives as VPs.⁶ Following prior literature (e.g., Kale et al., 2009), we measure tournament incentive as the pay gap between a CEO and the median VPs. For observations, if former CEOs serve as current VPs, we delete former CEOs' compensation in calculating the median VP compensation. Furthermore, firm-year observations with negative pay gap between the CEO and median VPs are eliminated. In our final sample, on average, the pay gap is around US\$4.659 million (US\$1.969 million at median). In the robustness test, we use the Gini Index, a measure of inequality among all top management as an alternative measure for pay gap following Kini and Williams (2012).

Corporate Governance (CG) Measures

We use the strengths and concerns indicators on CG dimensions from the KLD file to calculate CG scores. Consistent with *CSR1* and *CSR2* calculations, we employ two alternative adjustments of CG strength and concerns. To calculate the first measure of CG, we begin with the net CG, which equals the number of strengths minus that of concerns for each firm-year observation. Then in each Fama-French-48 industry and year combination, we calculate the highest and lowest net CG values. Finally, the first CG measure is calculated as firm-year net CG minus industry lowest net CG, deflated by industry highest net CG minus industry lowest net CG. To calculate the second CG measure, we begin with the strength percentage (in fractions of all the available strength indicators in that year) and the concerns percentage (in fractions of all the available concerns indicators in that year), then take the difference between the two above percentages as the second CG measure. In the following regression analyses, when we use *CSR1* (*CSR2*) as the dependent variable, the first (second) CG measure is employed as a control variable.⁷

Main Model

We employ the following specification to test our first hypothesis:

$$CSR_{it} = \alpha_0 + \beta_1 \times LNGAP_{i,t-1} + Controls + Firm\ and\ Year\ Fixed\ Effects + \varepsilon_{i,t}. \quad (4)$$

To examine the incremental explanation power of *LNGAP*, we control for different sets of determinants of CSR (including CG) specified in previous literature. The first set of determinants of CSR is CEO incentive variables. CEOs with a higher proportion of income coming from bonuses have a stronger incentive to inflate short-term performance by passing off CSR projects (McGuire et al., 2003). CEOs' long-term incentives, such as stock options, also affect their incentive to invest in CSR. The high salary of a CEO reflects a CEO's specific human capital and therefore that CEO is less willing to take risk by taking less socially responsible actions. We control for these compensation schemes, including bonus (*BONUS*), salary (*SALARY*), and option (*OPTION*), in the above model.

We also include a firm's industry environment in the model because greater competition as measured by the Herfindahl index (*HHINDEX*) is likely to force a firm to reduce CSR investment. A set of firm characteristics is included in the equation above as well. We expect that firms with larger size (*SIZE*) and brighter prospectus, including higher profitability (*ROA*), Tobin's *Q* (*TOBINQ*), greater sales growth (*SALEGR*), and dividend (*DIVIDEND*), are more likely to invest in CSR because of the availability of resources in place. Conversely, firms experiencing greater financial risk as reflected in stock return volatility (*VOLA*) are less likely to engage in CSR. Because a firm with idle financial resources can afford more CSR, we expect a negative association between firm leverage (*LEV*) and CSR. We also expect that firms with a higher percentage of institutional ownership (*INST*) are more likely to invest in CSR because of the increased number of institutional investors that use CSR performance as their investment criteria.

Furthermore, we control for CSR-related expenditures such as R&D level (*RND*), advertising level (*ADVEXP*), and capital expenditure (*CAPX*), and expect a positive relationship among these variables. We control for the fiscal end in December (*YE*) to adjust for possible window-dressing incentive variations among firms, but with no expectation for the sign. The endogeneity concerns may arise because certain unobservable factors can affect both the dependent and independent variables. For example, the firm culture which can influence both CSR performance and the pay equality among executives is rather sticky over time. Thus, we incorporate firm fixed effect to account for unobserved time-invariant heterogeneity across firms in our empirical models. To control for time-series variation, we include year fixed effect in the empirical model. We provide variable definitions in Appendix B. All the *t*-values presented are based on standard errors adjusted by clustering at both firm and year (Petersen, 2009). In line with our hypothesis, a significantly positive (negative) β_1 supports the notion that a stronger tournament incentive induces VPs to engage more (less) actively in CSR and therefore have better (worse) CSR performance.

To test the second hypothesis, we introduce an interaction term between tournament incentives (*LNGAP*) and the perceived probability of promotion (*HProm*), an indicator variable that is equal to 1 if the firm-year falls in the period of 3 (*Pr3*) or 5 (*Pr5*) years prior to CEO turnover, and 0 otherwise. More specifically, we employ the following specification:

$$CSR_{it} = \alpha_0 + \beta_1 \times LNGAP_{i,t-1} + \beta_2 \times HProm_{i,t-1} \times LNGAP_{i,t-1} + \beta_3 \times HProm_{i,t-1} + \text{Controls} + \text{Firm and Year Fixed Effects} + \varepsilon_{i,t}. \quad (5)$$

A significantly coefficient on $LNGAP \times HProm$ supports our second hypothesis and suggests that the effect of tournament incentive on CSR is moderated by CEO turnover.

Data and Sample

We construct our sample by merging various datasets. We obtain CSR data from KLD. Executive compensation data are extracted from EXECUCOMP. Financial data and stock return data are sourced from COMPUSTAT and the Center for Research in Security Prices (CRSP), respectively. We extract institutional ownership data from Thomson Reuters Institutional (13f) Holdings. Our sample starts from 1994 and ends in 2014.⁸ We exclude financial firms (with Standard Industrial Classification [SIC] codes 6000–6999) from our sample because of the fundamentally different accounting reporting requirements of these firms. We require qualified observations with non-missing variables as defined in the empirical models. These requirements result in a sample consisting of 14,983 firm–year observations (1,658 unique firms).

