Is ESG a Managerial Style?*

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Is ESG a Managerial Style?

Abstract

This paper provides evidence that top managers significantly impact firms' ESG outcomes. Utilizing the fixed-effects approach from Bertrand et al. (2003), we find that innate managerial characteristics can explain a substantial portion of variations in corporate ESG policies and outcomes, such as CSR ratings, employee satisfaction, the development of green innovation, and toxic chemical emissions. Additionally, we find that CEOs' work experience in non-profit organizations (NFPs) has a strong correlation with these fixed effects. Corporate boards appear to be increasingly selecting CEOs with such a background. We show that CEOs equipped with such experience exhibit superior ESG outcomes. Our evidence indicates that these effects can, to a certain degree, be attributed to the CEO's causal style. Overall, our results suggest that career experience serving the interests of a broader group of stakeholders in the not-for-profit setting, better equips CEOs to achieve corporate ESG objectives.

Keywords: Chief Executive Officer; Managerial Style; Green Innovation; Pollution; Employee Satisfaction; Not-for-profit Organization

JEL: G30, G41, L21, Q50

1 Introduction

The literature on managerial style has demonstrated that managers play a significant role in explaining firm outcomes.[1] These idiosyncratic managerial styles are often shaped by their past professional experiences. For instance, career experiences in the military, finance industry, or as an inventor have all been shown to have discernible effects on how CEOs manage their firms (Benmelech and Frydman, 2015; Custódio and Metzger, 2014; Custódio, Ferreira, and Matos, 2019; Islam and Zein, 2020).

In this paper, we examine the extent to which a company's environmental, social, and governance (ESG) practices are impacted by managerial styles. Understanding why some firms are more committed to ESG imperatives than others is attracting unprecedented interest from policymakers, institutional investors and the public at large. This is reflected in a dramatic rise in demand for greater reporting on corporate sustainability outcomes.[2] Moreover, the investment management industry is directing record levels of capital towards firms demonstrating a strong commitment to ESG.[3]

The existing literature finds that heterogeneity in nation-, industry- and firm-specific characteristics play a role in determining a firm's ESG policies (see for example Cai, Pan, and Statman (2016), Dyck, Lins, Roth, and Wagner (2019), and Borghesi, Houston, and Naranjo (2014)). However, such factors alone are unlikely to fully explain variations in ESG outcomes across firms. As a motivating example, consider the two leading semiconductor companies listed on the S&P 500, Qualcomm Inc. and Broadcom Inc. Despite being of similar size, operating in the same industry, and having a virtually identical set of institutional investors, they exhibit stark differences in their ESG outcomes. In 2020,

[1]For influential studies on managerial style, see Bertrand and Schoar (2003); Hambrick and Mason (1984); Fee, Hadlock, and Pierce (2013); Malmendier, Tate, and Yan (2011).

[2]For instance, 92 percent of S&P 500 Companies now provide annual sustainability reports, compared to only 20 percent in 2011. See https://www.ga-institute.com/nc/storage/press-releases/article/92-of-sp-500r-companies-and-70-of-russell-1000r-companies-published-sustainability-reports-in-202.html

[3]For example, the assets under management (AUM) of investment funds focusing on sustainability principles reached 35 trillion USD in 2021 (more than one-third of aggregate global AUM), rising from 22.8 trillion USD only four years earlier. See http://www.gsi-alliance.org/wp-content/uploads/2021/08/GSIR-20201.pdf

for example, Broadcom's ratio of Scope 1 carbon emissions to total sales was several times greater than that of Qualcomm. The example raises the prospect that unexplained differences in ESG outcomes across firms may be attributable to idiosyncratic managerial styles.

To investigate the role that managerial styles play in explaining ESG outcomes, we first follow the approach in the seminal study by Bertrand and Schoar (2003). In particular, by tracking manager movements across firms, we are able to estimate how much of the variation in ESG outcomes can be attributable to a manager fixed effect. We analyse the relation between these fixed effects and four types of ESG outcomes; the MSCI KLD corporate social responsibility (CSR) scores, employee satisfaction scores, green innovation outputs and the level of toxic chemical emissions.

Our results show that manager fixed effects account for a considerable degree of cross-firm variation in the above firm level ESG measures. The F-test for the joint significance of the manager fixed effects are highly statistically significant. Further, considerable additional explanatory power is obtained in models that include manager fixed effects relative to those that only include firm fixed effects. This additional explanatory power is comparable in magnitude to that documented in Bertrand and Schoar (2003), suggesting that, similar to investment and financial policies, ESG practices are also significantly influenced by manager styles. Moreover, we consistently observe robust effects in a more precisely specified CEO-firm-matched panel, implying that CEOs, as the primary decision-makers within firms, play a crucial role in shaping corporate ESG policies, which is our focus throughout the remainder of the paper.[4]

We next seek to delve deeper into the specific characteristics that predispose a CEO to be more adept at successfully pursuing ESG goals. While our baseline fixed effects models show that managers are important in shaping corporate ESG policies, they do not

[4]Other executives, such as Chief Operating Officers, may influence ESG policies. However, there is a limited representation of such executives in Execucomp; we find only 20% of the firm-years in our sample. Thus, they are not our focus.

allow us to understand which specific managerial attributes or experiences matter. Thus, to augment our fixed effect approach, we examine a CEO's career path to uncover factors that make them more likely to adopt an ESG-focused style. An increasingly popular notion associated with the rising prominence of ESG, is that a corporation's traditional purpose of solely maximizing shareholder wealth (ie. shareholder primacy) has outlived its usefulness. Rather, an emerging "stakeholderism" view of the firm puts forward a much broader purpose; maximizing total *stakeholder* value.[5] Thus, a crucial attribute of an ESG-focused management style involves satisfying the needs of a multiple firm stakeholders, (e.g. employees, customers, suppliers, the local community, etc.) when developing corporate strategies and policies. We argue that career experience in the not-for-profit (NFP) sector accustoms a CEO to catering to such a diverse set of stakeholders. Given that NFP organizations are typically driven by non-financial goals (e.g. addressing environmental issues or promoting equitable treatment of employees and suppliers), CEOs with this background may exhibit an enhanced ability to balance shareholder interests with other objectives within large, complex publicly traded companies.

An example that helps to illustrate the role that NFP experience plays in cultivating an ESG oriented management style involves John Bryson, who was hired as the CEO of the publicly listed utilities company Edison International after working at the Natural Resources Defense Council (one of the largest not-for-profit international environmental advocacy groups). Appendix A.1 outlines how his appointment was a key factor in enabling Edison to significantly reduce its carbon dioxide emissions, making it one of the most forward-thinking utility companies at the time.[6]

To assess the influence of a CEO's NFP experience on their firm's ESG outcomes, we first gather the employment history of each S&P 1500 CEO from BoardEx during the

[5]For example, in 2019, CEOs of leading the US companies (e.g. Apple, Google, Amazon, Exxon Mobil etc.) pledged their commitment to a new *"Statement on the Purpose of a Corporation"* which set out that shareholder wealth maximization was not the only purpose of the corporation. Rather, corporations need to fulfill the needs of their stakeholders, including customers, suppliers, employees, and the local communities in which they operate

[6]Three real-life examples of CEOs with not-for-profit experience can be found in Appendix A.1.

1992-2019 period. If a CEO has worked for at least one NFP (as per BoardEx) they are designated as an *NFP CEO*. Remarkably, we observe a four-fold increase in the proportion of *NFP CEOs* over the past two decades, rising from approximately 5% of the S&P 1500 CEO population in 2000 to nearly 20% in 2019. This growing prevalence of *NFP CEOs* appears to mirror the rising importance of ESG over our sample period. This suggests boards of directors are placing more weight on a candidate's ESG credentials when selecting new leaders.

It is important to note that the above trend is consistent with what is termed the "selected style hypothesis" (Fee, Hadlock, and Pierce, 2013). That is, rather than a CEO causally imprinting their idiosyncratic style on the firm (the idiosyncratic style hypothesis), it is in fact the firm's board that intentionally selects these characteristics based on the desired strategic direction of the firm. It is essential to note that both the "selected style" and "idiosyncratic style" interpretations of this trend imply that *NFP CEOs* possess a distinct ESG-enhancing skill set. Therefore, we consider documenting simple correlations between *NFP CEOs* and ESG outcomes as a valuable contribution of our analysis. Nevertheless, in the subsequent sections, we also endeavor to discern whether at least some impacts of *NFP CEOs* can be ascribed to an idiosyncratic style effect.

To analyze the impact of a CEO's career experience on ESG outcomes we first examine the correlation between *NFP CEOs* and the manager fixed effects previously estimated in our baseline models. We find a significant positive correlation between these two variables, suggesting that a meaningful component of the unobserved (time invariant) manager-specific impact on ESG can be attributed to NFP experience. We next directly examine whether NFP experience is correlated with a firm's ESG outcomes. We document a significantly positive correlation between CEOs with NFP experience and a firm's ESG performance. For example, firms led by *NFP CEOs* on average, obtain a 0.095 larger CSR score than their industry peers without *NFP CEOs*. Considering the mean score in our sample is 0.08, the influence of *NFP CEOs* is considerably large.

We rule out several potential confounding explanations for our results. Firstly, the rising prevalence of *NFP CEOs* could signify the evolving profile of a younger generation of corporate leaders. We account for this by controlling for CEO age and tenure. *NFP CEOs* might simply represent those with a more diverse career background, not solely NFP experience. We employ the General Ability Index Custódio, Ferreira, and Matos (2013) as an additional control variable to account for this possibility. We also control for other CEO characteristics that might influence their ESG commitment, such as education, gender, and compensation. Our baseline results remain robust upon including these variables.

Given our extended sample period, we are able to estimate our models with firm-fixed effects. Our focus here is to examine how a firm's ESG performance is affected by a change in the CEO. This also allows us to control for all time-invariant firm characteristics that could also explain our results. This is particularly important because ESG-related disclosures can vary significantly across firms depending on the nature of their business activities. This means that CSR scores across firms may not necessarily be comparable (see, Borghesi, Houston, and Naranjo, 2014). We show that within a firm, an *NFP CEO's* tenure is associated with a 0.071 higher *CSR Score* compared to periods where a non-*NFP CEO* is not in charge. This represents an almost 100% increase in the score and corresponds to roughly 21% of one standard deviation of the CSR score distribution at the firm level.

Our analysis also uncovers many cases where a CEO's NFP experience is obtained during their tenure as CEO. This typically occurs because they begin a new concurrent role, most commonly as a board member of a charitable foundation. Exposure to the causes served by these organizations may also also help them to learn about managing the needs of other firm stakeholders and potentially highlight important non-financial corporate objectives, thus nudging them toward a more pro-ESG style. Such within-CEO variation in NFP experience also allows us implement CEO-level fixed effects. Conceptually, this test relaxes the assumption that managerial style (captured previously in the manager fixed

effect) is time invariant. Rather, the analysis allows for style to evolve based on a CEO's professional experiences, even while they are a CEO in our sample. The results here show that for a given CEO, the ESG performance of their firm displays a substantial rise after they accumulate NFP experience relative to before.

Beyond analyzing ESG ratings provided by MSCI, we also assemble our own database of real ESG outcomes achieved by our sample firms. This helps us to address two important common criticisms in the literature that may undermine our analysis. First, recent studies have shown that ESG ratings can differ across rating agencies, and in fact can be in disagreement (Berg, Kölbel, and Rigobon, 2022). Second, some firms may engage in greenwashing, whereby their ESG policies (which are often based on unaudited reports) are designed purely to maximise their rating score, rather than delivering real ESG outcomes (Wu, Zhang, and Xie, 2020).

To capture a firms' real ESG activities we begin by collecting employee satisfaction data from Glassdoor. While the KLD "Employee Relations" rating provides information reported by the firm, the employee satisfaction ratings from Glassdoor reflect employees' real opinions of their employment environment We also capture a company's green innovation initiatives using the number of green patents it files. Finally, to investigate a company's negative environmental effects, we utilize RESI scores from the U.S. Environmental Protection Agency (EPA) to measure toxic chemicals emissions by firms. Our results show that firms led by *NFP CEOs* are associated with higher employee satisfaction ratings, more green patents, and less toxic emissions.

As mentioned earlier, the positive correlation we establish between *NFP CEOs* and firm ESG outcomes can be explained through a "selected style hypothesis," wherein boards select leaders capable of helping the firm achieve its ESG objectives. The observed concurrent rise in both *NFP CEOs* and the importance of ESG aligns with this hypothesis. Moreover, we provide supplementary evidence consistent with the selected style hypothesis. Specifically, we demonstrate that firms are more likely to choose a *NFP CEO* successor when

the outgoing CEO is also an *NFP CEO* and when the firm has a CSR committee in place. Both results imply that firms committed to ESG tend to hire CEOs with NFP experience.

Making either a causal or selection interpretation of our results need not be mutually exclusive. Thus, it still remains possible that at least some of the baseline correlations we document are also due to an"idiosyncratic (causal) style" effect, whereby a CEO imprints their own idiosyncratic style on a firm's policies. It should be noted that both the selected and causal style hypotheses support the conclusion that a CEO's NFP experience is vital in enhancing a firm's ESG performance. Nonetheless, we next make an attempt to distinguish whether at least part of the impact of *NFP CEOs* can be explained by an idiosyncratic style effect. To do so, we examine *plausibly* exogenous CEO turnover events, defined as those occurring due to sudden deaths, health shocks, or personal reasons. Since the timing of such events should be random, the board should have no reason to change firm strategy and thus select a leader with a significantly different style. As a result, any changes in firm outcomes following these turnovers can be more directly attributed to shifts in CEOs' idiosyncratic styles rather than the firm deliberately adopting or abandoning a pro-ESG strategic direction.

Using a difference-in-difference approach, we show that firms exogenously switching from an *NFP CEO* to a *non-NFP CEO* experience an average decline in their CSR score compared to control firms that transition from a *non-NFP CEO* to another *non-NFP CEO*. We recognize that while the outgoing CEO's departure is exogenous, the incoming CEO is still subject to board selection, which raises concerns that our results could still be influenced by the selected style hypothesis. To address this, we follow Fee, Hadlock, and Pierce (2013) and limit the turnover sample to cases with a relatively restricted pool of potential CEO replacements. In these situations, the board's capacity to select a CEO with a preferred style is constrained, further diminishing the likelihood of a selected style. We observe that the negative impact of losing an *NFP CEO* in this context is even more pronounced. Overall, this evidence suggests that our findings may also be partially attributed

to the idiosyncratic style hypothesis.

Our study contributes to a large body of literature on how top managers' characteristics affect firms' decisions and outcomes.[7] More specifically, we provide evidence that manager fixed effects, which capture time-invariant CEO styles, play a significant role in explaining variations in ESG outcomes across firms. We then try to pin down specific observable elements of a pro-ESG management style. While existing work has focused on personal attributes such as such as gender, having children, and marital status (Cronqvist and Yu, 2017; Hegde and Mishra, 2019; Borghesi, Houston, and Naranjo, 2014; McCarthy, Oliver, and Song, 2017), we show how a CEO's professional career experience in the not-for-profit sector can shape an ESG-enhancing management style. Career experiences in organizations that are concerned with achieving with non-financial goals appear to enhance a CEO's ability to meet diverse stakeholder needs in the context of leading large public corporations. We also contribute to the CEO characteristics literature by uncovering that CEO not-for-profit experience has become ubiquitous, with around 20% of S&P1500 CEOs now having such experience.

