Prosocial CEOs, corporate policies, and firm value

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Abstract: This paper examines how chief executive officers' (CEOs') prosocial tendency influences corporate policies and firm value. We use individuals' involvement with charitable organizations as a proxy for prosocial tendency. We find that, compared to firms with non-prosocial CEOs, firms with prosocial CEOs have lower executive subordinate turnover, implement more employee-friendly policies, experience higher customer satisfaction, and engage in more socially responsible activities. We also find that firms with prosocial CEOs have higher value and lower risk, partly due to the corporate policies adopted by prosocial CEOs. These results are corroborated when we compare changes in corporate policies and firm value around different types of CEO turnovers: a prosocial CEO replacing a non-prosocial CEO versus other types. Our results thus suggest that prosocial CEOs are more likely to make corporate decisions that benefit others and increase firm value.

Keywords: Prosocial tendency; Corporate policies; Employee turnover; Customer satisfaction; Corporate social responsibility; Firm value.

JEL Classification: D64, G40, G41, M14

1. Introduction

Individuals often engage in prosocial behavior – activities that primarily benefit others. For example, people make financial or nonfinancial donations (e.g., giving blood), volunteer at charitable organizations, and help strangers (Batson and Powell 2003). This paper focuses on CEOs who engage in prosocial behavior (hereafter prosocial CEOs). We ask two questions. First, do prosocial CEOs adopt corporate policies related to their firms' stakeholders (e.g., employees, customers, and society) that differ from those of non-prosocial CEOs? Second, how does having a prosocial CEO affect firm value?

Answering these questions is important for several reasons. Research in social psychology has long argued that the prosocial tendency is a fundamental aspect of human nature because it determines how an individual views and acts within society (McDougall 1908; Batson and Powell 2003). The extent to which individuals are involved in activities that primarily benefit others profoundly influences their and their society's welfare (Benabou and Tirole 2010; Meier 2007). Consistent with this, prior studies document psychological benefits of prosocial behavior, such as increased levels of happiness and life satisfaction (Dunn, Aknin, and Norton 2008). Relying on survey data, other studies find that prosocial behavior, particularly volunteering, helps the providers to develop their social network and job-related skills (Flynn 2003; Rodell 2013; Sieber 1974). Although prosocial behavior has been extensively studied, there is limited research to date on the economic consequences of such behavior, particularly for top managers. We focus on prosocial tendencies of CEOs because CEOs interact with a broad range of stakeholders and regularly make decisions that affect them. CEOs' prosocial tendencies can have a broad and important impact on various stakeholders and society.

To identify CEOs' prosocial behavior, we use their involvement with charitable organizations, since the primary objective of such organizations is to improve societal welfare by

helping people in need.[1] Specifically, we use the BoardEx database to obtain data on CEOs' off-the-job activities, including their involvement with various foundations and charitable groups. We define a CEO as prosocial if he or she is involved with at least one organization that the Internal Revenue Service (IRS) classifies as charitable.[2,3]

To validate our measure of prosocial tendency, we examine its association with CEOs' use of personal pronouns during earnings conference calls. Psychological research documents that self-centered individuals are more likely to take credit for good outcomes and blame others for bad ones (Stucke 2003). We expect prosocial CEOs to exhibit the opposite behavior, as they have other-regarding preferences and are less egocentric. To test this expectation empirically, we regress a CEO's prosocial tendency on his or her use of first-person-singular, first-person-plural, and third-person pronouns during conference calls (Chen and Loftus 2019). We find that, when a firm announces a positive earnings surprise, a prosocial CEO is significantly less likely to use first-person-singular pronouns and more likely to use first-person-plural and third-person pronouns, relative to a non-prosocial CEO. In contrast, when a firm announces a negative earnings surprise, a prosocial CEO is less likely to use third-person pronouns than a non-prosocial CEO. These results suggest that prosocial CEOs are less likely to attribute good performance to themselves or to blame others for bad performance. Thus, they provide some validation that our measure captures

[1] Our conversations with members of charity boards indicate that charitable organizations look for people who believe in their mission and values to join. Similarly, people are more likely to sacrifice their money, time, and other resources for charitable organizations if they share their mission and values. Therefore, there is likely to be a positive association between individuals' prosocial tendencies and their involvement with charitable organizations.

[2] The IRS defines "charitable" as follows: "the term charitable is used in its generally accepted legal sense and includes relief of the poor, the distressed, or the underprivileged; advancement of religion; advancement of education or science; erection or maintenance of public buildings, monuments, or works; lessening the burdens of government; lessening neighborhood tensions; eliminating prejudice and discrimination; defending human and civil rights secured by law; and combating community deterioration and juvenile delinquency" (https://www.irs.gov/charities-non-profits/charitable-purposes).

[3] The position that CEOs hold most often in charitable organizations is board director. According to the IRS's Governance and Related Topics – 501(c)(3) Organizations (2008), charities should generally not compensate persons for service on the board of directors, except to reimburse the direct expenses of such service. Therefore, it is reasonable to assume that being a board director of a charitable organization constitutes prosocial behavior.

prosocial individuals' other-regarding tendencies.[4]

We then examine whether prosocial CEOs make different corporate decisions from non-prosocial CEOs. To the extent that prosocial CEOs are more concerned about others' well-being, they are likely to build more trusting relationships with their employees, care more about their customers' satisfaction, and engage in more corporate social responsibility (CSR) activities than non-prosocial CEOs. To test these predictions, we conduct two sets of analyses. In the first set, we use all observations for which we can obtain data on CEO prosocial behavior and other necessary variables. This sample constitutes our full sample. However, the associations between having a prosocial CEO and corporate policies in our full sample may be driven by firm characteristics, such as culture or tradition. To address this concern, our second set of tests focuses on firms that experience CEO turnovers during our sample period and examines how corporate policies change around these turnovers. This sample allows us to examine whether a change in CEO prosocial type (i.e., a switch between prosocial and non-prosocial CEOs) leads to changes in corporate policies.

We first investigate how prosocial CEOs treat firms' *internal* stakeholders—their employees. We begin our analyses by testing whether the turnover of executive subordinates is lower for firms with prosocial CEOs than for firms with non-prosocial CEOs. We focus on executive subordinates, such as chief financial officers (CFOs) and chief operating officers (COOs), since they work and interact closely with CEOs. We expect that prosocial CEOs are more likely to establish trusting relationships with their direct subordinates, leading to lower turnover among the subordinates. We find that having a prosocial CEO reduces the likelihood of executive subordinates leaving the firm in the following year, after controlling for characteristics of the firm, the subordinate, and the local area. We also examine how prosocial CEOs treat their rank-and-file employees by examining their firms' employee welfare policies, such as union relations,

[4] We recognize that the extent of prosocial tendency likely exists on a spectrum. For expositional purposes, combined with the fact that we use an indicator variable to identify CEO's prosocial behavior, we use the terms "prosocial CEOs" and "non-prosocial CEOs" throughout the paper.

retirement benefits, and policies on employee health and safety. We find that CEO involvement in charitable organizations is significantly and positively associated with firms' CSR score for employee relations, suggesting that firms with prosocial CEOs are more likely to have corporate policies that consider their employees' welfare.

We then turn to two important *external* stakeholders of the firm: customers and society. To investigate whether prosocial CEOs care more about customers, we examine customer satisfaction. We find that firms' customer satisfaction is significantly and positively associated with CEOs' prosocial behavior, indicating that firms with prosocial CEOs are more customer-centric. We also examine whether prosocial CEOs are more likely to consider overall societal welfare. Our societal welfare measure is firms' total CSR score, which is based on CSR initiatives involving community, diversity, employee relations, environment, and product. We find that firms' total CSR score is significantly and positively associated with CEO prosocial behavior, suggesting that firms with prosocial CEOs adopt more socially responsible policies.

Finally, we investigate the association between CEOs' prosocial tendencies and firm value (as measured by Tobin's Q). We find that prosocial CEOs are associated with higher Tobin's Q. We examine two potential channels for this effect on firm value—firm performance and risk—and find that having a prosocial CEO is associated with both higher performance (measured by return on assets) and lower risk (measured by cost of equity capital and return volatility).

While our findings suggest that a CEO's involvement with charitable organizations is significantly associated with corporate policies and firm value, one could argue that this involvement is due to their innately high ability or energy—characteristics that might also affect corporate policies and firm value. To alleviate this concern, we control for a CEO's involvement with *non-charitable* organizations in all our analyses. We find that a CEO's non-charity involvement is not significant in any of our analyses, suggesting that our results are driven not by CEOs' high ability or energy (as reflected in involvement in general off-the-job activities) but by

their prosocial tendencies.

In our second set of analyses, where we compare corporate policy changes around different types of CEO turnovers, we find results consistent with our first set. Specifically, we find that after a prosocial CEO replaces a non-prosocial CEO, firms experience less of an increase in executive subordinate turnover and smaller decreases in employee-friendly policies, customer satisfaction, and overall CSR activities than after other types of CEO replacements. Overall, these results suggest that prosocial CEOs improve executive subordinate retention, establish more employee-friendly policies, have higher customer satisfaction, and engage in more socially responsible activities. We also find that Tobin's Q increases more after a prosocial CEO replaces a non-prosocial CEO than after other types of CEO turnover. In addition, there are greater reductions in cost of capital and return volatility when a prosocial CEO replaces a non-prosocial CEO. Changes in ROA, however, are insignificantly associated with the type of CEO turnover. In sum, these results suggest that a prosocial CEO's positive effect on firm value operates mainly through reducing firm risk.

We further conduct path analyses to examine whether and how prosocial CEOs influence firm value. We find that prosocial CEOs improve their firms' Tobin's Q both directly and indirectly, with the indirect effects arising through the establishment of more employee-friendly and socially responsible policies. In addition, prosocial CEOs decrease firm risk both directly and indirectly, with the indirect effects arising through employee policies, customer satisfaction, and overall CSR initiatives.

Our paper is subject to two caveats. First, underlying changes in firms may cause boards to hire prosocial CEOs *and* to change firms' policies. To address this concern, we examine whether there are significant changes in firm performance or the percentage of prosocial directors in the

year leading up to the CEO turnover.[5] We do not find significant differences in these aspects when comparing firms that replace a non-prosocial CEO with a prosocial CEO and firms with other types of CEO turnover. In addition, we conduct placebo tests in which we assume that the switch from a non-prosocial CEO to a prosocial CEO occurred two years earlier than it actually did. We do not find significant associations between CEO turnovers and corporate policy changes in these tests, suggesting that the changes in corporate policies we document are likely driven by prosocial CEOs.[6] Further, it is worth noting that firms may choose CEOs based on their prosocial tendencies to meet firms' needs for certain corporate policies (e.g., CSR policies). However, under this explanation, the very fact that the board chooses a prosocial CEO to meet its firm's needs still suggests that the board believes that the CEO's prosocial tendency matters for the firm's policies (Bertrand and Schoar 2003).

Second, because BoardEx generally does not provide dates for when an individual joins or leaves a charitable organization, our prosocial measure is time invariant. Prior studies (e.g., Eisenberg et al. 2002; Batson and Powell 2003) have documented that prosocial tendencies take root in early childhood and generally remain consistent across situations and environments, so our measure likely captures tendencies that are stable over time. However, a potential concern is that CEOs whose firms are in the process of improving various stakeholders' welfare may be more likely to be invited to join charitable organizations. To address this concern, we identify individuals who are involved with charitable organizations *before* they become CEOs by comparing the 2013 and 2019 versions of BoardEx database. We continue to find that these prosocial CEOs treat firm stakeholders better and that their firms are higher in value.

Our study makes three important contributions to the literature. First, we contribute to the

[5] Our controls for time-varying firm characteristics and year fixed effects also help alleviate the concern that our results are driven by changes in firm-level factors and the overall environment.

[6] We acknowledge that we cannot fully rule out concerns over correlated omitted variables. However, as suggested by Glaeser and Guay (2017), compared to studies targeted to address identification issues, broad sample studies are often more generalizable and can use various approaches to narrow omitted variable concerns, making them valuable to the literature.

literature on prosocial behavior. Primarily using surveys and experiments, prior research in sociology, psychology, and economics has extensively investigated the incentives behind prosocial behavior and the benefits, including psychological and physical, for those who engage in it (Sen 1977; Meier and Stutzer 2008; Wilson 2012). We add to this literature by documenting the economic effects of prosocial tendencies. Specifically, our findings indicate that individuals' prosocial tendencies can influence the decisions they make in their jobs. In addition, we develop a new measure of prosocial behavior using executives' involvement with charitable organizations. This measure allows researchers to study individual prosocial behavior for a large sample.

Second, our study relates to research on CSR, which can broadly be viewed as prosocial activities at the corporate level (Benabou and Tirole 2010). This research has examined determinants and consequences of CSR activities (as discussed in the review piece by Christensen, Hail, and Leuz 2021). While most studies in this area focus on firm-level determinants of CSR, a recent stream of research examines the effects of CEO individual characteristics, such as materialism, gender, age, and narcissism, on CSR activities (e.g., Borghesi, Houston, and Naranjo 2014; Davidson, Dey, and Smith 2019; Petrenko, Aime, Ridge, and Hill 2016). Our findings extend these CSR studies by documenting CEO prosocial tendencies as an important determinant of CSR activities.

Third, prior studies suggest that firms' non-financial performance in areas such as employee satisfaction, customer satisfaction, and corporate social responsibilities is a leading indicator of firm financial performance and value (Cotton and Tuttle 1986; Ittner and Larcker 2001). We extend the line of research on the determinants of non-financial performance by identifying and examining a fundamental characteristic of executives: prosocial tendencies (Batson and Powell 2003). We find that CEOs' prosocial tendencies can significantly affect certain key non-financial performance metrics, which in turn influences firm value. Our finding that CEOs' prosocial tendencies significantly affect the welfare of a broad set of firm stakeholders has

implications for boards in their executive hiring decisions. For firms seeking to improve employee retention or customer satisfaction, CEOs' prosocial tendencies are an important trait to consider.

2. Literature review and hypothesis development

2.1. Literature on prosocial behavior

Prosocial behavior is broadly defined as acts that are perceived to primarily benefit others (Penner, Dovidio, Piliavin, and Schroeder 2005). Prior studies have identified three non-mutually exclusive incentives underlying prosocial behavior: increasing others' well-being (i.e., altruism), concerns for social reputation, and financial rewards (Bénabou and Tirole 2006; Carpenter and Myers 2010).

