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Agency Problems of Corporate Philanthropy

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August 6, 2014

Abstract

Evaluating agency theory and optimal contracting theory views of corporate philanthropy, we find that as corporate giving increases, shareholders reduce their valuation of firm cash holdings. Dividend increases following the 2003 Tax Reform Act are associated with reduced corporate giving. Using a natural experiment, we find that corporate giving is positively (negatively) associated with CEO charity preferences (CEO shareholdings and corporate governance quality). Evidence from CEO-affiliated charity donations, market reactions to insider-affiliated donations, its relation to CEO compensation, and firm contributions to director-affiliated charities indicates that corporate donations advance CEO interests and suggests misuses of corporate resources that reduce firm value. (*JEL* G30, G34, J33, N3)

This study investigates corporate charitable contributions as an important form of discretionary corporate expenditures. Although corporate charitable contributions are frequent and often substantial,¹ there is no clear evidence in the literature on whether these expenditures have positive effects on firm revenues or performance or on shareholder wealth. Proponents assert that corporate giving is consistent with shareholder value maximization because it offers a channel for firms to promote their image to customers and to enhance their standing with regulatory agencies and legislators (Navarro 1988; Brown, Helland, and Smith 2006). The counterargument is that corporate giving can often reflect conflicts of interests between shareholders and managers, where managers support their own charity preferences with corporate funds and enhance their personal reputations and social networks.² Because it is difficult to measure the benefits that accrue to a corporation from charitable contributions, it is easier for CEOs to promote their personal preferences, allowing these decisions to substantially depart from firm value and shareholder wealth maximization. The ambiguity surrounding the benefits of corporate giving has attracted the attention of the popular media (see Monk and Minow 2004) and prompted legislators and government agencies to call for greater disclosure of contributions in which a connection to company executives or directors exists (see Appendix A; Securities and Exchange Commission 1992).

Although several studies evaluate these competing hypotheses by focusing on the associations between corporate charitable contributions and other explanatory variables, no existing study has measured the relation between these contributions and the private preferences of CEOs, assessed the impact of corporate giving on company valuation or performance, or analyzed the channels through which corporate giving affects firm value. By addressing these issues, this study helps identify the relative importance of these two alternative hypotheses in explaining corporate giving decisions.

¹Total U.S. corporate giving in 2010 is \$15.29 billion (Giving USA 2011 report).

²A classic example of private benefits of corporate giving is Occidental Petroleum's decision to fund the building of a museum named in honor of its CEO and founder, Armand Hammer. Because of a shareholder suit, Occidental agreed to limit its construction spending to \$60 million plus \$35 million for an annuity to be paid over thirty years. See Monk and Minow (2004) for more details.

Our investigation begins with an analysis of the profit maximization and agency theory motives for corporate giving. Our findings offer weak support for the conventional idea that corporate giving is profit enhancing. Specifically, when we model the likelihood of corporate philanthropy as a function of a firm's profit motive, CEO attributes, and corporate governance variables, we find insignificant relations with profit motive variables. However, modeling the determinants of the charitable giving level, we do find several significant associations with profit maximizing incentives, specifically firm intellectual property investment, visibility, and membership in a highly regulated industry. Although existing theoretical and empirical studies, for example, Navarro (1988), view advertising to be a major motivation for corporate giving, our results fail to find a significant relation between corporate giving and advertising intensity. In contrast, we uncover substantial evidence supporting agency motives. More specifically, Jensen and Meckling (1976) predict that CEO consumption of private benefits is negatively related to her shareholding level and positively related to her specific charity preferences. Consistent with Jensen and Meckling (1976), we find that CEO charity connections—an observable measure of charity preferences—raise both the likelihood and amount of corporate giving by 21.5% and 1.5%, respectively, whereas a 10% rise in CEO ownership reduces the likelihood and amount of corporate giving by 40% and 3%, respectively.

To provide an exogenous source of variation about key CEO attributes, we use the 2003 dividend tax cut as a natural experiment. This tax reform reduced the personal dividend tax rate from a maximum rate of 35% to 15% (Chetty and Saez 2005) and thus increased the cost of CEOs pursuing their private preferences toward charitable giving to the extent that these contributions reduce a firm's profitability and share value. This is especially true when CEO ownership levels are high because it directly reduces CEO wealth. Consistent with the implication of this Tax Reform Act for CEO incentives, we find that corporate giving significantly declines after 2003, and this effect becomes stronger as CEO ownership increases.

In further analysis, we test whether corporate giving is incrementally beneficial for a sample of firms with relatively large expenditures on advertising and R&D, as these firms are often assumed to

benefit most from charitable contributions (Navarro 1988; Brown, Helland, and Smith 2006). We find no evidence to support this corporate giving incentive: in fact, we find that the relationships with advertising and R&D expenditures are statistically insignificant, whereas CEO ownership and personal charity connections remain significant in explaining a firm's level of corporate giving. On the other hand, we identify a more muted effect of CEO ownership and a more pronounced effect of CEO charity connections in subsamples of firms in which managers are entrenched or weakly monitored by the board. These findings indicate that although agency problems associated with corporate giving appear to be widespread, they are more severe in firms exhibiting weaker corporate governance.

To further assess the explanatory power of the two competing hypotheses, we examine how corporate giving affects firm value through its impact on the market valuation of firm cash holdings. Cash generally represents an important proportion of a firm's total asset, enabling firms to make investments rapidly without having to access external capital markets. Thus, cash holding helps to avoid transaction costs and asymmetric information costs associated with external financing. However, corporate liquidity comes at a price. Cash reserves provide managers with a ready source of funds for expenditures in projects that give them private benefits at the expense of shareholder value (Jensen and Meckling 1976). As a result, investors have reasons to substantially discount the value of retained cash, especially in firms with weak board oversight that make large charitable contributions, because they indicate greater agency problems. Using a methodology developed by Faulkender and Wang (2006), we find that corporate giving has a substantial impact on firm value through its impact on cash: the estimated marginal value of cash is 8.1 cents lower if a firm raises corporate giving from the 50th to the 75th percentile level. For firms with nonindependent boards having weaker board oversight, the negative impact of corporate giving on firm value more than doubles. These findings are consistent with the view that shareholders anticipate a greater misuse of cash reserves as charitable giving rises and therefore place a lower value on cash.

To provide a more direct causal link between corporate giving and shareholder wealth, we (again) use the 2003 Tax Reform Act as a natural experiment. Earlier, we found that corporate giving declines

after the tax cut. Now, we examine whether subsequent reductions in corporate giving lead to dividend increases. Specifically, we focus on firms that make charitable contributions in 2002 and investigate if changes in charitable contributions are related to dollar dividend changes in 2004. We find that for a \$1 million reduction in corporate giving after the tax-cut year, these firms on average raise dividends by at least \$6.4 million. Thus, our experiment shows that firms reducing charitable giving immediately after the Tax Reform Act of 2003 are not reacting to weak earnings because they also raise dividends, but it is consistent with managers reducing their consumption of private benefits as the after-tax cost increases.

Having uncovered a body of evidence that corporate giving represents an agency problem, we conduct a series of tests to address how and why corporate giving destroys firm value. First, we examine whether corporate giving offers attractive avenues for managerial rent extraction by investigating the frequency and level of corporate contributions to charities with CEOs ties, defined as CEOs holding positions as trustees, directors, or advisors (henceforth, CEO-affiliated charities). We find that about two out of three firms that make charity contributions include major donations to CEO-affiliated charities. The average cost to a firm from such contributions is larger than the combined costs of CEO corporate jet use and other perks (Yermack 2006) and is comparable to a CEO's promised cash severance payments (Rusticus 2006). Furthermore, CEO-affiliated charity contributions decline if CEO financial interests are more aligned with shareholder interests. These findings suggest that corporate giving is not solely determined by firm value maximization but instead is a channel that serves managerial private interests.

Second, we conduct an event study of corporate disclosures of "charity awards." This allows us to gauge how investors perceive charitable contributions in which company executives and directors have charitable ties, providing empirical evidence that is much less subject to endogeneity concerns. In revising disclosure rules on compensation in 1992, the SEC recognized such awards as a form of compensation and required firms to report them in proxy statements. We document a three-day cumulative abnormal return (CAR) of -0.87% (p -value = 0.014) for firms that report first-time charity awards from 1993–2010.

This wealth loss substantially exceeds the nominal value of the announced charitable award programs, suggesting the market capitalizes the costs of expected future contributions to these charities.

Third, we separately analyze the determinants of annual corporate giving to charities and contributions to charitable corporate foundations to evaluate the seriousness of an agency problem associated with these two channels of corporate giving. Foundations are tax-exempt nonprofit organizations that receive irreversible donations of typically large size from sponsoring companies. Also, foundations typically make contributions at unknown future dates to charities only identified later. The critical factor for these foundations is the separation between the economic affairs of shareholders and those of foundations.³ This separation negates any shareholder claim on any donations transferred to the foundations and therefore poses a classic agency problem for firms that make charitable contributions through foundations. In further empirical analysis, we find that giving to foundations increases with both a CEO's charity connections and weaker corporate governance, while annual direct giving to charities increases with stronger corporate governance and is not related to a CEO's charitable affiliations. These results suggest that the adverse impact of corporate giving on firm value is largely due to the sizable donations to corporate charitable foundations that yield no clear benefit to the corporation itself.

Thus far, our results indicate that CEOs realize personal benefits from corporate giving. However, these benefits still could be part of an optimal compensation contract. Specifically, if boards reduce CEO compensation for the portion of corporate contributions that benefit them, then a CEO's private benefits would be lessened.⁴ So in our fourth line of analysis, we study the relation between CEO compensation and corporate giving. In the empirical analysis using ordinary least squares (OLS) regressions, we find that CEO compensation is not reduced by the private benefits of corporate giving, contradicting the prediction of the optimal contracting hypothesis. As a robustness test, we also estimate an instrumental variables model and find a statistically significant positive relation between CEO compensation and

³Consider the case of Lehman Brothers Foundation, for example. Although its sponsoring company was liquidated in 2008, the foundation still exists under the name of The Neuberger Berman Foundation. In the year of liquidation, the foundation had a market value of assets of \$23.4 million, which was not distributed to company shareholders. As of November 2012, the foundation still uses that asset for philanthropic reasons.

⁴Fama's (1980) ex post settling up argument suggests boards reduce compensation for firm contributions that benefit managers.

corporate giving, suggesting that the probability of a company paying excess CEO compensation is significantly higher when these companies make larger charitable contributions. This is especially true for corporate foundation giving.

The last round of analysis studies a specific channel of entrenchment that aims to test whether CEOs use corporate giving to support the charitable interests of independent directors. Cespa and Cestone (2007) argue that CEOs use corporate resources strategically to build ties with stakeholders to receive favorable treatment during future contract renewal or turnover decisions. We propose a more direct form of entrenchment that can occur if CEOs can direct firm donations to accommodate independent director charitable interests.⁵ Specifically, we examine whether corporate supported charitable causes overlap with independent director charitable interests measured by their charitable affiliations and then evaluate the effect of this alignment on CEO compensation. Consistent with the agency hypothesis, we find a 69% overlap with the interests of independent directors, indicating that corporate giving serves independent director charity interests, which can also strengthen their ties to a CEO. In further analysis, we find that this particular alignment of charitable interests is positively associated with excess CEO compensation. These results suggest that CEOs also allocate corporate charitable contributions to advance their own financial interests through the potential co-option of independent directors.

While our evidence is consistent with the predictions of agency theory, it is likely that in many specific instances corporate giving at least partially benefits shareholders. However, such cases appear to be less frequent and the benefits are more indirect and difficult to measure, while these charitable contributions definitely represent a direct cost to shareholders. Taken together, the results of this study document another important mechanism for managerial rent extraction and entrenchment.

1. Theories and Hypotheses

⁵This analysis is motivated by the giving practices at Enron. Lay's foundation (named after CEO Kenneth Lay) and the Enron corporate foundation jointly donated money to research centers that employed two Enron board members.

We consider two primary theories of corporate charitable contributions. The first theory posits that corporate giving is motivated by shareholder wealth maximization, whereas the second theory views corporate giving as a manifestation of private benefits of control. The following subsections discuss these theories and predictions and describe the variables used to test these predictions.

1.1 Shareholder wealth maximization theory

Under shareholder wealth maximization theory, corporate giving is undertaken to improve a company's financial performance, leading to the following hypothesis:

H1 (a): Corporate giving positively affects a firm's financial performance.

Two common approaches to assessing firm financial performance are operating performance and stock price performance. To test the shareholder wealth maximization hypothesis, we primarily focus on stock returns because operating performance is generally considered a major determinant of corporate giving (see Petrovits 2006; Galaskiewicz 1997). One advantage to focusing on stock returns is that the endogeneity concerns around corporate giving are less problematic when the dependent variable of interest is a market-based measure. Short-term stock returns reflect investor reactions to corporate giving announcements and are forward looking. In addition, we use dividend changes around a major reduction in personal taxes to gauge the impact of a rise in after-tax cost of corporate giving.

In one model consistent with shareholder wealth maximization, Navarro (1988) specifies three dimensions of corporate giving, namely, revenue enhancement, cost reduction, and tax minimization. Revenue enhancement represents corporate philanthropy that is part of an overall advertising strategy designed to promote a firm's image to raise demand for a firm's product. This perspective predicts a positive relation between a firm's giving-to-sales ratio and its propensity to advertise. Firms with large intellectual property investment or R&D expenditures can also find that corporate giving enhances expected revenue. For example, an R&D-intensive company can make targeted charitable contributions to

nonprofit research institutions, such as universities that carry out studies in collaboration with the company.

Under a cost reduction scenario, firms can use charitable contributions to reduce the expected costs of government regulatory and enforcement actions. Because firms in highly regulated and out-of-favor industries are more vulnerable to regulatory actions and litigation costs, they have greater incentives to maintain a good public image and thus make larger charitable contributions. Lastly, Navarro (1988) argues that corporate taxes do not affect the level of corporate giving because the corporate income tax proportionally reduces a firm's expected revenue and expected costs of corporate giving, leaving corporate profits unaffected by a change in the corporate tax rate.⁶ Likewise, the personal tax rate has no effect on corporate giving incentives because it proportionally reduces after-personal tax cash flows of corporate giving, implying that both a firm's expected revenue and cost (corporate tax deductions) of corporate giving are proportionally reduced. These arguments lead to the following hypothesis:

H2 (a): Corporate giving is positively related to a firm's advertising level, intellectual property investment, general visibility, and sales in out-of-favor industries, while it is insensitive to the corporate tax rate and the personal tax rate.