Empirical Results

Descriptive Statistics

Table 1 presents descriptive statistics for the main variables in our study. The average (median) value of $CSRI$ is 0.401 (0.357), with a standard deviation of 0.265, which suggests a large variation of CSR performance among U.S. firms. This is comparable with Kim et al. (2014), which shows that the average (median) value of CSR is 0.404 (0.364), with a standard deviation of 0.247. The average (median) value of $CSR2$ is -0.039 (0.000), which is slightly larger compared with the CSR measure employed by Deng et al. (2013), probably due to different samples.⁹

The average (median) value of GAP is US\$4,658.910 thousand (US\$ 1,968.990 thousand). Compared with Kini and Williams's (2012) sample period from 1994 to 2009, the pay gap between CEO and VPs has increased during recent years. The huge pay gap between CEOs and VPs suggests that VPs have sufficient incentive to win promotion contests because the promotion to CEO is associated with a significant increase in pay. The statistics of the CEO pay structure show that various forms of incentive pay are used in CEO compensation contracts. For example, the percentage of $BONUS$, $SALARY$, and $OPTION$ is 11.9%, 29.0%, and 18.6%, respectively.

Our CG measure has an average (median) value of 0.376 (0.333). The mean (median) value of institutional ownership is 0.676 (0.745). The average $SIZE$ is 7.718 (total assets of US\$2,248.458 million on average). On average, our sample firms are profitable (ROA , $M = 0.103$) and experience rather impressive sales growth ($SALEGR$, $M = 0.075$). The mean (median) value of $TOBINQ$ is 3.404 (2.282), which is also consistent with Kim et al. (2012). The statistics also show that these firms invest financial resources in R&D (RND , $M = 0.026$), promotion ($ADVEXP$, $M = 0.011$), and capital expenditure ($CAPX$, $M = 0.053$). The mean (median) values of $DIVIDEND$ are 0.014 (0.007). $HHINDEX$ is with a mean (median) value of 0.061 (0.047), and $VOLA$ is with a mean (median) value of 0.117 (0.107). According to the distribution of YE , 67.5% of our observations are with the fiscal year ending in December.

Table I. Descriptive Statistics of Main Variables (N = 14,983).

Variable	M	SD	25th	Median	75th
CSR1	0.401	0.265	0.200	0.357	0.556
CSR2	-0.039	0.654	-0.500	0.000	0.236
GAP (in thousands)	4,658.910	8,292.910	780.946	1,968.990	4,952.600
LNGAP	7.569	1.362	6.661	7.585	8.508
CG	0.376	0.334	0.000	0.333	0.667
BONUS	0.119	0.174	0.000	0.000	0.208
SALARY	0.290	0.228	0.119	0.226	0.400
OPTION	0.186	0.336	0.000	0.000	0.222
TOBINQ	3.404	4.301	1.534	2.282	3.645
ROA	0.103	0.083	0.059	0.095	0.144
SIZE	7.718	1.501	6.591	7.625	8.763
LEV	0.192	0.160	0.044	0.182	0.291
RND	0.026	0.046	0.000	0.000	0.033
ADVEXP	0.011	0.026	0.000	0.000	0.008
CAPX	0.053	0.048	0.021	0.039	0.067
SALEGR	0.075	0.188	-0.001	0.072	0.152
DIVIDEND	0.014	0.021	0.000	0.007	0.020
HHINDEX	0.061	0.049	0.030	0.047	0.072
INST	0.676	0.279	0.569	0.745	0.864
VOLA	0.117	0.050	0.080	0.107	0.144
YE	0.675	0.469	0.000	1.000	1.000

Note. This table presents summary statistics for the major variables used in this study. The sample period is from 1994 to 2014, and has 14,983 firm-year observations. All the variables are defined in Appendix B. All variables are winsorized at the 1st and 99th percentile levels, except for indicator variables.

Univariate Test

In Table A of Supplement Files, we report both Pearson's and Spearman's correlation matrix.¹⁰ The correlation matrix shows that two measures of CSR are highly correlated. The results reveal significantly positive relations between *GAP* (*LNGAP*) and the CSR performance measures, which is against the argument that tournament incentives encourage VPs to avoid investing in CSR.¹¹ Results also show that CSR is significantly positively related with CG score (*CG*), bonus compensation (*BONUS*), firm's valuation (*TOBINQ*), profitability (*ROA*), firm size (*SIZE*), R&D expenditure (*RND*), advertising expenditure (*ADVEXP*), capital expenditure (*CAPX*), and dividend ratio (*DIVIDEND*), and CSR is significantly negatively related with fixed compensation (*SALARY*), leverage (*LEV*), and stock return volatility (*VOLA*).

Regression Results

We present the regression results of the effect of tournament incentives on CSR performance after controlling for other determinants in Table 2.

In the two columns, we report the regression results using *CSR1* and *CSR2* as dependent variables, respectively. R^2 values are 57.00% and 54.90% in the two columns, respectively, showing that over 50% of the variations in CSR scores are explained by the variations of all independent variables, after controlling for the firm and year fixed effects. The

Table 2. Tournament Incentives and CSR Performance.

Dependent variables	(1)	(2)
	CSR1	CSR2
INTERCEPT	0.356*** (4.92)	-0.192* (-1.86)
LNGAP	-0.012*** (-3.01)	-0.018*** (-4.06)
CG	0.123*** (8.51)	0.090*** (3.40)
BONUS	0.024* (1.88)	-0.052*** (-2.67)
SALARY	-0.027** (-2.11)	-0.052*** (-3.44)
OPTION	0.003 (1.17)	-0.010*** (-3.27)
TOBINQ	0.000 (0.46)	0.000 (0.14)
ROA	0.097** (2.48)	0.129*** (2.58)
SIZE	0.003 (0.49)	0.048*** (3.15)
LEV	0.056*** (2.68)	0.037 (1.48)
RND	-0.085 (-0.55)	0.202 (1.31)
ADVEXP	0.306** (2.03)	0.061 (0.29)
CAPX	0.132 (1.27)	-0.345** (-2.33)
SALEGR	-0.004 (-0.19)	-0.042* (-1.85)
DIVIDEND	-0.006 (-0.04)	0.087 (0.40)
HHINDEX	-0.439 (-1.63)	0.101 (0.31)
INST	0.033* (1.91)	0.082*** (4.46)
VOLA	-0.373*** (-2.70)	-0.027 (-0.26)
YE	-0.078*** (-3.76)	-0.097*** (-3.31)
Firm and year fixed effects	Yes	Yes
Observations	14,983	14,983
R ²	57.00%	54.90%

Note. This table presents the regression results of the effect of tournament incentive on CSR performance. The sample consists of 14,983 firm-year observations from 1994 to 2014. All the variables are defined in Appendix B. Firm and year fixed effects are controlled. All the t-values presented in parentheses are based on standard errors adjusted by a two-dimensional cluster at the firm and year levels (Petersen, 2009). CSR = corporate social responsibility.