Prosocial behavior can be driven by altruism—that is, an individual's willingness to increase others' consumption by using his or her own financial or nonfinancial resources (Becker 1976). Altruistic individuals engage in prosocial behavior because they care about others' well-being. Evidence from research in economics, sociology, and biology suggests that altruism is a fundamental aspect of human nature (Meier 2007; Piliavin and Charng 1990). Levels of altruism vary across individuals and can be developed either genetically or through early childhood experience, indicating that altruism is a stable personal characteristic.

Incentives to build social reputation can also drive prosocial behavior, with prosocial behavior reflecting one's desire to be seen as a good person. For example, individuals might behave prosocially to gain social approval and to reap the benefits of such approval (Akerlof 1980; Bénabou and Tirole 2006; Ellingsen and Johannesson 2007). Nevertheless, motivations stemming from social reputation concerns can still drive people to consider others' needs and to engage in behaviors that meet those needs. Finally, individuals may engage in prosocial behavior to gain direct or indirect financial rewards (Bénabou and Tirole 2006).[7]

[7] In this study, we focus on the effect of having a prosocial CEO on corporate decision-making and do not intend to disentangle the specific incentives that drive the CEO's prosocial behavior.

In terms of the consequences of prosocial behavior, prior research mostly uses experimental or survey approaches and explores the psychological and emotional benefits of donation, volunteer work, or helping behavior. In general, these studies indicate that such behavior leads to greater psychological well-being—happiness, life satisfaction, and confidence. For example, Dunn, Aknin, and Norton (2008) find, in a survey and field study, that people who spend more of their income on others experience greater happiness; Meier and Stutzer (2008) similarly find that volunteering and committing acts of kindness increase happiness. In addition, studies indicate that prosocial behavior benefits individuals' social networks, job productivity, and reputation among colleagues. Sieber (1974) and Marks (1977) propose that individuals' personalities are enhanced by participating in multiple roles because they learn to be tolerant of discrepant views and to flexibly adjust to different situations. And Blau (1964) and Flynn (2003) show that more generous individuals have better reputations among their coworkers.

Taken together, the findings of prior studies suggest that engaging in prosocial activities outside of one's main job has psychological and emotional benefits (e.g., increased happiness) and work-related benefits (e.g., improved social connections and skills). However, as far as we know, no prior studies have examined whether individuals' prosocial tendencies relate to their on-the-job decision-making. This study fills this gap by focusing on CEOs.

2.2. Hypothesis development

The management literature suggests that CEOs' personal values influence their firms' decision-making processes (Wally and Baum 1994). Since prosocial CEOs are more likely to have other-regarding preferences than non-prosocial CEOs, they are likely to treat the firm's stakeholders—both internal and external—differently. Specifically, prosocial CEOs are more likely to adopt and develop corporate policies that benefit stakeholders' welfare. These policies could, in turn, impact firm value.

2.2.1. Prosocial CEOs and corporate policies

Prosocial CEOs are more likely to hold a stewardship view and to display stewardship behaviors, which are defined as a type of prosocial action that benefits a range of stakeholders (Hernandez 2012).[8] We begin by analyzing how prosocial CEOs treat two groups of internal stakeholders: executive subordinates and rank-and-file employees. With respect to CEOs' direct subordinates, we expect prosocial leadership to be associated with lower turnover. Executive subordinates differ from other employees in that they interact with the CEO frequently, gaining insights into the CEO's personality and management style. Prosocial CEOs' tendency to consider executive subordinates' needs likely facilitates the development and sustenance of goodwill between them. Prior research along these lines finds that leaders who are willing to incur personal costs to serve the goals of a group are perceived more positively by their subordinates (De Cremer and Van Knippenberg 2004; Van Knippenberg and Van Knippenberg 2005). Moreover, Haynes, Josefy, and Hitt (2015) propose that CEOs who show a high concern for others actively share information with their direct subordinates and maintain effective relationships with them. Therefore, we expect prosocial CEOs to be more likely to establish trusting working relationships with executive subordinates, leading to lower turnover among the subordinates.[9]

We also investigate how prosocial CEOs treat employees in general, including rank-and-file employees. Since prosocial CEOs tend to be concerned about others' well-being, we expect them to be more likely to establish corporate policies that consider employees' well-being (e.g., strong retirement benefits, generous maternity policies). We state our first hypothesis in alternative form as the following:

H1a: Non-CEO executives are less likely to leave firms with prosocial CEOs than firms with non-prosocial CEOs.

[8] Hernandez (2012) defines stewardship as "the extent to which an individual willingly subjugates his or her personal interests to act in protection of others' long-term welfare."

[9] We do not have a directional prediction for the association between prosocial leadership and performance-based executive subordinate turnover. On one hand, prosocial CEOs might be more likely to focus on firm goals and display less favoritism, which would lead to more performance-based executive subordinate turnover. On the other hand, firms with prosocial CEOs might have more generous employee policies, which would reduce such turnover.

H1b: Firms with prosocial CEOs implement more employee-friendly corporate policies than firms with non-prosocial CEOs.

These hypotheses are not without tension. Prior studies have found that employee welfare and satisfaction are positively associated with long-run stock performance and firm value (e.g., Edmans 2011; Jiao 2010). To the extent that *non-prosocial* CEOs are incentivized by compensation and career concerns to maximize firm value, they too may treat executive subordinates well and initiate employee-friendly policies. Under this argument, we would expect no difference in executive subordinate turnover or employee-friendly corporate policies between firms with prosocial CEOs and firms with non-prosocial CEOs.

Going beyond internal stakeholders, we expect prosocial CEOs to display more consideration for external stakeholders, specifically customers and the society. Prior research finds that CEOs influence firm–customer relationships and overall customer satisfaction (e.g., Luo, Kanuri, and Andrews 2014; Luo, Wieseke, and Homburg 2012). Prosocial CEOs are likely to be more willing to invest resources in building firm–customer relationships and less willing to extract short-term rents from customers by increasing product pricing or decreasing product quality. Consistent with this, a thought piece by Haynes, Josefy, and Hitt (2015) proposes that CEOs who are concerned about others' well-being are more likely to consider customers' interests by influencing product pricing, investment in customer service quality, and product control. Such influence likely leads to higher customer satisfaction. As a result, we expect that firms with prosocial CEOs have higher customer satisfaction.[10] We state our second hypothesis in alternative form as the following:

H2: Firms with prosocial CEOs have higher customer satisfaction than firms with non-prosocial CEOs.

[10] Executives appear to recognize customer satisfaction as an important driver of a firm's future performance (Chen, Martin, and Merchant 2014). However, prior research has documented mixed evidence on the association between customer satisfaction and firms' financial performance (e.g., Ittner and Larcker 1998; Luo and Homburg 2007). Because of this mixed evidence, it is unclear whether CEOs' incentives to maximize firm value due to compensation or career concerns complicate the association between CEOs' prosocial tendencies and customer satisfaction. The same applies to socially responsible activities, given that the evidence on the relation between CSR and firm performance is also mixed (Lys, Naughton, and Wang 2015; Waddock and Graves 1997).

Finally, we consider how prosocial CEOs engage in overall CSR activities. Following prior literature (e.g., Dhaliwal et al. 2011; McWilliams and Siegel 2001), we define CSR as instances where a firm voluntarily engages in actions and makes decisions that advance social causes and that benefit the society and stakeholders other than their shareholders. These actions could involve committing to environmental protection, improving product safety, or providing community support. Since prosocial individuals tend to consider others' well-being, we expect that prosocial CEOs are more willing to spend resources on their firms' social responsibilities.[11] We state our third hypothesis in alternative form as the following:

H3: Firms with prosocial CEOs engage in more socially responsible activities than firms with non-prosocial CEOs.

Our analyses on corporate policies related to employees, customers, and society can be viewed as joint tests of (1) whether our prosocial tendency measure captures meaningful variations in CEOs' prosocial tendency and (2) whether prosocial CEOs adopt corporate policies that impact a variety of stakeholders' well-being. In other words, our corporate policy analyses serve two purposes. The first is to further validate our measure of CEO prosocial tendency by showing that it is associated with corporate policies related to stakeholder well-being. The second is to analyze the broad impact of CEOs' prosocial tendency on corporate policies that affects a range of stakeholders.

2.2.2. Prosocial CEOs and firm value

Finally, an important question is: what is the effect of a prosocial CEO on firm value? As discussed above, prior studies propose that firm value is affected by employee and customer satisfaction as well as CSR, though the empirical evidence is mixed (e.g., Ittner and Larcker 1998; Luo and Homburg 2007; Lys, Naughton, and Wang 2015; Waddock and Graves 1997). To the extent that prosocial CEOs adopt different corporate policies related to employees, customers, and

[11] Consistent with this argument, based on a survey of 80 CEOs, Agle, Mitchell, and Sonnenfeld (1999) document a positive univariate association between CEOs' other-regarding values and the community aspect of CSR performance.

society, they could affect firm value through their influence on these policies.[12]

Firm value is determined by expected future financial performance and firm risk, which are two potential channels through which prosocial CEOs can influence firm value. Prior studies find that employee-related CSR is positively associated with firm performance, as employees (the beneficiaries of this type of CSR) are significantly related to product quality and innovation (e.g., Jiao 2010; Edmans 2012). There is also evidence that customer satisfaction improves firm performance through repeat business and reduced warranty costs (Luo and Homburg, 2007). If prosocial CEOs improve employee welfare by implementing more employee-friendly policies and improve customer satisfaction by enhancing product quality, we expect them to improve firm performance as well. This is not a given, however, as evidence on firm performance's associations with socially responsible activities and customer satisfaction is mixed. In fact, review papers by Kitzmueller and Shimshack (2012) and Christensen, Hail, and Leuz (2021) find no conclusive evidence that CSR activities have a significantly positive effect on firms' profitability.

It is also possible that prosocial CEOs are associated with firm risk, which can affect firm value through changes in the cost of capital. If prosocial CEOs adopt more employee- and customer-friendly corporate policies and engage in more CSR activities, these CEOs are likely to build trust with their employees, customers, suppliers, and regulators (e.g., Katz and Rosenberg 2005; Whitener, Brodt, Korsgaard, and Werner 1998). Such trust can be perceived as "moral capital," which manifests in employee commitment, brand faith, credibility to customers, and positive reputation among communities and regulators (Albuquerque et al. 2019; Luo and Bhattacharya 2009; Peloza 2006). Moral capital may also help insure firm value, as employee loyalty, customer and supplier trust, and goodwill with regulators protect firms from negative

[12] In addition, to the extent that a prosocial CEO is less likely to sacrifice firm value to maximize his or her own utility, a reduction in agency problems, such as shirking and asset expropriation, would increase firm value (Jensen and Meckling 1976). Moreover, CEOs' prosocial activities may enhance firm value by helping CEOs learn new management skills and establish useful networks (for example, by sitting on charities' boards) (Perry and Peyer 2005).

economic shocks and stakeholders' reactions to them. Thus, we expect that prosocial CEOs improve firm value by lowering firm risk.

In sum, prosocial CEOs can affect firms' future performance and risk, which in turn influence firm value. However, ex ante, the direction of this effect on firm value is unclear. Hence, we state our last hypothesis in the null form:

> *H4: All else being equal, CEOs' prosocial tendencies are not associated with their companies' firm value.*

3. Data and sample

3.1. Identifying CEOs' prosocial behavior

Using the BoardEx database, we identify 3,548 CEOs at public firms from 1992 to 2018 who have demographic information, including gender, birth year, and education background available.[13] We obtain data from BoardEx on CEOs' off-the-job activities, including their involvement at organizations such as leisure clubs and professional and charitable organizations.[14] All else equal, individuals' choices to participate in charitable instead of non-charitable activities likely reveals their prosocial tendencies. Thus, we identify CEOs as prosocial by examining whether they are involved with any charitable organization.[15] Specifically, we match the names of CEOs' off-the-job organizations with organizations classified as charitable by the IRS.[16] If a CEO

[13] The earliest starting year of our data is 1992, which is when the ExecuComp and KLD databases begin.

[14] BoardEx's data sources include company websites for public, private, and not-for-profit organizations, annual reports and accounts, companies' public filings, and select news outlets. To the extent that the data is partially based on managers' own disclosure of their involvement in charitable activities and this disclosure is driven by managers' desire for self-promotion, it should bias against finding our results, as these managers are less likely to care about employees, customers, or CSR. In addition, we find that the number of a manager's social activities that are captured by BoardEx is significantly and positively correlated with the duration of BoardEx's coverage of the manager. As a robustness check, we include the duration of BoardEx's coverage of the manager as an additional control in all our regression analyses. Our results do not change qualitatively, and our inferences remain the same.

[15] We acknowledge that the involvement with charitable activities reflects not only CEOs' interest in charitable activities but also the opportunities available to them. Our approach will classify CEOs as non-prosocial if they are willing to be involved in charities but do not have any opportunities to do so, adding noise to our measure. However, we control for CEOs' individual characteristics (e.g., gender) and firm characteristics (e.g., firm size, industry) that might be correlated with charity opportunities. Additionally, this concern would bias against finding our results.

[16] The IRS lists all tax-exempt organizations in the Exempt Organizations Business Master File Extract, which can be downloaded at https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-eo-bmf. An organization with subsection code 03 and classification code 1 in this file is classified as a "Charitable Organization." An organization can use up to four classification codes, and thus the classification code in the IRS's

has been involved with at least one charitable organization, we consider him or her to be prosocial, for whom an indicator variable, *Charity*, equals one. We define another indicator variable, *NonCharity*, as equal to one if an individual has been involved with at least one non-charitable organization during his or her career. We control for *NonCharity* in all analyses to alleviate the concern that individuals get involved with charitable organizations due to their high ability or energy levels, instead of their prosocial tendencies. Appendix 2, Panels A and B provide names of the top 10 most popular charities and non-charities that CEOs are involved with.[17] Panel C of Appendix 2 provides the top 10 roles that CEOs hold in charities: the most common is director, followed by member and trustee, suggesting that their involvement is nontrivial and likely to require meaningful commitment. Because BoardEx does not provide data on the timing of individuals' involvement with charitable organizations for most individuals, *Charity* and *NonCharity* are individual-specific and time-invariant. Prior research (e.g., Eisenberg et al. 2002; Penner et al. 2005) has documented that prosocial tendencies are traceable to early childhood and are relatively enduring, suggesting that prosocial preferences tend to be stable over time, consistent with the time-invariant nature of our *Charity* variable.[18] Nevertheless, in Section 6.1, we provide an additional analysis to address any potential concerns related to *Charity* being time-invariant.