To test this hypothesis empirically, we construct several variables to capture a firm's profit motive. Following Navarro (1988) and Brown, Helland, and Smith (2006), we formulate *ad-to-sales* and *R&D-to-sales* ratios to measure a firm's propensity to advertise and its intellectual property investment intensity, respectively. We define *assets (log)*, *number of employees (log)*, and *number of shareholders (log)* to measure a firm's overall visibility and indicator variables for *sin* and *nonenvironmentally friendly* industries to identify sales in out-of-favor industries, such as alcoholic beverages, tobacco, coal, and others listed in Appendix C.

We also include indicator variables for industries that have particularly strong reasons to make larger charitable contributions for several reasons. *Financial*, *utilities*, and *pharmaceutical* industries face

⁶Company-sponsored foundations can help firms optimally time tax deductions for charitable contributions by recording larger deductions if contributions are made when their marginal tax rate is high. The empirical literature (see Table 3 in Petrovits 2006) finds a weak positive relation between foundation giving and corporate tax rates, suggesting that costs outweigh benefits.

strong regulatory oversight, so corporate giving by firms in these industries has a larger cost reduction motive because it can yield more favorable regulatory treatment. On the other hand, image is an important asset for *retail* industries, so firms in these industries are likely to contribute more to charities out of a revenue enhancement motive. To measure the corporate tax rate, we define the *marginal tax rate* following Graham and Mills (2008).⁷ Also, because there is no cross-sectional variation in CEO personal taxes, we must rely on time-series variation in major regulations to evaluate the impact of personal tax on corporate giving. Appendix C reports the definitions of these variables.

1.2 Agency theory

Looking at corporate giving as an agency problem assumes that such giving does not yield greater expected revenue or lower costs than the dollar cost of this giving but instead represents a diversion of corporate resources, which reduces firm value on a dollar for dollar basis with the size of the charitable contribution. Such corporate giving also can be symptomatic of governance problems at a firm. These arguments lead to the following hypothesis:

H1 (b): Corporate giving negatively affects financial performance.

In their seminal paper, Jensen and Meckling (1976) consider conflicts of interest and agency costs as inherent elements in any principal-agent relation. They observe that when owner-managers reduce their firm ownership level below 100%, incentives increase for utility-maximizing managers to consume more corporate resources. Thus, a clear prediction of their model is that the private benefits of corporate giving will vary inversely with CEO percentage ownership. Jensen and Meckling (1976) also note that “agency costs . . . will depend on the tastes of managers, [and] the ease with which they can exercise their own preferences” (328). So private benefits of corporate giving should be positively related to a CEO’s personal preference for charity and negatively related to the strength of a firm’s corporate governance, a scenario that places constraints on a CEO pursuing private benefits of control. The agency theory view also predicts a positive relation between corporate giving and the corporate and personal tax rates,

⁷We thank Professor John R. Graham for generously providing data on marginal tax rates.

because the personal cost to managers of corporate giving declines linearly with the corporate and personal tax rates. These arguments lead to the following hypothesis:

H2 (b): Corporate giving is positively related to a CEO's personal preference for charity and the corporate and personal tax rates, but is negatively related to a CEO's fractional ownership of the firm and the strength of its corporate governance.

To measure a CEO's personal preference for charity, we define a variable called *CEO charity connection* that takes the value of one if the CEO is personally affiliated with nonprofit organizations as an officer, director or advisor, and zero otherwise.⁸ To measure a manager's fractional ownership, we define *CEO ownership* as the sum of a CEO's current share ownership percentage and the share percentage from exercising the CEO stock option holdings scaled by the option's delta, defined as the first derivative of the Black-Scholes call option value with respect to stock price.

Following Jensen (1993), Yermack (1996), Hermalin and Weisbach (1998), and Bebchuk, Cohen, and Ferrell (2009), we consider board size, fraction of independent directors, CEO-chairman duality, the E-index, and non-CEO director share ownership as factors that affect a firm's governance structure.⁹ *Board size* is the logarithm of number of directors, whereas fraction of independent directors refers to the number of independent directors divided by board size. The *E-index* developed by Bebchuk, Cohen, and Ferrell (2009) is defined as the sum of six antitakeover defense indicators that take a value of one for each defense the firm employs from the following list: staggered boards, limits on shareholder bylaw amendments, poison pills, golden parachutes, supermajority requirements for mergers, and supermajority requirements for charter amendments. Lastly, *director ownership* is the sum of all non-CEO director percentage shareholdings in the company. Appendix C presents the definitions of the variables.

Finally, it is important to recognize that while legal professionals tend to differentiate corporate social responsibility (CSR) from corporate giving (e.g., Altschuller 2010), many companies reporting on their CSR activity point to their corporate giving as a prime example, highlighting the fact that corporate

⁸A separate literature on individual charitable contributions finds social connections play an important role (List and Price 2010).

⁹In robustness, we include indicators for a fully independent nominating committee, an outside blockholder-director, dual class shares, a CEO-founder or founding family member, and a classified board or the G-index (as a substitute for the E-index).

giving is one major form of CSR. It follows that some corporate social responsibility actions have incentives similar to those of corporate charitable giving.¹⁰ Thus, it is not surprising that the CSR and corporate giving literatures make several similar predictions, all of which are rooted in firm profit enhancement or shareholder wealth maximization objectives. For example, Bernea, Heinkel, and Kraus (2008) argue that the marginal impact of CSR expenditures is greater for firms in out-of-favor industries, suggesting larger social expenditures are optimal for firms in these industries. Similarly, Benabou and Tirole (2010) propose a greater prevalence of investor-demanded CSR actions among more visible firms.

Nonetheless, distinct differences exist between CSR activities and corporate charitable donations. For example, CSR expenditures can include activities that lower the risk of environment disasters and other adverse environmental effects that represent large contingent liabilities. Thus, strategic motives can play a larger role in CSR decisions. Despite such strategic motives, empirical studies that examine stock market reactions to CSR announcements (Krüger forthcoming) or quasinaural experiments, in which the cost of CSR exogenously changes (e.g., Cheng, Hong, and Shue 2013), find that these activities reduce shareholder wealth, an outcome attributed to overinvestment in CSR activities. In contrast, corporate giving offers CEOs ample opportunities to consume excess perquisites and can result in co-opted boards.

2. Sample

2.1 Data

We focus on the Fortune 500 companies as of April 17, 2006, and hand-collect corporate giving data from the National Directory of Corporate Giving (NDCG). To ensure accuracy, the NDCG only includes corporate giving that is verified by companies themselves or compiled from reliable public records based on foundation 990-PF filings with the IRS for foundation giving.¹¹ In contrast, direct annual giving is voluntarily disclosed publicly by a corporation or to the NDCG upon its request. Using all

¹⁰Examples of the links between corporate giving and CSR activities found in the literature include Benabou and Tirole (2010), who consider corporate philanthropy as a part CSR and Brown, Helland, and Smith (2006), who specifically write that “the [corporate philanthropy] literature is intertwined with the “social responsibility of business” debate.”

¹¹Corporate giving data from NDCG includes grants to individuals, employee matching gifts, and in-kind gifts. The individual items are often not separately available.

directories between 1997 and 2007 to construct a database that spans the 1996–2006 period, we collect data on corporate contributions to charities and foundations.¹² We then add these amounts to obtain total firm contributions (see Appendix B for details). Figure 1 shows that Fortune 500 firms represent a substantial percentage of aggregate corporate charitable contributions in the United States.¹³ This percentage ranges from 16% in 2000 to 32.2% in 2003. We hand-match firm-level contributions data with PERMNOs and GVKEYs (company identification numbers in CRSP and Compustat, respectively) for our sample firms.

We next require that all necessary data be available in CRSP, Compustat, Execucomp, and RiskMetrics. In particular, firm assets, sales, leverage, number of employees and shareholders, advertising and R&D expenses, return on assets (ROA), Tobin's *q*, free cash flow, and SIC industry classifications are taken from Compustat. One-year cumulative stock returns and volatility are based on data taken from CRSP. Information on CEO shareholdings, exercisable options, unexercisable options, and total compensation comes from Execucomp, whereas information on board size, independent director percentage, total director share ownership, CEO-chairman duality, and the E-index is taken from RiskMetrics.

Of the companies in the Fortune 500 universe, we identify thirty-two private firms without the necessary data. After removing these companies and merging all the databases with hand-collected contributions data, the final sample has 2,421 firm-year observations from 406 firms in the 1996–2006 sample period.

2.2 Descriptive statistics

Panels A and B of Table 1 present the distribution of giving and its determinants, most of which are discussed in Section 1. We consider two additional CEO attributes and several other firm

¹²Ending our sample period in 2006, because of the availability of National Directory of Corporate Giving data at the time of our data collection, works to our advantage, as the global financial crisis begins in 2007. Note that it is beyond the scope of our study to evaluate the effect of this financial crisis on corporate giving, not to mention that very little postcrisis data are available.

¹³In Figure 1, we exclude the first four years of our sample because of data availability. Total corporate contributions data are not available before 1997, whereas NDCG directories were not issued in 1998 or in 2000.

characteristics. We include CEO reputation because reputational damage from the media identifying a CEO as pursuing self-serving activities may exceed any gain that a highly reputable CEO can accrue from corporate giving.¹⁴ Using the CEO reputation variables in Milbourn (2003), we define *tenure* and *outside appointment* to measure a CEO's tenure with the company and outside recruitment status, respectively. Motivated by existing studies, firm-level control variables include *asset/employee*, *leverage*, *ROA*, *Tobin's q*, and a *free cash flow indicator* (Yermack 2006; Petrovits 2006; Galaskiewicz 1997). The *free cash flow indicator* captures CEO empire building incentives (Jensen 1986). *Leverage* can be thought of as a governance variable that measures creditor incentives to monitor the firm and thereby mitigate the problems associated with free cash flows and the consumption of private benefits. Detailed definitions of these variables are provided in Appendix C.

Panel A of Table 1 reports that the average amount of annual direct corporate giving to charities for our sample firms, including firms making no contributions, is \$2.5 million per year, whereas the average amount of corporate donations transferred to foundations is \$6.5 million per year. Adding these two sources, the average total amount of corporate giving is \$9 million per year, slightly less than the amount documented by Brown, Helland, and Smith (2006).¹⁵

For CEO attributes, we find that 71% of the Fortune 500 CEOs are connected with nonprofits or charitable organizations. This suggests that most CEOs have active charitable interests. The sum of a typical CEO's stock and option ownership is 1.8%, which is slightly higher than that reported by Yermack (2006), who only considers stock ownership. In addition, the typical CEO on average works for the firm for seventeen years, holds the CEO position for four years, and is more likely to be an internal appointment. We find only 21.5% of CEOs are external appointments, similar to Milbourn's (2003) findings.

¹⁴For example, when a prolife activist group boycotted Berkshire Hathaway, its CEO Warren E. Buffett cancelled its corporate giving program, which through its funding to the Buffett Foundation frequently supported organizations that promoted population control. Source: The Chronicle of Philanthropy (July 24, 2003).

¹⁵The difference could be due to stricter data collection procedure of this study (see Appendix B). Excluding firms making no charitable contributions, the average annual corporate giving amounts to charities and to a firm's sponsored foundation are \$22.8 million and \$12.3 million, respectively.

Turning to the firm's corporate governance, the median sample firm has an eleven-member board, a majority of whom are independent, and a CEO who chairs the board. On average, the sample firms have two of the six major antitakeover provisions included in the Bebchuk, Cohen, and Ferrell (2009) *E-index*. In addition, directors as a whole (excluding the CEO) own 0.78% of the outstanding shares in a typical firm.

Turning to firm attributes reported in Table 1, panel A, we find that on average a sample company has approximately 29,500 employees, 24,000 shareholders, \$13.11 billion of assets, and an average marginal tax rate of 33%. Moreover, it annually spends 1.2% and 2.0% of sales on advertising and R&D expenses, respectively. These statistics are similar to those documented by Brown, Helland, and Smith (2006). Moreover, the average company has a leverage ratio of 18.2%, an ROA of 13.5% and a Tobin's *q* of 1.9, while approximately 14% of the free cash flow observations are negative. Panel B of Table 1 shows the distribution of firms across the Fama-French 48 industries. We find that Fortune 500 firms are clustered in retail (10.7%), utilities (9.3%), banking (6.3%), insurance (5.9%), oil (4.3%), business services (4.2%), and wholesale industries (4.1%).

Panel C of Table 1 presents univariate comparisons between giving and nongiving firms. Giving firms, which represent 59.2% of the sample, have greater visibility when measured by asset size and number of employees or shareholders. In addition, these firms spend a greater fraction of their sales on advertising and R&D expenses. These findings are consistent with the shareholder wealth maximization theory. On the other hand, a significantly greater percentage of CEOs in giving firms have charitable connections. These giving firm CEOs have lower (stock and option) ownership, which may reflect giving firms' typically larger size, a lower likelihood of being outside appointment, and a greater likelihood of being a board chairman. These firms are also characterized by larger boards (although slightly more independent), lower non-CEO director share ownership, and a higher Graham and Mills (2008) marginal corporate tax rate measure. Consistent with our findings on non-CEO director ownership, we find in untabulated analysis that director-blockholders are significantly less prevalent in giving firms (1.32%

versus 3.24%).¹⁶ Moreover, a larger fraction of giving firms has positive free cash flows. These facts are consistent with agency theory and suggest potential governance or agency conflicts in giving firms.