*Significance at the 10% level. **Significance at the 5% level. ***Significance at the 1% level.

coefficients of *LNGAP* are -0.012 (with t -value of -3.01) in the first column and -0.018 (with t -value of -4.06) in the second column, respectively. They are both statistically significant at the 1% level and have economic significance. One standard deviation increase in *LNGAP* will lead to CSR scores decreasing by 0.016 (for *CSRI*) and 0.025 (for *CSR2*),¹² comparable with Di Giuli and Kostovetsky (2014) and Jha and Cox (2015). The results support the notion that VPs' tournament incentives discourage executives to engage in CSR.

The results pertaining to other control variables are generally consistent with prior studies. The coefficients of *CG* are 0.123 (with t -value of 8.51) and 0.090 (with t -value of 3.40, both significant at 1%) in the columns. We also find a negative association between CSR and *SALARY* in both columns. The coefficients of *SALARY* are -0.027 (with t -value of -2.11) and -0.052 (with t -value of -3.44), significant at 5% and 1%, respectively. Coefficients on *SIZE*, *LEV*, and *ADVEXP* are statistically significant and consistent with those of Jo and Harjoto (2012). We also find that CSR is negatively associated with stock return volatility (*VOLA*).

Mitigating Endogeneity Concern Using Instrumental Variable Method

A potential endogenous concern may exist in our analyses. While we explicitly control for various CG/CEO variables and employ firm fixed effect in our main model, it is still plausible that some unobservable variables may simultaneously affect both CSR performance and executive tournament incentives. We alleviate this endogeneity concern by employing the instrumental variable method. Following prior literature (Kale et al., 2009; Kini & Williams, 2012), we use several lagged incentive variables as instrumental variables to predict *LNGAP* at the first stage:

$$\begin{aligned}
 LNGAP_{i,t} = & \alpha_0 + \beta_1 \times LNGAP_{i,t-1} + \beta_2 \times NEW\ CEO_{i,t-1} + \beta_3 \times INSIDE\ CEO_{i,t-1} \\
 & + \beta_4 \times NEW\ CEO_{i,t-1} \times INSIDE\ CEO_{i,t-1} + \beta_5 \times HOMO\ INDUSTRY_{i,t-1} \\
 & + \beta_6 \times RETIRING\ CEO_{i,t-1} + \beta_7 \times CEO\ IS\ CHAIR_{i,t-1} + \beta_8 \times NVP_{i,t-1} \\
 & + \beta_9 \times SUCCESSION_{i,t-1} + \beta_{10} \times INDUSTRY\ MEDIAN\ LNGAP_{i,t-1} \\
 & + \beta_{11} \times CFO\ IS\ VP_{i,t-1} + \beta_{12} \times SIZE_{i,t-1} + \beta_{13} \times VOLA_{i,t-1} + \beta_{14} \times NSEG_{i,t-1} \\
 & + \beta_{15} \times YE_{i,t-1} + Industry\ and\ Year\ Fixed\ Effects + \varepsilon_{i,t}.
 \end{aligned} \tag{6}$$

We include lagged pay gap from the previous year (*LNGAP*) because the pay structure is relatively stable for top management. Individual VP's promotion probability decreases with the number of candidates, implying a positive association between the number of VPs (*NVPs*) and pay gap. Moreover, as promoting new CEO from within the firm, which signals internal promotion culture, VPs' promotion probability increases with inside promotion (*INSIDE CEO*). The availability of a CEO succession plan (*SUCCESSION*) indicates that the probability of other candidates is lower, and therefore, the compensation gap should increase. We thus expect a negative association between *CFO IS VP* and the compensation gap. Given firms' benchmark executive compensation to their peers in the same industry (Murphy, 1999), the pay gap in a firm should be positively related to the industry pay median (*INDUSTRY MEDIAN LNGAP*).

We argue that the above variables can be our instrumental variables as they could influence tournament incentives but are less likely to affect firm CSR policies. Hiring a new CEO (*NEW CEO*) will decrease incumbent VPs' promotion probability in the near future. In homogeneous industries (*HOMO INDUSTRY*), it is more likely to hire outsiders as CEO

because few idiosyncratic skills are required. As a result, the pay gap is larger when the level of industry homogeneity is higher. When an incumbent CEO is about to retire (*RETIRING CEO*), the VPs' promotion probability should increase, while the pay gap should decrease accordingly. If the CEO is not chairman (*CEO IS CHAIR*), it may suggest that the CEO is still under probation. Executive compensation is positively associated with firm size (*SIZE*), suggesting that the pay gap should increase with firm size. Furthermore, the pay gap should be larger when stock return is volatile (*VOLA*) and organizational complexity as measured by the number of segments (*NSEG*) is large. With the estimated coefficients, we calculate the predicted value of *LNGAP* (*FITTED LNGAP*) from the first-stage analysis. *FITTED LNGAP* replaces *LNGAP* in the second stage and the following moderating effect analyses.

Regression results from the first stage are presented in Panel A of Table 3. In the model, the R^2 value of the prediction model is 51.49% and the F -statistic is 280.43, suggesting that the variables chosen in the model are jointly relevant. Instrumental variables such as lagged *LNGAP*, *NEW CEO*, *INSIDE CEO*, and *INDUSTRY MEDIAN GAP* have significant prediction powers. Using all the coefficients estimated in the first stage, we calculate the fitted pay gap, *FITTED LNGAP*.

In Panel B of Table 3, we present the regression results using *FITTED LNGAP* as testing variables. In both columns, we show significant negative coefficients on *FITTED LNGAP*. The coefficients are -0.033 and -0.059 , significant at 5% and 1%, respectively. The results suggest that the negative association between tournament incentive and CSR holds after controlling for endogeneity problem based on 2SLS approach.

The Effect of the Perceived Promotion Probability

We extend our analyses in testing our second hypothesis of whether the perceived promotion probability strengthens the relation between tournament incentive and CSR. We first use CEO turnover as proxy for the perceived promotion probability and test our second hypothesis using the interaction between *HProm* and *LNGAP* as our variable of interest. We report the result in Table 4. Columns (1) and (3) consistently show that the coefficients on $HProm \times LNGAP$ are significantly negative when *HProm* represents firm-years within 3 years (*Pr3*) prior to CEO turnover. Similarly, the result in Columns (2) and (4) shows that the similar effect of tournament incentives on CSR strengthens during the 5 years prior to CEO turnover (*Pr5*). The results reported in Table 4 collectively support H2 that the perceived promotion probability moderates the negative relation between tournament incentive and CSR.