We validate our prosocial measure by examining its association with CEOs' use of personal pronouns in earnings conference calls. Psychological research (e.g., Stucke 2003) demonstrates

file has four digits. In our main analyses, we consider an organization charitable if it uses only classification code 1 (i.e., classification code 1000). As a robustness test, we also consider an organization charitable if any digit of its classification code is 1 (e.g., classification code 7100), and our results continue to hold. For more information on IRS classifications, see https://www.irs.gov/pub/irs-soi/eo_info.pdf.

[17] The non-charitable organizations in our sample include a) tax-exempt entities without a charitable mission (e.g., CPA, veterans associations, business councils) and b) entities that are not classified as nonprofit and thus are not tax-exempt (e.g., golf clubs, wineries). Organizations of type a) are listed in the IRS's Exempt Organizations Business Master File Extract as tax-exempt but are not classified as charitable by the IRS. Organizations of type b) are not listed in the extract.

[18] For example, Penner, Dovidio, Piliavin, and Schroeder (2005) state that "these [prosocial] tendencies are relatively stable across a person's life" (p. 375). Moreover, Batson and Powell (2003), when reviewing prosocial literature, state that dispositional factors, which tend to be stable, can predict higher-cost, nonspontaneous, long-term prosocial behavior more accurately than other types of prosocial behavior. As we have discussed, the positions that CEOs commonly hold in charitable organizations suggest that CEOs' prosocial behavior that we examine likely has a higher cost and longer-term involvement.

that self-centered individuals are more likely to take credit for good outcomes and blame others for bad ones. To the extent that prosocial tendencies are opposite to egocentrism, we expect prosocial CEOs to use more first-person-singular (I, me, mine, etc.) and fewer first-person-plural (we, us, our, etc.) and third-person (she, he, they, etc.) pronouns when discussing their firms' negative financial performance, and vice versa for positive performance. To conduct this validity test, we obtain data from Chen and Loftus (2019), which counts first-person-singular, first-person-plural, and third-person pronouns used by CEOs during the presentation and Q&A sessions of conference calls from 2002 to 2016.[19] In untabulated analyses, we estimate a regression of a CEO's prosocial tendencies on these pronouns separately for firms with positive and firms with negative earnings surprises. We find that, when a firm announces a positive earnings surprise, a prosocial CEO is significantly less likely to use first-person-singular pronouns and more likely to use first-person-plural and third-person pronouns than a non-prosocial CEO. When a firm announces a negative earnings surprise, we find that a prosocial CEO is less likely to use third-person pronouns.[20] Taken together, these results suggest that a prosocial CEO is less likely to attribute good firm performance to herself or to blame others for bad performance, consistent with our prosocial measure capturing an individual's other-regarding preferences.

3.2. Measuring corporate policies and firm value

To examine the turnover of executive subordinates, we focus on the top four executives other than the CEO. For each firm-year, we identify the four highest-paid executive subordinates based on their total annual compensation, which we obtain from ExecuComp and BoardEx.[21] We

[19] We thank Zhenhua Chen for sharing his data on CEOs' use of personal pronouns in earnings conference calls.

[20] Specifically, we estimate a regression as follows: $Charity_i = \beta_0 + \beta_1 I_{j,t} + \beta_2 We_{j,t} + \beta_3 They_{j,t} + \varepsilon$. *I* is the percentage of first-person-singular pronouns (i.e., I, me, my, mine, and myself) spoken by the CEO during conference calls; *We* is the percentage of first-person-plural pronouns (i.e., we, us, our, and ourselves), and *They* is the percentage of third-person pronouns (e.g., she, he, they, etc.). When using conference calls with positive earnings surprises, we find that the coefficient on *I* is significantly negative, and the coefficients on *We* and *They* are significantly positive. When we use conference calls with negative surprises, the coefficient on *They* is negative and significant, and the coefficients on *I* and *We* are insignificant.

[21] We use ExecuComp to obtain executive compensation and turn to BoardEx when compensation information is not available on ExecuComp.

then exclude subordinates who are age 50 and older, since their closeness to retirement and lack of career mobility make them less likely to leave their firm (regardless of their CEOs' prosocial tendencies). To validate this conjecture, we perform descriptive analyses and find that, when subordinates leave their current firms, 89.5 percent of subordinates younger than 50 join another firm, but only 7 percent of subordinates over 50 do so (untabulated).

We obtain each executive subordinate's departure date from the BoardEx employment file and use data from ExecuComp as a supplement. If neither database provides a subordinate's leaving date, we assume that the subordinate left the firm when he or she is no longer listed as an executive in the subsequent two years in ExecuComp.[22] For each subordinate-firm-year, we construct an indicator variable, *ExeSurbordTurnover*, that is equal to one if the subordinate leaves the firm in the following year and zero otherwise. For each subordinate-firm-year, we also collect information on firm characteristics, CEO characteristics, and subordinate characteristics that may affect the likelihood of subordinate turnover, and we control for them in our regression analysis. Our final sample for testing H1a consists of 38,537 subordinate-firm-year observations across 2,419 firms and 22,580 firm-years for the period 1992–2018.

For corporate policies on employee welfare and social responsibilities, we obtain data from MSCI ESG KLD STATS, which assesses firms' social performance using a combination of surveys, financial statements, articles in the popular press and academic journals, and government reports.[23] For each firm-year, the database assesses and reports strengths and concerns along various dimensions. Following Davidson, Dey, and Smith (2019), we focus on five categories: community, diversity, employee relations, environment, and product.[24] We calculate firms' total

[22] We validate this assumption using subordinates who are not listed as executives in the subsequent two years in ExecuComp, but whose employment history can be found in BoardEx. We find that 70 percent of these subordinates leave the firm in the year they disappear from the top executives list in ExecuComp, consistent with our assumption.
[23] Starting from 1991, KLD rated approximately 650 firms every year, including all firms in the S&P 500 and Domini 400 Social SM Index. During 2001 to 2002, KLD expanded its coverage to the largest 1,000 U.S. companies by market capitalization. Since 2003, it has covered the largest 3,000 U.S. firms based on market capitalization.
[24] KLD also provides assessment data on the dimension of corporate governance. However, as Davidson, Dey, and Smith (2019) argue, corporate governance is about the mechanisms that allow shareholders to reward and exert control

KLD score (*Total_KLD*) using total strengths minus total concerns in KLD's different social rating categories. *Employee_KLD* is the rating in the employee relations category, which KLD assigns based on firms' union relations, no-layoff policy, cash profit-sharing plans, employee involvement, retirement benefits, policies on employee health and safety, and professional development, among other factors. Our sample for testing H1b and H3 starts in 1992 and ends in 2016, which is the most recent year with data available in the MSCI ESG KLD STATS database. After removing firm-years that do not have KLD data, we are left with 18,626 firm-years.

We obtain customer satisfaction data from the American Customer Satisfaction Index (ACSI) database, which covers more than 400 foreign and domestic firms with significant U.S. market share from all major economic sectors. Every year, the ACSI surveys approximately 50,000 customers about the products and services they use the most and estimates firm-level customer satisfaction scores on a scale of 0–100. The ACSI score, our measure of customer satisfaction (*Cust_Satis*), is a widely used measure of customer satisfaction by academics (e.g., Lim, Tuli, and Grewal 2020; Luo and Bhattacharya 2006; Malshe and Agarwal 2015). After merging ACSI data with data on CEO and firm characteristics, we have 1,206 firm-year observations from 1995 to 2018.

Finally, we use Tobin's Q (*TobinsQ*) to measure firm value and return on assets (*ROA)* to measure firm performance. We proxy for firm risk using cost of capital and return volatility. Our cost of capital measure (*CoC*) is a firm-characteristic-based expected-return proxy (ERP), calculated by Lee, So, and Wang (2021), that is derived from the historical cross-sectional relations

on managers, whereas CSR deals with social objectives and stakeholders other than shareholders. Therefore, we leave this category out of total KLD scores following Davidson et al. (2019). KLD also assesses firms in the areas of human rights and firearms since 2002. Since these two dimensions are unavailable before 2002, we exclude them in constructing total KLD scores, also following prior literature. In addition, KLD evaluates only negative indicators in exclusionary screen categories, including alcohol, gambling, military contracting, nuclear power, and tobacco. We do not consider these exclusionary categories in calculating KLD scores since they do not pertain to CEOs' discretionary decisions.

between realized returns and firm characteristics.[25] Lee, So, and Wang (2021) evaluate various EPRs that are widely used by prior studies and document that, in cross-sectional analyses, characteristic-based ERPs perform better than other proxies (e.g., ERPs derived from factor models, implied cost of capital). Our second measure of firm risk is the standard deviation of daily returns, adjusted by value-weighted market returns, over the prior 12 months (*ReturnVolatility*).

3.3. Descriptive statistics

Table 1, Panel A presents descriptive statistics for all variables used in our analyses. We winsorize all continuous variables at the 1 percent and 99 percent levels; all variable definitions are in Appendix 1. With respect to CEOs' personal characteristics, we find that 28.7 percent (56 percent) of CEOs in our sample are involved with at least one charitable (non-charitable) organization. In addition, 5.4 percent of CEOs are female, and 31.4 percent of them hold MBA degrees. As for variables related to the corporate policies we examine, 13.8 percent of subordinate-firm-years involve a turnover (*ExeSubordTurnover*). The average firm in our sample has a total KLD score (*Total_KLD*) of 0.234, with a 0.123 score on the employee dimension (*Employee_KLD*). The average ACSI score (*Cust_Satis*) in our sample is 76.67. In terms of firm value and related variables, the average firm in our sample has a Tobin's Q of 1.666, return on assets of 0.038, cost of capital of 13.33 percent, and return volatility of 0.032, all of which are largely consistent with prior literature. The other variables reported in Table 1, Panel A are the controls used in our later analyses. For example, the average CEO tenure (*CEOTenure*) is 6.894 years, and the average CEO age (*CEOAge*) is 55.677 years.

[25] Specifically, their characteristic-based ERP uses the average of two variants: ERP from Lewellen (2015) and ERP from Lyle and Wang (2015) and Chattopadhyay, Lyle, and Wang (2022). We obtain these two characteristic-based ERPs from https://leesowang2021.github.io/data/. The ERP from Lewellen (2015) is calculated based on a firm's market capitalization, book-to-market ratio, and cumulative stock return from 12 months to two months prior to the forecast date and is denoted as *JLR* in the dataset. The ERP from Lyle and Wang (2015) and Chattopadhyay, Lyle, and Wang (2022) is calculated based on book-to-market ratio, return on equity, and the mean daily squared returns in the prior month and is denoted as *LPV* in the dataset. Our *CoC* variable is the average of these two estimates. Please see Lee, So, and Wang (2021) for more details. As a robustness test, we also use these two estimates separately as our cost of capital measures, and our results continue to hold. We thank Charles Lee, Eric So and Charles Wang for making their cost of capital estimates publicly available.

Panel B of Table 1 presents Pearson and Spearman correlations between the key variables used in our analyses.[26] First, we find that *Charity* is significantly correlated with CEOs' other individual characteristics. For example, *Charity* and *NonCharity* are positively correlated, suggesting that prosocial CEOs are also likely to participate in non-charitable activities. *Woman* is positively associated with *Charity*, indicating that females are more likely to be involved in charitable organizations. Interestingly, *MBA* is negatively associated with *Charity* but positively associated with *NonCharity*, suggesting that CEOs with MBA degrees are less likely to be involved in charitable activities and more likely to participate in non-charitable ones. These results highlight the importance of controlling for non-charity involvement and other personal characteristics in our multivariate tests. In addition, this panel shows that at the univariate level, *ExeSubordTurnover* is negatively associated and *Cust_Satis* and *Total_KLD* are positively associated with *Charity*, providing preliminary support for our predictions.

4. Empirical results: prosocial CEOs and corporate policies

4.1. Testing H1 – prosocial CEOs and employees

4.1.1. Executive subordinates' turnover

To test H1a that executive subordinates of a prosocial CEO are less likely to leave the firm, we use the following linear probability model to examine the association between executive subordinate turnover and CEO charity involvement:[27]

$$\begin{aligned} ExeSubordTurnover_{i,j,t+1} = {} & \beta_0 + \beta_1 Charity_{j,t} + \beta_2 NonCharity_{j,t} + \beta_3 LogAT_{j,t} + \beta_4 MTB_{j,t} + \\ & \beta_5 Leverage_{j,t} + \beta_6 ROA_{j,t} + \beta_7 CAR_{j,t} + \beta_8 BoardCharity_{j,t} + \beta_9 LocalAssoc_{j,t} + \\ & \beta_{10} CEOTenure_{j,t} + \beta_{11} CEOAge_{j,t} + \beta_{12} Woman_{j,t} + \beta_{13} MBA_{j,t} + \beta_{14} InternalCEO_{j,t} + \\ & \beta_{15} CEOLeave_{j,t} + \beta_{14} ExeSubordAge_{i,t} + \beta_{15} ExeSubordTenure_{i,j,t} + \\ & \beta_{16} ExeSubordAge_{i,t}^2 + \beta_{17} ExeSubordTenure_{i,j,t}^2 + \beta_{18} ExeSubordOwnPerc_{i,j,t} + \\ & Industry\ fixed\ effects + Year\ fixed\ effects + \varepsilon. \end{aligned} \quad (1)$$

[26] For brevity, we do not include all control variables and keep only firm size (*LogAT*), market-to-book ratio (*MTB*), and leverage (*Leverage*) in the correlation table. We conduct tests for multicollinearity for all our regressions and find that no variance inflation factor is greater than 10.

[27] Following prior studies (e.g., Cornelli, Kominek, and Ljungqvist 2013; Guo and Masulis 2015), we report a linear probability model instead of a non-linear logit or probit model because it is easier to implement fixed effects and interpret coefficients. As a robustness check, we also estimate this regression with logit specification and find qualitatively similar results.