3. Empirical Results

3.1 Determinants of corporate giving

We evaluate the predictions of profit maximization and agency cost theories of corporate giving using firm-level panel data. We estimate the following regression equation:

$$\text{Corp giving}_{i,t+1} = \alpha + \beta.(\text{profit motives}_{i,t}) + \gamma.(\text{CEO attributes}_{i,t}) + \delta.(\text{governance}_{i,t}) + \zeta.X_{i,t} + y_t + \varepsilon_{i,t}, \quad (1)$$

where *profit motives*, *CEO attributes*, and *governance* are vectors of characteristics described in the previous section. The subscripts *i* and *t* refer to firm and year, respectively. The vector *X* includes other firm level characteristics, whereas *y_t* denotes year fixed effects. All the explanatory variables are taken from the year prior to the corporate giving year. In robustness analysis, we find that contemporaneous explanatory variables yield similar results.¹⁷

We report logit and tobit estimates to assess the likelihood and expected amount of corporate giving, respectively. To standardize giving data across firms, we follow Navarro (1988) and divide corporate giving by company sales, although our results do not change if we scale corporate giving by company assets. We then take the natural logarithm of one plus scaled corporate giving to address the right skewness of giving data. Because giving is a small fraction of sales, we also multiply the logarithmic function by 10³. Therefore, the dependent variable in the tobit specification is $\log(1 + \text{corporate giving} / \text{sales}) \times 10^3$, which we designate as the giving ratio. A tobit model is used because the corporate giving ratio is (left) censored at zero.

Panels A and B of Table 2 present logit and tobit regression estimates, respectively. The first two models of each panel separately test the predictions of shareholder wealth maximization and agency

¹⁶A director-blockholder is defined as an outside director with at least 5% stock ownership of the firm.

¹⁷For profit motives, we also consider two additional variables. Because Compustat has missing data for advertising and R&D expenses, we define two indicator variables, that is, *ad indicator* and *R&D indicator*, that take the value of zero if the data is missing and one otherwise (Flannery and Rangan 2006).

theories, whereas the third model jointly investigates the explanatory power of the two theories. In the last column of both panels, the marginal effects of the logit and tobit regressions are presented based on model 3. We find that both the likelihood and amount of corporate giving decline as a CEO becomes more aligned with shareholder interests, whereas they rise when a CEO has a personal affiliation with specific charities. Specifically, a 10% increase in *CEO ownership* above the sample average reduces the likelihood of corporate giving by 40% and the giving ratio (conditional on it being positive) by 3%, whereas a *CEO charity connection* increases them by 21.5% and 1.5%, respectively.¹⁸ Other CEO attributes, that is, *tenure* and *outside appointment*, have weak power to explain the likelihood or the amount of corporate giving and lack statistical significance.

In contrast to previous studies (Navarro 1988; Brown, Helland, and Smith 2006), we find that the *ad-to-sales* ratio, one of the main variables associated with the shareholder wealth maximization hypothesis, is insignificant. This variable is only significant in models in which robust standard errors are not clustered at the firm level.¹⁹ We also find that firms in *sin* and *nonenvironmentally friendly* industries do not contribute more to charities, an outcome that fails to support the prediction that firms in out-of-favor industries contribute more to charities (Bernea, Heinkel, and Kraus 2008). However, there is some evidence consistent with the shareholder wealth maximization hypothesis. Firms that are more visible (Benabou and Tirole 2010), invest more in R&D (Brown, Helland, and Smith 2006), and firms in *financial* and *pharmaceutical* industries are associated with more giving. However, these results are not robust as their statistical significance is unstable across alternative regression specifications in panels A and B of Table 2. Lastly, consistent with the shareholder wealth maximization theory, we find that the *marginal tax rate* estimate is insignificant.

Governance variables have little success in explaining the likelihood or the amount of corporate giving. Only the *E-index* is found to increase the giving ratio significantly. However, its economic effect

¹⁸The coefficient estimates of *CEO ownership* and *CEO ownership*² have opposite signs, implying a diminishing marginal effect of *CEO ownership* on corporate giving. We calculate that the sign changes at about 14.07% ownership level.

¹⁹The result suggests a strong time-varying firm effect, which may be due to the sample construction. In contrast to previous studies, this study is based on NDCG database and considers more firms and a wider time range. Moreover, it considers total contributions, whereas previous studies (e.g., Brown, Helland, and Smith 2006) consider cash contributions.

is much lower than that of the *CEO charity connection*. Finally, most firm level control variables (except *Tobin's q*) are not significant determinants of corporate giving.

3.1.1 A natural experiment. A common critique of estimated associations of corporate giving and CEO attributes, especially CEO ownership, is that they are endogenously determined. In this section, we address this issue by exploiting a quasinatural experiment. We use the 2003 dividend tax cut, which reduced the personal tax rate on dividend income. Specifically, the dividend tax rate was reduced from a maximum rate of 35% to 15% (Chetty and Saez 2005). Because a CEO's choice of private benefits is affected positively by the personal income tax rate, which reduces their cost, and negatively by the CEO's share ownership, which raises the portion of the firm's cost borne by the CEO, it follows that by cutting the personal tax rate on dividends, the Tax Reform Act raises the cost of consuming private benefits, especially for CEOs with high share ownership. This is reinforced by a reduction in the top marginal personal tax rate from 38.6% to 35%, which is likely to be the marginal rate that most CEOs face. In contrast, for shareholder wealth maximization, personal tax rate changes have no predicted effect on charitable giving.²⁰

To compare corporate giving before and after 2003, we plot corporate giving from 1996–2006 as a function of *CEO ownership* quartiles in Figure 2 and present changes in corporate giving after the 2003 dividend tax cut by CEO ownership quartiles in panel A of Table 3. This analysis reinforces our earlier findings that corporate giving decreases with high CEO ownership, but at a decreasing rate. Moreover, we find that this convex relation between corporate giving and ownership holds both before and after the dividend tax cut year.

Measuring the effect of the 2003 dividend tax cut on corporate giving, we find the impact is concentrated in high ownership quartiles. The marginal effect (measured by the percentage changes in corporate giving after 2003 as shown in Table 3, panel A) rises almost linearly over ownership quartiles, with the largest fall in corporate giving occurring in the top ownership quartile. On the other hand, we do

²⁰We thank Harrison Hong for suggesting this natural experiment. However, the analysis of the impact of corporate giving changes on dividend changes in a later section of this paper is our own extension of the basic experiment.

not find a significant effect of the 2003 Tax Reform Act for the firms in the lowest ownership quartile. If anything, corporate giving rises after the 2003 tax cut for firms in the lowest ownership quartile. Thus, the data indicates the impact of the Tax Reform Act is approximately linear in CEO ownership, suggesting wasteful charitable giving in firms with high CEO ownership levels declines after 2003.

In panel B of Table 3, we estimate the effect of the 2003 dividend tax cut using a multivariate regression framework. The main variable of interest is the interaction term *CEO ownership* \times *post*₂₀₀₃, where *post*₂₀₀₃ is the posttax reform indicator variable. We include *post*₂₀₀₃ to capture the unconditional change in giving and year fixed effects to capture temporal effects such as business cycles, although results are similar when we consider the experiment without year fixed effects. Consistent with the agency predictions for this, we find that corporate giving declines after the 2003 Tax Reform Act, and this effect is stronger as CEO ownership rises. The marginal impact of *CEO ownership* on corporate giving rises by 50% after 2003, which is an economically important effect. This finding is consistent with Cheng, Hong, and Shue (2013), who examine the effects of this tax cut on CSR activity and find a significant reduction after the tax cut.

A potential concern with this natural experiment is that there may be time-varying heterogeneity in ownership across industries. For example, firms with high and low ownership levels may cluster in industries that are on different time trends before and after 2003. To address this type of industry-level concern, we repeat the regression analysis with combined industry-year fixed effects, instead of year fixed effects, in model 2 of panel B. We find that the marginal effect and statistical significance of *CEO ownership* \times *post*₂₀₀₃ are similar to the model estimates based on year fixed effects. The coefficient of *post*₂₀₀₃ is negative in both models of panel B, but it is statistically significant only in model 1.

Yet another concern with the natural experiment is that our results may be due to confounding macroeconomic effects occurring contemporaneously with the 2003 Tax Reform Act. To address this concern, we conduct an analysis of two subsamples similarly affected by concurrent economy-wide changes, but for which tax effects are predicted to be stronger or weaker. We expect to observe similar

CEO ownership x post₂₀₀₃ estimates if the observed change is due to macroeconomic factors but expect significantly different estimates if the Tax Reform Act strongly affects CEO incentives to extract private benefits of control through corporate giving as a function of CEO percentage shareholdings.

In panel C of Table 3, we test the incremental effect of ownership after the Tax Reform Act in subsamples of firms in which we expect weaker or stronger private benefit effects of corporate giving, namely, at firms with CEO charity ties and firms with high dollar dividend payouts. The 2003 Tax Reform Act should have a less pronounced impact on corporate charitable contributions if the marginal benefits of corporate giving for CEOs with charity connections continue to exceed the cost of their private benefits. On the other hand, the Tax Reform Act effect should be more pronounced in firms that pay large dividends as they can now offer greater after-tax dividends for each dollar reduction in corporate giving.

Consistent with these agency predictions, model 1 estimates the model for firms with CEO ties and shows that the coefficient of *CEO ownership x post₂₀₀₃* is not statistically significant, suggesting that the incremental effect of CEO ownership after the individual dividend tax cut is weaker when CEOs have charitable ties. Model 2 examines firms that pay dividends above the sample mean. We document a large negative coefficient of *CEO ownership x post₂₀₀₃*, which is statistically significant. This coefficient estimate indicates that the main effect of *CEO ownership* after the Tax Reform Act is driven by large dividend-paying firms, as shareholders of these firms, including CEOs, are more likely to realize tax benefits from substituting dividends in place of corporate giving.²¹

3.1.2 Subsample analysis. In this subsection, we measure the incremental effects of CEO incentives and shareholder wealth-enhancing motives by studying subsamples of firms conditional on whether they are more prone to governance problems or more likely to benefit from corporate giving, respectively. First, we consider subsamples of firms with stronger or weaker governance structures based on their managerial entrenchment (Bebchuk, Cohen, and Ferrell 2009) and board independence (Hermalin and Weisbach

²¹In untabulated results, we also find that the effect is weaker for low dividend paying firms.

1998) characteristics. This analysis predicts more (less) corporate giving as agency conflicts increase (decrease) in samples of firms in which shareholder rights are weakly enforced (strongly enforced).

Panel A of Table 4 presents the results. In the first model, which considers firms with three or more antitakeover defenses as weakly governed firms, we find a more pronounced positive effect of a *CEO charity connection* and a statistically insignificant effect of *CEO ownership*. Moreover, corporate giving in this sample increases with the *E-index* and decreases with *director ownership*. In contrast, for firms with fewer than three antitakeover defenses, the effects of a *CEO charity connection* and *CEO ownership* are similar in magnitude to the earlier results.

Because social dependence cannot be easily measured and Fortune 500 firms typically have a large fraction of independent directors (see Panel A, Table 1, this paper and Table 1 of Yermack 2006), we classify a board as independent if at least 60% of directors are independent and it has a fully independent nominating committee.²² We require a fully independent nominating committee based on the recent evidence of Guo and Masulis (2014), who document that the nominating committee has a significant incremental effect beyond that of board independence. They attribute the importance of full nominating committee independence to outside directors' fear of not being renominated if they alienate the CEO or another officer who is on the nominating committee.

The third and fourth regression models in panel A examine firms with and without an independent board, respectively. The results based on board independence and nonindependence have similar economic implications but have opposite signs to those based on the *E-index*, namely, we find a more pronounced effect of a *CEO charity connection* and a muted effect of *CEO ownership* for firms with nonindependent boards or nominating committees. Taken together, this analysis suggests that agency conflicts in corporate giving are a broad-based problem, which is more serious in poorly governed firms.

²²The RiskMetrics database does not report nominating board members before 1998, so our subsample analysis is based on the 1998–2006 period. In a robustness test, we consider the whole sample and define a board as independent if there is at least 70% independent outside representation. Our results continue to hold.

Second, in panel B of Table 4, we consider firm observations with nonmissing data on advertising and R&D expenses as these firms are thought to benefit most from corporate giving. The marginal effects of *CEO charity connection* and *CEO ownership* are 1.61% (p -value = 0.003) and 0.27% (p -value = 0.061), respectively, which are similar to the estimates based on the full sample. Also, we find that the marginal effects of *ad-to-sales* and *R&D-to-sales*, the two main variables of shareholder value maximization theory, are statistically insignificant (p -values = 0.365 and 0.180, respectively). These results cast further doubt on the claim that corporate giving is positively related to shareholder wealth maximization. Overall, the results of Table 2, 3, and 4 support the agency hypothesis of corporate giving but are generally inconsistent with the firm value maximization motivation for corporate giving.

3.2 Corporate giving and financial performance

3.2.1 Equity value of corporate cash holdings. To measure the impact of corporate giving on firm value through its impact on cash holding, we employ the cash valuation analysis of Faulkender and Wang (2006). Yearly excess stock returns, $r_{i,t} - R_{i,t}^B$, are regressed on changes in firm cash holdings, ΔC_{it} , and on other control variables for various sources and uses of cash flows and several interaction terms of ΔC_{it} , including one with corporate giving. The marginal value that investors place on an additional dollar of liquid assets is captured by the coefficient of the change in cash. Faulkender and Wang (2006) find that the marginal value of cash declines with larger cash holdings, higher leverage, better access to capital markets, and a firm's preference for cash dividends over stock repurchases. We use their model after augmenting it with a measure of corporate giving. Specifically, we estimate the following regression:

$$r_{i,t} - R_{i,t}^B = \alpha + \beta(\text{corporate giving ratio}_{i,t}) + \gamma(\Delta C_{it}/M_{i,t-1} \times \text{corporate giving ratio}_{i,t}) + \delta(\Delta C_{it}/M_{i,t-1}) + \theta'X_{i,t} + \varepsilon_{i,t} \quad (2)$$

The dependent variable in Equation (2) is firm i 's excess stock return in fiscal year t . As in Faulkender and Wang (2006), we calculate excess returns by deducting the Fama-French size and book-to-market portfolio returns ($R_{i,t}^B$) from the firm's raw stock returns ($r_{i,t}$). As an alternative measure, we calculate

excess returns from the firm's raw stock returns after subtracting the firm's industry portfolio returns ($R_{i,t}^{Ind}$) based on its Fama-French 48 industry.²³

The key explanatory variables are the *corporate giving ratio*, which is defined as $\log(1 + \text{corporate giving} / \text{sales}) \times 10^3$, and $\Delta C_{i,t}$, which represents the change in cash from year $t-1$ to t . $\Delta C_{i,t}$ is scaled by the one-year lagged market value of equity ($M_{i,t-1}$). Consistent with Faulkender and Wang (2006), the vector X includes changes in earnings (ΔE_t), changes in net assets (ΔNA_t), changes in R&D (ΔRD_t), changes in dividend (ΔD_t), changes in interest (ΔI_t), one-year lagged cash holdings (C_{t-1}), leverage (L_t), and net equity and debt financing (NF_t). All these control variables are scaled by $M_{i,t-1}$, with the exception of leverage, which is scaled by total assets. X also includes interactions of changes in cash with cash holding and leverage. The main coefficient of interest in Equation (2) is γ , which is expected to be negative if corporate giving entails inefficient use of cash and greater management rent extraction.