We also test our second hypothesis by comparing the effect of the perceived promotion probability captured by CEO turnover on CSR between internal and external promotions. Following Parrino (1997) and Jia (2017), we use the mean partial correlation¹³ to proxy for industry homogeneity, which is related to the likelihood of external promotion. We treat CEO promotions in firms that belong to industries with low industry homogeneity as internal promotion and external promotion otherwise. An ex-post CEO internal promotion is likely to result in stronger tournament incentives than external promotion because VPs can expect to be promoted to CEO when CEOs are more likely to be selected from within the firm. As such, we expect that the effect of tournament incentives on CSR is more pronounced before insider-CEO turnover period than before outsider-CEO turnover period. We create an indicator variable (*Internal Prom*), which is equal to 1 if the firm-year falls in the period of 3 (5) years prior to insider-CEO turnover, and 0 otherwise. The

Table 3. Endogeneity: Instrumental Variable Approach.

Panel A: The First-Stage Analysis.		
Dependent variable	LNGAP	
INTERCEPT	0.832*	(1.86)
LNGAP(t-1)	0.410***	(28.00)
NEW CEO	0.318***	(4.07)
INSIDE CEO	-0.114***	(-6.00)
NEW CEO × INSIDE CEO	-0.727***	(-7.86)
HOMO INDUSTRY	0.073	(0.93)
RETIRING CEO	-0.026	(-1.56)
CEO IS CHAIR	0.039*	(1.68)
NVPs	-0.012	(-1.63)
SUCCESSION	-0.004	(-0.30)
INDUSTRY MEDIAN LNGAP	0.075***	(3.77)
CFO IS VP	0.010	(0.53)
SIZE (quartile)	0.310***	(27.05)
VOLA	-0.131	(-0.30)
NSEG	0.013	(0.99)
YE	-0.026	(-1.03)
Industry and year fixed effects	Yes	
Observations	24,925	
F value	280.43	
R ²	51.49%	
Panel B: The Second-Stage Analysis: The Effect of Predicted LNGAP on CSR Performance.		
Dependent variables	(1)	(2)
	CSR1	CSR2
INTERCEPT	0.418***	-0.081
	(3.62)	(-0.69)
FITTED LNGAP	-0.033**	-0.059***
	(-2.24)	(-4.85)
CG	0.125***	0.093***
	(8.48)	(3.34)

(continued)

Table 3. (continued)Panel B: The Second-Stage Analysis: The Effect of Predicted *LNGAP* on CSR Performance.

Dependent variables	(1)	(2)
	CSR1	CSR2
<i>BONUS</i>	0.025* (1.84)	-0.048*** (-2.59)
<i>SALARY</i>	-0.009 (-0.82)	-0.023* (-1.79)
<i>OPTION</i>	0.004 (1.35)	-0.009*** (-2.72)
<i>TOBINQ</i>	0.000 (0.59)	0.000 (0.09)
<i>ROA</i>	0.105*** (2.77)	0.165*** (3.09)
<i>SIZE</i>	0.015** (2.00)	0.071*** (4.06)
<i>LEV</i>	0.051** (2.21)	0.040 (1.64)
<i>RND</i>	-0.115 (-0.73)	0.213 (1.37)
<i>ADVEXP</i>	0.480*** (2.91)	0.140 (0.65)
<i>CAPX</i>	0.174* (1.77)	-0.271** (-1.96)
<i>SALEGR</i>	0.002 (0.11)	-0.037* (-1.74)
<i>DIVIDEND</i>	-0.018 (-0.12)	0.073 (0.35)
<i>HHINDEX</i>	-0.394 (-1.58)	0.096 (0.33)
<i>INST</i>	0.042*** (2.59)	0.094*** (5.55)
<i>VOLA</i>	-0.335** (-2.41)	0.043 (0.35)
<i>YE</i>	-0.068*** (-3.46)	-0.086*** (-2.80)
Firm and year fixed effects	Yes	Yes
Observations	14,983	14,983
R ²	56.90%	55.20%

Note. The table presents regression results to address endogeneity concerns on the effect of tournament incentive and CSR performance based on 2SLS. Panel A of this table presents the regression results of the prediction model (the first stage). Panel B presents the regression results using predicted tournament incentive (*FITTED LNGAP*) as independent variable of interest (the second stage). All the variables are defined in Appendix B. Firm and year fixed effects are controlled. All the t-values presented in parentheses are based on standard errors adjusted by a two-dimensional cluster at the firm and year levels (Petersen, 2009). CSR = corporate social responsibility; 2SLS = two-stage least square.

*Significance at the 10% level. **Significance at the 5% level. ***Significance at the 1% level.

Table 4. The Moderating Role of the Perceived Promotion Probability.