$ExeSubordTurnover_{i,j,t+1}$ equals one if executive subordinate *i* leaves firm *j* in year *t+1* and zero otherwise. $Charity_{j,t}$ ($NonCharity_{j,t}$) equals one if the CEO of firm *j* in year *t* is involved with charitable (non-charitable) organizations and zero otherwise.[28] Following Hayes, Oyer, and Schafer (2006), we include firm, CEO, and executive subordinate characteristics that may affect the executive subordinate's turnover. At the firm-year level, we control for firm size (*LogAT*), market-to-book ratio (*MTB*), leverage (*Leverage*), and firm performance including annual return on assets (*ROA*) and cumulative abnormal return (*CAR*). We control for the prosocial tendencies of a firm's board of directors and of the local area, since they may affect the firm's employee-related policies. We measure board of directors' prosocial tendencies as the percentage of board members who are involved with charitable organizations (*BoardCharity*). Following Bereskin, Campbell, and Kedia (2020), we measure a local area's prosocial tendencies as the number of civic and social associations, including religious organizations, in the county of the firm's headquarters (*LocalAssoc*). We also control for the CEO's tenure (*CEOTenure*), age (*CEOAge*), and gender (*Woman*) as well as whether the CEO holds an MBA (*MBA*), is internally promoted or externally hired (*InternalCEO*), and leaves the firm in year *t* (*CEOLeave*). Further, we control for executive subordinate characteristics that may affect the subordinate's decision to leave, including age (*ExeSubordAge*), tenure at the firm (*ExeSubordTenure*), and what percentage of the firm's common stock they own (*ExeSubordOwnPerc*). Since the relations between an executive subordinate's mobility and his or her age and tenure are likely nonlinear (Avolio, Waldman, and McDaniel 1990), we add square terms of the subordinate's age and tenure. Finally, we include industry fixed effects and cluster standard errors by firm in this and all subsequent regressions.[29]

[28] As a robustness test, we use the number of charitable organizations and the number of non-charitable organizations in which a CEO is involved to construct *Charity* and *NonCharity*, respectively. Under this alternative definition, *Charity* measures the extent of a CEO's prosocial tendency on a spectrum. Thus, a high value of *Charity* indicates a highly prosocial CEO, and a low value indicates a less prosocial CEO. Apart from customer satisfaction, all of our results continue to hold.

[29] In robustness tests, we control for CEO narcissism and managerial ability for subsamples where these data are available. Following prior studies (e.g., Olsen and Stekelberg 2016; Judd, Olsen, and Stekelberg 2017), we use a CEO's relative cash pay, noncash pay, and the prominence of his or her photograph in the annual report to measure

Table 2, Panel A reports the results from the estimation of Equation (1). The coefficient on *Charity* is significantly negative, consistent with our prediction that executive subordinates of a prosocial CEO are less likely to leave the firm. Specifically, having a prosocial CEO reduces the subordinates' likelihood of leaving by 1.1 percent, which is economically meaningful, given the average executive subordinate turnover rate of 13.8 percent in our sample. In contrast, the coefficient on *NonCharity* is insignificant, which strengthens our inference that the association between *Charity* and executive subordinate turnover is not driven by the CEOs' involvement in general off-the-job activities but rather by the CEOs' prosocial tendencies.

Although the results discussed above are consistent with H1a, an alternative explanation is that the negative association between prosocial CEOs and their executive subordinate turnover is driven by underlying firm characteristics. For example, a company with a more friendly corporate culture may be more likely to both hire a prosocial CEO and implement more employee-friendly corporate policies, leading to lower executive subordinate turnover. To address this concern, we use a sample of firms with CEO turnovers and investigate whether a change in CEO prosocial type is associated with a change in executive subordinate turnover. To the extent that firm characteristics do not change significantly around a CEO turnover, any change in executive subordinate turnover in this subsample is likely to be driven by the change in the CEO's prosocial type. Specifically, we estimate the following regression:

$$\begin{aligned} ExeSubordTurnover_{i,j,t+1} = {} & \beta_0 + \beta_1 CharityImprove_j + \beta_2 Post_{j,t} + \\ & \beta_3 CharityImprove_j \times Post_{j,t} + \sum Controls + Industry\ fixed\ effects + \\ & Year\ fixed\ effects + \varepsilon. \end{aligned} \quad (2)$$

For firm *j*, $Post_{j,t}$ equals one if year *t* is after a CEO turnover and zero otherwise. Since *Post* can only be defined around one CEO turnover for each firm, we keep firms with only one CEO

her narcissism. We thank Kari Olsen for sharing his data on CEO narcissism. To proxy for managerial ability, we use the measure developed by Demerjian, Lev, and McVay (2012), which is available at https://peterdemerjian.weebly.com/managerialability.html. We conduct these robustness tests for all our analyses, and our results hold.

turnover during our sample period for this analysis.[30] *CharityImprove*$_j$ equals one for all years of firm *j* if firm *j*'s CEO turnover involves replacing a non-prosocial CEO with a prosocial CEO and zero otherwise. The coefficient on *CharityImprove* (β_1) represents the difference in average executive subordinate turnover before the CEO turnover between firms with *CharityImprove* equal to one and firms with *CharityImprove* equal to zero. The coefficient on *Post* (β_2) captures the difference between the average likelihood of executive subordinate turnover under the first CEO and that under the successor CEO for all firms with *CharityImprove* equal to zero. When we interact *CharityImprove* and *Post*, the coefficient on this interaction (β_3) captures the incremental change in executive subordinate turnover after the CEO turnover for firms with *CharityImprove* equal to one, relative to other firms. If a prosocial CEO is better at retaining executive subordinates, the likelihood of an executive subordinate leaving should decrease more or increase less after the CEO turnover for firms with *CharityImprove* equal to one than for other firms. We thus expect β_3 to be negative (H1a). We include the same controls as in Equation (1) except for *CEOLeave* (as it always equals zero).

Column (2) of Table 2, Panel A presents results from the estimation of Equation (2). The coefficient on *Post* is 0.011 and significant, suggesting that, on average, executive subordinates are more likely to leave after a CEO turnover in firms with *CharityImprove* equal to zero. The coefficient on the interaction term, *Post*×*CharityImprove*, is -0.018 and significant. This result suggests that the executive subordinate turnover rate around the CEO turnover increases significantly less for firms replacing a non-prosocial CEO with a prosocial CEO than for other firms. Indeed, the net change in executive subordinate turnover for firms with *CharityImprove* equal to one is negative (0.011-0.018=-0.007), suggesting that average executive subordinate turnover decreases after such CEO turnovers but increases after other types of CEO turnovers

[30] As a robustness check, for firms with more than one CEO turnover, we keep only the first CEO turnover in the turnover sample, and our results are qualitatively the same.

(0.011). In sum, this analysis strengthens our inference that prosocial CEOs improve executive subordinate retention and that this effect is unlikely to be driven by underlying firm characteristics.

Turning to control variables, we find that the coefficient on *NonCharity* is insignificant in Columns (1) and (2). The coefficient on *Leverage* is significantly positive, while the coefficients on *ROA* and *CAR* are both negative and significant. These results suggest that executive subordinates are more likely to leave firms with high leverage and low performance. Further, we find that *CEOLeave* is positively associated with turnover in Column (1), consistent with prior studies' findings that executive subordinates are more likely to leave right after their CEO leaves (e.g., Hayes et al. 2006). Finally, the coefficient on *ExeSubordOwnPerc* is significantly negative in both columns, suggesting that executive subordinates with high equity ownership are less likely to leave their firms.

Overall, our evidence based on both the full sample and the subsample of firms with CEO turnovers is consistent with subordinates being less likely to leave when they work for a prosocial CEO (H1a).

4.1.2. Corporate policies on employee welfare

H1b predicts that prosocial CEOs are more likely to establish corporate policies that take employees' well-being into consideration. We estimate the following OLS regression to test H1b:

$$\begin{aligned} Employee\_KLD_{j,t+1} = {} & \beta_0 + \beta_1 Charity_{j,t} + \beta_2 NonCharity_{j,t} + \beta_3 LogAT_{j,t} + \beta_4 MTB_{j,t} + \\ & \beta_5 Leverage_{j,t} + \beta_6 ROA_{j,t} + \beta_7 FirmAge_{j,t} + \beta_8 Cash_{j,t} + \beta_9 CFO_{j,t} + \beta_{10} RD_{j,t} + \\ & \beta_{11} Advertising_{j,t} + \beta_{12} BoardCharity_{j,t} + \beta_{13} LocalAssoc_{j,t} + \beta_{14} CEOTenure_{j,t} + \\ & \beta_{15} CEOAge_{j,t} + \beta_{16} Woman_{j,t} + \beta_{17} MBA_{j,t} + Industry\ fixed\ effects + \\ & Year\ fixed\ effects + \varepsilon. \end{aligned} \quad (3)$$

We control for firm characteristics that are likely to affect a firm's overall CSR performance, since policies on employee welfare are a dimension of CSR. Specifically, we control for firm size (*LogAT*), growth opportunities (*MTB*), and leverage (*Leverage*) because large firms, mature firms, and firms with lower risk are all more likely to make CSR expenditures (Orlitzky and Benjamin 2001). We also control for financial constraint (*FinConstraint*), financial performance (*ROA*), cash

holdings (*Cash*), and cash flow from operations (*CFO*), as these factors affect a company's ability to conduct CSR activities (Campbell 2007; Lys, Naughton, and Wang 2015). We include R&D (*RD*) and advertising expenditures (*Advertising*), since firms with more of these expenditures tend to invest more in CSR activities (McWilliams and Siegel 2000; Wieser 2005). We use *BoardCharity* and *LocalAssoc* to control for the board's and the local area's prosocial tendencies. Finally, we control for the CEO's tenure (*CEOTenure*), age (*CEOAge*), gender (*Woman*), and whether the CEO holds an MBA (*MBA*).

Table 2, Panel B presents the results from estimating Equation (3). In Column (1), we find that the coefficient on *Charity* is 0.060 and statistically significant ($p<0.05$). Economically, relative to non-prosocial CEOs, prosocial CEOs improve a firm's employee relations KLD rating by 0.060 on average, which is a meaningful improvement when benchmarked against the mean *Employee_KLD* of 0.123 with standard deviation of 1.249 for our sample. This result suggests that prosocial CEOs have a positive effect on corporate employee policies, consistent with H2b. In contrast, the coefficient on *NonCharity* is insignificant, suggesting that CEOs' participation in general off-the-job activities is not associated with their corporate employee policies.

Similar to the executive subordinate turnover analyses, to address the concern that the result in Column (1) is driven by underlying firm characteristics, we focus on the subsample of firm-years around CEO turnovers in Column (2). While the coefficient on *Post* is negative, the coefficient on *CharityImprove*×*Post* is significantly positive, suggesting that employee welfare decreases less after a prosocial CEO replaces a non-prosocial CEO than after other types of CEO replacements.

Finally, the associations between the control variables and employee KLD scores are generally consistent with our expectations. The coefficient on *LogAT* is positive and significant, consistent with larger firms having more resources to invest in employee welfare and therefore achieving better employee CSR ratings. Firms with poorer past firm performance (*CAR*) have

lower employee CSR ratings, as do firms with longer-tenured CEOs (*CEOTenure*). The latter result suggests that more entrenched CEOs invest less in employee-friendly policies.

Overall, the above results suggest that prosocial CEOs are associated lower executive subordinate turnover and are more willing to invest in policies to improve employee welfare.

4.2. Testing H2 – prosocial CEOs and customer satisfaction

H2 predicts that having a prosocial CEO is positively associated with customer satisfaction. To test this hypothesis, we estimate the following OLS regression:

$$Cust\_Satis_{j,t+1} = \beta_0 + \beta_1 Charity_{j,t} + \beta_2 NonCharity_{j,t} + \beta_3 LogAT_{j,t} + \beta_4 MTB_{j,t} + \beta_5 Leverage_{j,t} + \beta_6 ROA_{j,t} + \beta_7 Advertising_{j,t} + \beta_8 RevenueGrowth_{j,t} + \beta_9 BoardCharity_{j,t} + \beta_{10} LocalAssoc_{j,t} + \beta_{11} CEOTenure_{j,t} + \beta_{12} CEOAge_{j,t} + \beta_{13} Woman_{j,t} + \beta_{14} MBA_{j,t} + Industry\ fixed\ effects + Year\ fixed\ effects + \varepsilon. \quad (4)$$

We control for firm size (*LogAT*), performance (*ROA*), leverage (*Leverage*), growth opportunities (*MTB*), advertising expenditure (*Advertising*), and revenue growth (*RevenueGrowth*), as firm resources and performance affect investment in customer relations (Luo, Kanuri, and Andrews 2014). We also control for *BoardCharity* and *LocalAssoc* to account for the board's and the local area's prosocial tendencies. Because CEOs' experiences are associated with their market knowledge, we control for CEO tenure (*CEOTenure*) and age (*CEOAge*) (Hambrick 2007). Finally, we control for CEO gender (*Woman*) and whether the CEO holds an MBA (*MBA*).

Table 3, Panel A presents the results from estimating Equation (4). In Column (1), consistent with H2, the coefficient on *Charity* is 0.705 and significant ($p<0.05$), indicating that having a prosocial CEO is positively associated with customer satisfaction in the next year. Meanwhile, the coefficient on *NonCharity* is insignificant, suggesting that CEO participation in non-charity activities is not associated with customer satisfaction. In Column (2), where we use the subsample of firms with CEO turnovers, the coefficient on *Post* is negative, but the coefficient on *Post*×*CharityImprove* is still positive and significant. This result implies that customer satisfaction decreases less after a prosocial CEO replaces a non-prosocial CEO than after other

types of CEO replacements. Although this confirms our inference from Column (1), the magnitude of the results in both columns (0.705 and 1.589) is not economically significant when benchmarked against the sample average customer satisfaction score of 76.67. Therefore, our results suggest that prosocial CEOs have a positive but economically small impact on customer satisfaction.[31]

As for control variables, firms with higher leverage (*Leverage*), better performance (*ROA*), and more advertising expenditure (*Advertising*) have higher customer satisfaction, consistent with prior studies (e.g., Luo, Kanuri, and Andrews 2014). Firms whose CEOs have an MBA (*MBA*) also tend to achieve higher customer satisfaction scores.

4.3. Testing H3 – prosocial CEOs and overall CSR policies

H3 predicts that prosocial CEOs are more willing to channel firm resources toward CSR activities and that their firms will therefore have better corporate social performance. To test this prediction, we follow the same regression specification as in Equation (3) but replace the dependent variable with *Total_KLD*.