Panels A and B of Table 5 present summary statistics and regression estimates, respectively. Summary statistics are based on the Fortune 500 firms having data available from Compustat and CRSP. Because our sample represents relatively large firms, the summary statistics in panel A differ from those of Faulkender and Wang (2006). For example, in our sample, the change in cash divided by market value of equity has a mean (median) of 2.8% (0.6%), whereas in Faulkender and Wang's (2006) sample, it has a mean (median) of 0.4% (-0.01%).

Panel B of Table 5 presents regression estimates for the two alternate specifications of excess returns. We find a negative and highly statistically significant coefficient on the interaction of corporate giving and the change in cash for both excess stock return specifications. This relation is also economically important. For example, in model 1 the equity value of cash is approximately 8.1 cents lower if a firm changes its total giving from the sample median to the 75th percentile level. Untabulated analysis shows that the negative impact of corporate giving on firm value rises from -8.1 cents to -20.4

²³We consider the universe of Fortune 500 firms to calculate average industry returns based on the argument that they constitute the sample of closest comparables. Later in robustness tests, we also consider the universe of firms listed on NYSE, AMEX, and NASDAQ exchanges. These results are very similar.

cents for a sample of firms with nonindependent boards in which board oversight is expected to be weaker. These results suggest that managers extract private benefits from corporate cash holdings in firms that make large charitable contributions. Because investors perceive such manager benefits to be costly to the firm, they place a lower value on each extra dollar of cash the firm holds. This finding is consistent with the hypothesis that corporate giving impinges on a firm's financial performance. Other explanatory variables in panel B have signs and explanatory power consistent with those of Faulkender and Wang (2006).

In the above analysis, corporate giving is set equal to zero if firms do not voluntarily disclose direct giving and do not make donations to their foundations. This procedure is appropriate if these nonreporting firms make negligible contributions. We view this as a reasonable operating assumption because (1) the NDCG database only contains charitable contributions that are verified by the companies or compiled from reliable public records and (2) contribution recipients are typically tax-exempt institutions that must disclose their revenue sources in IRS Form 990-PF filings, which are available for public inspection.²⁴ Nevertheless, we perform two robustness tests to validate the earlier findings.

As our first robustness test, we assign the sample's median value to any missing *corporate giving ratio*, which we set equal to zero in our earlier analysis. Results of this analysis are similar to the earlier findings. Specifically, the interaction term *corporate giving ratio* \times $\Delta C_{it}/M_{i,t-1}$ estimate is -0.197 (p -value = 0.022) when stock returns are adjusted for size and book-to-market portfolio returns (i.e., model 1) and missing corporate giving values are replaced with their sample median. As a second approach, whenever *corporate giving ratio* is missing, we exclude the observation since there is substantial uncertainty as to whether a firm has actually contributed. In the reduced sample of 1,541 firm-year observations, the results continue to be qualitatively similar to our main findings. For example, the coefficient of the interaction

²⁴When collecting data, we find that firms use direct giving very infrequently. For example, Coca-Cola contributed \$37.48 and \$7.52 million in 2003 and 2004, respectively, and Microsoft contributed \$107.12 and \$246.90 million in 1998 and 2002, respectively. For these firms, it is reasonable to assign zero direct giving for the other years.

term is -0.192 (p -value = 0.036) for size and book-to-market adjusted stock returns. This additional robustness analysis also indicates that sample selection is not driving our cash valuation results.

3.2.2 Dividends and corporate giving. In Section 3.1.1, we found that corporate giving declines after the 2003 Tax Reform Act. However, we did not investigate whether the firms that subsequently reduce corporate giving are also increasing cash dividend payments. We now perform this latter analysis. Specifically, we specify a dividend payment model similar to that of Chetty and Saez (2005), with the addition of a firm's dollar level of charitable contributions and its interaction with the $post_{2003}$ indicator variable. Under an agency theoretic view of corporate giving, the interaction term *total contributions* (\$) x $post_{2003}$ is predicted to have a negative coefficient in this specification.

Examining firms that make charitable contributions in 2002, Table 6 shows the relation between changes in charitable contributions and post-2003 changes in dollar dividends. Specifically, we find that the coefficient of *total contributions* (\$) x $post_{2003}$ is negative and statistically significant in models with and without the control variables, consistent with the agency theory prediction. Economically, a \$1 million reduction in corporate giving after the Tax Reform Act is associated with \$6.4 million to \$10.2 million increase in cash dividends, based on the model 1 and 2 estimates from Table 6. We find support for the 2003 dividend tax cut significantly curbing managerial consumption of private benefits in the form of charitable giving, which helps fund cash dividend increases.

Turning to the control variables, we see in regression model 2 that they have signs consistent with prior research and are generally statistically significant. Similar to Chetty and Saez (2005), we find that the coefficient of $post_{2003}$ is positive and statistically significant only when the regression model excludes the control variables.²⁵ We also find that the coefficients of *total contributions* (\$) and its interaction with the $post_{2003}$ indicator remain statistically significant.

3.3 The channels of value destruction

²⁵Chetty and Saez (2005) argue that high dividend paying firms are extremely concentrated, making the estimate of the tax response fragile when control variables are added.

Thus far, the evidence suggests that corporate giving is a manifestation of agency conflicts that reduce firm value. Next, we examine specific channels through which corporate giving destroys value.

3.3.1 CEO-affiliated contributions. CEO-affiliated charitable contributions refer to firm contributions to nonprofit organizations in which the CEO is a director, trustee, or advisor or holds some other official position. The following analysis requires the names of CEO-affiliated charities and firm contribution levels to these charities during the CEO's tenure in office. The primary data sources for CEO charity affiliations are the biographical sections of annual reports, Businessweek, and Forbes. The main data source for the charity names and levels of corporate giving is the Foundation Directory Online database, which is available from 2004. This database tracks all donations distributed by firm-sponsored foundations but includes only a partial list of donations distributed to charities by corporations because these disclosures are voluntary. As a consequence, a caveat of this analysis is that reported CEO-affiliated contributions almost surely underestimate actual contributions. Because this two-way data-matching process is highly labor intensive, we focus on the Fortune 100 CEOs in 2006.²⁶

Table 7 presents evidence on CEO-affiliated corporate giving. Panel A reports that about 82% of CEOs are affiliated with one or more nonprofit organizations, whereas 62% (or 76% conditional on a CEO having a nonprofit affiliation) of firms make donations to CEO-affiliated organizations. These statistics suggest that corporate contributions to CEO-affiliated charities are widespread, even given the incomplete nature of our corporate charitable contributions data. Panel B examines whether such contributions are economically large. We find that the average annual firm (total) contributions to CEO-affiliated charities across the Fortune 100 firms in our 2004–2010 sample period is \$2.5 (\$154.4) million, which equals 15.7% of average annual CEO compensation and represents an annual cost to the corporation of approximately \$675,000. Comparing this result with existing studies shows that CEO-

²⁶To illustrate data collection on affiliated contributions, consider the case of Mr. Miles D. White, the CEO of Abbott Laboratories. Mr. White is on the board of trustees at The Field Museum in Chicago, the Museum of Science and Industry, the Lyric Opera of Chicago, Joffrey Ballet of Chicago, The Culver Educational Foundation, Art Institute of Chicago, and Northwestern University. After identifying these affiliated nonprofits, we search the Foundation Directory Online database to check whether they receive donations from Abbott. We find that all nonprofits, except The Culver Education Foundation, received a total of \$15.2 million from 2004 to 2010.

affiliated charitable contributions are greater than the combined costs of corporate jet use and other perks (see Table 2 in Yermack 2006) and are similar in magnitude to both CEO personal donations through family foundations (Yermack 2009) and CEO cash severance payments (Rusticus 2006).²⁷

In Table 7, panel C, we estimate a tobit regression of CEO-affiliated contributions on CEO attributes, firm size, and indicators for industries most likely to benefit from giving. The analysis indicates more affiliated giving in firms when CEO ownership is low or, equivalently, when CEO financial interests are less aligned with shareholders. These regression results also suggest more CEO-affiliated giving occurs in relatively larger firms and firms in regulated industries.

In summary, the evidence reported here on CEO-affiliated contributions documents a new form of rent extraction. Earlier studies document rent extraction through many avenues, such as excessive compensation (Bebchuk and Fried 2004), option backdating (Heron and Lie 2007), and the use of corporate jets (Yermack 2006). While there are clear conflict-of-interest concerns given that CEO-affiliated contributions are economically large and managers can accrue private benefits from these contributions, the SEC does not currently require firms to disclose this information to shareholders, except in the special case of charity awards, described in the next section.

3.3.2 Charity awards. Charitable award arrangements allow firms to contribute in the name of its officers and directors for the benefit of a charity of their choice, and this typically occurs at the conclusion of their service to the company. As a part of its reform of proxy rules on compensation, the SEC mandated that publicly listed firms disclose the names of executives and directors associated with charitable awards or legacy programs beginning in October 1992. We use the data generated by this reporting requirement to study how shareholders reacted to charity awards. If shareholders believe that firms can attract desirable executives and board members who are instrumental in safeguarding their interests, then stock prices should react positively to news of these awards. Alternatively, if shareholders

²⁷Yermack (2009) reports that CEOs and chairmen donate an average of \$1.7 million through their family foundations over the two-and-a-half year period, whereas Yermack (2006) documents annual perk consumption of \$216,000 that includes jet use, financial counseling, car transportation, club fees, etc.

perceive charity awards as symptomatic of entrenched managers extracting rents, then stock prices should react negatively when firms report charity awards in proxy statements for the first time.

Because the SEC's EDGAR Web site reports proxy statements starting in 1994, we rely on microfiche files stored at Vanderbilt University to gather data on proxy filing dates in 1993. In our sample of Fortune 500 firms, fifty-three firms disclose charity awards in which at least one director (excluding the CEO) has an affiliation from 1993–2010. We focus on these companies to study the stock price reactions when a charity award is first disclosed to shareholders.²⁸

Abnormal stock returns are presented in Figure 2 and Table 8. We use a firm's proxy filing date as the event day, although we recognize that investors may not obtain immediate access to this information due to delays in shareholders receiving mailed proxy statements. If a firm files a preliminary proxy statement before the final filing, then the preliminary statement filing date is used (Yermack 2006). Firm-level abnormal returns are calculated using standard event-study methodology and alternative market adjustment procedures. For parsimony, we report results based on the Fama-French-Carhart four-factor model, although we obtain similar results using other standard market adjustment procedures. Figure 2 presents average CARs for the ten trading days (or two weeks) prior to the event day through to the ten trading days after the event. The abnormal returns for the sample are distributed around zero up to the proxy filing date and then begin to trend downward.²⁹

As shown in panel A of Table 8, the mean CAR over event window [+1, +3] is -0.87% and is statistically significant with a *p*-value of 0.014. We reach a similar conclusion using a Wilcoxon signed-rank test. In untabulated analysis, we exclude the two firms that made other major news announcements over the [+1, +3] event window and find very similar results for the remaining sample. These findings indicate that shareholders react negatively to insider-affiliated giving. This economic loss far exceeds the

²⁸Research on managerial rent extraction often scrutinizes proxy disclosures of questionable expense items. For example, Yermack (2006) studies CEO personal use of corporate jets, and Wei and Yermack (2011) study CEO's inside debt.

²⁹Yermack (2009) documents price declines on event day one when investigating stock returns on news of executive stock gifts.

value of charitable award programs announced and is likely to reflect the market's assessment of the expected future costs of additional contributions to charities.

In panel B of Table 8, we present regression analysis of stock price reactions to charity awards as a function of *CEO ownership*, *CEO charity connection*, and *fraction of independent directors*. We document a statistically significant negative coefficient for a *CEO charity connection* (p -value = 0.027), indicating more pronounced negative reactions when a CEO has a charity interest. *CEO ownership* has a statistically significant positive coefficient (p -value = 0.060), which suggests shareholders react less negatively to charity awards disclosures if CEO interests are more aligned with shareholders. *Fraction of independent directors* has a positive coefficient, but it is not statistically significant at conventional levels.

3.3.3 Donations to charities versus donations to company-sponsored foundations. Firms can directly contribute to charities or make donations to their sponsored foundations. In both cases, firms are not required by state or SEC regulations to disclose giving information (Kahn 1997). However, foundations are obligated to report all their activities annually on IRS Form 990-PF. Thus, databases on foundation giving (Foundation Directory online and NDCG) contain complete information on corporate contributions made to foundations. Data on individual firms' direct giving is from the NDCG directory, which reports contributions voluntarily verified by the companies themselves or compiled from reliable sources. With this data, we examine the intensity of agency problems across these two channels of corporate giving.

Agency problems are likely to be more severe for contributions transferred to foundations for several reasons. First, the economic and accounting effects of foundation giving do not occur simultaneously. The economic effect of foundation giving takes place when foundations ultimately contribute to charities, whereas the accounting effect takes place when firms legally transfer donations to foundations. Petrovits (2006) argues that this timing lag offers opportunistic managers an opportunity to time the transfer of funds to foundations by managing corporate earnings and to make it less transparent which particular charities ultimately receive contributions. Second, company-sponsored foundations cannot redistribute any of its assets back to company or its shareholders, so any foundation donations

represent a permanent loss of firm assets for uncertain future benefits, which can harm shareholders. Third, foundation monitoring is performed by representatives of sponsoring firms (Fama and Jensen 1983). Absent residual claimants and external monitoring, but with considerable control over foundation boards through their influence over foundation board appointments (Carter and Werbel 2002), CEOs can use foundation assets in ways that are inconsistent with value maximization, but instead benefit their preferred charities. Finally, the public may discount any positive reputation benefits of foundation contributions given that a firm is only indirectly involved in the actual distribution of charitable giving, and there are generally significant delays in making these contributions, so the positive publicity benefits to the firm are likely to be small.