Finally, we contribute to the literature that examines the determinants of firms' ESG engagement.[8] Unlike numerous previous studies that solely rely on KLD CSR scores, we employ several quantifiable impact measures of ESG, similar to Xu and Kim (2021). Our findings reveal that a pro-ESG management style has a substantial economic impact on real firm-level ESG outcomes.

The remainder of the paper is structured as follows: Section 2 outlines the data sources used and sample construction. Section 3 presents the main findings of our study, and

[7]The literature is comprehensive starting from Bertrand and Schoar (2003), covering various aspects of CEO characteristics, including gender (Huang and Kisgen, 2013; Khan and Vieito, 2013; Faccio, Marchica, and Mura, 2016), age (Orens and Reheul, 2013; Serfling, 2014), education level (King, Srivastav, and Williams, 2016), overconfidence (Malmendier and Tate, 2005, 2008; Malmendier, Tate, and Yan, 2011; Galasso and Simcoe, 2011; Huang, Tan, and Faff, 2016), risk attitudes (Graham, Harvey, and Puri, 2013; Cain and McKeon, 2016), managerial skills (Kaplan, Klebanov, and Sorensen, 2012; Custódio, Ferreira, and Matos, 2013; Gounopoulos and Pham, 2018; Chen, Huang, Meyer-Doyle, and Mindruta, 2021), working experience (Custódio and Metzger, 2013, 2014), military background (Benmelech and Frydman, 2015), pilot experience (Sunder, Sunder, and Zhang, 2017), inventor background (Islam and Zein, 2020), etc.

[8]This literature is vast, and we refer the details to a survey by Gillan, Koch, and Starks (2021).

Section 4 discusses the selected style and idiosyncratic style hypotheses. Section 5 offers additional analysis, and Section 6 concludes.

2 Methodology and Data

2.1 Fixed Effect Approach (Bertrand and Schoar, 2003)

Firstly, to investigate whether individual managers affect firm ESG decisions, we estimate the effect of managers on ESG policies/outcomes following Bertrand and Schoar (2003). The main purpose of this approach is to show how much of the variation in firms' ESG policies/outcomes could be attributed to managers' fixed effects after controlling firm-fixed effects, year-fixed effects, and other time-varying firm characteristics. To do so, for each dependent variable of interest, we estimate the following regression:

$$Y_{i,t+1} = \alpha_i + \gamma_t + \beta X_{i,t} + \lambda_{CEO} + \lambda_{Others} + \epsilon_{i,t+1} \tag{1}$$

where $Y_{i,t+1}$ represents a particular ESG policy or outcome described below, γ_t denotes year-fixed effects, and α_i signifies firm-fixed effects. X_{it} encompasses a vector of time-varying firm-level controls, and $\epsilon_{i,t+1}$ represents the error term. Equation (1) also contains fixed effects for managers observed across multiple firms. In order to examine the impact of CEOs and other top executives on corporate policies separately, two distinct groups of manager-fixed effects are created: λ_{CEO} corresponds to fixed effects for managers who serve as CEOs in the last observed position, while λ_{Others} pertains to fixed effects for non-CEO managers in their last observed role.[9]

Similar to Bertrand and Schoar (2003), this identification relies on variations arising from managers transitioning between firms. Otherwise, the manager-fixed effects would

[9]It should be noticed that we estimate equation (1) with robust standard errors. As noted in Schoar, Yeung, and Zuo (2023), for a large unbalanced panel, it is impossible to test the joint significance of the manager fixed effects using clustered standard errors due to the degree of freedom issue. Therefore, we use robust standard errors following Schoar, Yeung, and Zuo (2023).

be perfectly collinear with firm-fixed effects. Therefore, we begin with all top managers featured in ExecuComp and concentrate on those who have worked for multiple firms over time. Specifically, managers employed by at least two firms are identified as "movers", and only those who have worked for a minimum of three years in each firm are retained in our sample, allowing them the opportunity to imprint their styles on the firms' decisions. Then, all firm-year observations are preserved if the firm employs at least one "mover" throughout the entire sample period.

While we closely followed the approach used by Bertrand and Schoar (2003), we would like to place additional emphasis on the effects of CEOs as they are the primary decision-makers within a firm. In Bertrand and Schoar (2003), the managers' roles are defined only based on their last positions observed in the sample (i.e., The managers classified as CEOs may not serve as CEOs in their previous employment). To better assess the impact of CEO style on ESG policies, we concentrate exclusively on those managers who held CEO positions across multiple firms (i.e., akin to "CEO-to-CEO" movers as defined in Bertrand and Schoar (2003)). Specifically, we pinpoint managers who have served as CEOs in at least two different firms, referred to as "CEO movers", and maintain all firm-year observations for firms that employed a minimum of one "CEO mover" during the sample period.

While the fixed effect approach applied in Bertrand and Schoar (2003) effectively demonstrates the existence of managerial style effects on firm ESG decisions, it carries several limitations. First, the fixed effect approach does not specify which managers' characteristics or experiences contribute to their style effects, leaving the exact composition of the fixed effect unclear and making interpretation more challenging. Second, this approach assumes that the managerial style is time-invariant, failing to account for the effects of time-varying factors such as individual work experience. Capturing the time-varying aspect is particularly important given the growing prominence of ESG considerations over the years.

To address these limitations and supplement the fixed effect approach, we develop a measure of a CEO's pro-social style, building on the extensive literature that uses CEO work experience to evaluate their management style (e.g., Benmelech and Frydman, 2015; Custódio and Metzger, 2014; Custódio, Ferreira, and Matos, 2019; Islam and Zein, 2020). This measure can then be related to various firm ESG outcomes. The subsequent section delves into the construction of this measure.

2.2 Measuring a CEO's pro-social management style using not-for-profit organization work experience

Our sample construction begins with S&P 1500 company CEOs listed in ExecuComp from 1992 to 2019. We gather CEOs' not-for-profit (NFP) work experience from BoardEx, which offers detailed employment history for directors and senior managers. Using the WRDS linking table, we connect ExecuComp companies to BoardEx data and merge the CEO employment histories.

We ensure accurate CEO matching across databases by verifying names and demographic information (e.g., age, gender). In cases of ambiguity, we manually cross-check CEOs' employment histories using additional internet sources (e.g., Wikipedia, LinkedIn, Bloomberg). Approximately 94% of firm-year-CEOs from 1992 to 2019 in ExecuComp are successfully mapped to a Director ID in BoardEx.

Data related to non-profit (NFP) organizations were primarily derived from three specific BoardEx tables: employment history, other activity, and NFP-association. We identified NFP experiences using the organization type indicator from BoardEx. To verify the legitimacy of the NFP organizations listed, we matched their names with those filing IRS 990 forms, achieving a 95% match rate. Organizations that do not match the IRS data were removed from our CEO NFP experience measure. We also classified NFP organizations into different groups based on the National Taxonomy of Exempt Entities (NTEE) Codes. Our sample distribution across different types of NFP organizations is displayed

in Figure 3.

For each firm-year observation, we generate an indicator variable (I_{NFP}) set to one if the firm's CEO (as determined by ExecuComp's *ceoann*) possesses NFP experience, and zero otherwise. Additionally, we construct a continuous variable (C_{NFP}), representing the natural logarithm of one plus the total number of NFP experiences a CEO has accumulated up to the current year. To establish the effect of pro-social management style on ESG outcomes, we estimate below regression

$$Y_{i,t+1} = \beta_0 + \beta_1 NFP\_CEO_{i,t} + \gamma X_{i,t} + \lambda + \epsilon_{i,t+1} \tag{2}$$

where Y is certain ESG outcome which we will describe in turn below, NFP_CEO is the measures of pro-social style either I_{NFP} or C_{NFP}. $X_{i,t}$ is a vector of firm- and CEO-level control variables. λ is various fixed effects and $\epsilon_{i,t+1}$ is the error term.

Having described our proxies for management styles, we now proceed to detail the construction of the firm ESG policies and outcome variables.

2.3 ESG Ratings: MSCI KLD CSR score

To capture firm-level ESG performance, our first measure is constructed based on ESG ratings from the MSCI KLD database, which provides environmental, social, and governance ratings of large publicly traded companies. This database has gained enormous popularity in ESG-related literature, and thus we utilize it for our baseline analysis.

Following Servaes and Tamayo (2013), we focus on five dimensions provided in the KLD database: community, diversity, employee relations, environment, and human rights. The KLD provides both strengths and concerns regarding the firm's performance for each of the dimensions considered. Because the number of strengths and concerns for each dimension varies over time, a simple summation among strengths and concerns does not allow us to compare CSR scores across years. To overcome this issue, we construct adjusted

CSR scores following Deng, Kang, and Low (2013). Specifically, the adjusted CSR score is calculated by first dividing the strength and concern scores for each dimension by the respective number of strength and concern indicators in that year and then taking the difference between the adjusted strength score and the adjusted concern score.[10]

Upon merging our sample of CEOs' not-for-profit experience with the KLD database, our primary dataset comprises 29,915 firm-year observations spanning from 1995 to 2018.[11] To ensure consistency across ESG measures, we employ this sample as our baseline dataset when obtaining other ESG outcomes.

2.4 Employee Satisfaction: Glassdoor.com

One of the key facets of a firm's ESG engagement lies in fostering positive employee relations, as employees are essential stakeholders who make a direct impact on the company's success (Bauman and Skitka, 2012). To delve into the tangible influence of *NFP CEOs* on employee relations, we examine employee-level review data acquired from Glassdoor. This platform offers a database where both current and former employees can voluntarily and anonymously review various aspects of their companies, including salaries, interview experiences, senior management, and corporate benefits.[12] We meticulously match the companies listed on Glassdoor to the firms in our sample.

The data we collect encompasses employees' overall ratings of the firm (*Rating*) and optional ratings for five distinct subcategories: *Career Opportunities, Compensation & Benefits, Work/Life Balance, Senior Management,* and *Culture & Values.* Each score

[10]For an example taken from Deng, Kang, and Low (2013), suppose that in 2004, the summations of the KLD strength indicators across the seven dimensions are 0, 1, 1, 2, 1, 0, and 1, and the numbers of strength indicators across the seven dimensions are 4, 3, 3, 5, 7, 4, and 4. According to our definition, the adjusted total strength score for the firm is equal to 0/4+1/3+1/3+2/5+1/7+0/4+1/4 = 1.45. If the adjusted total concern is 1.25, which is calculated in the same way as the adjusted total strength score, then the adjusted CSR score is $1.45 - 1.25 = 0.2$.

[11]The sample period of MSCI KLD CSR database is up to 2019. Given that we necessitate an outcome variable at $t + 1$, we effectively limit our sample period to 2018.

[12]To ensure the validity of reviews and deter a company's self-promotion, Glassdoor employs several mechanisms. For instance, it mandates email verification from an active email address or a valid social networking account. Moreover, site administrators moderate the review content using an algorithm designed to detect fraud and remove invalid reviews (Green, Huang, Wen, and Zhou, 2019).

ranges from 1 to 5, with 1 denoting the lowest satisfaction level and 5 signifying the highest. The sample period for this dataset extends from 2011 to 2019, during which all five categories are accessible on Glassdoor.[13] For each firm-year observation in our sample, we construct firm-level aggregate employee satisfaction scores by calculating the average of the employee-level scores in each year.

2.5 Green Innovation

Our measure of green innovation begins with the patent data from PatentsView, maintained by the United States Patent and Trademark Office (USPTO). PatentsView contains the full history of patents granted by the USPTO since 1976. We use the mapping provided by Kogan, Papanikolaou, Seru, and Stoffman (2017) to match this patent data to our sample. To identify green patents, we employ the list of patents from IPC (International Patent Classification) and CPC (Collaborative Patent Classifications) for green innovation based on the environment-related technologies (ENV-TECH) identification defined by the OECD (Haščič and Migotto, 2015). The ENV-TECH classification features eight environmental families, divided into three different areas: environmental management, water-related adaptation technologies, and climate change mitigation technologies (CCMTs).[14] Environmental management is further classified into more granular categories: air pollution prevention, water pollution prevention, and waste management. We designate USPTO-granted patents as green patents if they share the same IPC/CPC classification as ENV-TECH. For each firm-year observation in our sample, we use the number of green patents as the measure of a firm's green innovation.

[13]Though Glassdoor was established in 2008, the senior management category within the rating system only became available after 2011. As a result, the sample period we employ for the test of employee satisfaction rate begins in 2011. Our findings remain consistent if we only utilize the other four categories from 2008 to 2019. Additionally, it should be noted that Glassdoor has recently introduced a new category called diversity. We exclude this category due to its limited sample length.

[14]The ENV-TECH classification is based on the EPO's classification scheme for environment-related technologies (CCMTs), where relevant patent publications are classified into a separate scheme within the CPC; see `https://www.uspto.gov/web/patents/classification/cpc/html/cpc-Y.html`.

2.6 Toxic Chemical Emissions

Toxic pollution significantly impacts local community health (Currie and Schmieder, 2009; Deryugina, Heutel, Miller, Molitor, and Reif, 2019), making its reduction a primary goal of the U.S. Environmental Protection Agency (EPA) and a key aspect of sustainable development. We examine toxic pollution data from the EPA's TRI program to understand firm ESG engagement outcomes. This database is widely utilized by finance scholars to evaluate firms' environmental externalities (e.g. Xu and Kim, 2021; Akey and Appel, 2021; Hsu, Li, and Tsou, 2021).

In line with existing literature, our analysis is conducted at the facility-year level. All qualifying polluting facilities in the United States are required to report their toxic chemical emissions under the TRI program. The EPA Risk-Screening Environmental Indicators (RSEI) dataset (Version 239), derived from TRI data, provides toxic-weighted pollution information and covers the sample period from 1988 to 2019. To integrate facility-level pollution data with our main sample, we manually match the parent company name of each facility to the CRSP company names and merged with our baseline data. This process results in 59,913 facility-year observations from 1995 to 2018.

There are two pollution measures in the RSEI model: *RSEI score* and *Hazard score*. The *RSEI score* is a unitless measure that evaluates the amount of facility-level chemical releases to air and water, considering the fate and transport of the chemicals through the environment, the size and location of the exposed population, and the chemical's toxicity. Specifically, the RSEI score is calculated as a product of toxicity weight, exposed population, and estimated dose. The *Hazard score* also measures the toxicity-weighted chemical emissions but without adjustment for the exposed population.

The main advantage of this measure is that it takes into account the fact that different chemical releases can have varying impacts on humans and the environment[15]. There-

[15]One simple way to assess toxic emissions is to use the raw release numbers in tons available from the TRI program. However, aggregating raw release numbers from different chemicals is difficult because chemicals have vastly different toxicity levels. For example, 1 mg of nicotine may be lethal, but it would take 800 mg of

fore, aggregating chemical releases based on their toxicity provides a more comprehensive understanding of the environmental effects when a facility has multiple chemical releases.

It should be noted that differences in chemical releases can be attributed to the heterogeneity in production volumes. Ideally, we would adjust pollution scores by facility-level production to mitigate the concern that our results are simply driven by production volumes. However, TRI only provides the percentage change in production for each facility-chemical on a yearly basis, while the total production level of each facility is not available. To address this, we follow Akey and Appel (2019) to assume that the first year production level of a facility is equal to one and simulate production levels afterward using yearly changes in production. *Adjusted RSEI* and *Adjusted Hazard Score* are constructed by scaling the pollution scores with the simulated production to be comparable to its first year of production. The constructions of the simulated production and adjusted pollution scores are detailed in Appendix A.2.