Table 3, Panel B presents the results from this analysis. In Column (1), the coefficient on *Charity* is positive (0.230) and significant ($p<0.01$), suggesting that, on average, firms with prosocial CEOs have total KLD scores that are higher by 0.23 than firms with non-prosocial CEOs. These magnitudes are economically considerable, since the average *Total_KLD* is 0.234 with a standard deviation of 2.579 for all firm-years in our sample. Importantly, this magnitude is comparable to the effects of other key determinants of CSR, such as firm size and cash holdings (e.g., McWilliams and Siegel 2000; Waddock and Graves 1997). For example, moving from the 25th to 75th percentile of *LogAT* is associated with total KLD scores that are higher by 0.467, and

[31] One possible channel through which a CEO influences customer satisfaction is employees. A CEO can improve customer satisfaction indirectly through higher employee retention rates and by having more satisfied employees who serve customers better. We explore this possibility in additional tests. First, we add a firm's employee-friendly policies, measured by *Employee_KLD*, as an additional control to Equation (4). We find that *Employee_KLD* does not load significantly, and *Charity* continues to be significantly positive in explaining customer satisfaction. Next, we add an interaction term between *Employee_KLD* and *Charity* in the regression. The interaction term does not load significantly, while *Charity* continues to be positively associated with customer satisfaction. This result suggests that a prosocial CEO improves customer satisfaction through ways other than employee-friendly policies.

moving from the 25th to 75th percentile of *Cash* is associated with total KLD scores that are higher by 0.12. These economic magnitudes highlight that *Charity* is an important determinant of CSR. In Column (2), when we analyze changes in KLD scores around CEO turnovers, the coefficient on *Post*×*CharityImprove* is positive and significant (0.232 with p<0.01).[32] These results support H3 in that firms with prosocial CEOs are more likely to engage in CSR activities than other firms, and that this association is not driven by underlying firm characteristics.[33]

In terms of control variables, we find that the coefficients on *LogAT* are positive and significant in both columns, consistent with what we observe in Table 2, Panel B. Past firm performance is negatively associated with CSR ratings (i.e., the coefficients on *ROA* and C*AR* are negative).[34] In addition, the positive and significant coefficients on *BoardCharity* and *LocalAssoc* suggest that the board's and the local area's prosocial tendencies are positively associated with CSR ratings, which is consistent with prior literature (e.g., Bereskin, Campbell, and Kedia 2020). In terms of CEO characteristics, we find that *CEOTenure* is negatively associated with CSR ratings, and that female CEOs (*Woman*) achieve higher CSR ratings.

As discussed previously, the total KLD score is calculated based on five categories: community, diversity, employee relations, environment, and product. As an additional analysis, we examine each category separately. We have already documented a positive association between CEO prosocial tendency and a firm's KLD score in employee relations. In untabulated analyses, we find that CEO prosocial tendency is also positively associated with a firm's KLD scores in

[32] When we exclude *Employee_KLD* from *Total_KLD*, we continue to find significantly positive coefficients on *Charity* and *Post*×*CharityImprove*, indicating that prosocial CEOs are more likely not only to implement employee-friendly policies but also to engage in other CSR activities.

[33] As a robustness check, we measure CSR using ratings of firms' environmental, social and governance (ESG) performance provided by Sustainalytics from 2009 to 2018. We replace KLD score in Equation (4) with a) a firm's total ESG score, which is an aggregate of social, environment, and governance scores, or b) a firm's social score. We continue to find a positive and significant correlation between prosocial CEOs and firm ESG scores.

[34] When we regress *Total_KLD* on *ROA* or *CAR* with industry fixed effects and year fixed effects, the coefficient on *ROA* or *CAR* is significantly positive, suggesting a positive correlation between a firm's past performance and its CSR rating. Thus, the negative coefficients on *ROA* and *CAR* in Table 3, Panel B may be due to the correlations between these two variables and other control variables such as *LogAT* and *CFO*.

community, diversity, and environment (separately). We further bifurcate the overall KLD score into total strengths and weaknesses in CSR performance and find a significantly positive (negative) association between a CEO's prosocial tendency and the firm's total CSR strengths (weaknesses) (also not tabulated).

5. Empirical results: prosocial CEOs and firm value

5.1. Testing H4 – prosocial CEOs and firm value

To test H4, we use all firm-years with available data on CEOs' charity involvement and firm value from year 1992 to 2018 and estimate the following model:

$$\begin{aligned} TobinsQ_{j,t+1} = {} & \beta_0 + \beta_1 Charity_{j,t} + \beta_2 NonCharity_{j,t} + \beta_3 LogAT_{j,t} + \beta_4 MTB_{j,t} + \\ & \beta_5 Leverage + \beta_6 RD_{j,t} + \beta_7 CAR_{j,t} + \beta_8 ReturnVolatility_{j,t} + \beta_9 NumAnalysts_{j,t} + \\ & \beta_{10} InstOwnPerc_{j,t} + \beta_{11} BoardCharity_{j,t} + \beta_{12} LocalAssoc_{j,t} + \beta_{13} CEOTenure_{j,t} + \\ & \beta_{14} CEOAge_{j,t} + \beta_{15} Woman_{j,t} + \beta_{16} MBA_{j,t} + \beta_{17} TobinsQ_{j,t} + \\ & Industry\ fixed\ effects + Year\ fixed\ effects + \varepsilon. \end{aligned} \quad (5)$$

Following prior literature (e.g., Cremers, Litov, and Sepe 2017), we control for firm size (*LogAT*), growth opportunities (*MTB*), leverage (*Leverage*), R&D expenditure (*RD*), return volatility during the year (*ReturnVolatility*), the number of analysts following the firm (*NumAnalysts*), percentage of institutional ownership (*InstOwnPerc*), and cumulative market-adjusted stock return (*CAR*). Similar to our previous tests, we include control variables for the board's and the local area's prosocial tendencies and religiosity (*BoardCharity* and *LocalAssoc*), and for CEO characteristics (*CEOTenure*, *CEOAge*, *Woman*, and *MBA*). In addition, we control for mean reversion of a firm's value by including its Tobin's Q in year *t*.

Table 4 presents the results from the estimation of Equation (5). In Column (1), we find that the coefficient on *Charity* is positive and significant. In Column (2), the coefficient on *Post*×*CharityImprove* is significantly positive ($p<0.05$), indicating that there is more improvement in Tobin's Q after a prosocial CEO replaces a non-prosocial CEO than after other types of CEO replacements. Taken together, these results suggest that having a prosocial CEO is positively associated with firm value.

The coefficients on the control variables are largely consistent with prior research. For example, large firms and highly leveraged firms tend to have relatively low Tobin's Q; R&D expenditure and the number of analysts following the firm are both positively associated with a firm's value; cumulative abnormal return and return volatility in the previous year are negatively associated with current year's Tobin's Q. We also find that the board of directors' prosocial tendency is positively associated with a firm's Tobin's Q.

5.2. Firm performance and risk

CEOs' impact on firm value can stem from their effect on firms' financial performance, risk, or both. Therefore, we expand our analysis of firm value by examining prosocial CEOs' effects on firm performance and risk.

To examine prosocial CEOs' effects on firm performance, we estimate Equation (5) again but replace the dependent variable with ROA (*ROA*). We present the results from this analysis in Table 5. In Column (1), we use all firm-years with available data and find that the coefficient on *Charity* is positive and significant, suggesting that having a prosocial CEO is positively associated with firms' financial performance. However, in Column (2), where we analyze firm performance around CEO turnovers, the coefficient on *Post*×*CharityImprove* is insignificant. Therefore, overall we find weak evidence that having a prosocial CEO is positively associated with firm performance.

We next examine whether prosocial CEOs affect firm risk, as proxied by cost of capital and return volatility. As discussed in Section 3, our cost of capital measure (*CoC*) is a characteristic-based expected-return estimate, and return volatility (*ReturnVolatility*) is calculated as the standard deviation of market-adjusted daily returns over the prior 12 months. Results from the estimation of Equation (5) with *CoC* or *ReturnVolatility* as the dependent variable are presented in Table 6. In Columns (1) and (2), we find that the coefficients on *Charity* are negative and significant, suggesting that having a prosocial CEO is associated with lower firm risk. In Columns (3) and (4), the coefficient on *Post*×*CharityImprove* is significantly negative for both measures of

risk, suggesting that there is more reduction in cost of capital and return volatility after a prosocial CEO replaces a non-prosocial CEO than after other types of CEO replacements. These results provide evidence consistent with prosocial CEOs being negatively associated with firm risk.

Taken together, the above results suggest that the positive association between prosocial CEOs and firm value is primarily due to prosocial CEOs' effect on firm risk.

5.3. Path analysis

Our evidence suggests that prosocial CEOs affect both corporate policies and firm value. Because corporate policies could also affect firm value, we perform a path analysis to examine whether prosocial CEOs influence firm value directly, indirectly through their impact on corporate policies, or both. We estimate a structural equation model of prosocial CEOs' direct effect on firm value (*TobinsQ*) as well as their indirect effect through corporate policies on employee welfare (*Employee_KLD*), customer satisfaction (*Cus_Satis*), and overall CSR activities (*Total_KLD*).[35] The structural equation model includes a regression of *TobinsQ* on *Charity* and mediating variables that capture corporate polices (*Employee_KLD*, *Cus_Satis*, and *Total_KLD*) as well as regressions of these mediating variables on *Charity*.[36]

Table 7, Panel A reports results of the path analysis on firm value. The direct coefficients of *Charity* on *TobinsQ* are significantly positive in all three columns, indicating that prosocial CEOs have a direct effect on cost of capital that is unrelated to the corporate policies we examine. The indirect effect of *Charity* on *TobinsQ* is the product of the effect of *Charity* on the mediating variables and the effect of the mediating variables on *TobinsQ*. The significance of the indirect

[35] In untabulated analyses, we also explore the possibility that prosocial CEOs affect firm value through their impact on traditional corporate policies, such as capital expenditure, acquisitions, and R&D expenditure. However, we find that prosocial CEOs are not significantly different than other CEOs when examining these policies, suggesting that the effect of CEOs' prosocial tendencies does not extend to these outcomes. One possible reason is that these traditional metrics may relate more to CEOs' ability rather than their prosocial tendencies. Therefore, we do not examine whether prosocial CEOs' effect on firm value operates through these traditional corporate policies.

[36] All control variables in Equation (5) are included in the regression of proxies for firm risk on *Charity*, and all control variables in Equation (3) (Equation (4)) are included in the regressions of *Employee_KLD* and *Total_KLD* (*Cus_Satis*) on *Charity*.

effect is estimated using the Sobel (1982) test statistic. We find that *Charity* has significant indirect effects on *TobinsQ* through *Employee_KLD* and *Total_KLD* but not through *Cus_Satis*, suggesting that prosocial CEOs have a significant indirect effect on firm value by impacting firms' CSR policies. In short, these results suggest that prosocial CEOs affect firm value both directly and indirectly through CSR initiatives.

Since we have found that prosocial CEOs significantly affect firm risk, we also perform path analyses examining how prosocial CEOs affect firm risk through their corporate policies. In Table 7, Panel B, where cost of capital (*CoC*) is the dependent variable, we find that the direct coefficients of *Charity* on *CoC* are significantly negative in all three columns, indicating that prosocial CEOs have a direct effect on firms' cost of capital that is unrelated to the corporate policies we examine. Turning to indirect effects, we find that *Charity* has significant indirect effects on *CoC* through *Employee_KLD* and *Total_KLD* but not through *Cus_Satis*, suggesting that prosocial CEOs have a significant indirect effect on cost of capital by impacting firms' CSR policies. In Panel C, where annual return volatility (*ReturnVolatility*) is the dependent variable, we find that *Charity* has a direct effect on *ReturnVolatility* that is unrelated to *Employee_KLD*, *Cust_Satis*, and *Total_KLD*. We also find that *Charity* has significant indirect effects on *ReturnVolatility* through all three corporate policies. Taken together, these results suggest that prosocial CEOs affect firm risk both directly and indirectly through CSR initiatives and customer satisfaction.

6. Additional analyses and robustness tests

6.1. Individual prosocial behavior before becoming CEOs

Because BoardEx generally does not provide data on when an individual joins or leaves a charitable organization, our treatment variable, *Charity*, is time invariant, and our results are thus subject to concerns over reverse causality. For example, an individual of high ability may be more likely to be invited to join a charitable organization *after* becoming a CEO, or a CEO who joins a

firm that is already on the path to improving its stakeholder-related policies may be more likely to be invited to join a charitable organization. In this section, we address the reverse-causality concern by examining a subsample of individuals who were involved with charitable organizations *before* becoming a CEO. In conducting this analysis, we use BoardEx data that was downloaded in 2013, even though our analyses thus far are based on data downloaded in 2019. Using the 2013 BoardEx data in conjunction with our main dataset, we redefine prosocial CEOs as individuals who (1) are included in both versions of BoardEx, (2) are involved with at least one charitable organization but are not CEOs in the 2013 version of BoardEx, and (3) become CEOs after 2013. This methodology ensures that the individuals we define as prosocial started their involvement with charitable organizations *before* becoming CEOs. Table 8 presents the results from this analysis. While the sample sizes for these tests are reduced by 34 percent, on average, from the samples in our main analyses, we continue to find that prosocial CEOs treat employees and customers better and are more socially responsible (Panel A), and that firms with prosocial CEOs have higher value, perform better, and have lower risk (Panel B).

6.2. Prosocial CEOs' fixed effects on corporate policies

Davidson, Dey, and Smith (2019) examine CEOs' fixed effects and document the relative importance of CEO versus firm characteristics in explaining variations in firms' CSR policies. We adopt the same fixed effect research design and triangulate our main findings that CEOs' prosocial tendency is an important determinant of corporate polices.