Dependent variables	CSR1		CSR2	
	(1) Pr3 = 1	(2) Pr5 = 1	(3) Pr3 = 1	(4) Pr5 = 1
<i>INTERCEPT</i>	0.331*** (3.89)	0.317*** (3.74)	-1.261*** (-6.20)	-1.354*** (-6.69)
<i>LNGAP</i>	-0.008** (-2.09)	-0.008* (-1.81)	-0.028*** (-2.93)	-0.008 (-0.81)
<i>HProm</i> × <i>LNGAP</i>	-0.014*** (-2.79)	-0.013** (-2.48)	-0.039*** (-2.89)	-0.074*** (-5.76)
<i>HProm</i>	0.108*** (2.91)	0.112*** (2.88)	0.250** (2.50)	0.463*** (4.87)
<i>CG</i>	0.123*** (12.47)	0.121*** (12.23)	0.120*** (11.73)	0.118*** (11.35)
<i>BONUS</i>	0.023 (1.38)	0.021 (1.23)	-0.127*** (-2.93)	-0.112*** (-2.61)
<i>SALARY</i>	-0.028** (-2.22)	-0.030** (-2.33)	-0.105*** (-3.46)	-0.102*** (-3.40)
<i>OPTION</i>	0.002 (0.87)	0.002 (0.77)	-0.013* (-1.93)	-0.012* (-1.72)
<i>TOBINQ</i>	0.000 (0.40)	0.000 (0.45)	-0.002 (-0.85)	-0.002 (-0.91)
<i>ROA</i>	0.096* (1.81)	0.097* (1.83)	0.324*** (2.63)	0.312** (2.53)
<i>SIZE</i>	0.002 (0.23)	0.003 (0.27)	0.125*** (4.52)	0.118*** (4.29)
<i>LEV</i>	0.054* (1.75)	0.057* (1.82)	0.181** (2.29)	0.171** (2.17)
<i>RND</i>	-0.089 (-0.58)	-0.086 (-0.56)	0.404 (0.95)	0.365 (0.87)
<i>ADVEXP</i>	0.314 (1.08)	0.326 (1.13)	0.385 (0.45)	0.344 (0.41)
<i>CAPX</i>	0.132 (1.42)	0.124 (1.34)	0.147 (0.62)	0.192 (0.82)
<i>SALEGR</i>	-0.004 (-0.38)	-0.004 (-0.39)	0.024 (0.85)	0.026 (0.90)
<i>DIVIDEND</i>	-0.022 (-0.11)	-0.013 (-0.07)	2.386*** (5.04)	2.266*** (4.82)
<i>HHINDEX</i>	-0.440 (-0.97)	-0.394 (-0.86)	2.875*** (3.81)	2.589*** (3.44)
<i>INST</i>	0.034 (1.35)	0.037 (1.46)	-0.085 (-1.48)	-0.093 (-1.61)
<i>VOLA</i>	-0.368*** (-3.48)	-0.361*** (-3.43)	-0.048 (-0.19)	-0.070 (-0.28)
<i>YE</i>	-0.075 (-1.43)	-0.074 (-1.39)	-0.294 (-1.46)	-0.292 (-1.46)
Firm and year fixed effects	Yes	Yes	Yes	Yes
Observations	14,983	14,983	14,983	14,983
R ²	57.00%	57.10%	54.30%	54.60%

Note. This table presents the regression results of the moderating effects of promotion probability. In Pr3 (Pr5) columns, *HProm* equals to 1 if an observation falls within 3 (5) years before CEO turnover, and 0 otherwise. All the variables are defined in Appendix B. Firm and year fixed effects are controlled. All the t-values presented in parentheses are based on standard errors adjusted by a two-dimensional cluster at the firm and year levels (Petersen, 2009).

*Significance at the 10% level. **Significance at the 5% level. ***Significance at the 1% level.

significantly negative coefficient on interaction between *Internal Prom* and *LNGAP* therefore suggests that the perceived promotion probability strengthens the relation between tournament incentive and CSR. These results support H2 that the perceived promotion probability strengthens the relation between tournament incentive and CSR, as reported in Table B of the Supplement Files.¹⁴

While we use CEO turnover as proxy for the perceived promotion probability, it is also plausible that the tournament occurs when a CEO is approaching retirement (e.g., Kale et al., 2009). Following prior studies, we create an indicator variable which equals 1 if CEO's age is more than 62, and 0 otherwise (*RETIRING CEO*), and use *RETIRING CEO* as our alternative perceived promotion probability proxy to test our second hypothesis. More specifically, we estimate the regression model that includes interaction terms of *LNGAP* and *RETIRING CEO*. We find that the coefficients of *RETIRING CEO* \times *LNGAP* are both significantly less than 10%. The results again support the notion that tournament incentive increases with the perceived promotion probability, as reported in Table C of the Supplement Files.¹⁵

Event Study Approach: Changes in CSR Performance Following Changes in Pay Gap

We further use the event study method to mitigate potential bias due to time-invariant unobservable heterogeneity (e.g., Nikolaev & Van Lent, 2005). We identify two types of events, "Decrease" and "Increase," based on the extent of the change in pay gaps between the current and previous year.¹⁶ The event window includes 1 year before and after the events. We run separate regressions for positive and negative tournament incentives change samples. In each case, the variable of interest is the post-event indicator variable (*POST*). We define *POST* as an indicator variable that equals 1 in the post-event window after the event of "Increase" or "Decrease," and equals 0 in the pre-event window. We obtained 5,362 observations (for 2,681 events) with pay gap increase and 5,304 observations (for 2,652 events) with pay gap decrease. Regression results based on the above event study method are presented in Table 5. Consistent with the results in the preceding sections, the result in Table 5 shows significantly negative (positive) coefficients of *POST* after pay gap increases (decreases), suggesting a negative association between tournament incentives and CSR.

PSM Approach

Armstrong et al. (2010) posit that the PSM approach is an appropriate method to address the endogeneity problem in executive compensation study. We dichotomize the continuous measure of tournament incentive (*LNGAP*) based on the median value. We define observations with above median *LNGAP* as the high *LNGAP* group (*HIGHGAP* = 1) and the remaining observations as the low *LNGAP* group (*HIGHGAP* = 0). Using the same independent variable set in Equation 6, we first estimate the probability of *HIGHGAP*. Based on the prediction model, we compute a propensity score for each observation. Then, we construct a matching sample ($n = 5,350$) consisting of a treatment group (with *HIGHGAP* = 1, $n = 2,675$) and a control group (with *HIGHGAP* = 0, $n = 2,675$). Each observation in the treatment group is matched with an observation from the control group having the closest propensity value in the same year. The coefficients of *HIGHGAP* are

Table 5. Change Model.