2.7 Baseline Control Variables

We control for standard firm-level characteristics in the literature that explain CSR outcomes. First, we use the natural logarithm of the book value of total assets to control for firm size (McWilliams and Siegel, 2001). Research and development costs (R&D) scaled by total assets and property, plant, and equipment (PPE) are used to account for firms' investment in innovation or production efficiency that can affect their CSR activities. According to Cheng, Ioannou, and Serafeim (2014), CSR decisions can be related to access to finance, and thus we control for the book value of debt divided by total assets (leverage). Superior financial performance or market valuation is likely to stimulate companies to make more ESG commitments to maintain a good corporate reputation. We control for this using return on assets (ROA) and Tobin's Q (Ioannou and Serafeim, 2012). CSR activities are also associated with a company's strategic vision.

methanol to have a similar effect. A simple summation of the raw releases creates significant measurement errors in terms of toxicity.

By controlling for an indicator variable that takes the value of one if the firm has a Corporate NFP, we aim to account for the possibility that our measure of NFP experience could be influenced by the CEO taking a position in its corporate foundation/NFP[16], which may confound our results. Our results remain robust even after excluding firms that have corporate foundations, suggesting that the observed relationship between CEO NFP experience and ESG engagement is not merely driven by the presence of a corporate-running NFP.

Company decisions related to ESG engagement may reflect the preferences of its board or blockholders rather than a management style. To mitigate such concerns, we control for board independence (the ratio of independent directors) and the percentage of institutional ownership. We also employ a dummy variable which is equal to one if the board of directors of a company constitutes a CSR committee and zero otherwise. This variable captures the fact that some firms are generally more CSR focused than others. In addition, the E-Index, consisting of six anti-takeover provisions, is included as a control to account for external governance that may also influence CSR activities.

Taking into account the notion put forth by Hegde and Mishra (2019) that younger CEOs may be more inclined to take risks and foster CSR initiatives, we control for CEO age. Additionally, as found by Borghesi, Houston, and Naranjo (2014) and Cronqvist and Yu (2017), female CEOs positively impact their firm's ESG performance, leading us to control for CEO gender in our analyses.[17] We also account for the influence of a CEO's tenure on corporate social performance, as firm-specific experience may aid CEOs in devising efficient ESG policies. Thus, we control for the CEO's tenure length in years.

The *NFP CEO* effect may also be explained by differences in CEO-specific human capital. Consequently, we control for whether a CEO has an MBA or technical education,

[16]We use a entity-linking program to match NFP name and address to firms using NFP business register data provided in `https://www.nber.org/research/data/irs-form-990-data`

[17]Data availability hinders our ability to control for the effects of CEO marital status and parenthood of daughters, as conducted by Hegde and Mishra (2019) and Cronqvist and Yu (2017) in their papers. We posit that there is limited correlation between a CEO's work experience in not-for-profit institutions and their marital or parenting status.

defined by holding an undergraduate or postgraduate degree in engineering, physics, operations research, chemistry, mathematics, biology, or pharmacy, as indicated by (Islam and Zein, 2020). In order to account for CEO-specific expertise in innovation-related fields, we follow Sunder, Sunder, and Zhang (2017) and introduce an indicator for CEOs with a Ph.D. in STEM fields. Additionally, we incorporate an indicator variable for CEOs with unavailable school information. To consider the impact of other CEO styles on firms' ESG performance, we control for an *NFP CEO*'s founder status and military experience, as suggested by Lee, Kim, and Bae (2016); Benmelech and Frydman (2015).

We also explore the possibility that the *NFP CEO* indicator captures the difference between generalist and specialist CEOs. Custódio, Ferreira, and Matos (2019) devise a general ability index (GAI) measuring the degree to which an executive's lifetime experience is specialized. We employ this index to control for the confounding influence of industry-specific expertise on our findings. Another potentially confounding factor is CEO overconfidence, which, as per Hirshleifer, Low, and Teoh (2012) and Malmendier and Tate (2008), may affect a firm's innovation and acquisition strategies. To ensure that CEO overconfidence does not skew our results, we include the standard CEO overconfidence measure developed by Hirshleifer, Low, and Teoh (2012). Further details on the construction and data sources for all our variables are provided in Appendix B.

2.8 Summary Statistics and Univariate Analysis

The sample selection procedures described above identify 7,346 unique CEOs across 3,539 firms, among which 1,604 CEOs have not-for-profit experience (i.e., 21% of the CEOs have working experience in not-for-profit organizations). We designate CEOs with not-for-profit experience as *NFP CEO*s and those without such experience as non-*NFP CEO*s. Figure 1 displays the time trend for *NFP CEO*s from 1992 to 2019. The graph separately illustrates *NFP CEO*s who acquired not-for-profit experience before becoming CEO (in orange) and all *NFP CEO*s (in green), including CEOs whose experience was acquired both before or

during their CEO tenure. The aggregate proportion of *NFP CEO*s increases from 7.99% in 1992 to 34.49% in 2019 (green line). The trend for CEOs who gained their not-for-profit experience before their tenure is also similar. Overall, the figure demonstrates a significant rise in the prevalence of NFP CEOs over time.

Figure 2 plots the natural logarithm of climate change-related news items alongside the percentage proportion of *NFP CEO*s in our sample. The overall trend of the rising number of *NFP CEO*s coincides with society's growing attention to climate change-related issues, suggesting that the increasing prominence of climate change and other ESG concerns may be partly why firms are more likely to select CEOs with pro-ESG styles.

Table 1 reports the summary statistics and univariate comparisons across the firm-year observations with and without *NFP CEO*s. Panel A in Table 1 presents the environmental and social outcomes used in this study. On average, firms led by *NFP CEO*s obtain a 0.31 overall CSR score in terms of the MSCI KLD CSR score, which is approximately 16 times higher than the score obtained by firms led by non-*NFP CEO*s. The difference is statistically significant at the 1% level. Specifically, all five components of the CSR score (i.e., community, diversity, employment, environment, and human) are significantly higher for firms led by *NFP CEO*s. Furthermore, firms with *NFP CEO*s are associated with higher strength scores than firms without *NFP CEO*s, while the difference in concern scores between the two groups is neither statistically nor economically significant. Consistently, we observe similar results when measuring firms' ESG engagement using the employee satisfaction scores from Glassdoor. Firms led by *NFP CEO*s achieve higher employee satisfaction rates in areas such as work-life balance, company culture, career opportunities, compensation, and senior management. Additionally, we find that firms produce more green patents under *NFP CEO*s' leadership. Lastly, regarding pollution scores, we do not identify significant differences between the two groups in terms of RSEI score and hazard score. Altogether, the evidence from this univariate comparison of environmental and social outcomes between the two groups indicates a positive association between CEOs'

not-for-profit experience and firms' ESG performance.

Panel B in Table 1 presents the summary statistics for other variables used in this study. In terms of firm characteristics, firms led by *NFP CEO*s, on average, have lower Tobin's Q, lower PPE, and lower R&D expenses. However, they exhibit larger firm size, higher leverage, a higher level of board independence, a higher level of industry competition, a larger E-index, and are more likely to have a corporate foundation and a CSR committee. Regarding CEO-level characteristics, *NFP CEO*s, on average, are older, have longer tenure, are more likely to be female, earn higher total compensation, and are associated with a higher general ability index than non-*NFP CEO*s.

3 Empirical Analysis and Results

3.1 Manager Fixed Effects on Firm's ESG outcome

Table 2 Panel A presents the results from estimating Equation (1) following Bertrand and Schoar (2003). The dependent variables listed in Column 1 consist of various ESG-related outcomes, with the first row displaying the adjusted R^2 for the benchmark model that solely includes firm and year fixed effects.[18] The second row reports the adjusted R^2 and the F-statistics for the joint significance test on the manager fixed effects when CEO fixed effects are incorporated into the model. In contrast, the third row reports the adjusted R^2 and the F-statistics on the manager fixed effects when all groups of manager fixed effects are included.

The first variable in this table is the ESG rating, as measured by the adjusted CSR score from KLD. The adjusted R^2 of the baseline model is 56.19%. When CEO fixed effects are added to the benchmark model, the adjusted R^2 increases to 57.70%. Further, including all manager fixed effects raises the adjusted R^2 to 61.76%, signifying a 9.91%

[18]For the tests related to facility-level toxic weighted chemical releases (i.e., *Adj. RSEI Score*), we use facility level fixed effects instead of firm fixed effects, as these are facility-level measures, as described in Section 2.

increase relative to the benchmark model.

Additionally, we explore several real ESG outcome measures. The inclusion of manager fixed effects leads to an increase in the adjusted R^2 by 0.83%, 3.03%, and 0.61% compared to the benchmark model for the outcome variables: employee satisfaction ratings from Glassdoor, the number of green patents filed (log), and adjusted *RSEI score*, respectively. These incremental explanatory powers are comparable to those found in Bertrand and Schoar (2003), which studied investment and financial policies. In all specifications, the *F-statistics* are substantially high, rejecting the null hypothesis that the manager fixed effects are jointly equal to zero. Overall, the results in Table 2 Panel A indicate that manager fixed effects, serving as a proxy for managerial style, significantly influence firms' ESG policies.

We present our findings based on "CEO mover" in section 2.1 in Table 2 Panel B, concentrating exclusively on managers who held CEO positions across multiple firms (i.e., akin to "CEO-to-CEO" movers as defined in Bertrand and Schoar (2003)). For each dependent variable, the first row reports the adjusted R^2 for the benchmark model that only includes firm and year fixed effects, while the second row reports the adjusted R^2 and F test for the joint significance of CEO fixed effects for the specification including CEO fixed effects.

As shown in Panel B, adding CEO fixed effects increases the adjusted R^2 by 2.44%, 1.46%, and 0.39% relative to the benchmark model for outcome variables: adjusted CSR score, the number of green patents filed (log) and adjusted *RSEI score*, respectively. Based on the results on F-test for the joint significance of the CEO fixed effects, the null hypothesis of no joint effect can be rejected.[19]

Having demonstrated that management style influences ESG policies/outcomes using the fixed effect approach, we now turn to our proxy for pro-social style using CEO NFP

[19]It is important to note that the CEO fixed effects cannot be estimated when we use employee satisfaction ratings as the outcome variable in this setting, as we are left with only 28 firm-year observations with non-missing employee ratings from Glassdoor that include firms hiring at least one "CEO mover" during the sample period.

working experience. As discussed in section 2.1, this proxy enhances our interpretation of management style, as it clarifies the specific characteristics or experiences captured in the "style" while relaxing the implicit assumption that "style" must be time-invariant in the fixed effect approach.

Before discussing the results of NFP working experience on ESG outcomes, it is natural to question how much CEO fixed effects and CEO NFP working experience overlap. It is important to note that we do not claim that fixed effects and working experience capture identical variations in "style". In fact, they represent two distinct approaches capturing different variations. The fixed effect approach encompasses a broader set of time-invariant characteristics, while the experience approach captures both time-invariant and time-varying NFP working experiences.

In examining the overlap between the two approaches, we regress NFP experience on the CEO fixed effects and report the results in Panel C of Table 2. We find that the fixed effects can explain about 33%-45% of the variations in NFP experience, as suggested by the adjusted R^2 in row 1 and 4. This indicates that the two approaches we adopt in this paper, although different, are somewhat correlated. This correlation remains robust when including firm fixed effects and various other CEO characteristics in the model, as suggested in other rows. The results of F-test show that the joint significance of the CEO fixed effect in explaining NFP experience is at the 1% level. This result also suggests that the approaches capture distinct variations, as expected, since a large fraction of unexplained variations remains.

3.2 The Effect of CEO's NFP working experience on firm's ESG outcome

We use firm-year panel data from 1995 to 2018 (limited by KLD data period) and estimate several multivariate OLS regression models to formally investigate the relationship between *NFP CEOs* and a firm's ESG performance. The main regression model used in this study

is shown in Equation 2.

In this model, the dependent variable Y represents the adjusted CSR score from the MSCI KLD database as the outcome variable. X is an array of control variables at year t. It includes general CEO characteristics such as age, gender, and total compensation. Following Islam and Zein (2020), Benmelech and Frydman (2015), and Custódio, Ferreira, and Matos (2013), we include CEO tenure, founder CEO, CEO overconfidence, military CEO, general ability index, and CEO education background in our regressions to account for a CEO's general and specific human capital. The fixed effects used in this model vary and are specified in each test. Standard errors are clustered at the firm level.

Table 3 presents the baseline results. Column (1) features a model estimated with industry and year fixed effects. The coefficient for I_{NFP} is 0.095, which is statistically significant at the 1% level and economically meaningful. Adjusted CSR scores for firms led by *NFP CEO*s are, on average, 0.095 higher than those led by non-*NFP CEO*s within the same industry, after accounting for time trends and various firm and CEO characteristics. This effect increases the average adjusted CSR score by 4.75 times compared to non-*NFP CEO* led firms. Likewise, the coefficient for our continuous measure C_{NFP} in Column (2) is 0.122 and is also statistically significant at the 1% level. In Columns (3) and (4), we employ industry-by-year fixed effects to control for industry-year trends and incorporate firm fixed effects to account for time-invariant but firm-specific unobservable factors. We still observe that the coefficients for I_{NFP} and C_{NFP} are positive and statistically significant at the 1% level.

Considering that our sample includes numerous instances where a CEO gains NFP experience during their tenure, this within-CEO variation enables us to implement CEO-level fixed effects. Such a specification can also alleviate concerns that time-invariant but CEO-specific unobservable characteristics drive the results. As demonstrated in Columns (5) and (6), we continue to observe a positive and statistically significant coefficient for *NFP CEO*s with the inclusion of CEO fixed effects. It is worth noting that if a CEO's

innate prosocial preference (assuming it is time-invariant) is the sole driver of our results, the CEO's fixed effect should fully account for this. However, the coefficient of *NFP CEO*s in these models remains positive and statistically significant, suggesting that the positive relationship between an *NFP CEO* and a firm's ESG performance is less likely to be driven by the CEO's innate characteristics.

Similar results are also observed using firm-CEO pair fixed effects, as displayed in Columns (7) and (8). The robust positive coefficients for I_{NFP} and C_{NFP} indicate that CEOs enhance firms' ESG performance within their tenure as they acquire more not-for-profit experiences.[20] Further evidence and discussion about the channels are provided in Sections 4 and 5. In the Internet Appendix IA, we also employ propensity score matching to alleviate concerns that the results may be driven by the non-linear effects of the observables. We apply the nearest neighbor-matching technique to match each firm-year observation led by an *NFP CEO* with a matched firm-year observation led by a non-*NFP CEO* based on several firm characteristics, as well as industry and year, to mitigate concerns of selection bias due to observable characteristics. Overall, the baseline results provide suggestive evidence supporting our assertion of a positive relationship between CEOs' not-for-profit experience and firms' ESG outcome.

We subsequently examine each component of the CSR score to gain a deeper understanding of this positive relationship. Table 4 presents the regression results with industry and year fixed effects for Equation 2. Initially, we assess the strength score and concern score separately. Columns (1) and (2) reveal that the coefficients for I_{NFP} and C_{NFP} are positive and statistically significant at the 1% level for the strength score. In contrast, Columns (3) and (4) display a negative relationship between a CEO's not-for-profit experience and the concern score, but the coefficients are not statistically significant. These findings suggest that firms led by *NFP CEO*s, on average, do not exhibit fewer ESG-related

[20]CEOs may strategically seek to work in firms with better ESG performance rather than improving the performance of their current firms. This concern would be largely mitigated under CEO-firm pair fixed effects.

concerns but possess a higher number of ESG strengths compared to their peer firms without *NFP CEO*s within the same industry. We also evaluate the five components of adjusted CSR (community, diversity, employee relations, environment, and human rights). As illustrated in Columns (5) through (14), the coefficients for I_{NFP} and C_{NFP} are all positive for each component. Specifically, the effects are statistically significant at the 1% level for diversity, environment, and employee relations but insignificant for community and human rights. Overall, these results suggest that diversity, environment, and employee relations components are the primary factors driving the observed positive correlation between CEO not-for-profit experience and their adjusted CSR score.