Using the total KLD score as an example, in Table 9, we estimate CEOs' fixed effects for three subsamples: firms with prosocial CEOs (Column (1)), firms with non-prosocial CEOs (Column (2)), and a random sample of both prosocial CEOs and non-prosocial CEOs (Column (3)). We find that, relative to firm fixed effects, CEO fixed effects explain much more variation in KLD scores in all three columns, consistent with the finding of Davidson et al. (2019) that CSR policies are determined primarily by the CEO. More importantly, Columns (1) and (2) show that,

when CEOs' prosocial tendency is held constant, CEO fixed effects explain approximately 60 percent of the variation in KLD scores (60 percent in Column (1) and 61 percent in Column (2)). However, in Column (3), where we randomly draw CEOs, the CEO fixed effect explains about 66 percent of the variation in KLD scores, suggesting that the explanatory power of CEOs is about 10 percent higher (i.e., 66 percent is 10 percent greater than 60 percent) when prosocial tendency is allowed to vary across the sample. We repeat this analysis for executive subordinate turnover and employee-friendly policies and find qualitatively similar results, suggesting that CEO prosocial tendency is an important determinant of these corporate policies.[37]

6.3. Alternative definition of charitable organizations

In our main analyses, we rely on the IRS's tax-exempt organizations file to identify charitable organizations. The IRS's file lists a variety of organizations as charitable, even though some are more involved than others in increasing others' welfare. For example, charitable organizations whose missions involve human services, such as the American Red Cross and groups assisting the homeless, more directly relate to caring for others than charitable organizations such as art museums and sports training organizations. Therefore, as a robustness check, we define charitable organizations more strictly—as organizations closely related to increasing the welfare of others, such as those involved in education, medical research, youth development, or human services.[38] Our results do not change qualitatively when we use this alternative definition of charitable organizations.[39]

[37] In the fixed effect research design, CEOs must switch firms for their fixed effects to be estimated. Our sample for customer satisfaction has only 12 CEOs who switch firms. Thus, we did not estimate CEO fixed effects on customer satisfaction.

[38] To identify organizations that relate more directly to improving the well-being of others, each of the four authors went over the IRS classification list independently. We use either the intersection or the union of organizations identified by each author to define charitable organizations. Our results still hold.

[39] We acknowledge that an individual's involvement in a charitable organization varies among different organizations, i.e., some organizations require more time commitment than others. These differences may reflect the extent of one's prosocial tendency. The only way to examine these differences is to know the specific work an individual does at the organization and the number of hours he or she spends there. However, we do not have such data. Our measure *Charity*, the indicator variable in our main analyses or the continuous variable in the robustness test in footnote 28, treats all the charitable organizations the same. That is, we consider a CEO involved in a charity that requires

6.4. Potential correlated omitted variable concern

Results from our main analyses, especially those based on the sample of CEO turnovers, suggest that prosocial CEOs influence corporate policies and performance. However, an alternative explanation is that certain underlying changes in firms may cause the firms to both hire prosocial CEOs and change certain corporate policies (e.g., a firm that adds more prosocial directors may start to conduct more CSR activities *and* hire a prosocial CEO). To rule out this alternative, we conduct two additional analyses.

First, we investigate whether firms experience significant changes in performance and the percentage of prosocial directors in the period leading up to CEO hiring decisions. In untabulated analyses, we do not find evidence that in the year leading up to the CEO turnover, changes in Tobin's Q, size-adjusted returns, ROA, and the percentage of prosocial directors are significantly different between firms that replace a non-prosocial CEO with a prosocial CEO and firms with other types of CEO turnovers. Therefore, the changes in corporate policies that we document do not appear to be driven by changes in firm performance or the proportion of prosocial directors.

Second, under the alternative explanation above, we would not expect to find a precise overlap between the arrival of the new prosocial CEO and corporate policy changes. In fact, one might expect that some corporate policy changes would precede the arrival of the new prosocial CEO, at least for some firms. In contrast, if a prosocial CEO plays an active role in changing corporate policies, the changes will only happen *after* the CEO is hired. To empirically test these explanations, we follow Bertrand and Schoar (2003) and perform a placebo test. For firms experiencing non-prosocial to prosocial CEO turnovers, we assume that the new CEO joined the firm two years *before* the actual turnover date and left the firm at the time they actually joined.[40]

substantial time commitment as having the same prosocial tendency as a CEO involved in a charity that may require less commitment. This approach adds noise to our measure.

[40] We find similar results when we assume that the new CEO joined the firm three years before the actual turnover date.

We re-run all our turnover analyses this way but do not find significant results in any of the tests (untabulated). These results confirm that the changes we observe in corporate policies happen not before but only after the new prosocial CEO joins the firm, suggesting that prosocial CEOs likely have a role in implementing them.

7. Conclusion

This study examines the relations between prosocial CEOs, corporate policies, and firm value. We develop a new measure of individual prosocial behavior using CEOs' off-the-job involvement with charitable organizations. We examine the effects of having a prosocial CEO on a wide range of stakeholders, including company employees, customers, and society. We find that prosocial CEOs are associated with more stable top management teams, more employee-friendly policies, more satisfied customers, and more socially responsible firm decisions. We also document that prosocial CEOs improve firm value, both directly and indirectly by changing corporate policies. These results are consistent with prosocial CEOs holding a stewardship view that prioritizes the welfare of others. The findings of our study suggest that CEOs' prosocial tendency is an important trait with significant effects on various corporate policies and firm value. Overall, our study provides important implications for firms' CEO hiring decisions. If firms seek to improve firms' non-financial performance in aspects, such as employee retention or customer satisfaction, our findings suggest that CEOs' prosocial tendencies is an important factor for their boards of directors to consider.

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Appendix 1. Variable definitions

Variable	Definition
Advertising	Advertising expense scaled by average total assets for the fiscal year.
BoardCharity	The percentage of a firm's board members that are involved with charities. Charities are organizations defined as "Charitable Organizations" by the IRS.
CAR	Cumulative abnormal return over the 12 months prior to the end of the fiscal year. Calculated as buy-and-hold stock return adjusted by the CRSP value-weighted return over the same period.
Cash	Cash at the end of the fiscal year scaled by average total assets for the fiscal year.
CEOLeave	An indicator variable equal to one if the CEO leaves the firm in that fiscal year and zero otherwise.
CEOAge	CEO's age.
CEOTenure	Number of years the CEO has been the CEO of the firm at the end of the fiscal year.
CFO	Cash flow from operations scaled by average total assets for the fiscal year.
Charity	An indicator variable equal to one if the CEO has been involved with any charities, and zero otherwise. Charities are organizations defined as "Charitable Organizations" by the IRS.
CharityImprove	An indicator variable. For a given CEO turnover event, if a charitable CEO replaces a non-charitable CEO, this variable equals one for all the years when both CEOs are in position. For the other types of CEO turnovers, this variable equals zero for all the years when both CEOs are in position.
CoC	The representative firm-characteristic-based expected-return proxy calculated by Lee, So, and Wang (2021).
Cust_Satis	A firm's annual customer satisfaction score, as measured by the American Customer Satisfaction Index.
Employee_KLD	Net score of KLD ratings of the firm's employee relations performance, measured as total strengths minus total concerns in the KLD employee relations category.
ExeSubordAge	Subordinate's age.
ExeSubordOwnPerc	Percentage of the firm's shares owned by the subordinate.
ExeSubordTenure	Number of years the subordinate has been employed by the current firm.
ExeSubordTurnover	An indicator variable equal to one if the subordinate leaves the firm in that fiscal year and zero otherwise.
FinConstraint	Financial constraint proxy developed by Kaplan and Zingales (1997).
InstOwnPerc	Percentage of shares in the firm held by institutional shareholders at the end of fiscal year.

Appendix 1. Variable definitions (cont.)

Variable	Definition
InternalCEO	An indicator variable equal to one if the CEO was promoted internally and zero otherwise.
Leverage	Total liabilities divided by total assets at the end of the fiscal year.
LocalAssoc	Density of social and civic associations, including religious organizations, in the county of the firm's headquarters. Firm counties are identified using Compustat zip codes. The total number of associations per county is scaled by the number of association categories in the dataset for that year and by the population of the county (measured per 10,000 people). For years where social and civic associations data is unavailable, we obtain the data from the closest year for which the data is available.
LogAT	Natural logarithm of total assets at the end of the fiscal year.
MBA	An indicator variable equal to one if the CEO has an MBA and zero otherwise. We identify CEOs as having an MBA if any of their qualifications contain "MBA" or "masters of business admin."
MTB	The ratio of market value of equity to book value of equity at the end of the fiscal year.
NonCharity	An indicator variable equal to one if the CEO is involved in any non-charities and zero otherwise. Non-charities are organizations that are not defined as "Charitable Organizations" by the IRS.
NumAnalysts	Number of analysts following the firm based on the most recent consensus estimate at the end of the fiscal year.
Post	An indicator variable equal to one if the year is after a CEO turnover and zero otherwise.
RD	R&D expenditure divided by average total assets for the fiscal year.
ReturnVolatility	Standard deviation of raw daily returns for the firm adjusted for CRSP value-weighted returns in the 12 months prior to the end of the fiscal year.
RevenueGrowth	Annual change in total revenue divided by total revenue in the previous year.
ROA	Income before extraordinary items divided by average total assets for the fiscal year.
TobinsQ	The market value of assets (measured as total assets plus total market capitalization, minus total common equity, minus deferred taxes on the balance sheet), divided by the book value of assets at the end of the fiscal year.
Total_KLD	Net score of corporate social performance of the firm, measured as total strengths minus total concerns in five social rating categories of KLD ratings data: community, diversity, employee relations, environment, and product.
Woman	An indicator variable equal to one if the individual is a woman and zero otherwise.

Appendix 2. Top 10 charitable and non-charitable organizations

Panel A: Top 10 charitable organizations

	Charity name
1	United Way
2	Catalyst Inc.
3	American Heart Association Inc. (AHA)
4	Boy Scouts of America (BSA)
5	American Cancer Society (ACS) Inc.
6	Big Brothers Big Sisters of America (BBBSA)
7	Spindletop Charities Inc.
8	Young Men's Christian Association (YMCA)
9	Teach for America Inc. (TFA)
10	American Diabetes Association (ADA)

Panel B: Top 10 non-charitable organizations

	Non-charity name
1	Business Roundtable (BRT)
2	CPA Society
3	Bar Association
4	Wall Street Journal CEO Council
5	National Association of Manufacturers (NAM)
6	Young Presidents' Organization Inc (YPO)
7	Biotechnology Innovation Organization (BIO)
8	American Petroleum Institute (API)
9	US-China Business Council Inc. (USCBC)
10	Business Council of Canada

Panel C: Top 10 roles that CEOs hold in charitable organizations

	Charity role name	N of CEOs	% of total
1	Director - SD	751	40.5%
2	Member	266	14.3%
3	Trustee	259	14.0%
4	Chairman	86	4.6%
5	Advisory Board Member	75	4.0%
6	Vice Chairman	43	2.3%
7	President	35	1.9%
8	Committee Member	33	1.8%
9	Council Member	32	1.7%
10	Board Member - SD	30	1.6%

Table 1. Descriptive statistics

This table presents descriptive statistics for variables used in our analyses. The sample includes 3,548 individuals who are CEOs of public firms from 1992 to 2018. Panel A reports descriptive statistics for these individuals as well as firm-year level outcome variables and control variables for different samples used in the main analyses. Panel B presents the Pearson (below the diagonal) and Spearman (above the diagonal) correlations among key variables. All continuous variables are winsorized at 1 percent and 99 percent. Correlations significant at the 10 percent level are marked in bold. Definitions of all variables are reported in Appendix 1.

Panel A: Descriptive statistics

Variable	N	Mean	Std Dev	P25	Median	P75
Individual characteristics						
Charity	3,548	0.287	0.452	0.000	0.000	1.000
NonCharity	3,548	0.560	0.496	0.000	1.000	1.000
Woman	3,548	0.054	0.227	0.000	0.000	0.000
MBA	3,548	0.314	0.464	0.000	0.000	1.000
Outcome variables						
ExeSubordTurnover	38,537	0.138	0.344	0.000	0.000	0.000
Employee_KLD	18,626	0.123	1.249	0.000	0.000	0.000
Cust_Satis	1,206	76.670	5.837	73.000	77.000	81.000
Total_KLD	18,626	0.234	2.579	-1.000	0.000	1.000
TobinsQ	53,653	1.666	0.918	1.052	1.407	2.230
ROA	62,007	0.038	0.230	-0.001	0.031	0.076
CoC	39,869	13.330	6.622	8.113	12.492	17.726
ReturnVolatility	62,007	0.032	0.020	0.018	0.027	0.039
Firm-year characteristics						
CEOTenure	62,007	6.894	7.166	2.000	5.000	10.000
CEOAge	62,007	55.677	7.838	50.000	56.000	61.000
LogAT	62,007	6.378	2.078	4.935	6.374	7.751
MTB	62,007	3.179	2.909	1.263	2.007	3.471
Leverage	62,007	0.520	0.244	0.329	0.519	0.703
FinConstraint	59,356	0.794	1.401	0.152	0.673	0.837
Cash	62,007	0.121	0.156	0.019	0.059	0.163
CFO	62,007	0.031	0.962	0.016	0.066	0.120
RD	62,007	0.043	0.114	0.000	0.000	0.037
CAR	62,007	0.086	0.541	-0.245	0.014	0.247
BoardCharity	62,007	0.467	0.275	0.250	0.500	0.667
LocalAssoc	62,007	1.696	0.809	0.641	0.880	1.370
Advertising	62,007	0.015	0.369	0.000	0.000	0.008
NumAnalysts	62,007	6.303	7.016	1.000	4.000	9.000
InstOwnPerc	62,007	0.559	0.352	0.241	0.653	0.847

Table 1. Descriptive statistics (cont.)