Dependent variables	(1)	(2)	(3)	(4)
	CSR1		CSR2	
	Increase	Decrease	Increase	Decrease
INTERCEPT	0.320*** (5.33)	0.264*** (3.23)	-0.382*** (-2.62)	-0.350*** (-3.32)
POST	-0.008* (-1.72)	0.012** (1.98)	-0.021** (-2.52)	0.013* (1.73)
CG	0.100*** (6.78)	0.122*** (7.70)	0.063** (2.29)	0.081*** (2.63)
BONUS	0.036*** (2.59)	0.026* (1.66)	-0.034* (-1.74)	-0.002 (-0.09)
SALARY	-0.002 (-0.16)	-0.014 (-0.95)	-0.027* (-1.88)	-0.049** (-2.34)
OPTION	0.002 (0.82)	0.001 (0.31)	-0.002 (-0.46)	-0.006 (-1.38)
TOBINQ	0.001 (0.66)	-0.001 (-0.62)	0.001 (0.45)	-0.001 (-0.70)
ROA	0.091 (1.25)	0.111 (1.62)	0.307*** (3.40)	0.193** (2.43)
SIZE	0.003 (0.34)	-0.021*** (-3.04)	0.075*** (5.04)	0.035*** (2.94)
LEV	0.103*** (3.29)	0.081** (2.47)	0.045 (1.42)	0.073 (1.42)
RND	-0.209 (-1.57)	-0.115 (-0.57)	0.103 (0.44)	-0.223 (-0.91)
ADVEXP	0.870*** (3.29)	0.487 (1.57)	0.823** (2.29)	0.039 (0.09)
CAPX	0.182 (1.63)	0.104 (0.96)	-0.408** (-2.19)	-0.496*** (-3.20)
SALEGR	-0.027 (-1.30)	0.007 (0.33)	-0.061*** (-3.07)	-0.045** (-2.36)
DIVIDEND	0.187 (0.99)	-0.067 (-0.40)	0.557** (2.28)	0.130 (0.54)
HHINDEX	-0.307 (-0.61)	-0.044 (-0.12)	0.408 (1.01)	0.596* (1.83)
INST	0.040 (1.49)	0.013 (0.52)	0.049* (1.84)	0.063** (2.49)
VOLA	-0.189 (-1.16)	-0.447*** (-3.25)	0.249** (2.33)	0.004 (0.03)
YE	-0.06 (-1.37)	-0.092** (-2.10)	-0.044 (-0.72)	-0.114** (-2.27)
Firm and year fixed effects	Yes	Yes	Yes	Yes
Observations	5,362	5,304	5,362	5,304
R ²	67.30%	65.00%	65.30%	64.20%

Note. We identify the “Decrease” and “Increase” events by comparing current and previous pay gaps. We define the events of “Increase” as those having the value of pay gap change that is above the top quartile in our sample, and 0 otherwise. Conversely, the event “Decrease” represents the value of pay gap change that is among the bottom quartile. Other variables are defined in Appendix B. All the t-values presented in parentheses are based on standard errors adjusted by a two-dimensional cluster at the firm and year levels (Petersen, 2009).

*Significance at the 10% level. **Significance at the 5% level. ***Significance at the 1% level.

−0.040 and −0.036 with 1% and 5% significance levels, respectively, which mitigate the endogeneity concern, as reported in Table D of the Supplement Files.¹⁷

Robustness Tests

We conduct a series of robustness checks to address potential measurement errors. First, we use Gini Index (*GINI*), a measure of compensation inequality, as an alternative measure for *LNGAP*. As a larger Gini index represents greater pay inequality among executives and provides stronger promotion incentives for VPs, we predict a negative association between Gini index and CSR performance. We show *GINI* has significantly negative coefficients of −0.028 (with *t*-value of −2.96) and −0.092 (with *t*-value of −5.12). Second, we employ CSR disclosure score (*ESG*) to measure CSR disclosure following Ng and Rezaee (2015), Jain et al. (2016), and Rezaee and Tuo (2019). We find that the coefficient on *LNGAP* is negative and significant (coefficient = −0.016 with *t*-value of −2.57). The coefficient on *GINI* is also significantly negative. The results further strengthen our previous findings.

Third, we separately use CSR performance in five dimensions, namely, community, diversity, employee relations, environment, and product as the dependent variable. The untabulated results show that the negative association between tournament incentive and CSR performance is not driven in one particular dimension. We also test the association between tournament incentives and strength/concerns separately. The untabulated results show a significantly negative (positive) association between tournament incentives and CSR strength (concerns), providing corroborative evidence to support the baseline result. Finally, we explicitly control for CEO equity incentive in our model. Kini and Williams (2012) control for CEO risk-taking incentives. We construct these two measures following Coles et al. (2006). Our results remain intact after controlling for these measures, suggesting that our results are not affected by CEO risk-taking incentives.

Conclusion

This study examines the association between VP tournament incentives and CSR performance based on a sample of U.S. S&P 1500 firms. We find that a higher pay gap between the CEO and VPs is associated with lower CSR performance after controlling for CEO incentives and other determinants, consistent with the argument that competition for promotion is detrimental to CSR performance. Our results are unaffected after controlling for endogeneity. Further analysis shows that the negative link between tournament incentives and CSR performance is moderated by VPs' perceived promotion probability, suggesting that intensified competition for promotion strengthens the relationship. Despite our findings, we make a caveat that CEO turnover and tournament incentives can affect CSR simultaneously, and therefore, our findings cannot be solely attributed to VPs' actions. Nevertheless, our study extends the literature on firm-level tournament incentives and furthers our understanding of CSR research. Given the importance of CSR and the prevalence of tournament incentives in executive contracts, our study offers implications for board of directors, management, and institutional investors who use CSR performance as investment criteria.

Our study is subject to several limitations that are common in this strand of literature. First, our primary tournament incentive measure is based on the pay gap between the CEO and the median of VPs, which can also be interpreted as the power inequality between the CEO and VPs (e.g., Bebchuk et al., 2011). The pay disparity between the CEO and VPs

can capture other things such as CEO power, CEO ability, and firm pay inequity among executives in addition to tournament incentives. We did not include stock awards and CEO ownership because a CEO with a large ownership has less incentives in compensation, which may cause a small pay gap. Although we perform a robustness test using an alternate measure for tournament incentives, we cannot entirely avoid the problem of measurement error. Second, we caution against a causal interpretation of our results. Despite our efforts to mitigate the endogeneity problem by using a variety of methods, we acknowledge that our efforts cannot completely resolve this problem, which may impair causal inference. Finally, while we cannot attribute our findings to VPs' actions, our study suggests that VPs are likely to affect CSR when they have strong incentives to be promoted. Future studies may extend our study by differentiating how CEOs and VPs respond to the tournament incentives through CSR initiatives.

Appendix A. KLD Classifications and Possible Link to VPs.