A natural extension for analyzing the Corporate Social Responsibility (CSR) component is to investigate whether there is a "learning" effect, where CEOs with specific experiences contribute to improvements in certain CSR aspects. For instance, one might hypothesize that a CEO with a background in environment-related non-profits would enhance a company's environmental performance. However, our analysis, utilizing the National Taxonomy of Exempt Entities (NTEE) codes of these non-profits, does not support this hypothesis. This could be attributed to the fact that the non-profits in our sample are disproportionately social-related, with less than 2% being environment-related, as classified by the NTEE.

Further investigation reveals that the NTEE codes may not accurately reflect the full scope of a non-profit's activities, thus impeding our ability to precisely align CEO experience with specific CSR categories. For example, in the category of international affairs, a significant portion of organizations also engage in environmental activities. Consequently, without a more precise classification system to map these experiences to firm ESG outcomes, our study cannot conclusively assert the presence of a "learning" effect of CEO experience in CSR performance.

3.3 *NFP CEO*s and Real ESG Actions and Effects

To present a more comprehensive understanding of the relationship between *NFP CEO*s and firms' ESG performance, we concentrate on more direct measures of a firm's actual ESG actions and outcomes in this section.

We explore employee satisfaction ratings from Glassdoor.com to shed light on the relationship between *NFP CEO*s and employees' perceptions of their firms. Recall that Columns (9) and (10) of Table 4 demonstrate a positive association between *NFP CEO*s and the employee relations components of a firm's CSR score, indicating that firms under *NFP CEO* leadership tend to engage in more activities that improve employee relations, such as the initiation of employee health and safety programs and human capital development. However, the employee relations ratings from KLD do not reflect employees' actual perceptions of their firms. Columns (1) and (2) in Table 5 Panel B reveal that firms managed by *NFP CEO*s are more likely to receive higher overall employee ratings than their industry-peer firms run by non-*NFP CEO*s. Specifically, we find that firms with *NFP CEO*s obtain higher employee satisfaction ratings in subcategories related to corporate culture and values, senior managers, and career opportunities.

We continue our examination by exploring the connection between *NFP CEO*s and firms' decisions related to green innovation. Environmental technology investments play a critical role in promoting sustainability and fostering the development of a green economy. We employ the log one plus number of green patentsas our dependent variable[21] and run a regression that incorporates industry and year fixed effects, while controlling for the total number of patents held by the firm to adjust for the differences in patenting activities. Table 5 Panel C presents the empirical findings. We discover a positive relationship between *NFP CEO*s and the development of green patents. Specifically, Column (1) reveals that the coefficient for the dummy variable I_{NFP} is 0.075 and statistically significant at the 1% level, suggesting that firms led by *NFP CEO*s are associated with approximately 7.5%

[21] Our results are robust to using Poisson regression as recommended by Cohn, Liu, and Wardlaw (2022).

more green patents than their counterparts without *NFP CEO*s. Moreover, we delve deeper into this positive association by examining various categories of a firm's green innovations. Columns (3) through (12) demonstrate that *NFP CEO*s are positively correlated with all green innovation subcategories. Most notably, innovations pertaining to greenhouse gas emissions (i.e., climate change mitigation technologies), air pollution abatement, and water conservation exhibit strong statistical significance.

Finally, we examine a firm's toxic chemical emissions to provide direct evidence of the positive impact of *NFP CEO*s on promoting tangible ESG outcomes. Our analysis uses two facility-year level emissions measures from the RSEI database. We estimate Equation (2) with facility fixed effects, facility-level industry[22], and year and state fixed effects following Xu and Kim (2021). Facility fixed effects are necessary here because the adjusted pollution scores can only be compared within facilities, as explained in A.2.

Table 5 Panel D presents the findings which indicate a statistically significant negative relationship between CEOs' not-for-profit (NFP) experience and pollution measures. This suggests that firms led by NFP CEOs are associated with lower levels of toxic chemical emissions. Furthermore, the economic significance of this relationship is noteworthy. The coefficient on I_{NFP} reveals that, on average, pollution levels are approximately 17.9% lower when a facility is led by an NFP CEO compared to when the same facility is led by a non-NFP CEO, after controlling for industry-specific time trends. These results are consistent even when the dependent variable is changed to ln(Adjusted Hazard Score), as demonstrated in Columns (3) and (4).

4 Selected Style vs. Idiosyncratic style

Our findings suggest that a CEO's management style has a significant impact on a firm's environmental, social, and governance (ESG) outcomes. However, we acknowledge that

[22]For this analysis, the industry classification is based on the six-digit NAICS code for each operating facility provided in TRI. Facilities from the same firm may have different classifications, which provides a more detailed industry classification compared to the primary industry classification offered by Compustat.

our current empirical analysis does not establish a causal relationship between the two variables. Two possible interpretations of the observed correlation are the idiosyncratic style hypothesis and the selected style hypothesis. The former suggests that CEOs with not-for-profit experience apply their pro-social preferences to a firm's ESG decisions, while the latter proposes that firms intentionally hire CEOs with pro-social attributes to pursue ESG objectives. Both interpretations support each other. e.g. the selected style hypothesis implies that NFP experience is a valuable quality that boards consider when appointing CEOs. We explore the effects of both the selected and idiosyncratic styles on our baseline results by analyzing CEO turnover events between 1992 and 2018 using a CEO dismissal database created by Gentry, Harrison, Quigley, and Boivie (2021). We focus our analysis on NFP experience as it enables us to estimate the effect direction on ESG outcomes. A higher idiosyncratic pro-social style is likely to result in improved ESG outcomes, which cannot be determined using the fixed effect approach alone.

4.1 Selected Style

A company's board of directors holds a crucial responsibility in appointing and dismissing its CEO. According to the selected style hypothesis, boards that prioritize ESG objectives may intentionally choose an NFP CEO to lead the firm. To test this hypothesis, we conduct two tests. Firstly, we use data on CEO turnover events that have valid records of both outgoing and successor CEOs, and we regress the successor CEO's NFP experience indicator on the outgoing CEO's NFP experience indicator. This analysis aims to identify if there is a consistent pattern in the board's selection of CEOs based on their pro-social traits. If the board does not deliberately choose a CEO based on their pro-social attributes, NFP CEOs would enter the sample randomly, leading to an insignificant relationship between outgoing and successor CEOs. In contrast, if the board strategically selects NFP CEOs to pursue corporate ESG objectives, we would expect to observe a significant positive correlation, indicating the board's continuous approach. To address concerns that

the board may select CEOs based on characteristics correlated with pro-social traits, we incorporate various CEO characteristics as controls in our tests.

Table 6 presents the regression results in Columns (1) and (2). Column (1) analyzes within-industry variation among CEO turnover events and finds that the likelihood of selecting a successive CEO with not-for-profit experience is, on average, 29.4% higher for a firm previously led by an NFP CEO than for its industry-peer firm previously managed by a non-NFP CEO. Column (2) utilizes firm fixed effects and reveals that within the same firm, the probability of hiring an NFP CEO is 6.7% higher when the outgoing CEO possesses not-for-profit experience. These findings suggest that even after controlling for various CEO characteristics, firms led by CEOs with not-for-profit experience are more likely to choose another CEO with not-for-profit experience during a CEO turnover event. This is likely because most turnover events are unrelated to corporate ESG orientation changes and are primarily linked to financial performance, retirement, and personal issues. The significant positive correlation suggests that boards intentionally select CEOs based on their pro-social traits to continue pursuing ESG-related policies.

As a second test, we conduct a regression analysis of the successor CEO's NFP experience indicator on the presence of a CSR committee. Many firms establish CSR committees to enhance their relationships with non-owner stakeholders, address ESG concerns, and advise the board on ESG goals. Previous research shows that having a CSR committee is positively associated with a firm's ESG performance (e.g., Radu and Smaili, 2021; Baraibar-Diez and D. Odriozola, 2019). Thus, we use the existence of a CSR committee as a proxy for the board's commitment to ESG engagement. We identify the presence of a CSR committee using information from the Boardex board committee table, considering a committee as a CSR committee if its name contains keywords related to the environment, health, safety, sustainability, public, CSR, responsibility, community, and social.

In Table 6, we present the results of this analysis in Columns (3) and (4). Column (3) shows that the probability of selecting an NFP CEO is 6.8% higher for firms with

a CSR committee than for their industry-peer firms without one. In Column (4), we find a positive but statistically insignificant association between CSR committees and the likelihood of selecting an NFP CEO, likely due to limited within-firm variation regarding CSR committee presence in turnover events. These findings suggest a positive relationship between the board's ESG preferences and the successor CEO's pro-social style.

In our untabulated results, we further examine the association between the presence of a CSR committee and the firm's CEO appointment decisions by constructing four additional dummy variables representing different CEO turnovers. We find that firms with a CSR committee are more likely to replace an NFP CEO with another NFP CEO and less likely to replace a non-NFP CEO with another non-NFP CEO. These additional results support our main finding that the board intentionally selects CEOs with pro-social attributes to pursue ESG objectives.

4.2 Idiosyncratic Style

The analysis above provides evidence for the selected style hypothesis, but we also aim to establish evidence suggesting that an idiosyncratic style effect may partially drive the positive relationship between NFP CEOs and a firm's ESG engagement.

To establish causal evidence, we rely on CEO turnover events that are plausibly exogenous and are unlikely to be related to a firm's strategic change of policies or leadership styles. To ensure these turnover events are exogenous, we use only CEO involuntary departures due to CEO death or severe illness, as classified by Gentry et al. (2021). We define "treated" turnovers as those in which a non-NFP CEO replaces an NFP CEO. Control turnovers are defined as those in which another non-NFP CEO replaces a non-NFP CEO. We carefully match control turnovers to our treated turnovers using industry, year, and firm size as our matching criteria. In total, we identify 19 treated turnovers and 27 control turnovers.

Our analysis examines ESG outcomes from three years before to three years after the

CEO turnover year. To illustrate the change in firms' ESG outcomes around the event year, we present Figure 4, which plots the mean adjusted CSR score for treated and control firms from $t-3$ to $t+3$ relative to the event year. The blue and red lines represent treated and control firms, respectively. The figure shows no significant difference in the mean adjusted CSR score between treated and control firms in the pre-turnover period. However, there is a significant drop in the mean adjusted CSR score for treated firms compared to control firms following the CEO turnover. Thus, Figure 4 indicates that replacing an *NFP CEO* with a non-*NFP CEO* negatively impacts firms' ESG engagement. To formalize this observation, we utilize difference-in-differences regression analysis to examine the effect of *NFP CEO*s on firm CSR engagement around exogenous CEO turnover years. Specifically, the regression model we use is shown in Equation 3:

$$Y_{i,t+1} = \alpha + \beta_1 Treat_i \times Post_{i,t} + \beta_2 Treat_i + \beta_3 Post_{i,t} + \epsilon_{i,t+1} \tag{3}$$

The ESG outcome measures analyzed in our study for time $t+1$ comprise the adjusted CSR score from KLD, the overall employee satisfaction rating from Glassdoor, and the logarithm of one plus the total green patents from PatentsView. The binary variable $Post_{i,t}$ takes the value of one during the post-turnover period and zero in the pre-turnover period. On the other hand, the binary variable $treat_{i,t}$[23] equals one for the firms that experienced a transition from an *NFP CEO* to a non-*NFP CEO*, and zero for the firms that underwent a change from one non-*NFP CEO* to another non-*NFP CEO*. The coefficient on the interaction term (i.e., β) serves as the difference-in-difference estimator for the treatment effect and quantifies the variation in ESG engagement between the treated group and the control group before and after the exogenous CEO turnovers. A negative and statistically significant β estimator indicates that *NFP CEO*s have a causal impact on firms' ESG outcomes.

Table 7 Panel A showcases the findings with firm and year fixed effects. We observe

[23]As we utilize firm fixed effects in our model, this variable is absorbed by the fixed effect.

that the coefficients on the interaction term $turnover_{i,t} \times treat_{i,t}$ exhibit a negative sign across all ESG outcome variables, in line with the predictions of the idiosyncratic style hypothesis. Nevertheless, the effect is statistically significant at the 5% level only for the adjusted CSR score, while statistically insignificant for the other outcome variables. This could be due to the small sample of turnovers. Therefore, this outcome implies that a part of the variation in our baseline outcomes can be attributed to idiosyncratic managerial style. It is important to note that the exogenous CEO turnover events may not completely eliminate endogeneity concerns since the board of directors can also influence the style of the successor CEOs. In particular, the timing of the exogenous turnovers could accidentally coincide with the board's decision to alter corporate ESG policy.

To further alleviate these concerns, we employ the methodology proposed by Fee, Hadlock, and Pierce (2013). They suggest that if a board seeks to change corporate policies by selecting a CEO with a different style, the board's ability to find a replacement CEO to implement the desired post-turnover changes will be greater when there is a larger pool of potential replacements. In other words, the change in firm outcomes due to the selected style is more likely to occur when there are more candidates for CEO replacements. Therefore, by limiting our sample to turnover events that occur when there is a limited pool of replacement CEOs, we can enhance our ability to draw causal inferences.

Following Fee, Hadlock, and Pierce (2013) and Islam and Zein (2020), we utilize the size of the population residing in the firms' headquarters vicinity as a proxy for the pool of potential CEO replacements. A firm is assigned to the low-density population subsample when there are fewer than 7.5 million people living within a 100-mile radius of that firm's headquarter, which helps to strengthen our causal interpretation. The results, as presented in Table 7 Panel B, indicate that for the low-density population subsample, most of our difference-in-difference coefficients become even larger, providing further evidence that the observed effects of idiosyncratic style are less likely to be driven by the board's selection of a replacement CEO. For instance, the effect on adjusted CSR score doubles from the full

exogenous turnover sample to the low-density population subsample (i.e., from −0.238 to −0.481), as does the effect on the overall employee rating from Glassdoor (i.e., the Column (2)). [24]

5 Additional Analysis

5.1 CEO NFP Experience or Innate Characteristics?

A CEO's previous work with a non-profit organization might stem from a natural inclination towards helping others. Essentially, socially responsible CEOs may be more drawn to non-profit organizations due to unseen aspects of their personality. This means our findings might not be caused by the work experience of an *NFP CEO*, but instead, their hidden qualities explain both their career history and ESG performance. It's important to recognize that parts of our main analysis using CEO or CEO-firm pair fixed effects (Table 3) help us dismiss this idea, as long as a CEO's inborn character stays the same over time. However, to further explore this question, we compare ESG outcomes for firm years where a company is led by an *NFP CEO* but *before* they gain their non-profit experience (which we call *Placebo Dummy for NFP CEOs*), to firm-years led by non-*NFP CEO*s. If a CEO's innate personality explains our results, then placebo *NFP CEO* firm years should also show better ESG outcomes.

In Table 8 column (1), we re-estimate our baseline model, employing the limited sample described earlier. The coefficients on *Placebo Dummy for NFP CEOs* exhibit a positive yet insignificant effect in both models. Additionally, the economic magnitude of these effects is considerably smaller than our initial findings. The coefficient on *Placebo Dummy for*

[24] In untabulated results, We also conduct an additional analysis to test for the parallel trend assumption in our difference-in-difference analysis. This assumption requires that in the absence of exogenous CEO turnover events, the differences in adjusted CSR score between treated and control firms should be similar before the event, and the effect should only occur after the event. To test this, we create dummy variables t_0, t_{-1}, and t_{-2} to represent the years before the CEO turnover year and interact them with $treat_{i,t}$. We find that the difference-in-difference effects only occur after the CEO turnover event and not before, providing evidence in support of the parallel trend assumption.