Panel B: Pearson (below the diagonal) and Spearman (above the diagonal) correlation matrix

	[1]	*[2]*	*[3]*	*[4]*	*[5]*	*[6]*	*[7]*	*[8]*	*[9]*	*[10]*	*[11]*	*[12]*	*[13]*	*[14]*	*[15]*	*[16]*	*[17]*
[1] Charity		**0.10**	**0.08**	**-0.15**	**-0.01**	0.02	**0.05**	**0.08**	0.01	0.02	**-0.04**	-0.02	0.03	0.04	-0.02	0.03	0.00
[2] NonCharity	**0.10**		0.04	**0.11**	-0.03	0.02	0.00	-0.01	-0.12	**-0.09**	0.00	-0.17	-0.02	**0.11**	**0.16**	**-0.07**	**0.18**
[3] Woman	**0.08**	0.04		**0.11**	-0.06	**0.08**	**0.17**	**0.14**	**0.19**	**0.13**	**-0.17**	**-0.07**	-0.03	**-0.07**	-0.02	**0.19**	**-0.12**
[4] MBA	**-0.15**	**0.11**	**0.11**		0.02	**0.09**	**0.14**	**0.11**	0.05	0.02	**-0.07**	**-0.10**	-0.01	**-0.11**	0.05	**0.07**	-0.01
[5] ExeSubordTurnover	**-0.07**	**-0.09**	-0.06	0.02		**-0.12**	-0.05	**-0.07**	-0.02	-0.04	**0.08**	**0.08**	**-0.10**	0.03	-0.04	-0.03	-0.02
[6] Employee_KLD	0.02	0.04	0.05	0.08	**-0.14**		**0.12**	**0.56**	0.04	0.00	**-0.13**	**-0.16**	-0.05	0.03	**0.20**	**0.13**	-0.02
[7] Cust_Satis	**0.06**	0.00	**0.17**	**0.12**	-0.05	**0.10**		**0.15**	**0.43**	0.31	**-0.26**	**-0.10**	**0.07**	-0.04	**-0.27**	**0.40**	**-0.25**
[8] Total_KLD	**0.09**	0.01	**0.13**	**0.12**	**-0.10**	**0.56**	**0.14**		**0.28**	0.20	**-0.38**	**-0.15**	0.00	0.00	**0.15**	**0.23**	**-0.31**
[9] TobinsQ	0.02	**-0.08**	**0.28**	**0.08**	-0.06	0.03	**0.36**	**0.21**		**0.67**	**-0.48**	**-0.07**	**0.12**	-0.04	**-0.29**	**0.80**	**-0.65**
[10] ROA	0.02	**-0.11**	**0.11**	0.04	-0.05	-0.02	**0.29**	**0.19**	**0.76**		**-0.43**	**-0.09**	**0.15**	**-0.06**	**-0.33**	**0.63**	**-0.48**
[11] CoC	**-0.01**	-0.01	**-0.16**	**-0.08**	**0.09**	**-0.11**	**-0.23**	**-0.39**	**-0.55**	-0.06		**0.10**	-0.05	-0.05	**-0.10**	**-0.44**	**0.35**
[12] ReturnVolatility	-0.04	**-0.17**	-0.04	-0.04	**0.08**	**-0.18**	**-0.13**	**-0.17**	-0.05	**-0.21**	0.09		-0.03	**-0.12**	**-0.20**	**-0.13**	-0.03
[13] CEOTenure	-0.02	-0.04	-0.05	0.00	**-0.11**	-0.05	**0.08**	-0.02	**0.14**	**0.18**	**-0.07**	**-0.06**		**0.37**	**-0.10**	**0.16**	-0.04
[14] CEOAge	0.05	**0.12**	**-0.07**	**-0.10**	0.02	0.00	-0.05	0.01	**-0.10**	-0.05	**-0.07**	**-0.08**	**0.31**		**0.07**	-0.04	**0.06**
[15] LogAT	-0.02	**0.16**	-0.03	**0.07**	-0.05	**0.20**	**-0.22**	**0.19**	**-0.25**	**-0.31**	**-0.09**	**-0.10**	**-0.12**	0.05		**-0.19**	**0.08**
[16] MTB	**0.06**	0.01	**0.13**	**0.09**	-0.03	0.04	**0.24**	**0.14**	**0.56**	**0.42**	**-0.35**	**-0.08**	**0.13**	-0.03	**-0.17**		**-0.46**
[17] Leverage	0.01	**0.17**	**-0.12**	-0.01	-0.04	0.02	**-0.21**	**-0.29**	**-0.54**	**-0.45**	**0.38**	**0.09**	**-0.06**	0.05	**0.09**	**-0.29**	

Table 2. Prosocial CEOs and internal stakeholders

This table presents results for testing H1. Panel A presents results from OLS regressions of executive subordinate turnover on CEO charity involvement. The dependent variable, *ExeSubordTurnover*, equals one if the executive subordinate leaves the firm in year *t+1* and zero otherwise. The main independent variable, *Charity*, equals one if the CEO of the firm in year *t* is involved in charitable organizations and zero otherwise. In Column (1), the sample includes 38,537 subordinate-firm-year observations where the executive subordinates are younger than age 50 for the period of 1992–2018. Column (2) includes a subsample for executive subordinates from firm-years before and after a CEO turnover. Panel B presents results from OLS regressions of firms' employee category KLD score on CEO charity involvement. *Employee_KLD* is the KLD rating in the firm's employee relations category. In Column (1), the sample includes 18,626 firm-years for the period of 1992–2016. Column (2) uses a subsample that consists of 13,855 firm-years around CEO turnovers. In all regressions, the main independent variable, *Charity*, equals one if the CEO of the firm is involved in charitable organizations in year *t* and zero otherwise. Definitions of all other variables are reported in Appendix 1. Standard errors are clustered at the firm level, and *t*-statistics are reported in brackets. Industry and year fixed effects are included. Significance at the 10 percent, 5 percent, and 1 percent levels is denoted *, **, and ***, respectively.

Panel A: Executive subordinate turnover

	Dependent variable = *ExeSubordTurnover*	
	All firm-years	Firm-years around CEO turnovers
	(1)	(2)
Charity	-0.011	
	[-2.16]**	
NonCharity	-0.005	-0.004
	[-0.75]	[-0.39]
CharityImprove		0.036
		[1.02]
Post		0.011
		[2.95]***
CharityImprove×Post		-0.018
		[-3.16]***
LogAT	0.005	0.007
	[2.32]**	[1.20]
MTB	-0.001	-0.001
	[-1.78]*	[-0.93]
Leverage	0.034	0.046
	[2.15]**	[1.83]*
ROA	-0.273	-0.257
	[-10.04]***	[-7.53]***
CAR	-0.041	-0.035
	[-11.68]***	[-8.96]***
BoardCharity	-0.015	-0.002
	[-1.41]	[-0.89]
LocalAssoc	-0.010	0.017
	[-1.17]	[0.34]

CEOTenure	-0.000	0.001
	[-0.19]	[1.74]*
CEOAge	0.000	0.001
	[0.63]	[0.20]
Woman	0.033	0.028
	[2.17]**	[1.08]
MBA	0.005	-0.002
	[0.95]	[-0.20]
InternalCEO	-0.010	-0.008
	[-2.00]**	[-0.82]
CEOLeave	0.075	
	[10.53]***	
SubordinateAge	0.019	-0.004
	[1.90]*	[-0.38]
SubordinateTenure	-0.002	0.000
	[-2.77]***	[0.43]
$SubordinateAge^2$	-0.000	0.000
	[-1.47]	[0.79]
$SubordinateTenure^2$	-0.000	-0.000
	[-0.40]	[-1.41]
ExeSubordOwnPerc	-0.073	-0.058
	[-7.92]***	[-4.81]***
Intercept	-0.368	0.041
	[-1.70]*	[0.16]
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Firm clustering	Yes	Yes
N	38,537	30,846
Adj. R^2	3.7%	11.1%

Table 2. Prosocial CEOs and internal stakeholders (cont.)

Panel B: Employee-friendly corporate policies

	Dependent variable = *Employee_KLD*	
	All firm-years	Firm-years around CEO turnovers
	(1)	(2)
Charity	0.060	
	[2.54]**	
NonCharity	0.009	0.048
	[0.38]	[1.17]
CharityImprove		-0.128
		[-2.19]***
Post		-0.111
		[-2.39]**
CharityImprove×Post		0.110
		[3.35]***
LogAT	0.057	0.060
	[4.84]***	[5.47]***
MTB	0.001	0.000
	[0.89]	[1.45]
Leverage	-0.000	0.000
	[-0.70]	[-1.13]
FinConstraint	0.002	0.002
	[0.46]	[0.49]
ROA	-0.122	-0.108
	[-1.53]	[-1.38]
CAR	-0.033	-0.043
	[-3.11]***	[-4.20]***
Cash	0.239	0.001
	[2.82]***	[0.02]
CFO	0.042	-0.001
	[0.45]	[-0.01]
RD	0.000	0.000
	[0.53]	[0.37]
Advertising	-0.056	-0.025
	[-1.40]	[-0.74]
BoardCharity	0.010	0.039
	[0.22]	[0.90]
LocalAssoc	0.049	-0.001
	[1.18]	[-0.02]

CEOTenure	-0.004	-0.004
	[-2.56]**	[-2.90]***
CEOAge	0.002	0.003
	[1.48]	[1.93]*
Woman	0.075	0.072
	[1.15]	[1.12]
MBA	0.018	0.000
	[0.76]	[0.01]
Intercept	-0.412	-0.350
	[-3.73]***	[-3.14]***
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Firm clustering	Yes	Yes
N	18,626	13,855
Adj. R^2	22.8%	25.2%

Table 3. Prosocial CEOs and external stakeholders

This table presents results for testing H2 and H3. Panel A presents results from OLS regressions of firms' customer satisfaction on CEO charity involvement. The sample period is 1995–2018. The sample includes 1,206 firm-years in Column (1) and a subsample of 726 firm-years around CEO turnovers in Column (2). The dependent variable, *Cust_Satis*, is a firm's annual customer satisfaction score in year *t+1*, as measured by the American Customer Satisfaction Index. Panel B presents results from OLS regressions of firms' CSR performance on CEO charity involvement. The sample period is 1992–2016. The sample includes 18,626 firm-years in Column (1) and a subsample of 13,855 firm-years around CEO turnovers in Column (2). The dependent variable, *Total_KLD*, represents the firm's KLD ratings in the community, diversity, employee relations, environment, and product categories in year *t+1*. In all regressions, the main independent variable, *Charity*, equals one if the CEO of the firm is involved in charitable organizations in year *t* and zero otherwise. The definitions of all other variables are reported in Appendix 1. In all regressions, standard errors are clustered at the firm level, and *t*-statistics are reported in brackets. Year and industry fixed effects are included. Significance at the 10 percent, 5 percent, and 1 percent levels is denoted *, **, and ***, respectively.

Panel A: Customer satisfaction

	Dependent variable = *Cust_Satis*	
	All firm-years	Firm-years around CEO turnovers
	(1)	(2)
Charity	0.705	
	[2.26]**	
NonCharity	-0.316	-1.061
	[-0.59]	[-1.28]
CharityImprove		-1.416
		[-1.65]
Post		-0.173
		[-2.31]**
CharityImprove×Post		1.589
		[1.78]*
LogAT	-1.620	-0.082
	[-9.39]***	[-0.41]
MTB	-0.052	-0.039
	[-1.74]*	[-1.52]
Leverage	3.044	4.863
	[2.26]**	[3.65]***
ROA	14.364	19.222
	[6.11]***	[7.08]***
Advertising	22.949	13.638
	[3.11]***	[2.26]**
RevenueGrowth	0.973	-0.122
	[2.30]**	[-0.31]
BoardCharity	0.977	0.605
	[2.09]**	[1.07]
LocalAssoc	0.770	3.790

	[1.05]	[2.01]**
CEOTenure	-0.033	0.037
	[-1.45]	[1.48]
CEOAge	0.009	0.029
	[0.42]	[1.31]
Woman	0.859	0.216
	[1.46]	[0.43]
MBA	0.483	0.607
	[1.88]*	[2.22]**
Intercept	86.291	68.588
	[35.77]***	[33.60]***
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Firm clustering	Yes	Yes
N	1,206	726
Adj. R^2	66.6%	69.9%

Table 3. Prosocial CEOs and external stakeholders (cont.)

Panel B: Corporate social performance

	Dependent variable = *Total_KLD*	
	All firm-years	Firm-years around CEO turnovers
	(1)	(2)
Charity	0.230	
	[3.13]***	
NonCharity	0.075	0.155
	[1.37]	[1.06]
CharityImprove		-0.435
		[-1.85]*
Post		-0.222
		[-1.74]*
CharityImprove×Post		0.232
		[2.85]***
LogAT	0.237	0.260
	[3.70]***	[3.75]***
MTB	0.001	0.001
	[1.76]*	[2.01]**
Leverage	-0.001	-0.002
	[-1.82]*	[-2.65]***
FinConstraint	-0.015	-0.008
	[-1.70]*	[-0.95]
ROA	-0.659	-0.577
	[-3.90]***	[-3.33]***
CAR	-0.116	-0.113
	[-5.14]***	[-5.43]***
Cash	0.661	0.201
	[3.41]***	[1.15]
CFO	0.005	-0.106
	[0.03]	[-0.54]
RD	0.001	0.001
	[0.30]	[0.64]
Advertising	0.101	-0.061
	[0.66]	[-0.84]
BoardCharity	0.469	0.461
	[4.09]***	[4.31]***
LocalAssoc	0.241	-0.101
	[2.40]**	[-1.09]

CEOTenure	-0.012	-0.012
	[-3.28]***	[-3.42]***
CEOAge	-0.002	0.002
	[-0.45]	[0.71]
Woman	0.861	0.910
	[6.00]***	[6.38]***
MBA	0.099	0.061
	[1.77]*	[1.16]
Intercept	-1.581	-1.728
	[-5.63]***	[-5.99]***
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Firm clustering	Yes	Yes
N	18,626	13,855
Adj. R^2	17.5%	23.4%

Table 4. Prosocial CEOs and firm value

This table presents results from OLS regressions of firm value on CEO charity involvement. The sample period is 1992–2018. In Column (1), the sample includes 53,653 firm-years. In Column (2), the sample consists of 38,763 firm-years around CEO turnovers. The dependent variable, *TobinsQ*, is the firm's Tobin's Q in year *t+1*. The main independent variable, *Charity*, equals one if the CEO of the firm is involved in charitable organizations in year *t* and zero otherwise. The definitions of all other variables are reported in Appendix 1. Standard errors are clustered at the firm level, and *t*-statistics are reported in brackets. Year and industry fixed effects are included. Significance at the 10 percent, 5 percent, and 1 percent levels is denoted *, **, and ***, respectively.