Table 9 analyzes annual program giving and foundation giving where these two forms of giving are separately analyzed in two separate tobit regressions specified in Equation (1). The model 1 estimates program giving and shows that firms with more reputable CEOs in terms of *tenure* and *outside appointment* and better governance measured by a higher *fraction of independent directors* and *non-CEO director ownership* are more likely to donate directly to charities annually. Moreover, we find that CEO charity interests are less likely to be a significant determinant of a firm's major direct annual giving. On the other hand, model 2 analyzes foundation giving and shows that it tends to occur when governance is weaker, as measured by a lower *director ownership* and a higher *E-index* level. Interestingly, the marginal effects of *CEO ownership* are similar for both annual program giving and foundation giving. Taken together, this evidence indicates that transfers of corporate resources to foundations are more prone to agency conflicts than annual program giving, which publicly disclose specific charity donations.

3.3.4 Corporate giving and CEO compensation. The evidence uncovered thus far is consistent with managerial rent extraction being a motivation for corporate giving. However, this argument may be weakened if firms adjust the compensation contracts of their senior executives who benefit from corporate charitable contributions (Fama 1980). To explore this question, we estimate a firm and year fixed effect

model of CEO compensation that takes into account CEO-affiliated corporate giving as specified in Equation (3).

$$\text{Log}(\text{CEO compensation}_{it}) = \alpha + \beta.(\text{Corporate giving}_{it}) + \gamma.X_{it} + f_i + y_t + \varepsilon_{it}, \quad (3)$$

where i and t refer to firm and year, respectively. For the dependent variable, we calculate the natural logarithm of CEO compensation (total of salary, bonus, restricted stocks, Black-Scholes-valued stock options, long-term incentives, etc.) to reduce its right skewness. The main explanatory variable of interest is *corporate giving*. The covariate X is a vector consisting of firm-level characteristics (*logarithm of assets, stock return, ROA, volatility*), CEO attributes (*CEO tenure and outside appointment status*), and firm-level governance characteristics (*board size, fraction of independent directors, director ownership, and the E-index*). The terms f_i and y_t refer to firm and year fixed effects, respectively.

Table 10 presents the OLS estimates of Equation (3). Specifically, it presents coefficient estimates of the associations of total corporate giving (model 1) as well as its two components: annual program giving and foundation giving and CEO compensation (models 2 and 3, respectively). In these three models, we find statistically insignificant coefficient estimates for corporate giving. While the optimal contracting theory of Fama (1980) predicts a statistically significant negative relation between CEO compensation and corporate giving, our results suggest that CEO compensation is not reduced for the private benefits of corporate giving, which supports an agency theory perspective on corporate giving.

A potential concern with the OLS estimation of Equation (3) is that corporate giving is endogenous. To mitigate this concern, we estimate an instrumental variables (IV) model with three state-level instruments based on a firm's headquarters state to predict the corporate giving level. While we leave the details of this approach to the Internet Appendix, we summarize the findings here. The state-level instruments are the density of high net worth individuals, average individual charitable contributions as a fraction of gross income, and recent natural disasters in the firm's headquarters state, all of which are described in detail in the Internet Appendix.

In the first-stage regressions, the coefficient estimates of the first two instruments are positive as expected, although not statistically significant, possibly because of their low time-series variability. However, the coefficient of the natural disaster indicator is negative and highly significant, implying that firms contribute less when a state affected by a natural disaster is also the location of the firm's headquarters. This suggests that firm operations are often disrupted by the disaster and that we need to control for this potential outcome. Many arguments can be offered in favor of this finding. Firms reduce community assistance programs if their operations are adversely affected, if they expect sales to decline, etc.

On the other hand, we expect operationally unaffected firms that are headquartered in a state hit by a natural disaster to contribute more. When we include an interaction term between ROA and the natural disaster indicator, we find that a 10% increase in firm ROA in a state hit by a disaster raises the total giving ratio by 39%. We also estimate similar first-stage regression specifications but consider annual program and foundation giving separately to identify the relative impacts on the two forms of corporate giving. The evidence suggests that program giving is more sensitive to natural disasters. Relative to foundation giving, program giving falls to a greater extent (by 42.2%). However, firms not directly affected by these disasters are likely to be 21.4% more responsive in terms of subsequent program giving. This finding regarding program giving is consistent with the views of industry experts and is suggestive of the relevance of *natural disaster* as an instrument. The first-stage regression estimates document important associations between corporate giving and state-level variables and as such make a significant contribution to the philanthropy literature.

In the second-stage regressions, we find a statistically significant positive relation between CEO compensation and the instrumented corporate giving. Economically, a 10% increase in total corporate giving raises CEO compensation by \$504,133 (above its \$6.5 million mean value). Although this finding supports the managerial power hypothesis, which states that CEOs have power to extract excess rents, we

must caution the reader that these instruments may fail the exclusion requirement, which can lead to biased second-stage estimates.

3.3.5 Outside director charitable interests and corporate giving. In this section, we analyze the relation between independent director charity interests and corporate giving. The existing literature suggests that managers build reputation with stakeholders through the use of corporate giving and CSR activities. For example, Galaskiewicz (1985, 1997) finds that CEOs make valuable connections with local elites when their firms make charitable contributions, and Cespa and Cestone (2007) assert that CEOs use CSR activities strategically to build relations with social and environmental activists, who offer CEOs favorable treatment during future turnover decisions. We argue that a more direct form of entrenchment occurs when CEOs strategically support making firm donations to independent director charitable interests. For this purpose, we analyze whether firms support charitable donations when independent directors have ties to nonprofits and then evaluate the effect of this alignment on CEO compensation. This analysis is in the same spirit as Hwang and Kim (2009), who find that a CEO's social ties with independent directors result in excessive CEO compensation. The analysis here differs from theirs in the sense that this study considers the social ties to independent directors that are created by targeted corporate giving.

We again focus on Fortune 500 firms from 2005–2006 and obtain information on independent director charitable affiliations from company proxy statements. Panel A of Table 11 presents evidence on the relation between independent director charity interests and corporate giving to specific charities. We measure director charity interests in the same way we measure CEO charity interests, namely, being a director, trustee, or advisor or holding some other official position in the nonprofit organizations. We find that 64% of independent directors with charitable affiliations are associated with educational institutions, 47% are associated with miscellaneous philanthropic organizations, 22% are associated with arts and cultural organizations, etc. For the same set of firms, we identify each firm's top three charities that receive corporate contributions of at least \$1 million in 2005 and 2006. Of all firms making charitable

contributions, 32% contribute to educational institutions, 28% contribute to health and human services, 24% contribute to philanthropic organizations, and 18% support arts and culture as one of their top three charity recipients. After combining these two data sources, we find that of the firms that make charitable contributions, 68.8% have an overlap between the firm's independent director interests and the firm's top three supported charities.

We examine the association between independent director charitable interests receiving corporate support and CEO compensation in panel B of Table 11 from 2005–2006 to assess whether corporate giving benefits CEOs. Specifically, we regress CEO compensation on an indicator for a *director supported cause* by considering a sample of firms with and without independent boards. *Director supported cause* takes a value of one if at least one of the three major causes supported by corporate giving matches at least one independent director's charity interests, and zero otherwise. If CEOs do not benefit from supporting independent director causes, then no association between compensation and a *director supported cause* should be observed. Contrary to this prediction, we find in model 1 of panel B a positive and statistically significant coefficient (p -value = 0.035) of *director supported cause* for firms with independent boards. Yet, for firms without independent boards shown in model 2, it exhibits an insignificant coefficient. Thus, increasing entrenchment effect is only applicable in firms with nominally independent boards. This evidence suggests corporate giving is strategically used to build social ties between CEOs and independent directors, which can tangibly compromise director independence and lead to further CEO benefits, such as excess compensation

3.4 Robustness

As robustness analysis, we re-estimate all our prior regressions after Compustat, CRSP, RiskMetrics, Execucomp, and corporate giving data are winsorized at the 1% and 99% level. The statistical significance of both *CEO charity connection* and *CEO ownership* remain unchanged in the logit and tobit regression specifications reported in Table 2. Moreover, there is evidence of a greater negative impact of *CEO ownership* on contributions transferred to foundations (relative to the model 2 of Table 9).

As a further test, we censor corporate giving data at the top 1% level and find very similar results. We also estimate a cross-sectional model of the amount of corporate giving by averaging the dependent and explanatory variables from Table 2 over the sample period. Our results continue to support the agency theory hypothesis. In further robust analysis, we exclude firms in the financial industry as these firms often sponsor local charities as a form of advertising. We find a more pronounced effect of *CEO ownership* on corporate giving in the reduced sample of 2,083 firm-year observations.

We also control for important corporate governance measures, including dual class shares, a CEO-founder or founding family member, a fully independent nominating committee, and outside blockholder-directors (outside directors holding 5% or more of firm stock). Using logit and tobit models, our analysis yields statistically insignificant coefficients on all of these measures. We also replace the fraction of independent directors with an independent board indicator variable and replace a firm's *E-index* first with its G-index (Gompers, Ishii, and Metrick 2003) and then with a classified board indicator. These variables also yield insignificant coefficient estimates.

The evidence on equity value of cash holdings is re-estimated using two alternative approaches. First, excess returns are calculated by subtracting a firm's Fama-French 48 industry return, where the whole Compustat universe of firms is used for robustness. The coefficient of $\Delta C_{it}/M_{i,t-1} \times \text{corporate giving ratio}_{i,t}$ (γ) is -0.203 and remains significant with a *p*-value of 0.011. Second, it could be argued that unobserved risk components of giving firms are different from those of firms that make no charitable contributions. We re-estimate the regression model of excess returns with firm fixed effects to control for unobserved idiosyncratic risks. The estimated coefficient of the interaction term of the change in cash and the corporate giving ratio from Equation (2) is -0.17 and is significant with a *p*-value of 0.026. One may also suspect that certain firms with low marginal values of cash are more apt to make charitable contributions. However, in firm fixed effect regressions, this issue should have no effect on excess stock returns because a firm's time-invariant marginal value of cash is controlled for.

4. Conclusion

This study clearly shows that CEOs gain from corporate giving. The data indicates that 62% of firms contribute to CEO-affiliated charities, with more affiliated contributions in firms in which CEO financial interests are less aligned with shareholders. CEOs also appear to opportunistically transfer contributions to foundations, and these large transfers reduce shareholder cash flow rights. Furthermore, CEOs substitute cash dividends for corporate giving when a dividend tax cut increases a CEO's personal cost of consuming private benefits of control. CEOs also appear to use corporate giving strategically to support charities in which independent directors have affiliations, possibly strengthening the CEO's social bonds with these directors and thereby weakening board independence. Various regression specifications confirm that corporate giving is not purely a firm value maximizing tool but is a manifestation of managerial-shareholder agency problem in which managers have considerable influence over how and where corporate contributions are channeled. Such forms of corporate giving serve the personal interests of CEOs and compromise the independence of outside directors and result in lower stock returns.

The results reported here raise doubts about optimal contracting models of corporate executives, where both principals and agents have ambiguous discretionary spending objectives, especially when public disclosure of this discretionary spending is not required. One implication of this analysis is that an SEC requirement to promptly disclose insider-affiliated corporate giving could help limit this activity and thereby benefit outside minority shareholders. Several interesting avenues of research remain unexplored. First, employee matching grant programs are quite common, but do they enable firms to hire and retain higher quality employees? If yes, then does this increase firm profitability? Or are matching programs part of a long held cultural tradition? Second, legal professionals tend to differentiate corporate giving from CSR activity, although many companies "claim to have embraced CSR and then point to the glossy reports of their company foundation [grants] to demonstrate the degree of their commitment" (Altschuller 2010), highlighting that one major form of CSR for many firms is corporate giving. Future research might examine whether shareholders understand such distinctions and demand that firms pursue activities that better position them competitively.

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Appendix A. List of Legislative Proposals for Corporate Giving Disclosure

There have been several efforts by legislators to enforce disclosure of corporate giving data. We list such events below.

1. Republican Congressman Paul Gillmor introduced H.R. 944 and H.R. 945 to the House of Representatives in 1997. This bill excluded disclosure requirements for contributions made to educational institutions and local charities. However, this bill empowered shareholders to vote on corporate giving.
2. After the collapse of Enron, WorldCom, and other companies, some policy makers tried to enforce stringent disclosure requirements on corporate giving. Consequently, the first draft of the Sarbanes-Oxley Act of 2002 passed by the House required firms to disclose such information (Petrovits 2006).
3. On February 13, 2002, Paul Gillmor again introduced a bill, H.R. 3745. This bill required disclosure requirements for substantial contributions made to insider-affiliated charities.
4. Later in February 2002, Democrat John LaFalce introduced H.R. 3818, which restricts firms from providing charitable contributions to any group affiliated with directors. This bill also required information disclosure for officers and their immediate family members if they sit on the boards of nonprofit organizations, independent of whether the organization received any charitable contributions from these firms.
5. Eventually, corporate giving disclosure clauses were added in the Corporate and Auditing Accountability, Responsibility and Transparency Act (CAARTA), sponsored by Republican Michael Oxley. Faced with opposition from the Council on Foundations and the Independent Sector, this aspect of firm disclosure was dropped in the final version of the Sarbanes-Oxley Act (Cohen 2002).

Appendix B. Criteria for Coding of Corporate Giving Data

We maintain the following criteria for coding purposes.

1. If the directory (NDCG) only reports information on a firm's giving program or its foundation without stating the amount of giving, the contribution through program or foundation is recorded as zero.
2. A firm may have several foundations that can transfer money among themselves. Because such transfers are not new donations, we exclude them from the total amount of money foundations receive in a year.
3. Company-sponsored public foundations are not included as they usually have other donors and the total amount of giving for a specific firm cannot be easily separated from that of others.