NFP CEOs with industry and year fixed effects amounts to a mere 0.009, approximately one-tenth of the impact displayed in Table 3 Column 1 (0.095). In sum, the evidence presented in this section indicates that the inherent prosocial tendencies of CEOs do not seem to constitute the primary impetus behind our results.

5.2 Firm Performance and Management Ability

Our analysis suggests that *NFP CEO*s correlate with better ESG performance. However, one could argue that this comes at the cost of firm performance. In this subsection, we investigate whether *SE COEs* are linked to poorer firm performance, presenting our findings in Table 9. Columns (1) and (2) utilize Tobin's Q as a performance metric, revealing that firms with *NFP CEO*s don't have lower Tobin's Q than their industry peers. Additionally, Columns (3) and (4) show that *NFP CEOs* have comparable performance, as measured by ROA, to their industry counterparts.

Furthermore, we use measures from Demerjian, Lev, and McVay (2012) to evaluate firm efficiency and CEOs' managerial ability. Columns (5) to (8) show positive but insignificant coefficients on both I_{NFP} and C_{NFP}, suggesting that firms led by *NFP CEO*s have comparable efficiency to those led by non-*NFP CEO*s. This indicates that *NFP CEO*s have similar management skills to their peers. If ESG commitments hindered *NFP CEO*s, their productivity might decline and be reflected in their compensation. However, Columns (9) and (10) show no evidence of this, with insignificant coefficients on I_{NFP} and C_{NFP}. Overall, our findings reveal that *NFP CEO*s don't sacrifice firm performance for superior ESG engagement.

6 Conclusion

In summary, this paper sheds light on the influence of managerial style, specifically the CEO, in shaping a company's environmental, social, and governance (ESG) practices.

We show that CEO fixed effects account for a considerable variation in ESG practices and outcomes. Additionally, CEOs with not-for-profit (NFP) experience have a positive relationship with a firm's ESG performance, potentially due to their ability to balance shareholder interests with other goals and personal values focused on achieving social benefits. Using a set of CEO turnover events, we find that losing an NFP CEO negatively affects the ESG performance of the firm. Overall, the study highlights the importance of considering managerial style when understanding why some firms are more committed to ESG initiatives than others. These findings have significant economic implications as ESG practices and policies continue to be prioritized by policymakers, institutional investors, and society at large.

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7 Tables and Figures

Figure 1: Distribution of *NFP CEO*s acquiring NFP experience before becoming a CEO

This figure presents the distribution of all *NFP CEO*s and CEOs who obtain their NFP experience before being appointed as a CEO.

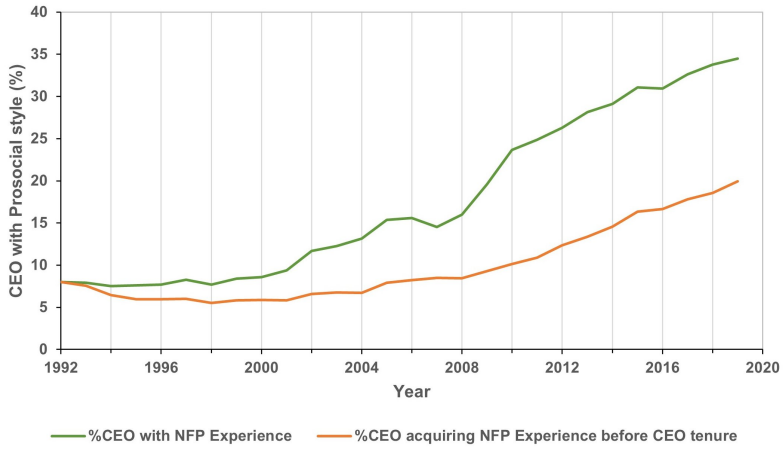

Figure 2: Percentage of *NFP CEO*s and the number of climate change news items (log) over time

This figure presents time trends of *NFP CEO*s and the number of climate change news items from 1992 to 2019.

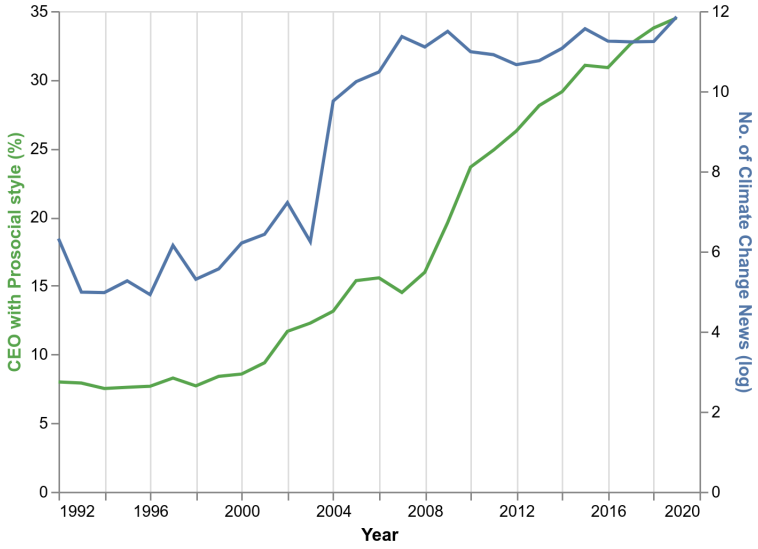

Figure 3: Distribution of *NFP CEO*s across NTEE classification

This figure illustrates the distribution of the number of CEOs across various types of non-profit organizations, as classified by the National Taxonomy of Exempt Entities (NTEE) Codes. The data for the CEOs presented in this figure is from the year 2019.

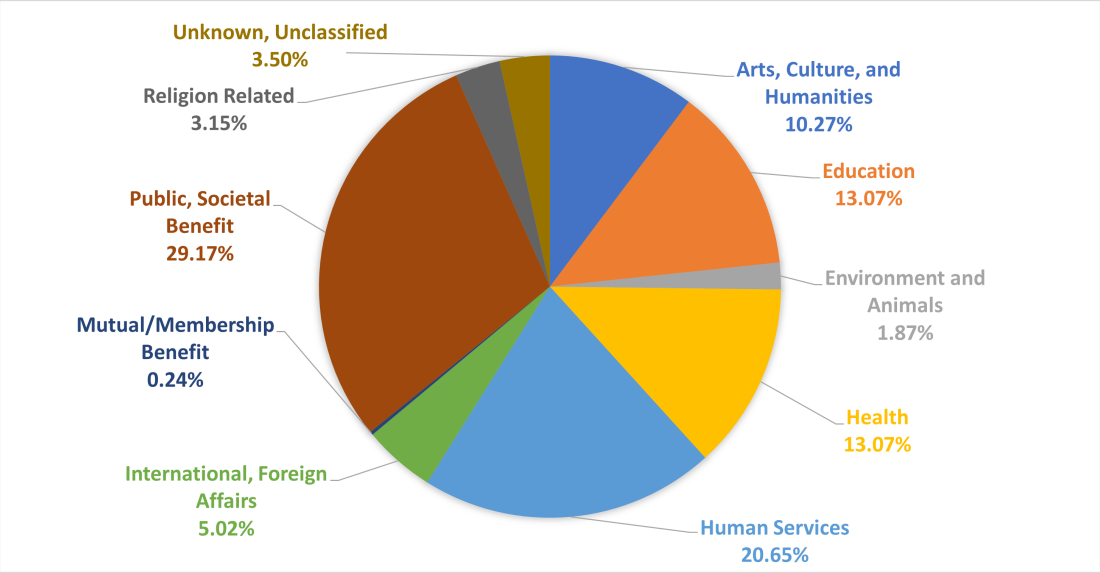

Figure 4: Relative change in the mean CSR score around CEO turnover event

This figure plots the relative changes in the CSR measures for the three-year period before and after the exogenous CEO turnover.

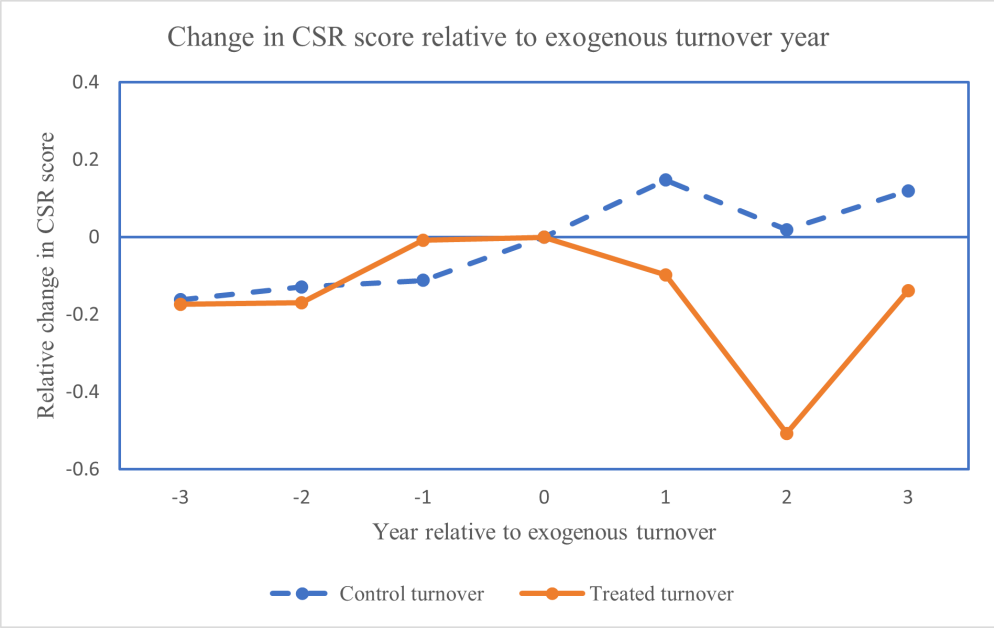

Table 1: Summary statistics

This table presents a comprehensive summary of the variables employed in this study. All variables are constructed at the firm-year level, with the exception of the facility-year level pollution measures. For a more detailed understanding of the variables, please refer to Appendix B. T-tests are conducted to compare the means between groups with and without NFP CEOs. *NFP CEO*s are defined as CEOs with not-for-profit experience prior to the current year. Panel A displays the summary statistics for environmental and social outcome variables. Panel B provides the summary statistics for various firm and CEO characteristics utilized in our tests. *, **, *** denote significance at the 10%, 5%, and 1% level, respectively.

	Group With *NFP CEO*s				Group Without *NFP CEO*s					
	N	Mean	Median	std. dev	N	Mean	Median	std. dev	Diff.	t-stat
Panel A: Environmental and Social Outcomes										
MSCI KLD: CSR Score										
CSR Overall	6,474	0.31	0.12	0.75	23,442	0.02	0.00	0.54	0.29***	35.39
CSR Strength	6,470	0.57	0.29	0.73	23,426	0.28	0.12	0.45	0.29***	39.57
CSR Concern	6,474	0.26	0.00	0.40	23,442	0.27	0.20	0.33	-0.00	-0.48
CSR Community	6,474	0.05	0.00	0.28	23,442	0.02	0.00	0.18	0.03***	10.82
CSR Diversity	6,474	0.10	0.00	0.37	23,442	-0.04	0.00	0.31	0.14***	31.18
CSR Employment	6,474	0.07	0.00	0.23	23,442	0.01	0.00	0.19	0.05***	19.14
CSR Environment	6,474	0.08	0.00	0.22	23,442	0.03	0.00	0.16	0.06***	24.07
CSR Humanity	6,474	0.01	0.00	0.16	23,442	-0.00	0.00	0.12	0.01***	5.42
Glassdoor: Employee Satisfaction										
Glassdoor Overall	1,617	3.32	3.35	0.48	2,785	3.20	3.20	0.53	0.12***	7.37
Glassdoor W/L Balance	1,617	3.25	3.31	0.50	2,785	3.17	3.16	0.54	0.08***	5.12
Glassdoor Culture	1,617	3.29	3.32	0.54	2,785	3.17	3.17	0.60	0.12***	6.56
Glassdoor Career Prosp.	1,617	3.09	3.10	0.46	2,785	3.00	3.00	0.50	0.09***	5.95
Glassdoor Compensation	1,617	3.39	3.43	0.50	2,785	3.24	3.26	0.56	0.14***	8.47
Glassdoor Management	1,617	2.89	2.90	0.49	2,785	2.80	2.78	0.54	0.09***	5.67
USPTO: Green Innovation										
Green Pat. (log)	3,923	0.50	0.00	1.11	14,286	0.33	0.00	0.80	0.17***	10.63
GHG Pat. (log)	3,923	0.45	0.00	1.05	14,286	0.28	0.00	0.73	0.16***	11.22
Air Pat. (log)	3,923	0.17	0.00	0.65	14,286	0.09	0.00	0.44	0.08***	9.00
Waste Mgmt. Pat. (log)	3,923	0.07	0.00	0.32	14,286	0.04	0.00	0.21	0.03***	8.03
Water Pollu. Pat. (log)	3,923	0.07	0.00	0.32	14,286	0.04	0.00	0.21	0.03***	7.39
Water Convers. Pat. (log)	3,923	0.06	0.00	0.39	14,286	0.02	0.00	0.19	0.04***	9.20
RESI: Facility-level Pollution										
ln(RSEI Score)	15,803	4.18	3.34	3.93	44,118	4.15	3.33	3.88	0.03	0.86
ln(Hazard Score)	15,803	18.00	17.80	6.05	44,118	17.96	17.97	5.88	0.05	0.87
Panel B: Control Variables										
Firm Characteristics										
Tobin's Q	6,473	1.81	1.42	1.22	23,441	1.96	1.53	1.41	-0.14***	-7.45
Leverage	6,452	0.26	0.22	0.23	23,356	0.23	0.21	0.20	0.02***	8.23
ROA	6,474	0.04	0.04	0.07	23,439	0.04	0.04	0.11	0.00	1.45
Size	6,474	8.73	8.66	1.66	23,442	7.80	7.69	1.56	0.93***	41.75
PPE	6,251	0.24	0.16	0.23	22,468	0.25	0.17	0.23	-0.01***	-3.71
R&D	6,474	0.02	0.00	0.04	23,442	0.03	0.00	0.06	-0.01***	-12.91
Institutional Ownership (%)	6,462	0.75	0.78	0.21	23,379	0.77	0.79	1.78	-0.01	-0.56
I(Corporate NFP)	6,474	0.03	0.00	0.18	23,442	0.02	0.00	0.15	0.01***	3.64
Board Independece	6,206	0.78	0.82	0.13	22,129	0.74	0.77	0.14	0.04***	21.33
I(Board Has CSR committee)	6,038	0.18	0.00	0.39	20,265	0.10	0.00	0.30	0.08***	17.34
E-Index	6,402	3.09	3.00	1.17	22,841	2.94	3.00	1.24	0.15***	8.77
Industry Sales HHI	6,474	2,256.33	1,639.29	2,085.50	23,442	2,403.58	1,771.30	2,129.08	-147.25***	-4.95
CEO Characteristics										
Total Compensation (log)	6,460	8.46	8.59	1.36	23,313	8.11	8.15	1.07	0.35***	21.84
CEO Age	6,473	57.28	57.00	6.74	23,425	55.80	56.00	7.30	1.49***	14.73
Tenure	6,474	9.06	7.00	7.34	23,442	8.04	6.00	7.05	1.02***	10.26
Founder CEO	6,472	0.05	0.00	0.22	23,430	0.07	0.00	0.25	-0.02***	-5.27
General Ability Index	6,440	5.32	5.00	2.14	23,295	4.38	4.11	1.79	0.94***	35.85
Overconfidence (holder67)	6,472	0.25	0.00	0.43	23,430	0.29	0.00	0.45	-0.04***	-6.67
Male	6,474	0.95	1.00	0.22	23,442	0.98	1.00	0.15	-0.03***	-10.54
Ivy League	6,472	0.30	0.00	0.46	23,430	0.23	0.00	0.42	0.07***	12.01
MBA	6,472	0.40	0.00	0.49	23,430	0.34	0.00	0.47	0.06***	8.26
PhD	6,472	0.06	0.00	0.24	23,430	0.06	0.00	0.24	-0.00	-0.43
Technical Education	6,472	0.02	0.00	0.12	23,430	0.02	0.00	0.14	-0.00**	-1.99
No School Information	6,472	0.02	0.00	0.16	23,430	0.08	0.00	0.27	-0.06***	-16.06
Military CEO	6,472	0.03	0.00	0.17	23,430	0.02	0.00	0.15	0.01**	2.41

Table 2: Executive Effects on ESG Strategies

This table presents the F-test results on the fixed effects of managers with respect to firms' ESG outcomes. All specifications contain year-fixed effects and time-varying firm characteristics including *Firm Size, Tobin's Q, leverage, ROA, PPE, R&D, Institutional Ownership, I(Board has CSR committee), I(Corporate NFP), Board independence* and *E-index*. In Panel A, the sample includes all firm-year observations where at least one top executive works in another firm during the entire sample period. The classification of *CEOs or Other executives* is based on the last position of each manager following Bertrand and Schoar (2003). Panel B retains all firm-year observations where the firm hires at least one CEO who also held a CEO position at another firm during the entire sample period. Panel C reports the results of the F-test on the fixed effects of managers with respect to their not-for-profit (NFP) working experiences. For each F-test, we report the value of the F-statistic, the p-value, and the number of constraints in parentheses.