KLD classification ^a	Positive and negative attributes (based on KLD)	Link to VPs
Environmental (ENV)	Beneficial products and services, pollution prevention, recycling, clean energy, commitment to management systems	CFO, COO, and general counsel
	Hazardous waste, regulatory problems, ozone-depleting chemicals, substantial emissions, agricultural chemicals	
Community/Social (SOC)	Charitable giving, support for housing, support for education, volunteer programs	CMO, CHRM, and general counsel
	Investment controversies, negative economic impact, tax disputes	
Diversity/Social (SOC)	Commitment to women, minorities, disabled, and GLBT in terms of hiring; CEO, board membership, and contracting; work/life benefits	CHRM and CSO
	Affirmative action controversies; non-representation of women, minorities, disabled, and LGBT, lesbian, gay, bisexual, and transgender	
Human Rights/Social (SOC)	Strong indigenous people relations, labor rights initiatives	CHRM, CSO, and general counsel
	Poor indigenous people relations, labor rights concerns, Burma operations	

(continued)

Appendix A. (continued)

KLD classification ^a	Positive and negative attributes (based on KLD)	Link to VPs
Employee Relations/ Social (SOC)	Strong union relations, no layoff policy, profit sharing, employee involvement, strong retirement benefits, strong health and safety program	CFO, COO, CMO, CHRM, and general counsel
	Poor union relations, health and safety concerns, major workforce reductions, significantly underfunded pension or inadequate retirement benefits	
Corporate Governance/ Governance (GOV)	Limited compensation, ownership of stronger CSR firms, transparency/strong reporting, political accountability	CFO, COO, and general counsel
	High compensation, ownership in poor CSR firms, accounting problems, transparency/weak reporting, political accountability	
Product Quality and Safety (PROD)	Product quality, R&D leader/innovator, benefits to economically disadvantaged	COO, CFO, and CSO
	Product safety, marketing/contracting controversies, antitrust issues	

Note. Corporate most important senior executives are Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Operating Officer (COO), Chief Information Officer (CIO), Chief Marketing Officer (CMO), Chief Compliance Officer (CCO), Chief Human Resources Manager (CHRM), Chief Security Officer (CSO), Chief Green Officer (CGO), Chief Analytics Officer (CAO), Chief Medical Officer (CMO), Chief Data Officer (CDO), Chief Ethics and Compliance Officer (CECO), Chief Risk and Compliance Officer (CRCO), Chief Disclosure Officer (CDO), Chief Sustainability Officer (CSO), general counsel, among others. We refer to them as CEO and non-CEO executives. VPs who may influence CSR performance are CFO, COO, CMO, CHRM, CSO, and general counsel. VP = vice president; CSR = corporate social responsibility.

^aKLD is an independent rating agency specializing in ESG sustainability performance assessment. KLD generates ESG performance data in seven categories that are classified into three broad sustainability performance dimensions of environmental, social, and governance by researchers. KLD provides sustainability data for the largest 3,000 companies in the United States. KLD data are gathered from both internal and external sources, including regulatory filings, corporate disclosures, inquiries of corporate executives, the media, networks, and other data collected by KLD analysts.

Appendix B. Variable Definition.

Variable	Definitions	Data Source
Dependent variables		
<i>CSR1, CSR2</i>	<i>CSR1</i> and <i>CSR2</i> are two measures of CSR ratings based on KLD. <i>CSR1</i> is calculated as the total strengths minus total concerns in five CSR dimensions normalized in each year–industry. <i>CSR2</i> is measured as the sum of the strength and concern scores of each dimension scaled by the number of items of the strength and concern of that dimension in the year and then taking the net difference between adjusted strength and concern scores for that dimension.	KLD
<i>ESG</i>	A composite CSR disclosure score based on Bloomberg dataset following Jain et al. (2016).	Bloomberg
Testing variables		
<i>LNGAP</i>	The natural logarithm of the pay gap (<i>GAP</i>), which is calculated as the difference between the CEO's total compensation and the total compensation of the median VP (<i>TDCI</i>).	EXECUCOMP
<i>GINI</i>	$GINI = 1 + (1/n) - (2/(n^2 TC_{mean}))(TC_1 + TC_2 + \dots + TC_n)$, where n is the number of senior executives (including the CEO) for each firm–year combination, and TC_1, TC_2, \dots, TC_n are the total compensations (<i>TDCI</i>) for each of the n senior executives; and TC_{mean} is their mean total compensation.	EXECUCOMP
Prediction variables		
<i>CEO IS CHAIR</i>	An indicator variable which equals to 1 if the CEO is also the chair, and 0 otherwise.	EXECUCOMP
<i>CFO IS VP</i>	An indicator variable which equals to 1 if one of the VPs is the CFO, and 0 otherwise.	EXECUCOMP
<i>HOMO INDUSTRY</i>	The mean partial correlation between firms' returns and an equally weighted industry index, for all firms in the same Fama–French 48 industry classification.	CRSP
<i>INDUSTRY MEDIAN LNGAP</i>	The industry median <i>LNGAP</i> in the previous year.	EXECUCOMP
<i>INSIDE CEO</i>	An indicator variable which equals to 1 if the current CEO was promoted from within, and 0 otherwise.	EXECUCOMP
<i>NEW CEO</i>	An indicator variable, and if the current CEO is serving in the first year as CEO in this company, we record the value as 1, and 0 otherwise.	EXECUCOMP
<i>NSEG</i>	For each firm–year combination, we calculate <i>NSEG</i> as the natural logarithm of one plus the number of business segments.	COMPUSTAT
<i>NVPs</i>	The number of non-CEO executives in a firm listed in EXECUCOMP.	EXECUCOMP
<i>RETIRING CEO</i>	An indicator variable which equals to 1 if CEO's age is more than 62, and 0 otherwise.	EXECUCOMP
<i>SUCCESSION PLAN</i>	An indicator variable equals to 1 if the firm lists a President and/or COO, and 0 otherwise in the previous year.	EXECUCOMP

(continued)

Appendix B. (continued)