Appendix C: Definition of variables

Variable	Definitions
<u>Determinants of corporate giving decisions</u>	
CEO attributes	
CEO charity connection	Equals 1 if the CEO is related to nonprofit organizations, e.g., academic institutions, arts and culture, animal/wildlife and environment organizations, nonprofit charitable organizations, civil rights organizations, think tanks, and research centers. Source: biographical sections of annual reports, Businessweek, Forbes and www.nndb.com .
CEO ownership	$\frac{\text{No. of CEO shares}}{\text{Total shares outstanding}} + \frac{\text{No. of CEO options}}{\text{Total shares outstanding}} * \text{delta}$. Calculation follows Core and Guay's (1999) methodology.
Tenure	The current fiscal year minus the year when the CEO joined the company. Source: Execucomp; when missing, Businessweek and www.nndb.com .
Governance variables	
Board size	The logarithm of total number of board members.
CEO-chair duality	An indicator variable that takes the value of 1 if CEO is also the chairman and 0 otherwise.
Director ownership	The summation of share ownership by all non-CEO directors at a firm.
E-index	This is as defined in Bebchuk, Cohen, and Ferrell (2009) and comprises of classified board, limits to shareholder bylaw amendments, poison pill, golden parachute, supermajority requirements for mergers, and charter amendments.
Fraction of independent directors	The number of independent directors divided by board size.
Outside appointment	Equals 1 if the CEO is recruited from outside.
Profit maximizing variables	
Ad-to-sales	Advertising expenses / sales.
Ad indicator	Equals 0 if the data is missing in Compustat and 1 otherwise.
Asset	$\text{Log}(1 + \text{firm's asset})$ where firm asset is expressed in millions.
Marginal tax rate	Simulated corporate marginal tax rates. Source: Graham and Mills (1998).
Number of employees	$\text{Log}(1 + \text{number of employees})$ where the number of employees is in thousands.
Number of shareholders	$\text{Log}(1 + \text{number of shareholders})$ where the number of shareholders is in thousands.
R&D-to-sales	R&D expenses / sales.
R&D indicator	Equals 0 if the data in Compustat is missing and 1 otherwise.
Firm characteristics	
Assets-to-employee	Assets / number of employees.
Free cash flow	Income before extraordinary items + depreciation and amortization – capital expenditure.
Free cash flow indicator	Equals 1 if free cash flow is greater than 0.
Leverage	Total long-term debt / total assets.
Tobin's q	$(\text{Total assets} - \text{total common equity} + \text{annual closing price (fiscal)} \times \text{common shares outstanding}) / \text{total assets}$.
ROA	Operating income before depreciation / assets.
Industries	
Financial industry	Banking + insurance + trading.
Non-environmentally-friendly industry	Steel works + non-metallic and industrial metal mining + coal + petroleum and natural gas + SICs between 0800 and 0899 (forestry) + 2810 and 2819 (industrial inorganic chemicals) + 2400-2439 (lumber and wood products).
Pharmaceutical industry	Medical equipments + pharmaceutical products.
Regulated industry	Utilities + communication.
Retail industry	Food products + consumer goods + apparel + retail.
Sin industry	Beer & liquor + tobacco products + defense.
Natural experiment	
Post ₂₀₀₃	Equals 1 for years 2003 to 2006 (dividend tax cut years) and 0 otherwise.
<u>Corporate giving and the value of cash</u>	
ΔC_t	Changes in cash.

ΔD_t	Changes in common dividends.
ΔE_t	Changes in earnings before extraordinary items.
ΔI_t	Changes in interests.
ΔNA_t	Changes in net assets.
ΔRD_t	Changes in R&D.
C_{t-1}	Level of cash.
L_t	All debt / Market value of total assets.
NF_t	New equity issues + Net new debt issues.
R	Cumulative stock returns over a year.
R^B	Fama-French size and book-to-market matched yearly portfolio returns. Source: Kenneth French's website.
R^{Ind}	Fama-French 48 industry portfolio returns.

CEO compensation and corporate giving

Board size	The logarithm of total number of board members.
Director ownership	The summation of share ownership by all non-CEO directors at a firm.
E-index	This is as defined in Bebchuk, Cohen, and Ferrell (2009) and comprises of classified board, limits to shareholder bylaw amendments, poison pill, golden parachute, supermajority requirements for mergers, and charter amendments.
Independent board indicator	Takes the value of 1 if at least 60% of board members are independent and the firm has a fully independent nominating committee.
Log(assets)	Log(1 + firm's asset) where firm asset is expressed in millions.
Outside appointment	An indicator variable that takes the value of 1 if the CEO is recruited from outside. If CEO's joining year precedes the year of employment as CEO, we calculate outside as 1.
ROA	Operating income before depreciation / assets.
Stock return	The cumulative stock return during the year.
Tenure as CEO	Equals current year – appointment year as CEO.
Total compensation	Log(TDC1) where TDC1 = salary + bonus + restricted stocks + stock options (Black-Scholes value) + long-term incentives + others.
Total giving ratio	Log(1 + corporate giving / sales) x 10 ³ . Program and foundation giving ratios are similarly calculated.
Volatility	1-year variance of stock returns.

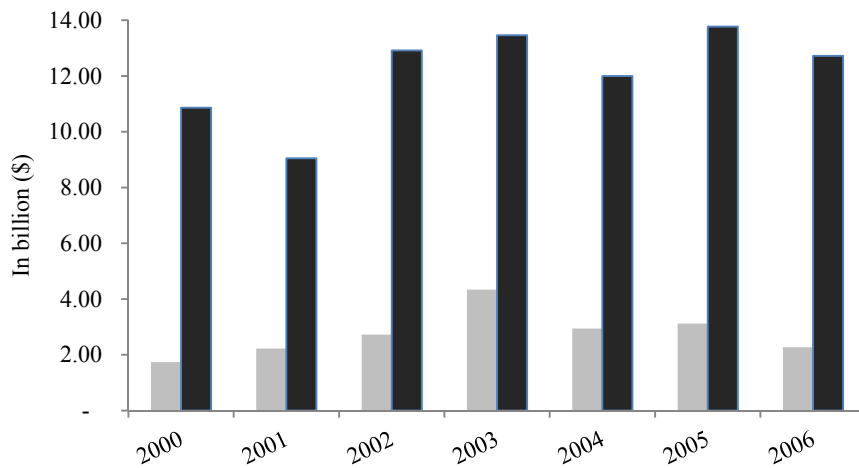


Figure 1
Corporate giving in the United States

Total charitable contributions of publicly listed Fortune 500 firms and all corporations in the United States. Data on Fortune 500 firms are collected from the National Directory of Corporate Giving, whereas data on all corporate contributions are from the Giving USA reports.

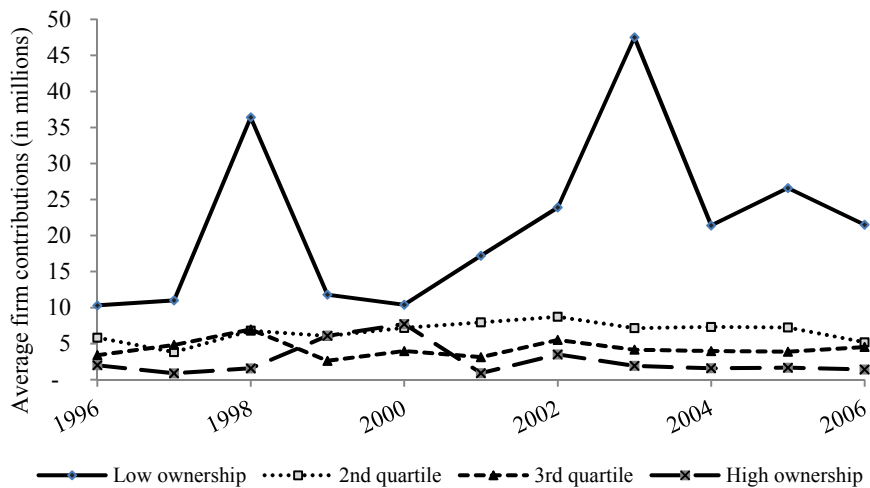


Figure 2
Corporate giving, CEO ownership, and the 2003 Tax Reform Act

Average corporate giving for Fortune 500 firms from 1996–2006, as a function CEO ownership quartiles.

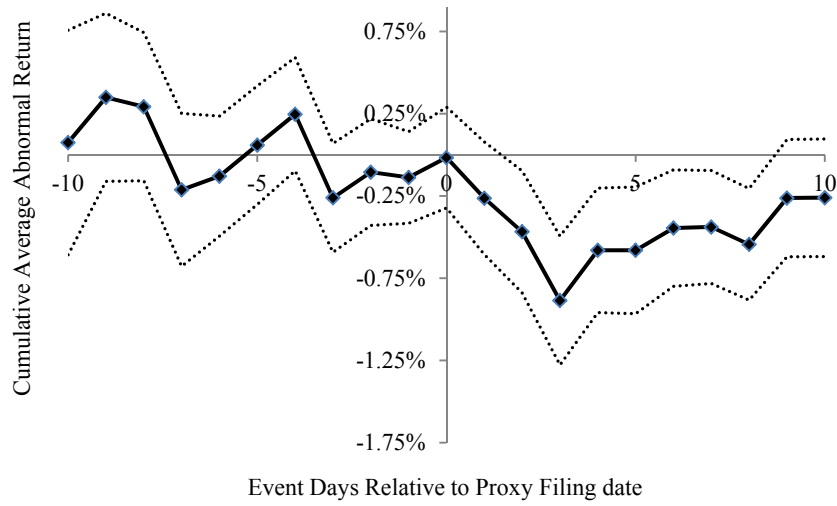


Figure 3

Charity award announcement abnormal stock returns

Cumulative average abnormal returns for the first disclosure of charity awards. The sample consists of fifty-three firms whose proxy statements are investigated from 1993–2010. Abnormal returns are calculated using the Fama-French-Carhart four-factor model. Confidence bounds at the 95% level are plotted as dotted lines.

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Table 1
Descriptive statistics

Panel A: Summary statistics							
Variable	Mean	SD	10th	25th	Median	75th	90th
Program contribution (million)	2.470	21.900	0	0	0	0	0.185
Foundation contribution (million)	6.514	21.600	0	0	0.046	4.000	13.525
Total contribution (million)	8.984	32.300	0	0	0.406	5.480	17.600
CEO attributes							
CEO charity connection	0.714	0.452	0	0	1	1	1
Ownership (%)	1.760	3.836	0.142	0.318	0.666	1.477	3.333
Tenure (years)	18.022	11.993	3	7	17	28	35
Outside appointment	0.215	0.411	0	0	0	0	1
Governance variables							
Board size	11.252	2.590	8	9	11	13	15
Fraction of independent directors	0.711	0.156	0.500	0.615	0.733	0.833	0.900
Director ownership (%)	0.778	4.085	0.002	0.022	0.072	0.226	0.746
CEO-chairman duality	0.873	0.333	0	1	1	1	1
E-index	1.575	1.122	0	1	2	2	3
Profit maximizing variables							
Ad-to-sales	0.012	0.026	0	0	0	0.013	0.040
R&D-to-sales	0.020	0.047	0	0	0	0.019	0.062
Assets (log)	9.481	1.319	7.928	8.527	9.381	10.233	11.278
Number of employees (log)	3.416	1.072	2.116	2.717	3.401	4.078	4.812
Number of shareholders (log)	3.231	1.581	1.068	2.166	3.329	4.223	5.204
Marginal tax rate	0.333	0.059	0.300	0.347	0.350	0.350	0.355
Firm characteristics							
Leverage	0.182	0.143	0.025	0.071	0.148	0.268	0.370
ROA	0.135	0.078	0.035	0.084	0.127	0.184	0.236
Tobin's q	1.902	1.267	1.058	1.168	1.455	2.139	3.237
Free cash flow indicator	0.863	0.344	0.000	1.000	1.000	1.000	1.000
Observations	2,421						
Panel B: Industry distribution							
Name	No.	% of sample	Name	No.	% of sample		
Agriculture	3	0.12%	Shipbuilding, railroad equipment	7	0.29%		
Food	84	3.47%	Defense	8	0.33%		
Soda	12	0.50%	Precious metals	5	0.21%		
Beer	34	1.40%	Nonmetallic and industrial metal mining	7	0.29%		
Smoke	13	0.54%	Coal	6	0.25%		
Toys	8	0.33%	Oil	103	4.25%		
Fun	0	0.00%	Utilities	224	9.25%		
Printing and publishing	21	0.87%	Communication	60	2.48%		
Consumer goods	71	2.93%	Personal services	8	0.33%		
Apparel	23	0.95%	Business services	101	4.17%		
Healthcare	30	1.24%	Computers	79	3.26%		
Medical equipment	34	1.40%	Electronic equipment	92	3.80%		
Pharmaceutical products	73	3.02%	Measuring and control equipment	13	0.54%		
Chemicals	76	3.14%	Business supplies	60	2.48%		
Rubber and plastic products	0	0.00%	Shipping containers	9	0.37%		
Textiles	7	0.29%	Transportation	63	2.60%		
Construction materials	31	1.28%	Wholesale	100	4.13%		
Construction	57	2.35%	Retail	260	10.74%		
Steel works	32	1.32%	Restaurants, hotels, motels	44	1.82%		
Fabricated products	0	0.00%	Banking	152	6.28%		
Machinery	87	3.59%	Insurance	142	5.87%		
Electrical equipment	27	1.12%	Real estate	0	0.00%		
Automobiles and trucks	57	2.35%	Trading	36	1.49%		
Aircraft	34	1.40%	Other	28	1.16%		

Panel C: Univariate comparisons of giving and nongiving firms

	Noncontributing		Contributing		Difference	<i>p</i> -value of difference
	Mean	SD	Mean	SD		
CEO attributes						
CEO charity connection	0.565	0.496	0.815	0.388	-0.250***	0.000
Ownership (%)	2.179	4.027	1.471	3.672	0.708***	0.000
Tenure (years)	17.293	11.990	18.524	11.974	-1.231**	0.013
Outside appointment	0.231	0.422	0.204	0.404	0.027	0.120
Governance variables						
Board size	10.673	2.571	11.651	2.528	-0.978***	0.000
Fraction of independent directors	0.698	0.162	0.719	0.152	-0.021***	0.000
Director ownership (%)	1.070	4.968	0.577	3.333	0.493***	0.007
CEO-chairman duality	0.857	0.350	0.884	0.320	-0.027*	0.053
E-index	1.580	1.108	1.572	1.132	0.008	0.868
Profit maximizing variables						
Ad-to-sales	0.010	0.024	0.014	0.027	-0.004***	0.000
R&D-to-sales	0.018	0.044	0.022	0.049	-0.004*	0.062
Assets (log)	9.084	1.154	9.754	1.356	-0.670***	0.000
Number of employees (log)	3.133	0.983	3.610	1.087	-0.477***	0.000
Number of shareholders (log)	2.804	1.575	3.525	1.518	-0.721***	0.000
Marginal tax rate	0.329	0.064	0.335	0.055	-0.006**	0.013
Firm characteristics						
Leverage	0.185	0.141	0.180	0.145	0.005	0.442
ROA	0.133	0.073	0.136	0.081	-0.003	0.288
Tobin's q	1.816	1.063	1.961	1.387	-0.145***	0.004
Free cash flow indicator	0.840	0.367	0.879	0.327	-0.039***	0.008
Number of observations	987		1,434			
% of observations	40.77%		59.23%			

This table provides summary statistics and industry frequency distributions of publicly listed Fortune 500 firms from 1996 to 2006. Variable definitions are reported presented in Appendix C. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively.