Panel A: All top Executive-Movers

		F-test for FEs				
	Fixed Effects	***CEOs***		***Other executives***		***Adjusted R^2***
CSR Overall	Firm					56.19%
CSR Overall	Firm, CEO	6.00	(0.00, 252)			57.70%
CSR Overall	Firm, CEO, Other	7.88	(0.00, 252)	12.44	(0.00, 677)	61.76%
Emp. Rating.	Firm					62.84%
Emp. Rating.	Firm, CEO	2.61	(0.00, 20)			63.18%
Emp. Rating.	Firm, CEO, Other	2.21	(0.00, 20)	2.06	(0.00, 55)	63.67%
Green Pat.	Firm					78.73%
Green Pat.	Firm, CEO	4.09	(0.00, 230)			79.65%
Green Pat.	Firm, CEO, Other	2.55	(0.00, 230)	17.23	(0.00, 684)	81.76%
Adj. RSEI Score	Facility					86.51%
Adj. RSEI Score	Facility, CEO	50.22	(0.00, 61)			86.74%
Adj. RSEI Score	Facility, CEO, Other	54.79	(0.00, 61)	6.69	(0.00, 113)	87.12%

Panel B: CEO-Movers Only

	Fixed Effects	***F-test for CEO FEs***		***Adjusted R^2***
CSR Overall	Firm			54.93%
CSR Overall	Firm, CEO	4.70	(0.00, 58)	57.37%
Green Pat.	Firm			80.04%
Green Pat.	Firm, CEO	2.72	(0.00, 73)	81.50%
Adj. RSEI Score	Facility			89.57%
Adj. RSEI Score	Facility, CEO	5.99	(0.00, 11)	89.96%

Panel C: Relations between FE and NFP Exp.

	Fixed Effects and Ctrl.	***F-tset for CEO FEs***		***Adjusted R^2***
I_{NFP}	CEO	124.87	(0.00, 74)	33.69%
I_{NFP}	CEO, firm	87.51	(0.00, 64)	64.09%
I_{NFP}	CEO, firm, CEO chars.	44.30	(0.00, 62)	67.61%
C_{NFP}	CEO	79.86	(0.00, 74)	44.62%
C_{NFP}	CEO, firm	86.19	(0.00, 64)	71.45%
C_{NFP}	CEO, firm, CEO chars.	53.74	(0.00, 62)	74.23%

Table 3: NFP CEOs and CSR ratings

This table reports the estimates from regressions examining the relationship between *NFP CEOs* and firm CSR scores. The dependent variable, *CSR Overall*, represents the adjusted CSR score comprising five components: *Community, Diversity, Employee, Environment, Humanity.* The independent variables of interest are I_{NFP}, an indicator variable that equals one if the CEO has not-for-profit experience before the current year, and C_{NFP}, which is the natural logarithm of one plus the total number of CEO's not-for-profit experiences before the current year. Control variables include various firm and CEO characteristics such as *Firm Size, Tobin's Q, leverage, ROA, PPE, R&D, Institutional Ownership, I(Board has CSR committee), I(Corporate NFP), Board independence, E-index, CEO age, CEO tenure, Male CEO, Military CEO, Overconfident CEO, Founder CEO, General ability index (GAI), various CEO education background indicators (Ivy League, MBA, Ph.D., Technical Education, No School Information), and natural logarithm of CEO total compensation.* Detailed variable definitions are provided in Appendix B. Fixed effects used in regressions are indicated in each column, including *Year FE*, *Industry (4-digit SIC) FE*, *Industry × Year FE*, *Firm FE*, *CEO FE*, and *CEO-Firm-Pair FE*. Standard errors are clustered at the firm level. T-values are reported in parentheses. *, **, *** denote significance at the 10%, 5%, and 1% level, respectively.

	CSR Overall							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I_{NFP}	0.095***		0.071***		0.092***		0.091***	
	(5.28)		(3.43)		(2.85)		(2.79)	
C_{NFP}		0.122***		0.105***		0.138***		0.136***
		(5.70)		(4.39)		(3.53)		(3.45)
Tobin's Q	0.027***	0.027***	0.000	0.000	0.006	0.006	0.004	0.004
	(4.08)	(4.04)	(0.03)	(0.03)	(0.58)	(0.61)	(0.41)	(0.44)
Leverage	-0.091**	-0.091**	0.069	0.066	0.030	0.029	0.014	0.013
	(-2.06)	(-2.07)	(1.20)	(1.15)	(0.43)	(0.42)	(0.21)	(0.18)
ROA	0.382***	0.383***	0.046	0.044	0.004	0.006	-0.006	-0.005
	(4.85)	(4.86)	(0.55)	(0.53)	(0.04)	(0.07)	(-0.07)	(-0.05)
Size	0.169***	0.168***	-0.002	-0.001	0.026	0.027	0.011	0.013
	(16.80)	(16.65)	(-0.10)	(-0.05)	(0.99)	(1.04)	(0.40)	(0.46)
PPE	0.118*	0.115*	-0.304**	-0.305**	-0.050	-0.050	-0.074	-0.072
	(1.76)	(1.70)	(-2.20)	(-2.21)	(-0.35)	(-0.35)	(-0.50)	(-0.49)
R&D	1.023***	1.008***	-0.275	-0.276	-0.256	-0.245	-0.332	-0.321
	(4.58)	(4.49)	(-0.80)	(-0.82)	(-0.73)	(-0.70)	(-0.94)	(-0.91)
Institutional Ownership (%)	-0.000	-0.000	-0.001	-0.001	-0.000	-0.000	-0.000	-0.000
	(-1.14)	(-1.10)	(-1.33)	(-1.28)	(-0.15)	(-0.10)	(-0.16)	(-0.12)
Has Corporate NFP	0.140***	0.141***	0.167***	0.171***	0.182***	0.184***	0.160***	0.162***
	(2.80)	(2.82)	(2.86)	(2.95)	(2.91)	(2.96)	(2.60)	(2.64)
Board Independence	0.375***	0.375***	0.107	0.106	0.180***	0.180***	0.170**	0.170**
	(7.11)	(7.10)	(1.53)	(1.51)	(2.59)	(2.59)	(2.41)	(2.41)
Has CSR committee	0.091***	0.090***	0.065	0.067	0.030	0.028	0.033	0.032
	(3.12)	(3.10)	(1.24)	(1.27)	(0.49)	(0.47)	(0.53)	(0.51)
E-Index	0.006	0.006	0.000	0.000	0.004	0.004	0.004	0.004
	(0.98)	(1.01)	(0.00)	(0.04)	(0.38)	(0.39)	(0.42)	(0.43)
ln(Total Pay)	-0.004	-0.005	-0.008	-0.008	-0.005	-0.004	-0.006	-0.005
	(-0.47)	(-0.51)	(-1.32)	(-1.27)	(-0.63)	(-0.57)	(-0.72)	(-0.66)
CEO Age	-0.001	-0.001	0.001	0.001	0.031	0.032	0.023	0.024
	(-0.75)	(-0.72)	(0.35)	(0.36)	(1.43)	(1.47)	(1.07)	(1.12)
CEO Tenure	-0.004***	-0.004***	-0.003*	-0.003*	0.006	0.006	0.005	0.005
	(-3.26)	(-3.44)	(-1.70)	(-1.86)	(0.97)	(0.89)	(0.64)	(0.60)
Founder CEO	-0.016	-0.014	0.068	0.070	-1.119***	-1.102***		
	(-0.61)	(-0.53)	(1.46)	(1.52)	(-6.80)	(-6.77)		
General Ability Index	-0.005	-0.005	-0.017***	-0.018***	0.046***	0.045**	0.052***	0.050***
	(-1.13)	(-1.30)	(-2.95)	(-3.17)	(2.58)	(2.51)	(2.77)	(2.69)
Overconfidence (holder67)	-0.033***	-0.034***	-0.009	-0.009	-0.014	-0.015	-0.013	-0.013
	(-3.07)	(-3.12)	(-0.76)	(-0.82)	(-1.12)	(-1.14)	(-0.99)	(-1.02)
Male CEO	-0.302***	-0.299***	-0.155***	-0.152***				
	(-7.07)	(-7.04)	(-2.97)	(-2.89)				
Ivy League	0.040**	0.039**	0.030	0.029				
	(2.33)	(2.27)	(1.18)	(1.13)				
MBA	0.010	0.010	0.009	0.010				
	(0.66)	(0.70)	(0.43)	(0.45)				
PhD	-0.035	-0.033	-0.014	-0.013				
	(-1.23)	(-1.19)	(-0.30)	(-0.29)				
Technical Education	0.028	0.026	-0.092	-0.096				
	(0.62)	(0.58)	(-1.30)	(-1.35)				
No School Information	-0.004	-0.005	-0.027	-0.027				
	(-0.17)	(-0.19)	(-0.66)	(-0.64)				
Military CEO	0.020	0.022	-0.091	-0.085				
	(0.51)	(0.58)	(-1.48)	(-1.37)				
Year FE	✓	✓						
Industry FE	✓	✓						
Industry × Year FE			✓	✓	✓	✓	✓	✓
CEO-Firm-Pair FE							✓	✓
Firm FE			✓	✓				
CEO FE					✓	✓		
Obs.	20,717	20,717	18,746	18,746	18,100	18,100	18,053	18,053
Adj. R^2	0.40	0.40	0.62	0.62	0.68	0.68	0.68	0.68

Table 4: NFP CEOs and CSR decomposition

This table presents the regression estimates examining the relationship between *NFP CEOs* and the decomposition of aggregate adjusted CSR score. The outcome variables consist of *CSR Strength*, which is the aggregate adjusted CSR score of strength categories and *CSR Concern*, which is the aggregate adjusted CSR score of concern categories. The adjusted scores for *Community, Diversity, Employee, Environment, Humanity* are reported separately. The variables of interest are I_{NFP}, an indicator variable that equals one if the CEO has not-for-profit experience before the current year, and C_{NFP}, which is the natural logarithm of one plus the total number of CEO's not-for-profit experiences before the current year. The baseline controls from Table 2 are included in the models but not reported in the table. Detailed variable definitions can be found in Appendix B. Fixed effects used are indicated in each column. Standard errors are clustered at the firm level. T-values are reported in parentheses, with significance denoted by *, **, or *** for the 10%, 5%, and 1% level, respectively.

	CSR Strength		CSR Concern		Diversity		Environment		Employment		Community		Human	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
I_{NFP}	0.082***		-0.014		0.043***		0.022***		0.020***		0.009		0.001	
	(5.28)		(-1.35)		(5.09)		(4.05)		(3.42)		(1.31)		(0.19)	
C_{NFP}		0.115***		-0.009		0.054***		0.032***		0.027***		0.010		0.000
		(5.73)		(-0.69)		(5.53)		(4.74)		(3.89)		(1.29)		(0.03)
Baseline Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Obs.	20,711	20,711	20,717	20,717	20,717	20,717	20,717	20,717	20,717	20,717	20,717	20,717	20,717	20,717
Adj. R^2	0.48	0.48	0.40	0.40	0.37	0.37	0.32	0.32	0.29	0.29	0.13	0.13	0.12	0.12

Table 5: NFP CEOs and real ESG actions and outcomes

This table reports the regression estimates examining the relationship between an *NFP CEO* and a firm's real ESG actions and outcomes. The variables of interest are I_{NFP}, an indicator variable that equals one if the CEO has not-for-profit experience before the current year, and C_{NFP}, which is the natural logarithm of one plus the total number of CEO's not-for-profit experiences before the current year. Panel A reports the results of the analysis for employee satisfaction ratings from Glassdoor. *Emp. Rating Overall* represents the overall employee satisfaction ratings from Glassdoor. It is decomposed into five subcategories including work-life balance, company culture, career opportunities, compensation, and senior management. Panel B reports the results of the analysis for the number of green patents from PatentViews. *Green Pat.* represents the natural logarithm of the one plus the total number of green patents and it is further classified into patents regarding greenhouse gas emission, air pollution prevention, waste management, water pollution prevention, and water-related adaptation technologies. The total number of patents held by the firm is controlled in these analyses. Panel C reports the results of the analysis for the facility-level toxicity-weighted pollution measures from RSEI. *RSEI Score* represents the facility-level toxicity-weighted chemical releases with the adjustment to the exposed population, while *Hazard Score* reflects the same measure without adjusting for the exposed population. Both scores are adjusted for the facility-level production. Baseline controls used in Table 2 are included in the models (not reported). Fixed effects used are indicated in each column. Standard errors are clustered at the firm level, and T-values are reported in parentheses. Statistical significance levels are denoted by *, **, and *** for 10%, 5%, and 1% level, respectively. Detailed variable definitions are provided in Appendix B.