	Dependent variable = $TobinsQ_{t+1}$	
	All firm-years	Firm-years around CEO turnovers
	(1)	(2)
Charity	0.026	
	[2.17]**	
NonCharity	-0.005	0.003
	[-0.35]	[0.20]
CharityImprove		-0.106
		[-1.94]*
Post		0.003
		[0.09]
CharityImprove×Post		0.130
		[2.32]**
LogAT	-0.059	-0.058
	[-3.63]***	[-3.64]***
MTB	0.001	0.001
	[0.32]	[0.25]
Leverage	-0.288	-0.285
	[-3.54]***	[-3.52]***
RD	1.475	1.468
	[4.81]***	[4.86]***
CAR	-0.130	-0.132
	[-2.93]***	[-3.06]***
ReturnVolatility	-0.435	-0.483
	[-1.23]	[-1.37]
NumAnalysts	0.012	0.012
	[3.33]***	[3.39]***
InstOwnPerc	0.050	0.053
	[1.12]	[1.16]
BoardCharity	0.126	0.13
	[4.10]***	[4.00]***
LocalAssoc	0.004	0.012

	[0.17]	[0.48]
CEOTenure	-0.001	-0.048
	[-0.58]	[-1.26]
CEOAge	0.000	-0.027
	[0.36]	[-1.57]
Woman	-0.032	0.046
	[-1.04]	[0.96]
MBA	0.019	0.130
	[1.42]	[3.01]***
TobinsQ	0.650	0.649
	[14.97]***	[15.36]***
Intercept	0.869	0.89
	[6.95]***	[5.46]***
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Firm clustering	Yes	Yes
N	53,653	38,763
Adj. R^2	61.4%	61.5%

Table 5. Prosocial CEOs and firm performance

This table presents results from OLS regressions of firm performance in the following year on charity involvement of the current year's CEO. The sample period is 1992–2018. In Column (1), the sample includes 62,007 firm-years. In Column (2), the sample consists of 43,785 firm-years around CEO turnovers. The dependent variable, *ROA*, is the firm's return on assets in the year *t+1*. The main independent variable, *Charity*, equals one if the CEO of the firm is involved in charitable organizations in year *t* and zero otherwise. The definitions of all other variables are reported in Appendix 1. Standard errors are clustered at the firm level, and *t*-statistics are reported in brackets. Year and industry fixed effects are included. Significance at the 10 percent, 5 percent, and 1 percent levels is denoted *, **, and ***, respectively.

	Dependent variable = ROA_{t+1}	
	All firm-years	Firm-years around CEO turnovers
	(1)	(2)
Charity	0.002	
	[1.93]*	
NonCharity	0.002	0.002
	[1.26]	[1.46]
CharityImprove		0.024
		[1.13]
Post		0.028
		[3.90]***
CharityImprove×Post		-0.024
		[-1.06]
LogAT	-0.003	-0.003
	[-4.69]***	[-4.77]***
MTB	0.001	0.001
	[2.72]***	[2.48]**
Leverage	0.029	0.028
	[7.01]***	[6.46]***
RD	-0.268	-0.268
	[-15.21]***	[-13.47]***
CAR	0.017	0.017
	[13.33]***	[12.39]***
ReturnVolatility	-0.706	-0.697
	[-13.52]***	[-12.13]***
NumAnalysts	0.001	0.001
	[7.01]***	[6.96]***
InstOwnPerc	0.027	0.025
	[11.83]***	[9.81]***
BoardCharity	-0.003	-0.002
	[-1.30]	[-0.96]
LocalAssoc	0.002	0.002

	[1.16]	[0.88]
CEOTenure	0.001	0.001
	[4.82]***	[4.40]***
CEOAge	0.001	0.001
	[1.66]*	[1.98]**
Woman	0.002	0.003
	[0.76]	[0.94]
MBA	0.002	0.002
	[1.54]	[1.50]
ROA	0.645	0.657
	[66.95]***	[59.10]***
Intercept	-0.005	-0.032
	[-0.87]	[-4.07]***
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Firm clustering	Yes	Yes
N	62,007	43,785
Adj. R^2	62.1%	62.4%

Table 6. Prosocial CEOs and firm risk

This table presents results from OLS regressions of firm risk in the following year on charity involvement of the current year's CEO. The sample period is 1992–2018. In Columns (1) and (2), the sample includes 39,869 firm-years and 60,204 firm-years when examining cost of capital and return volatility, respectively. In Columns (3) and (4), the sample includes 27,009 firm-years and 43,785 firm-years around CEO turnovers when examining cost of capital and return volatility, respectively. In Columns (1) and (3), the dependent variable, *CoC*, is the firm's cost of capital in year *t+1*. In Columns (2) and (4), the dependent variable, *ReturnVolatility*, is the firm's stock return volatility in year *t+1*. In all regressions, the main independent variable, *Charity*, equals one if the CEO of the firm is involved in charitable organizations in year *t* and zero otherwise. The definitions of all other variables are reported in Appendix 1. Standard errors are clustered at the firm level, and *t*-statistics are reported in brackets. Year and industry fixed effects are included. Significance at the 10 percent, 5 percent, and 1 percent levels is denoted *, **, and ***, respectively.

	All firm-years		Firm-years around CEO turnovers	
	Dependent variable =		Dependent variable =	
	CoC_{t+1}	$ReturnVolatility_{t+1}$	CoC_{t+1}	$ReturnVolatility_{t+1}$
	(1)	(2)	(3)	(4)
Charity	-0.075	-0.003		
	[-2.37]**	[-1.87]*		
NonCharity	-0.024	0.000	0.005	0.010
	[-0.66]	[0.13]	[0.11]	[0.02]
CharityImprove			-0.202	-0.003
			[-0.93]	[-0.92]
Post			-0.336	-0.002
			[-2.90]***	[-2.98]***
CharityImprove×Post			-0.111	-0.003
			[-2.39]**	[-1.86]*
LogAT	-0.349	-0.001	-0.327	-0.001
	[-20.59]***	[-13.44]***	[-17.28]***	[-6.72]***
MTB	-0.150	0.000	-0.114	-0.001
	[-15.98]***	[-3.31]***	[-13.00]***	[-1.18]
Leverage	1.547	0.005	1.129	0.050
	[10.95]***	[15.81]***	[6.94]***	[4.34]***
RD	-3.091	0.013	-3.365	0.012
	[-10.04]***	[15.07]***	[-10.30]***	[8.66]***
CAR	-0.649	-0.003	-0.455	-0.002
	[-14.47]***	[-23.19]***	[-8.69]***	[-3.98]***
ReturnVolatility	0.688	0.624	-0.266	0.627
	[1.98]**	[27.05]***	[-0.72]	[21.58]***
NumAnalysts	-0.010	0.000	0.016	0.000
	[-2.85]***	[5.63]***	[3.96]***	[2.36]**
InstOwnPerc	-0.399	-0.002	-0.952	-0.002
	[-6.61]***	[-8.89]***	[-12.78]***	[-5.54]***

BoardCharity	-0.239	-0.001	-0.013	-0.001
	[-3.87]***	[-3.10]***	[-0.17]	[-2.96]***
LocalAssoc	-0.036	-0.001	-0.077	-0.001
	[-0.78]	[-5.73]***	[-1.38]	[-6.10]***
CEOTenure	-0.006	0.991	-0.064	-0.000
	[-2.77]***	[-1.52]	[-2.71]***	[-1.20]
CEOAge	-0.005	0.001	-0.017	-0.001
	[-2.28]**	[-4.49]***	[-6.49]***	[-4.59]***
Woman	0.133	0.001	-0.07	0.000
	[1.39]	[1.14]	[-0.63]	[0.56]
MBA	-0.043	0.001	-0.055	-0.001
	[-1.42]	[-2.67]**	[-1.49]	[-2.68]**
CoC	0.663		0.73	
	[98.73]***		[83.14]***	
Intercept	7.517	0.020	8.042	0.025
	[35.36]***	[43.35]***	[30.91]***	[13.49]***
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Firm clustering	Yes	Yes	Yes	Yes
N	39,869	60,204	27,009	43,785
Adj. R^2	83.4%	67.7%	78.0%	67.7%

Table 7. Path analysis of firm value, performance, and risk

This table presents path analysis estimates using three paths: employee welfare, customer satisfaction, and overall CSR performance. Panel A presents results for firm value, Panel B for cost of capital, and Panel C for return volatility. The definitions of all variables are reported in Appendix 1. Standard errors are clustered at the firm level, and *t*-statistics are reported as indicated. Year and industry fixed effects are included. Significance at the 10 percent, 5 percent, and 1 percent levels is denoted *, **, and ***, respectively.

Panel A: CEO charity involvement and firm value

	Path = *Employee_KLD*		Path = *Cus_Satis*		Path = *Total_KLD*	
	Coefficient	*t*-stat	Coefficient	*t*-stat	Coefficient	*t*-stat
Direct Path						
P(*Charity*, *TobinsQ*)	0.0231	2.40**	0.0285	2.54**	0.0231	2.40**
Mediated Path						
P(*Charity*, Path)	0.0365	2.60***	1.1390	2.48**	0.1690	5.81***
P(Path, *TobinsQ*)	0.0430	4.80***	0.0211	1.54	0.0269	6.37***
P(*Charity*, Path) × P(Path, *TobinsQ*)	0.0016	2.28**	0.0241	1.49	0.0045	4.35***
Controls	Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
N	18,626		1,224		18,626	

Table 7. Path analysis of firm value, performance, and risk (cont.)

Panel B: CEO charity involvement and cost of capital

	Path = *Employee_KLD*		Path = *Cus_Satis*		Path = *Total_KLD*	
	Coefficient	*t*-stat	Coefficient	*t*-stat	Coefficient	*t*-stat
Direct Path						
P(Charity, *CoC*)	-0.0074	-3.68***	-0.0047	-1.70*	-0.0079	-3.95***
Mediated Path						
P(*Charity*, Path)	0.0248	2.19***	0.6539	2.06**	0.1576	6.79***
P(Path, *CoC*)	-0.0132	-7.32***	-0.0038	-1.69*	-0.0054	-5.88***
P(*Charity*, Path) × P(Path, *CoC*)	-0.0003	-2.11**	-0.0025	-1.32	-0.0009	-4.47***
Controls	Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
N	20,597		1,224		20,597	

Panel C: CEO charity involvement and return volatility

	Path = *Employee_KLD*		Path = *Cus_Satis*		Path = *Total_KLD*	
	Coefficient	*t*-stat	Coefficient	*t*-stat	Coefficient	*t*-stat
Direct Path						
P(*Charity*, *ReturnVolatility*)	-0.0020	-4.22***	-0.0078	-1.87*	-0.0019	-4.11***
Mediated Path						
P(*Charity*, Path)	0.0380	2.70***	1.1390	2.48**	0.1669	5.71***
P(Path, *ReturnVolatility*)	-0.0032	-4.15***	-0.0016	-2.32**	-0.0009	-3.86***
P(*Charity*, Path) × P(Path, *ReturnVolatility*)	-0.0001	-2.12**	-0.0018	-1.76*	-0.0001	-4.41***
Controls	Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
N	20,597		1,224		20,597	

Table 8. Individuals who began charity involvement before becoming CEO

This table presents results from regressions for firms' corporate policies on CEO charity involvement. *Charity* (*NonCharity*) equals one for individuals who (1) are included in the 2013 and 2019 versions of BoardEx, (2) are involved with charitable (non-charitable) organizations but are not CEOs in 2013, and (3) become CEOs after 2013. Panel A presents results for outcomes of executive subordinate turnover, firms' employee relations, customer satisfaction, and overall CSR performance. Panel B presents results for outcomes of firm value, performance, and risk. The definitions of all variables are reported in Appendix 1. *t*-statistics are reported in brackets. Significance at the 10 percent, 5 percent, and 1 percent levels is denoted *, **, and ***, respectively.

Panel A: Corporate policies

	ExeSubordTurnover	*Employee_KLD*	*Cust_Satis*	*Total_KLD*
	(1)	(2)	(3)	(4)
Charity	-0.02	0.042	0.559	0.112
	[-3.51]***	[2.28]**	[1.93]*	[3.00]***
NonCharity	-0.017	0.013	-1.305	0.104
	[-0.96]	[0.70]	[-1.12]	[1.62]
Controls	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Firm clustering	Yes	Yes	Yes	Yes
N	27,061	13,040	1,126	13,040
Adj. R^2	3.1%	22.9%	67.2%	0.171

Panel B: Firm value, performance, and risk

	TobinsQ	*ROA*	*CoC*	*ReturnVolatility*
	(1)	(2)	(3)	(4)
Charity	0.023	0.002	-0.076	-0.003
	[2.01]**	[1.76]*	[-2.25]**	[-2.71]***
NonCharity	0.029	0.002	-0.064	-0.000
	[0.62]	[0.61]	[-0.68]	[-0.52]
Controls	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Firm clustering	Yes	Yes	Yes	Yes
N	30,181	39,959	26,319	39,959
Adj. R^2	61.6%	61.7%	83.8%	68.6%

Table 9. CEO fixed effects on corporate social performance

This table presents results from regressions of firms' CSR performance on CEO charity involvement, using the model developed by Abowd, Kramarz, and Margolis (1999). The sample period is 1992–2018. The sample consists of CEOs who have switched firms and CEOs who have not switched firms but are in firms that have employed at least one CEO who has switched firms. Column (1) includes firms with prosocial CEOs, Column (2) includes firms with non-prosocial CEOs, and Column (3) includes a random CEO sample. The bottom rows tabulate the proportion of model variance explained by CEO fixed effects and firm fixed effects. *t*-statistics are reported in brackets. Significance at the 10 percent, 5 percent, and 1 percent levels is denoted *, **, and ***, respectively.

	Dependent Variable = *Total_KLD*		
	Prosocial CEOs	Non-Prosocial CEOs	Random CEOs
	(1)	(2)	(3)
LogAT	0.067	0.063	0.038
	[0.84]	[0.88]	[0.47]
MTB	0.002	-0.002	0.001
	[1.19]	[-1.80]*	[0.80]
Leverage	-0.005	0.001	-0.003
	[-1.65]*	[0.98]	[-1.23]
FinConstraint	-0.019	0.004	-0.019
	[-1.43]	[0.34]	[-1.29]
ROA	-0.019	-0.058	-0.026
	[-0.46]	[-1.80]*	[-0.64]
CAR	0.165	-0.927	-0.709
	[0.47]	[-3.31]***	[-2.10]**
Cash	0.069	-0.182	-0.128
	[0.26]	[-0.91]	[-0.49]
CFO	-0.017	0.337	0.444
	[-0.05]	[1.53]	[1.34]
RD	-0.006	0.001	0.002
	[-4.11]***	[0.58]	[1.43]
Advertising	0.047	-0.096	-0.097
	[0.32]	[-0.45]	[-0.36]
BoardCharity	0.262	0.339	0.423
	[0.92]	[1.37]	[1.43]
LocalAssoc	1.844	1.921	2.532
	[2.74]***	[2.48]**	[3.37]***
CEOTenure	0.165	0.172	0.166
	[0.38]	[0.28]	[1.10]
CEO fixed effects	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
N of observations	2,326	3,203	2,792
N of firms	429	609	545
N of CEOs who do not switch	385	570	487
N of CEOs who switch	104	164	142
Proportion of Variance explained by:			
R^2: CEO fixed effects	60.3%	61.3%	66.1%
R^2: Firm fixed effects	21.2%	21.3%	22.0%
R^2: Model	81.5%	82.6%	88.3%