Table 2
Determinants of corporate giving decisions in Fortune 500 firms

Panel A: Determinants of the likelihood of corporate giving

Dependent variable: Corporate giving = 1

	Model 1		Model 2		Model 3		dy/dx
	Estimates	p-value	Estimates	p-value	Estimates	p-value	
CEO attributes							
CEO charity connection			1.025***	0.000	0.888***	0.000	0.215
CEO ownership (%)			-0.236***	0.000	-0.169***	0.004	-0.040
CEO ownership ²			0.008***	0.000	0.006***	0.004	0.001
Tenure (years)			0.006	0.419	0.003	0.665	0.001
Outside appointment			0.154	0.462	0.131	0.541	0.031
Governance							
Board size			0.060	0.106	0.001	0.978	0.000
Fraction of independent directors			0.355	0.467	0.148	0.770	0.035
Director ownership (%)			-0.030	0.244	-0.019	0.420	-0.004
CEO-chairman duality			-0.041	0.829	-0.185	0.341	-0.043
E-index			0.033	0.664	0.124	0.116	0.029
Profit maximizing variables							
Ad-to-sales	3.224	0.443			2.935	0.490	0.696
Ad indicator	-0.190	0.383			-0.157	0.477	-0.037
R&D-to-sales	0.760	0.746			0.821	0.734	0.195
R&D indicator	0.158	0.490			0.052	0.824	0.012
Assets (log)	0.269**	0.032			0.200	0.130	0.047
Number of employees (log)	0.284**	0.013			0.283**	0.016	0.067
Number of shareholders (log)	0.134**	0.038			0.058	0.376	0.014
Marginal tax rate	0.596	0.505			0.666	0.479	0.158
Firm characteristics							
Leverage	0.597	0.398	0.569	0.402	0.644	0.379	0.153
ROA	1.386	0.344	0.476	0.742	1.107	0.444	0.262
Tobin's q	0.083	0.298	0.150*	0.083	0.121	0.151	0.029
Free cash flow indicator	0.126	0.483	0.121	0.508	0.082	0.656	0.020
Asset/employee	0.000	0.675	0.000	0.581	0.000	0.750	0.000
Industries							
Financial	0.504	0.210	0.639*	0.074	0.652	0.116	0.144
Regulated	-0.066	0.858	-0.314	0.277	-0.137	0.716	-0.033
Pharmaceuticals	-0.151	0.774	-0.252	0.588	-0.380	0.479	-0.093
Retail	0.217	0.437	0.238	0.323	0.277	0.317	0.064
Sin	0.798	0.313	0.666	0.410	0.684	0.421	0.146
Nonenvironmentally friendly	0.419	0.233	0.135	0.688	0.306	0.403	0.070
Year fixed effects		yes		yes		yes	
Log likelihood		-1,466.435		-1,448.515		-1,406.070	
Pseudo R ²		0.104		0.111		0.137	
Observations		2,421		2,413		2,413	

Panel B: Determinants of corporate giving levels

	Dependent variable: Corporate giving ratio = $\log(1 + \text{corporate giving} / \text{sales}) \times 10^3$						
	Model 1		Model 2		Model 3		dy/dx
	Estimates	p-value	Estimates	p-value	Estimates	p-value	
CEO attributes							
CEO charity connection			1.017***	0.000	0.880***	0.000	0.015
CEO ownership (%)			-0.262***	0.000	-0.196***	0.000	-0.003
CEO ownership ²			0.009***	0.000	0.007***	0.000	0.000
Tenure (years)			0.002	0.793	0.001	0.903	0.000
Outside appointment			-0.101	0.647	-0.135	0.551	-0.002
Governance							
Board size			0.048	0.143	0.013	0.714	0.000
Fraction of independent directors			0.445	0.297	0.128	0.769	0.002
Director ownership (%)			-0.034	0.181	-0.023	0.300	-0.000
CEO-chairman duality			0.172	0.347	0.024	0.892	0.000
E-index			0.071	0.418	0.162*	0.080	0.003
Profit maximizing variables							
Ad-to-sales	0.410	0.922			0.389	0.921	0.006
Ad indicator	0.028	0.901			0.062	0.772	0.001
R&D-to-sales	5.881*	0.053			6.035**	0.045	0.100
R&D indicator	0.152	0.593			0.036	0.892	0.001
Assets (log)	0.189*	0.087			0.117	0.298	0.002
Number of employees (log)	0.089	0.356			0.087	0.362	0.001
Number of shareholders (log)	0.177**	0.011			0.098*	0.100	0.002
Marginal tax rate	0.120	0.888			0.075	0.926	0.001
Firm characteristics							
Leverage	0.838	0.208	0.596	0.300	0.903	0.163	0.015
ROA	2.201	0.114	0.700	0.619	1.784	0.184	0.030
Tobin's q	0.164	0.147	0.289**	0.013	0.205*	0.072	0.003
Free cash flow indicator	0.168	0.364	0.076	0.685	0.135	0.449	0.002
Asset/employee	0.000	0.752	0.000	0.911	0.000	0.574	0.000
Industries							
Financial	1.028**	0.024	0.930***	0.006	1.125**	0.015	0.019
Regulated	0.066	0.842	-0.136	0.559	0.022	0.945	0.000
Pharmaceuticals	1.847*	0.057	2.176**	0.036	1.639*	0.083	0.027
Retail	0.358	0.265	0.295	0.295	0.418	0.211	0.007
Sin	0.557	0.258	0.386	0.417	0.521	0.322	0.009
Nonenvironmentally friendly	0.298	0.289	0.057	0.816	0.200	0.466	0.003
Year fixed effects							
	yes		yes		yes		
Log likelihood	-3,786.802		-3,757.397		-3,734.225		
Observations	2,421		2,413		2,413		
Left censored observations	987		980		980		

The sample considers corporate giving of Fortune 500 firms from 1996 to 2006. We use logit and tobit regressions in panels A and B to explain a firm's likelihood and amount of giving, respectively. All regressions are estimated with an intercept term. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 3
A natural experiment using the impact of the 2003 individual dividend tax cut on corporate giving

Panel A: Changes in corporate giving by ownership quartiles around the 2003 dividend tax cut						
	Low ownership	2nd quartile	3rd quartile	High ownership		
Before	21.063	6.629	4.346	3.239		
After	23.167	6.582	4.125	1.549		
Before – after	2.104	-0.047	-0.221	-1.688 **		
Pct. Change	9.990%	-0.716%	-5.079%	-52.159%		

Panel B: Effect of the 2003 dividend tax cut on corporate giving						
Dependent variable: Corporate giving ratio = $\log(1 + \text{corporate giving} / \text{sales}) \times 10^3$						
	Model 1			Model 2		
	Estimates	p-value	dy/dx	Estimates	p-value	dy/dx
Post ₂₀₀₃	-0.738*	0.052	-0.011	-0.581	0.781	-0.008
CEO ownership (%) x Post ₂₀₀₃	-0.089**	0.032	-0.001	-0.066**	0.045	-0.001
CEO ownership (%)	-0.153**	0.012	-0.002	-0.168***	0.000	-0.013
CEO ownership ²	0.006***	0.004	0.000	0.006***	0.000	0.001
Other variables from Table 2	yes			yes		
Year fixed effects	yes					
Industry-year fixed effects				yes		
Log likelihood	-3,255.024			-3,211.846		
Observations	2,067			2,067		
Left censored observations	833			833		

Panel C: Effect of the 2003 dividend tax cut: Subsample analysis						
Dependent variable: Corporate giving ratio = $\log(1 + \text{corporate giving} / \text{sales}) \times 10^3$						
	CEO charity connections (1)			High dividend firms (2)		
	Estimates	p-value	dy/dx	Estimates	p-value	dy/dx
Post ₂₀₀₃	-0.224	0.431	-0.005	0.211	0.707	0.002
CEO ownership (%) x Post ₂₀₀₃	-0.035	0.351	-0.001	-1.223**	0.036	-0.011
CEO ownership (%)	-0.132**	0.039	-0.003	1.230	0.138	0.011
CEO ownership ²	0.005**	0.012	0.000	-0.220	0.124	-0.002
Other variables from Table 2	yes			yes		
Year fixed effects	yes			yes		
Log likelihood	-2,443.135			-997.007		
Observations	1,475			491		
Left censored observations	466			141		

The sample considers corporate giving of Fortune 500 firms from 1996–2002 and 2004–2006. It excludes year 2003 corporate giving data as the 2003 Tax Reform Act was officially signed into law at the end of May. Panel A presents average corporate giving levels around the year 2003 for CEO ownership quartiles. Pct. change refers to the percentage change in corporate giving, that is, (before – after)/before x 100. Panels B and C use tobit regressions, including all the explanatory variables in Table 2, an intercept term, and year fixed effects, all of which are suppressed for brevity, except for model 2 in panel B. The tobit regression in model 2 of panel B considers industry-year fixed effects, instead of year fixed effects. Post₂₀₀₃ takes the value of one for the year 2003 and onward (2003 being the dividend tax cut year) and zero otherwise. Panel C considers firms with CEO charity connections (model 1) and firms with higher than sample average dividend distributions (model 2). Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 4
Subsample analysis based on firm governance and profit motives

Panel A: Subsamples based on managerial entrenchment and board independence								
Dependent variable: Corporate giving ratio = $\log(1 + \text{corporate giving} / \text{sales}) \times 10^3$								
	<u>E-index ≥ 3</u>		<u>E-index < 3</u>		<u>Board independence = 1</u>		<u>Board independence = 0</u>	
	Estimates	<i>p</i> -value	Estimates	<i>p</i> -value	Estimates	<i>p</i> -value	Estimates	<i>p</i> -value
CEO attributes								
CEO charity connection	1.310**	0.015	0.760***	0.000	0.726**	0.018	0.953***	0.000
CEO ownership (%)	0.030	0.896	-0.175***	0.000	-0.319***	0.004	-0.104*	0.053
CEO ownership ²	-0.022	0.275	0.006***	0.000	0.009*	0.052	0.003	0.167
Tenure (years)	0.016	0.574	0.000	0.946	0.008	0.594	0.001	0.947
Outside appointment	0.217	0.666	-0.065	0.758	-0.165	0.609	-0.126	0.522
Governance								
Board size	0.061	0.551	-0.003	0.934	-0.002	0.977	0.016	0.636
Fraction of independent directors	1.452	0.213	-0.215	0.631	-0.265	0.816	0.282	0.601
Director ownership (%)	-0.049*	0.084	-0.020	0.403	-0.048*	0.092	-0.001	0.965
CEO-chairman duality	0.462	0.494	-0.039	0.816	0.186	0.540	-0.034	0.863
E-index	0.656*	0.100	0.101	0.250	0.325**	0.045	0.055	0.400
Log likelihood	-911.621		-2,719.020		-1,977.542		-1,102.806	
Observations	535		1878		1196		841	
Left censored obs.	213		767		474		330	
Panel B: Subsample of firms with positive advertising and R&D expenses								
Dependent variable: Corporate giving ratio = $\log(1 + \text{corporate giving} / \text{sales}) \times 10^3$								
	<u>Advertising and R&D expenses > 0</u>							
	Estimates				<i>p</i> -value			
CEO attributes								
CEO charity connection	1.859***				0.010			
CEO ownership (%)	-0.311*				0.096			
CEO ownership ²	0.010				0.136			
Tenure (years)	-0.044				0.205			
Outside appointment	-0.999				0.215			
Governance								
Board size	-0.264				0.119			
Fraction of independent directors	1.078				0.528			
Director ownership (%)	0.025				0.797			
CEO-chairman duality	0.020				0.973			
E-index	-0.093				0.715			
Profit maximizing variables								
Ad-to-sales	-6.324				0.413			
R&D-to-sales	6.284*				0.085			
Assets (log)	-0.166				0.690			
Number of employees (log)	0.979**				0.046			
Number of shareholders (log)	0.020				0.915			
Marginal tax rate	0.096				0.976			
Log likelihood	-741.540							
Observations	386							
Left censored observations	123							

The sample considers corporate giving of Fortune 500 firms from 1996 to 2006. Tobit regressions include all the explanatory variables in Table 2, an intercept term, and year fixed effects, all of which are suppressed for brevity. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 5
Market value of cash holdings and corporate giving

Panel A: Descriptive statistics						
Variable	10th	25th	Mean	Median	75th	90th
$r - R^B$	-0.609	-0.356	-0.121	-0.122	0.075	0.298
$r - R^{Ind}$	-0.336	-0.172	-0.014	-0.027	0.117	0.295
ΔC_t	-0.051	-0.010	0.028	0.006	0.038	0.108
C_{t-1}	0.008	0.022	0.226	0.061	0.155	0.417
ΔE_t	-0.055	-0.009	0.012	0.009	0.030	0.080
ΔNA_t	-0.143	-0.007	0.156	0.047	0.180	0.567
ΔRD_t	0.000	0.000	0.000	0.000	0.000	0.003
ΔI_t	-0.007	-0.002	0.001	0.000	0.002	0.010
ΔD_t	0.000	0.000	0.001	0.000	0.002	0.005
L_t	0.026	0.072	0.186	0.154	0.274	0.377
NF_t	-0.100	-0.043	0.015	-0.007	0.034	0.143