Panel A - Employee Satisfaction

	Emp. Rating Overall		W/L Balance		Culture		Career Prosp.		Compensation		Management	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I_{SE}	0.063***		0.030		0.068**		0.043**		0.039		0.066***	
	(2.72)		(1.17)		(2.49)		(1.99)		(1.64)		(2.89)	
C_{SE}		0.075***		0.023		0.073***		0.056**		0.050*		0.073***
		(3.24)		(0.86)		(2.62)		(2.58)		(1.94)		(3.13)
Baseline Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Obs.	4,606	4,606	4,606	4,606	4,606	4,606	4,606	4,606	4,606	4,606	4,606	4,606
Adj. R^2	0.35	0.35	0.35	0.35	0.34	0.34	0.31	0.31	0.49	0.49	0.28	0.28

Panel B - Green Innovation

	Green Pat.		GHG		Air		Waste Mgmt.		Water		Water Cons.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I_{SE}	0.075**		0.073**		0.033**		0.007		0.009		0.025***	
	(2.55)		(2.56)		(2.02)		(0.92)		(0.99)		(2.64)	
C_{SE}		0.087**		0.082**		0.041*		0.015		0.019		0.036**
		(2.37)		(2.28)		(1.92)		(1.55)		(1.49)		(2.35)
All Pat.	0.137***	0.137***	0.124***	0.123***	0.037***	0.037***	0.016***	0.016***	0.020***	0.020***	0.014***	0.014***
	(11.17)	(11.20)	(10.40)	(10.43)	(5.89)	(5.88)	(5.57)	(5.56)	(5.99)	(6.02)	(4.42)	(4.46)
Baseline Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Obs.	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442	14,442
Adj. R^2	0.53	0.53	0.51	0.51	0.41	0.41	0.29	0.29	0.29	0.29	0.48	0.48

Panel C - Toxic Chemical Release

	Adj. RSEI Score		Adj. Hazard Score	
	(1)	(2)	(3)	(4)
I_{NFP}	-0.179**		-0.195**	
	(-1.97)		(-2.16)	
C_{NFP}		-0.252**		-0.295***
		(-2.35)		(-2.75)
Baseline Controls	✓	✓	✓	✓
Facility FE	✓	✓	✓	✓
Facility Industry × Year FE	✓	✓	✓	✓
State × Year FE	✓	✓	✓	✓
Obs.	34,168	34,168	39,183	39,183
R^2	0.92	0.92	0.92	0.92

Table 6: Selected style analysis

This table presents the results of an analysis that examines the relationship between the presence of not-for-profit (NFP) experience in dismissed CEOs and the subsequent appointment of a CEO with NFP experience. The analysis uses data on CEO turnover events from 1992 to 2018. The outcome variable is I_{NFP} *of the successive CEO*, which is equal to one if the successive CEO has not-for-profit experience and zero otherwise. The variable of interest, I_{NFP} *of the dismissed CEO* is equal to one if the dismissed CEO has not-for-profit experience and zero otherwise. The table includes a control variable for the presence of a corporate social responsibility (CSR) committee in the firm, which is a dummy variable that is equal to one if the firm has a CSR committee and zero otherwise. The baseline controls used in Table 2 are included in the models but not reported. The table provides detailed variable definitions in Appendix B. Fixed effects are used and indicated in each column. Standard errors are clustered at the firm level, and T-values are reported in parentheses. The significance levels are denoted by *, **, and *** for the 10%, 5%, and 1% level, respectively.

	I_{NFP} of the successive CEO			
	(1)	(2)	(3)	(4)
I_{NFP} of the dismissed CEO	0.294***	0.067***		
	(17.77)	(3.55)		
Has CSR committee			0.065**	0.013
			(2.55)	(0.34)
Baseline Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Industry FE	✓		✓	
Firm FE		✓		✓
Obs.	4,741	3,885	3,870	3,101
Adj. R^2	0.25	0.36	0.17	0.39

Table 7: Idiosyncratic style analysis using exogenous CEO turnover

This table presents the results of a difference-in-difference analysis of exogenous CEO turnover events, which compares the changes in outcomes for firms that experience an NFP CEO to non-NFP CEO turnover (treated turnovers) with those that experience a non-NFP CEO to non-NFP CEO turnover (control turnovers). The sample covers three years before and after the turnover event. The table reports results for three outcome variables: *CSR Overall*, *Emp. Rating Overall*, and *Green Pat.* The independent variables include *Post* which equals to 1 for the post-turnover period and 0 for the pre-turnover period, *Treat* which equals to 1 for treated firms and 0 for control firms, and the interaction between *Post* and *Treat* (the difference-in-difference estimator). Panel A reports results for all exogenous CEO turnovers, while Panel B reports results for a subsample with a limited pool of CEO candidates as measured by a local population of fewer than 7.5 million people living within a 100-mile radius of the firm headquarters. Baseline controls used in Table 2 are included in the models (not reported) and fixed effects used are indicated in each column. Standard errors are clustered at the firm level. T-values are reported in parentheses. The significance levels are denoted by *, **, and *** for the 10%, 5%, and 1% level, respectively. Detailed variable definitions are provided in Appendix B.

Panel A - All exogenous turnovers

	CSR Overall	Emp. Rating Overall	Green Pat.
	(1)	(2)	(3)
Treat × Post	-0.238**	-0.113	-0.034
	(-2.12)	(-0.29)	(-0.40)
Post	-0.051	0.339	-0.062
	(-0.60)	(1.00)	(-0.96)
Baseline Controls	✓	✓	✓
Firm FE	✓	✓	✓
Year FE	✓	✓	✓
Obs.	281	79	281
Adj. R^2	0.62	0.90	0.87

Panel B - Exogenous turnovers in firms with headquarters in low-density population areas

	CSR Overall	Emp. Rating Overall	Green Pat.
	(1)	(2)	(3)
Treat × Post	-0.481***	-0.281	-0.006
	(-4.12)	(-0.55)	(-0.12)
Post	-0.016	0.061	-0.075
	(-0.15)	(0.26)	(-1.62)
Baseline Controls	✓	✓	✓
Firm FE	✓	✓	✓
Year FE	✓	✓	✓
Obs.	149	51	149
Adj. R^2	0.74	0.96	0.91

Table 8: CEO not-for-profit experience or innate characteristics?

The present table displays the results of the investigation on the impact of CEO cultivation channel versus innate characteristics on Corporate Social Responsibility (CSR) performance, measured by the aggregate adjusted CSR score of five components (*Community, Diversity, Employee, Environment, Humanity*). The analysis is restricted to non-*NFP CEO*s and the period preceding their initial NFP experience. To account for potential placebo effects, we include the Placebo Dummy for *NFP CEO*s, which equals one if the CEO will become an *NFP CEO* in the future and zero otherwise. Baseline controls used in Table 2 are included in the models (not reported). Detailed variable definitions are provided in Appendix B. Fixed effects used are specified in each column. Standard errors are clustered at the firm level and T-values are reported in parentheses. The significance levels are denoted by *, **, and *** for the 10%, 5%, and 1% level, respectively.

	CSR Overall	
	(1)	(2)
Placebo Dummy for *NFP CEOs*	0.009	0.029
	(0.42)	(0.90)
Baseline Controls	✓	✓
Year FE	✓	✓
Industry FE	✓	
Firm FE		✓
Obs.	15,956	15,816
Adj. R^2	0.38	0.58

Table 9: Do NFP CEOs sacrifice firm performance

This table reports the regressions estimates examining the relationship between *NFP CEOs* and firm performance. The outcome variables include *Tobin's Q*, which is defined as total assets plus the market value of equity minus the book value of equity divided by total assets; *ROA*, which is defined as net income divided by total assets; *Mgmt. Score* which is defined as management ability score adopted from Demerjian, Lev, and McVay (2012); *Firm Eff.* which is defined as firm efficiency adopted from Demerjian, Lev, and McVay (2012); and *ln(Total Pay)* which is defined as the natural logarithm of the CEO's total compensation. The variables of interest are I_{NFP}, an indicator variable that equals one if the CEO has not-for-profit experience before the current year, and C_{NFP}, which is the natural logarithm of one plus the total number of CEO's not-for-profit experiences before the current year. Baseline controls used in Table 2 are included in the models (not reported). Detailed definitions of variables can be found in Appendix B. Fixed effects are used and specified in each column. Standard errors are clustered at the firm level, and t-values are reported in parentheses. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

	Q		ROA		Mgmt. Score		Firm Eff.		ln(Total Pay)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I_{NFP}	0.050		0.003		0.006		0.009*		-0.037	
	(1.59)		(1.52)		(1.12)		(1.69)		(-1.04)	
C_{NFP}		0.068*		0.003		0.006		0.012*		-0.023
		(1.91)		(1.49)		(0.91)		(1.82)		(-0.70)
Baseline Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Obs.	22,778	22,778	22,779	22,779	16,144	16,144	16,144	16,144	23,440	23,440
Adj. R^2	0.38	0.38	0.17	0.17	0.36	0.36	0.49	0.49	0.40	0.40

Appendix A.

Appendix A.1. *NFP CEO*s Examples

Appendix A.1.1. John Edgar Bryson

An example of an *NFP CEO* is John Edgar Bryson, who was the CEO of Edison International. John co-founded the Natural Resources Defense Council (NRDC), a not-for-profit international environmental advocacy group. He also took the role of president of the California Public Utilities Commission (PUC), which promotes the use of energy-saving equipment among California utilities. During his tenure at the NRDC, he sued Southern California Edison (SCE) for $6 million for not negotiating in good faith with nonutility power companies. Nevertheless, the chairman of SCE, Howard Allen, wanted Bryson to join the company to bring a new perspective into the business.

"John's appointment suggests that the carriers of the environmental ethic may now be able to carry out those ideas from a position of power, rather than as critics of those who hold power." — Richard E. Ayers, a cofounder of NRDC

John was committed to combining chairmanship with environmentalism. After becoming chairman and chief executive officer of Edison International and Southern California Edison, Bryson supported a strong effort by Edison to promote demand-side management as a conservation and clean-up effort. He guided Southern California Edison to cut carbon dioxide emissions by 20% during his tenure, making Edison one of the most forward-thinking utility companies in addressing the issue of greenhouse gases. John had company engineers re-design facilities to reduce the strength of electromagnetic fields produced by power lines and substations. He also promoted nontraditional technologies, including electrified trains that would reduce automobile traffic and smog in Los Angeles and efficient photovoltaic cells for solar energy use.

Appendix A.1.2. David S. Taylor

Another example is David S. Taylor, who joined Feeding America in 2006. Feeding America is the largest domestic hunger-relief organization in the United States, aimed at connecting people with food and ending hunger. not-for-profits constantly grapple with inadequate resources and day-to-day struggles. But Taylor constantly looked beyond the short-term and encouraged the board and the leadership to do the same, Knott said. Such a perspective allowed Feeding America to adapt faster to the growing demands as the economy struggled.

"His non-profit leadership style provides clues into how he will seek to turn around the $76.3 billion company." — Commented by The Enquirer.

Taylor undertook the role as the CEO of P&G in 2015 and was dedicated to realizing the long-term and sustainable development of the company. In 2019, P&G joined forces with more than 40 companies from across the plastics and consumer goods value chain to form The Alliance to End Plastic Waste, a not-for-profit organization that plans to help end plastic waste in the environment. Taylor took the lead to serve as the first chairman of the Alliance. In addition, under Taylor, P&G and its brands are also committed to influencing attitudes, changing behaviors, and driving positive impacts on society and the environment.

Appendix A.1.3. Susan Story

Susan Story was the chief executive officer of American Water, which is a public utility company in the United States, from 2014 until 2020. Story has a history of active involvement in community, industry, education, and economic development efforts. In 2015, she was elected to serve on the board of directors for the Alliance to Save Energy, a not-for-profit that promotes energy efficiency to achieve a healthier economy, a cleaner environment, and greater energy security. According to Story, joining the Alliance to Save Energy could be vital for enhancing the operations and corporate social performance of the company she managed.

"The energy-water nexus is a critical area of focus for American Water's environmental and operational efforts. Energy use affects how we provide vital services to our customers and it also impacts how much those services cost. Our energy and water efficiency measures are key to meeting our commitment to sustainability as well as to our operational efficiency goals."

Under Story, American Water was named as one of the 100 Most Sustainable Companies by Barron's Magazine for three consecutive years, from 2017 through 2020. The company reduced annual water usage by 3.3 billion gallons through conservation, recycles more than a billion gallons of water a year by 2020, and will invest more than $8 billion to improve aging infrastructure to reduce and eliminate water leaks over the next few years. In addition, American Water was recognized by the Women's Business Enterprise National Council (WBENC) on the 20th annual list of America's Top Corporations for Women's Business Enterprises (WBEs), the only national award honoring corporations for world-class supplier diversity programs that reduce barriers and drive growth for women-owned businesses.

Appendix A.2. Production-adjusted Pollution Amount

The difference in chemical releases across facilities can be attributed to different production levels. Chemical releases per unit of production should be calculated to compare facility performance in terms of pollution prevention. Unfortunately, facilities do not report the production level in the TRI program. Instead, they provide the change in level of production related to particular chemical from previous year, $\Delta Prod_{f,c,t}$. In order to adjust the chemical release according to the production level, we set the production level of facility f to be one for its first year recorded by the database and calculate the cumulative average change in production level for all chemicals, i.e. $\Delta Prod_{f,t} = \overline{\Delta Prod_{f,c,t}}$ for subsequent years. In other words, the production level for facility f in year $t+\tau$ is calculated as:

$$Prod.\ Level_{f,t+\tau} = 1 \times \prod_{t=t}^{\tau}(1 + \Delta Prod_{f,t}). \tag{A.1}$$

The production-adjusted chemical release then becomes:

$$Adj.\ Chemical\ Release_{f,t+\tau} = \frac{Release_{f,t+\tau}}{Prod.\ Level_{f,t+\tau}}. \tag{A.2}$$

The adjusted chemical release of a particular facility is not the release per unit of production. It is normalized to be comparable to its first year release. It should be noted that this adjustment does not allow for cross-sectional comparisons, but can be exploited to capture time-series variations at the facility level. Based on this argument, we include the facility-level fixed effects in the release-related regressions.

Appendix B.

Table B.1: Variable Description

Variable Name	Abbrev.	Description
Variables of Interest		
NFP CEO Style Indicator	I_{NFP}	Dummy variable equals one if the CEO has not-for-profit experience and zero otherwise [BOARDEX]
NFP CEO Experience	C_{NFP}	Natural logarithm of one plus the total number of not-for-profit organizations that CEO get participated in [BOARDEX]
Environmental		Natural logarithm of one plus the CEO's total number of not-for-profit organizations under the NTEE "Environment" category [BOARDEX NCCS]
International		Natural logarithm of one plus the CEO's total number of not-for-profit organizations under the NTEE "International" category [BOARDEX NCCS]
Public & social benefit		Natural logarithm of one plus CEO's total number of not-for-profit organizations under the NTEE "Public and Social Benefit" category [BOARDEX NCCS]
Human service		Natural logarithm of one plus the CEO's total number of not-for-profit organizations under the NTEE "Human Services" category [BOARDEX NCCS]
Education		Natural logarithm of one plus the CEO's total number of not-for-profit organizations under the NTEE "Education" category [BOARDEX NCCS]
Religion		Natural logarithm of one plus the CEO's total number of not-for-profit organizations under the NTEE "Religion" category [BOARDEX NCCS]
Health		Natural logarithm of one plus the total number of not-for-profit organizations under the NTEE "Health" category [BOARDEX NCCS]
Arts		Natural logarithm of one plus the CEO's total number of not-for-profit organizations under the NTEE "Arts, Culture, and Humanities" category [BOARDEX NCCS]
Mutual Benefits		Natural logarithm of one plus the CEO's total number of not-for-profit organizations under the NTEE "Mutual Benefits" category [BOARDEX NCCS]
Unknown		Natural logarithm of one plus the CEO's total number of not-for-profit organizations under the NTEE "Unknown" category [BOARDEX NCCS]
Placebo Dummy for *NFP CEO*s		For the test in the period before *NFP CEO*s obtained not-for-profit experience, the dummy variable equals one for the *NFP CEO* and zero otherwise [BOARDEX]
Environmental and Social Outcomes		
CSR Overall		Adjusted CSR score: sum of community, diversity, employee, environment, humanity
CSR Strength		Adjusted CSR strength score: sum of the adjusted strength scores for community, diversity, employee, environment, humanity
CSR Concern		Adjusted CSR concern score: sum of the adjusted concern scores for community, diversity, employee, environment, humanity
CSR Community		Adjusted community score: sum of strength scores/number of strength items − sum of concern scores/number of concern items under community category
CSR Diversity		Adjusted diversity score: sum of strength scores/number of strength items − sum of concern scores/number of concern items under diversity category
CSR Employment		Adjusted employee relations score: sum of strength scores/number of strength items − sum of concern scores/number of concern items under employee relations category
CSR Environment		Adjusted environment score: (sum of strength scores/number of strength items) − (sum of concern scores/number of concern items under environment category)
CSR Humanity		Adjusted humanity score: (sum of strength scores/number of strength items) − (sum of concern scores/number of concern items under human rights category)
Overall Employee Satisfaction	Glassdoor Emp. Rating Overall	Aggregate employee satisfaction scores of five components (work-life balance, company culture, career opportunities, compensation and senior management) [Glassdoor.com.]