Variable	Definitions	Data Source
Moderating variables		
<i>HProm</i>	An indicator variable that equals to 1 if the firm-year falls in the period of 3 (5) years prior to insider-CEO turnover, and 0 otherwise. <i>Pr3</i> (<i>Pr5</i>) is an indicator variable that equals to 1 if an observation falls within 3 (5) years before CEO turnover, and 0 otherwise.	EXECUCOMP
<i>Internal Prom</i>	An indicator variable that equals to 1 if an observation falls within 3 years before insider-CEO turnover period, and 0 if an observation falls within 3 years before outsider-CEO turnover period.	EXECUCOMP
Control variables		
<i>ADVEXP</i>	The advertising level calculated as advertising expense (XAD) divided by total sales (SALE).	COMPUSTAT
<i>BONUS</i>	CEO bonus measured by CEO bonus (BONUS) in fractions of total compensation (TDC1).	EXECUCOMP
<i>CAPX</i>	The capital expenditure level calculated as capital expenditure (CAPX) divided by total sales (SALE).	COMPUSTAT
<i>CG</i>	The net firm-year CG scores minus the industry-year minimum net CG scores divided by the industry-year maximum net CG scores minus the industry-year minimum net CG scores.	KLD
<i>DIVIDEND</i>	Dividend level calculated as total dividend (DVT) divided by total sales (SALE).	COMPUSTAT
<i>HHINDEX</i>	The Herfindahl-Hirschman Index, a measure of industry competition.	COMPUSTAT
<i>HIGHGAP</i>	An indicator variable equals to 1 if a firm's <i>LNGAP</i> is above the median value of <i>LNGAP</i> , and 0 otherwise.	EXECUCOMP
<i>INST</i>	The ownership of institutional investors (SHARE), in fractions of total shares outstanding (SHROUT).	Thomson Reuters
<i>LEV</i>	The leverage calculated as long-term debt (DLTT) divided by total asset (AT).	COMPUSTAT
<i>OPTION</i>	CEO option measured by CEO option awarded as reported (OPTION_AWARDS_RPT_VALUE) in fractions of total compensation (TDC1).	EXECUCOMP
<i>POST</i>	An indicator variable that equals 1 in the post-event window after a firm's pay gap difference between year <i>t</i> and year <i>t</i> - 1 is among top (bottom) quartile in our sample, and equals 0 in the pre-event window.	EXECUCOMP
<i>RND</i>	A firm's R&D level calculated as research and development expense (XRD) divided by total sales (SALE).	COMPUSTAT
<i>ROA</i>	The return on assets, calculated as operating income after depreciation (OIADP) divided by total assets (AT).	COMPUSTAT
<i>SALARY</i>	CEO salary measured by CEO salary (SALARY) in fractions of total compensation (TDC1).	EXECUCOMP

(continued)

Appendix B. (continued)

Variable	Definitions	Data Source
SALEGR	Sales (SALE) growth rate from the previous year to the current year.	COMPUSTAT
SIZE	Firm size calculated as the natural logarithm of total assets (AT).	COMPUSTAT
TOBINQ	Tobin's <i>Q</i> measured the market valuation of a firm, which is calculated and market capitalization at the fiscal year end ($PRCC_F \times CSHPRI$), divided by book equity (CEQ).	COMPUSTAT
VOLA	The stock return volatility calculated as the standard deviation of monthly stock returns (RET) for the past 60 months.	CRSP
YE	An indicator variable which equals to 1 if the fiscal year ends (FYR) in December, and 0 otherwise.	COMPUSTAT

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Supplemental Material

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Notes

1. These activities are related to different functional departments, for example, better retention of talents, lower cost of capital, higher brand recognition, cost efficiency, risk reduction, improving reputation, and strong customer royalty.
2. The pay disparity between the CEO and VPs can capture other factors such as CEO power, CEO ability, or pay inequity among executives and employees. We attempt to control for these factors in the robustness tests.
3. This premise has been challenged by recent studies showing that (VPs) may exercise significant influence on firm policies (e.g., Kale et al., 2009; Kini & Williams, 2012).

4. For example, suppose that in 2005 the summations of the KLD strength indicators across the five dimensions are 0, 1, 2, 0, and 1, and the maximum numbers of strength indicators across the five dimensions of that year are 3, 5, 4, 3, and 4, according to our definition, the adjusted total strength score for the firm is equal to $0/3 + 1/5 + 2/4 + 0/3 + 1/4 = 1.2$. Similarly, we calculate the adjusted total concern. If the adjusted concerns are 0.95, then $CSR2 = 1.2 - 0.95 = 0.25$.
5. The dataset normally provides five top executives' pay per year. In some rare cases, the database provides a maximum of nine executives' compensation data.
6. In some cases, when CEOANN contains missing values, we turn to variable TITLE to identify the current CEO. If TITLE contains the following strings such as "Chief Executive Officer," "chief executive officer," or "CEO," and at the same time they are still on duty, this observation is still considered as the record for the current CEO.
7. Our results are unchanged when we use the second corporate governance (CG) measure as controls.
8. EXECUCOMP database started to report compensation for top management from year 1992. Every regression model in this study is using lagged independent variables. Thus, we use data from year 1992 to estimate *FITTED LNGAP* in year 1993.
9. Deng et al. (2013) use a sample of mergers in the United States to examine whether CSR creates value for acquiring firms' shareholders.
10. Pearson's and Spearman's correlation matrix is available in the supplement document that is uploaded on the *Journal of Accounting, Auditing & Finance* (JAAF) website because of the space limitation.
11. We do not draw any conclusive inference based on correlation, because the univariate comparison does not control for any firm characteristics. We therefore rely on multivariate regression analyses in the following subsection to test our hypotheses.
12. We calculate economic significance in this way: The mean value and standard deviation for *LNGAP* are 7.569 and 1.362, respectively. With the coefficient -0.012 in the first column, *CSR1* partially estimated by mean and mean plus one standard deviation value of *LNGAP* is -0.012×7.569 and $-0.012 \times (7.569 + 1.362)$. Then, we calculate the difference (-0.016) between the above two partially estimated values as the economic significance. With the coefficient -0.018 in the second column, *CSR2* partially estimated by mean and mean plus one standard deviation value of *LNGAP* is -0.018×7.569 and $-0.018 \times (7.569 + 1.362)$. Then, we calculate the difference (-0.025) between the above two partially estimated values as the economic significance.
13. First, we regress the monthly return for each firm against market return index and the industry return index. Then for each industry, we average individual firm's partial correlation coefficient for the industry return index from the above regression. Hereafter, we refer to this measure as the mean partial correlation proxy.
14. Because of the space limitation, these results are presented in Table B of the Supplement Files that is uploaded on the JAAF website.
15. Because of the space limitation, these results are presented in Table C of the Supplement Files that is uploaded on the JAAF website.
16. To identify events, we first compute the percentage change in pay gap. When the change in pay gap is among the lower (higher) quartile, we define it as an event of "Decrease" ("Increase").
17. Because of the space limitation, these results are presented in Table D of the Supplement Files that is uploaded on the JAAF website. Similarly, we can form another matching sample based on the closest firm size within the same industry. The results are not affected qualitatively.

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