Panel B: OLS regressions of the market value of cash holdings				
Dependent variable (model):	$r - R^B$		$r - R^{Ind}$	
	(1)		(2)	
	Estimates	<i>p</i> -value	Estimates	<i>p</i> -value
Corporate giving ratio _{<i>t</i>} x ΔC_t	-0.197**	0.021	-0.199***	0.007
Corporate giving ratio _{<i>t</i>}	0.006	0.205	0.005*	0.068
C_{t-1} x ΔC_t	-0.153***	0.001	-0.128***	0.000
L_t x ΔC_t	-0.018	0.961	-0.125	0.720
ΔC_t	0.797***	0.000	0.690***	0.001
ΔE_t	0.654***	0.000	0.522***	0.000
ΔNA_t	0.027	0.170	0.028	0.103
ΔRD_t	-0.092	0.961	0.799	0.644
ΔI_t	-1.450**	0.035	-1.126*	0.073
ΔD_t	1.410	0.285	0.472	0.688
C_{t-1}	0.068**	0.028	0.038	0.178
L_t	-0.115	0.125	-0.065	0.351
NF_t	-0.219***	0.004	-0.208***	0.003
Industry fixed effects	yes		yes	
Year fixed effects	yes		yes	
Adjusted R^2	30.66%		8.14%	
Observations	2,671		2,671	

The sample considers corporate giving of Fortune 500 firms from 1996 to 2006. The OLS regression specifications, including variable definitions, follow Faulkender and Wang (2006). All independent variables, except for leverage, are scaled by the one-year lagged market value of equity, M_{t-1} . The corporate giving ratio is defined as the log (corporate giving / sale) x 10^3 . The dependent variables in panel B refer to annual excess stock returns for each fiscal year. Model 1 (2) defines excess stock return by deducting the Fama-French size and book-to-market portfolio returns (Fama-French industry portfolio returns) from a firm's raw stock return. Regressions in panel B control for both Fama-French 48 industry and year fixed effects and are estimated with an intercept term. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 6
Changes in cash dividends and corporate giving after the 2003 Tax Reform Act

	Dependent variable: Dividends (\$)			
	Model 1		Model 2	
	Estimates	<i>p</i> -value	Estimates	<i>p</i> -value
Post ₂₀₀₃	126.162 *	0.090	-26.052	0.662
Total contributions (\$)	17.442 ***	0.000	11.124 ***	0.001
Total contributions (\$) x Post ₂₀₀₃	-10.174 **	0.022	-6.418 **	0.043
After tax earnings (\$)			0.125 **	0.045
Total assets (\$)			0.003 ***	0.001
Adjusted <i>R</i> ²	24.96%		60.51%	
Observations	449		449	

The sample focuses on Fortune 500 firms that make charitable contributions in year 2002. Sample years include two years around the 2003 Tax Reform Act. The dependent variable is dollar dividends. All variables are measured in millions of dollars. OLS regressions are estimated with an intercept term. Robust standard errors are clustered at the Fama-French industry. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 7
Firm contributions to charities affiliated with its CEO

Panel A: CEO affiliations with nonprofit organizations				
	Number		Percentage	
Total number of CEOs	105		100.00	
CEOs with affiliated organizations (a)	86		81.90	
CEOs with affiliated donations (b)	65		61.90	
% of charities with CEO-affiliation receiving corporate donations, i.e., (b)/(a)			75.58	
Panel B: Magnitude of CEO-affiliated corporate charitable contributions				
	Obs.	Dollar value	Mean	SD
Affiliated donations (\$mil) (a)	63	154.44	2.45	4.55
Average CEO compensation (\$mil) (b)	63	982.53	15.60	6.95
Affiliated donations as a % of average CEO compensation, i.e., (a)/(b)		15.72%	15.72%	
Panel C: Regression analysis of CEO-affiliated firm charity contribution levels				
Dependent variable: Level of affiliated corporate giving ('000)				
	Estimates		p-value	
CEO attributes				
CEO stock ownership	-2.702 **		0.031	
Tenure (years)	-21.136		0.347	
Outside appointment	-485.513		0.391	
Control variables				
Assets (log)	521.917 *		0.067	
Financial	1,240.391		0.111	
Regulated	1,259.598 *		0.063	
Pharmaceuticals	1,821.895		0.118	
Retail	-40.330		0.945	
Sin	277.512		0.693	
Nonenvironmentally friendly	334.091		0.585	
Log likelihood	-1,815.437			
Observations	514			
Left censored observations	326			

CEO-affiliated charities refer to nonprofit organizations in which a CEO holds a position of director, trustee, advisor, etc. Affiliated donations indicate firm donations directed to CEO-affiliated charities. Data on CEO-affiliated nonprofits are collected from annual reports, Businessweek, and Forbes. Data on affiliated donations are extracted from the Foundation Directory Online database. The sample considers CEOs of firms from the 2006 Fortune 100 during their tenure between 2004 and 2010. Panel C estimates a tobit regression of CEO-affiliated corporate giving on CEO attributes and other control variables. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 8
Stock price reactions to initial disclosures of charity awards

Panel A: Mean announcement effects of initial charity award disclosures					
Model	Event window	Observations	Mean CAR	<i>p</i> -value	Wilcoxon <i>p</i> -value
Market model			-0.833%	0.020	0.065
CAPM	[1, 3]	53	-0.820%	0.022	0.071
Three-factor			-0.865%	0.014	0.059
Four-factor			-0.869%	0.014	0.038

Panel B: OLS regression analysis of initial charity award announcement CARs		
	Estimates	<i>p</i> -value
CEO ownership	0.038 *	0.060
CEO charity connection	-0.023 **	0.027
Fraction of independent directors	0.060	0.165
Adjusted R^2		2.23%
Observations		53

Panel A presents mean cumulative abnormal returns of fifty-three firms that disclose charity awards for the first time from 1993–2010. Abnormal returns are calculated using standard event-study methodology using the Fama-French-Carhart four-factor model. The event date zero is the firm’s proxy filing date with the SEC. The last column in panel A reports the *p*-value for the significance of the frequency of negative CARs using a Wilcoxon signed-rank test. Panel B shows estimates from an OLS regression model of firm-level CARs as a function of an intercept, CEO ownership, CEO charity connection, and CEO fraction of board independence. Standard errors are robust to heteroscedasticity. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 9
Determinants of charity donations to corporate foundations and annual giving

Dependent variable:	Model 1			Model 2		
	Program giving = log(1 + prog. cont. / sales) x 10 ³			Foundation giving = log(1 + found. cont. / sales) x 10 ³		
	Estimates	p-value	dy/dx	Estimates	p-value	dy/dx
CEO attributes						
CEO charity connection	0.216	0.628	0.001	0.788***	0.000	0.019
CEO ownership (%)	-0.484***	0.010	-0.003	-0.132***	0.007	-0.003
CEO ownership ²	0.016***	0.004	0.000	0.004***	0.006	0.000
Tenure (years)	0.045**	0.012	0.000	-0.004	0.684	0.000
Outside appointment	0.968*	0.057	0.006	-0.239	0.288	-0.006
Governance						
Board size	-0.112	0.183	-0.001	0.032	0.305	0.001
Fraction of independent directors	2.257*	0.086	0.014	-0.086	0.825	-0.002
Director ownership (%)	0.065*	0.087	0.000	-0.050*	0.058	-0.001
CEO-chairman duality	0.944**	0.048	0.006	-0.046	0.762	-0.001
E-index	0.072	0.669	0.000	0.158*	0.064	0.004
Profit maximizing variables						
Ad-to-sales	10.969	0.178	0.068	-2.276	0.574	-0.055
Ad indicator	0.473	0.321	0.003	-0.054	0.780	-0.001
R&D-to-sales	8.111	0.133	0.050	3.697	0.189	0.090
R&D indicator	-0.513	0.301	-0.003	0.127	0.630	0.003
Assets (log)	0.583*	0.074	0.004	0.049	0.642	0.001
Number of employees (log)	0.201	0.367	0.001	0.042	0.618	0.001
Number of shareholders (log)	-0.125	0.311	-0.001	0.114**	0.050	0.002
Marginal tax rate	-0.761	0.728	-0.005	-0.061	0.933	-0.001
Firm characteristics						
Leverage	0.159	0.912	0.001	0.727	0.237	0.018
ROA	-0.651	0.850	-0.004	1.501	0.236	0.036
Tobin's q	0.190	0.333	0.001	0.176*	0.091	0.004
Free cash flow indicator	0.755	0.101	0.005	0.043	0.805	0.001
Asset/employee	0.000	0.182	0.000	0.000	0.916	0.000
Industries						
Financial	0.264	0.779	0.002	1.008**	0.024	0.025
Regulated	0.646	0.413	0.004	-0.071	0.817	-0.002
Pharmaceuticals	0.543	0.637	0.003	1.082	0.187	0.026
Retail	-0.815	0.148	-0.005	0.514	0.120	0.012
Sin	-1.137	0.234	-0.007	0.665	0.148	0.016
Nonenvironmentally friendly	0.152	0.833	0.001	0.091	0.728	0.002
Year fixed effects						
		yes			yes	
Log likelihood		-1,109.635			-3,197.306	
Observations		2,413			2,413	
Left censored observations		2,151			1,129	

The sample considers corporate giving of 2006 Fortune 500 firms during 1996 to 2006. All tobit regressions include an intercept term. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 10
Association of CEO total compensation and corporate giving

Panel A: Fixed effect CEO compensation regression analysis

Dependent variable (model):	Total compensation (1)		Total compensation (2)		Total compensation (3)	
	Estimates	<i>p</i> -value	Estimates	<i>p</i> -value	Estimates	<i>p</i> -value
Total giving ratio	-0.002	0.800				
Program giving ratio			-0.013	0.234		
Foundation giving ratio					0.007	0.493
Log(assets)	0.226**	0.039	0.223**	0.032	0.227***	0.003
Stock return	0.088	0.593	0.088	0.590	0.087	0.593
ROA	0.670	0.700	0.679	0.697	0.674	0.699
Volatility	-1.101	0.345	-1.098	0.345	-1.111	0.341
Tenure as CEO	-0.005	0.353	-0.005	0.353	-0.005	0.348
Outside appointment	0.185**	0.031	0.184**	0.031	0.185**	0.030
Board size	-0.008	0.528	-0.008	0.529	-0.008	0.528
Fraction of independent directors	-0.042	0.657	-0.043	0.649	-0.043	0.654
Director ownership (%)	-0.004	0.554	-0.004	0.556	-0.004	0.551
E-index	0.058	0.354	0.058	0.353	0.058	0.357
Year fixed effects	yes		yes		yes	
Firm fixed effects	yes		yes		yes	
Adjusted R^2	47.20%		47.21%		47.21%	
Observations	2,381		2,381		2,381	

Panel B: Distribution of log (CEO total compensation) measuring total compensation is in thousands of dollars

	10th	25th	Mean	Median	75%	90%
Log (tdc1)	7.614	8.250	8.775	8.813	9.930	9.996

Panel A presents estimates of CEO compensation as a function of the corporate giving ratio, control variables, firm fixed effects, and year fixed effects. The OLS regression models are based on 2006 Fortune 500 firms from 1996 to 2006. We define giving ratio as $\log(1 + \text{corporate giving} / \text{sales}) \times 10^3$. Panel B shows the distribution of CEO compensation – the dependent variable of the regression analysis. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.

Table 11
Association between independent director charity interests and causes supported through corporate giving

Panel A: Director interests and corporate giving causes

Interests of independent directors		Corporate giving causes (first three)	
Purpose	% of directors	Purpose	% of firms
Agriculture/food	0.00	Agriculture/food	1.05
Animals/wildlife and environment	11.81	Animals/wildlife and environment	2.53
Arts and culture	22.15	Arts and culture	18.11
Civil/human rights	10.34	Civil/human rights	0.63
Community development and employment	4.64	Community development and employment	4.63
Crime/law enforcement	1.05	Crime/law enforcement	0.00
Education	63.71	Education	32.42
Health centers and health research institutes	25.53	Health centers and health research institutes	3.79
Housing/shelter	1.69	Housing/shelter	2.11
Health and human services	3.80	Health and human services	28.00
International/foreign affairs	14.35	International/foreign affairs	5.05
Philanthropic organizations	46.62	Philanthropic organizations	23.58
Recreation	7.38	Recreation	0.63
Religion	2.95	Religion	0.42
Research centers and think tanks	18.35	Research centers and think tanks	1.05
Safety/disasters	1.48	Safety/disasters	1.47
Science/social science	4.85	Science/social science	1.47
Youth development	12.24	Youth development	3.37

Match between the interests of directors and the first three causes supported through corporate giving is 68.80%.

Panel B: OLS regressions of CEO total compensation and independent director affiliated corporate giving

Director supported cause	Dependent variable: log (CEO total compensation)			
	Board independence = 1		Board independence = 0	
	Estimates	<i>p</i> -value	Estimates	<i>p</i> -value
Director supported cause	0.295**	0.035	0.145	0.372
Controls	yes		yes	
Industry fixed effects	yes		yes	
Adjusted <i>R</i> ²	26.45%		77.51%	
Observations	486		143	

Information on independent directors' charity interests for Fortune 500 firms is retrieved from 2005 and 2006 proxy statements. The sample in panel A is conditional on positive director charity affiliations. The causes of corporate giving exceeding \$1 million are based on philanthropic activities from 2005–2006. The source of this information is the Foundation Directory Online database. In panel B, we estimate OLS regressions in which the key explanatory variable is an indicator variable for independent directors with charity affiliations that are supported by the firm in the fiscal year. The fixed effect (industry) regressions in panel B control for all control variables in panel C, Table 10, as well as year fixed effects. The sample in panel B considers firms with independent boards (model 1) and nonindependent boards (model 2) separately. Robust standard errors are clustered by Fama-French industry. ***, **, and * denote statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. Variable definitions are reported in Appendix C.