Table B.1: Variable Description

Variable Name	Abbrev.	Description
Employee Work-life Balance Rating	Glassdoor W/L Balance	Employee satisfaction scores with respect to their work-life balance [Glassdoor.com.]
Employee Culture Rating	Glassdoor Culture	Employee satisfaction scores with respect to the firm culture [Glassdoor.com.]
Employee Career Opportunities Rating	Glassdoor Career Prosp.	Employee satisfaction scores with respect to their future career prospects [Glassdoor.com.]
Overall Employee Satisfaction	Glassdoor Compensation	Employee satisfaction scores with respect to their compensation [Glassdoor.com.]
Overall Employee Satisfaction	Glassdoor Management	Employee satisfaction scores with respect to the company management [Glassdoor.com.]
Log(1+ Num. of All Green Patents)	Green Pat. (log)	The natural logarithm of total number of all green patents filed by the company
Log(1+ Num. of Greenhouse Gas Patents)	GHG Pat. (log)	The natural logarithm of one plus the total number of all patents dealing with greenhouse gas filed by the company
Log(1+ Num. of Air Patents)	Air Pat. (log)	The natural logarithm of one plus the total number of all patents dealing with air pollution filed by the company
Log(1+ Num. of Waste Management Patents)	Waste Mgmt. Pat. (log)	The natural logarithm of one plus the total number of all patents related to waste management filed by the company
Log(1+ Num. of Water Pollution Patents)	Water Pollu. Pat. (log)	The natural logarithm of one plus the total number of all patents dealing with water pollution filed by the company
Log(1+ Num. of Water Conservation Patents)	Water Conserv. Pat. (log)	The natural logarithm of one plus the total number of all patents related to water conservation filed by the company
ln(RSEI Score)		Natural logarithm of the facility-level RSEI score scaled by simulated production level
ln(Hazard Score)		Natural logarithm of the facility-level RSEI score scaled by simulated production level
Firm characteristics		
Ln(assets)	Size	Natural log of (1 + Firm's total asset [COMPUSTATAT])
Tobin's Q		Sum of total assets plus market value of equity minus book value of equity divided by total assets [COMPUSTAT (AT+CSHO× PRCC_F - CEQ) / AT)].
Leverage		Firm's total debt divided by total assets [COMPUSTAT (DLTT + DLC)/AT]
Return on Assets	ROA	Earnings before interest and taxes divided by total assets [COMPUSTAT EBIT/AT]
Property, plant, and equipment	PPE	Property, plant, and equipment scaled by asset [COMPUSTAT PPENT/AT]
R&D expenses	R&D	R&D Research and development expenses divided by total assets [COMPUSTAT XRD/AT]
Institutional Ownership		Total stock ownership of institutions [Thomson Reuters INSTOWN].
Board Independence		Number of independent directors divided by the number of directors [ISS]
E-Index		An index reflecting the CEOs' entrenchment level, which is constructed following Bebchuk, Cohen, and Ferrell (2009) [ISS]
Has Corporate NFP		An indicator variable that equals 1 if the firm has a corporate-running NFP
Has CSR Committee		An indicator variable that equals 1 if the Board has a CSR Committee
Firm Efficiency	Firm Eff.	A measure of the relative efficiency of the firm within its industry is generated based on DEA methodology. For more details, please refer to Demerjian, Lev, and McVay (2012).
CEO characteristics		
Tenure		CEO tenure in years [EXECUCOMP BECAMECEO]
Male		Dummy variable that equals one if the CEO is male and zero otherwise [EXECUCOMP GENDER]
Age		The age of the CEO in the corresponding year [EXECUCOMP AGE]
Total Compensation (log)	ln(Total Pay)	The logarithm of the total compensation of the CEO [EXECUCOMP TDC1]
CEO Duality		A dummy variable that is equal to 1 if the CEO also takes the role of chairman on the board of directors.

Table B.1: Variable Description

Variable Name	Abbrev.	Description
General Ability Index	GAI	An index of general managerial capital developed by Custódio, Ferreira, and Matos (2013) that captures general skills transferable across firms or industries.
Managerial Ability Score	Mgmt. Score	The unexplained portion of regressing total firm efficiency on six firm characteristics, including firm size, firm market share, cash availability, life cycle, operational complexity, and foreign operations. For more details, please refer to Demerjian, Lev, and McVay (2012).
Founder CEO		A dummy variable that is equal to one if CEO is a founder and zero otherwise
Ivy League		A dummy variable that is equal to one if the CEO graduated from an Ivy League institution and zero otherwise [BOARDEX]
MBA		A dummy variable that is equal to one if the CEO holds an MBA degree and zero otherwise [BOARDEX]
PhD		A dummy variable that is equal to one if the CEO holds a Ph.D. degree and zero otherwise [BOARDEX]
Technical Education		A dummy variable that is equal to one if the CEO holds an undergraduate or postgraduate degree in engineering, physics, operation research, chemistry, mathematics, biology or pharmacy and zero otherwise [BOARDEX]
No School Information		A dummy variable that is equal to one if the school information of a CEO is not available and zero otherwise [BOARDEX]
Overconfident CEO	Overconfidence (holder67)	An indicator variable that is equal to one for all years after the CEO's options exceed 67% moneyness and zero otherwise, as defined in Hirshleifer et al. (2012). [EXECUCOMP opt_unex_exer_est_val / Opt_unex_exer_num; COMPUSTAT prcc_f]

IA Internet Appendix: Robustness Tests

First, we re-estimate the association between NFP CEO style and firms' ESG engagement and real outcomes using a matched sample. The matched sample is constructed by applying the nearest-neighbor score matching procedure. For each observation with an *NFP CEO*, we pick an observation without an *NFP CEO* in the same Fama-French 12 industry and year based on firm size, Tobin's Q, leverage, ROA, PPE, R&D expenditure, board independence and E-index. Table I.1 reports the estimation results. Panel A assesses the covariant balance of the matched sample. We find that most of the firm characteristics are indifferent between the groups with and without *NFP CEOs* except for the indicators for the existence of a corporate foundation and CSR committee. It seems that the firms with *NFP CEOs* are less likely to have a corporate foundation but more likely to have a CSR committee. Panel B reports the regression results for the main outcome variables. The results remain largely unchanged.

Second, CEOs may become involved in the not-for-profit organizations because of their high profile as a CEO; that is, a not-for-profit organization may want to increase their own profile by inviting a public firm's CEO to take a role in the organization. The concern is our measure of *NFP CEOs* may simply represent CEOs with high profiles. To mitigate this concern, Table I.2 re-estimates the association between NFP CEO and firm CSR scores using the sample excluding observations with *NFP CEOs* obtaining their first not-for-profit experience after they became CEOs. The results remain largely unchanged, indicating that our main results are less likely to be driven by a CEO's high profile after they took office.

Third, we investigate the possibility that a CEO's not-for-profit experiences could be a reflection of the corporate donation efforts (e.g., not-for-profit organizations award the CEO a position when the firm makes a donation). This channel might drive our results because ESG actions such as reduction in toxic release and the increase in green innovation may be correlated with corporate donations. To address this, we obtain a list of corporate foundations by manually matching private foundation data from National Center for Char-

itable Statistics to firms. Corporate foundations (e.g., Merck Company Foundation) are designed to make charitable donations to not-for-profits on behalf of the firm. In addition, to capture those donations that are not received from corporate foundations (i.e., firms can donate to not-for-profits directly), we obtain donor data from IRS 990 forms from the Amazon Open Data Program, collect donor names for all 990 form electronic filers and manually match the donor's name to the firm[25]. In Table I.3, we repeat our analysis by removing all firms that ever made a donation directly and removing firm-year observations after the firm established a corporate foundation from our sample. We find similar results.

[25]Electronic filers account for more than 65% of all filers, and we are unable to obtain 990 forms filed on paper. However, this is unlikely to create a bias because corporate foundations make multiple donations to different not-for-profits. We only need one of the donations made by an electronic filer to capture the donor.

Table I.1: Robustness: Matched Sample Results

This table re-estimates the association between NFP CEO style and firms' ESG engagement and real outcomes (main results in Tables 3 and 5) using a matched sample. We apply the nearest-neighbor score matching procedure and match each observation with an *NFP CEO* to the observation without an *NFP CEO* in the same industry and year based on various firm characteristics. Panel A reports the t-tests for the differences in means between the groups with and without *NFP CEOs*. Panel B reports the regression results. The outcome variables include *CSR Overall*, which is the aggregate adjusted CSR score of five components (*Community, Diversity, Employee, Environment, Humanity*); *Emp.Rating Overall*, which is the overall employee satisfaction ratings from Glassdoor; *Green Pat.*, which is the natural logarithm of one plus the total number of green patents; *ln(RSEI Score)*, which captures firms' toxicity weighted chemical emissions. Regarding the variables of interest, I_{NFP} is the indicator variable that is equal to one if the CEO has not-for-profit experience before the current year and zero otherwise. C_{NFP} is the natural logarithm of one plus the total number of CEO's not-for-profit experiences before the current year. Baseline controls used in Table 2 are included in the models (not reported). Detailed variable definitions are provided in Appendix B. Fixed effects used are indicated in each column. Standard errors are clustered at the firm level. T-values are reported in parentheses. *, **, *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A - Matched sample t-tests for firm characteristics

	Group With *NFP CEOs*				**Group Without *NFP CEOs***					
	N	Mean	Median	std. dev	N	Mean	Median	std. dev	Diff.	t-stat
Tobin's Q	4,778	1.81	1.43	1.13	4,778	1.81	1.40	1.23	0.00	0.04
Leverage	4,778	0.24	0.22	0.19	4,778	0.24	0.22	0.18	-0.00	-0.30
ROA	4,778	0.04	0.04	0.07	4,778	0.05	0.04	0.07	-0.00	-0.88
Size	4,778	8.53	8.44	1.60	4,778	8.50	8.47	1.59	0.03	0.93
PPE	4,778	0.23	0.15	0.23	4,778	0.23	0.14	0.23	-0.00	-0.12
R&D	4,778	0.02	0.00	0.04	4,778	0.02	0.00	0.04	-0.00	-0.73
Institutional Ownership (%)	4,767	0.75	0.78	0.21	4,763	0.82	0.80	3.91	-0.07	-1.26
Has Corporate Foundation	4,778	0.03	0.00	0.17	4,778	0.04	0.00	0.20	-0.01**	-2.56
Board Independece	4,778	0.78	0.80	0.13	4,778	0.78	0.80	0.13	-0.00	-0.15
Has CSR committee	4,437	0.17	0.00	0.37	4,452	0.13	0.00	0.34	0.04***	4.98
E-Index	4,778	3.13	3.00	1.18	4,778	3.14	3.00	1.17	-0.01	-0.44
Industry Sales HHI	4,778	2,252.76	1,596.16	2,097.02	4,778	2,211.74	1,583.11	2,027.32	41.02	0.97

Panel B - Results

	CSR Overall		ESG Engm.		Emp. Rating Overall		Green Pat.		ln(1+RSEI Score)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I_{NFP}	0.084***		0.032*		0.070***		0.053*		-0.118	
	(4.22)		(1.69)		(2.63)		(1.76)		(-1.26)	
C_{NFP}		0.106***		0.046*		0.084***		0.075**		-0.160
		(4.62)		(1.85)		(2.99)		(2.16)		(-1.57)
Baseline and Additional Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓		
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓		
Facility FE									✓	✓
State × Year FE									✓	✓
Facility Industry × Year FE									✓	✓
Obs.	7,689	7,689	5,508	5,508	2,308	2,308	5,211	5,211	19,340	19,340
Adj. R^2	0.41	0.42	0.31	0.31	0.38	0.38	0.58	0.58	0.89	0.89

Table I.2: Robustness: Excluding *NFP CEOs* who obtain not-for-profit experience after they became CEOs

This table re-estimates the association between a NFP CEO and a firm's CSR score using the sample excluding observations with *NFP CEOs* obtaining not-for-profit experience after they became CEOs. The outcome variable *CSR Overall* is the aggregate adjusted CSR score of five components (*Community, Diversity, Employee, Environment, Humanity*). Regarding the variables of interest, I_{NFP} is an indicator variable that is equal to one if the CEO has not-for-profit experience before the current year and zero otherwise. C_{NFP} is the natural logarithm of one plus the total number of the CEO's not-for-profit experiences before the current year. Baseline controls used in Table 2 are included in the models (not reported). Detailed variable definitions are provided in Appendix B. Fixed effects used are indicated in each column. Standard errors are clustered at the firm level. T-values are reported in parentheses. *, **, *** denote significance at the 10%, 5%, and 1% level, respectively.

	CSR Overall			
	(1)	(2)	(3)	(4)
I_{NFP}	0.107***		0.097***	
	(3.74)		(2.77)	
C_{NFP}		0.107***		0.109**
		(2.92)		(2.48)
Baseline Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Industry FE	✓	✓		
Firm FE			✓	✓
Obs.	15,095	15,095	14,947	14,947
Adj. R^2	0.39	0.39	0.59	0.59

Table I.3: Robustness: NFP CEOs and ESG rating for non-donor firms

This table re-estimates the association between a NFP CEO and a firm's CSR score using the sample where the firms do not conduct donation activities. The outcome variable *CSR Overall* is the aggregate adjusted CSR score of five components (i.e., *Community, Diversity, Employee, Environment, Humanity*). Regarding the variables of interest, I_{NFP} is the indicator variable which is equal to one if the CEO has not-for-profit experience before the current year and zero otherwise. C_{NFP} is the natural logarithm of one plus the total number of the CEO's not-for-profit experiences before the current year. Baseline controls used in Table 2 are included in the models (not reported). Detailed variable definitions are provided in Appendix B. Fixed effects used are indicated in each column. Standard errors are clustered at the firm level. T-values are reported in parentheses. *, **, *** denote significance at the 10%, 5%, and 1% level, respectively.

	CSR Overall							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I_{NFP}	0.071***		0.070***		0.129***		0.130***	
	(3.52)		(2.74)		(3.03)		(3.06)	
C_{NFP}		0.099***		0.097***		0.150***		0.153***
		(3.82)		(3.26)		(3.03)		(3.08)
Baseline Controls	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓						
Industry FE	✓	✓						
Industry × Year FE			✓	✓	✓	✓	✓	✓
CEO-Firm-Pair FE							✓	✓
Firm FE			✓	✓				
CEO FE					✓	✓		
Obs.	15,190	15,190	13,277	13,277	12,760	12,760	12,717	12,717
Adj. R^2	0.36	0.36	0.58	0.58	0.65	0.65	0.65	0.65