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Corporate Philanthropic Practices

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Abstract

We study corporate philanthropy using an original database that includes firm-level data on dollar giving, giving priorities, governance, and managerial involvement in giving programs. Results provide some support for the theory that giving enhances shareholder value, as firms in the same industry tend to adopt similar giving practices and firms that advertise more intensively also give more to charity. But much of our evidence indicates that agency costs play a prominent role in explaining corporate giving. Firms with larger boards of directors are associated with significantly more cash giving and with the establishment of corporate foundations. Consistent with effective monitoring by creditors, firms with higher debt-to-value ratios give less cash to charities and are less likely to establish foundations. The empirical work considers the impact of industry regulation on giving and controls for state philanthropy laws and fiduciary responsibility laws.

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Key words: Corporate philanthropy, corporate governance, boards of directors, monitoring, agency costs

JEL classification: G34, G38, K22, L51, M41

Corporate Philanthropic Practices

1. Introduction

Previous research on corporate philanthropy has focused on the timing and responsiveness of aggregate contributions to taxes, corporate earnings, and other market characteristics.¹ In contrast, we focus on firm-specific giving practices and evaluate both an “agency cost” theory, which postulates that managers and board members increase their own utility through corporate philanthropy, and a “value enhancement” theory, which postulates that philanthropy creates value for shareholders. Based on the theories, we generate testable hypotheses regarding determinants of corporate giving, including the size and composition of the board of directors; monitoring by debtholders, blockholders, and institutional investors; state philanthropy and fiduciary duty laws; and industry settings where firms may find it value enhancing to be viewed as “charitable” by regulators or policymakers.

Managers often justify corporate giving on the basis of its claimed benefits to shareholders. Benefits may arise, for example, from goodwill that is created by corporate involvement with charitable causes, leading to enhanced employee morale, customer loyalty, and more lenient treatment by regulators or government officials. Alternatively, giving programs may enable managers and directors to support their own pet charities at shareholder expense. Corporate philanthropy can enhance reputations of managers or directors in their social circles and provide them with other benefits (tickets to events, access to celebrities, etc.). In this case, unless the cost of giving is at least offset by reduced compensation, corporate spending on charity represents an agency cost. The agency cost theory also contemplates that managers and directors may authorize gifts out of an altruistic belief that firms have a social responsibility to contribute to worthy causes. This, motive, nonetheless, is an agency cost, as it indulges the agent’s utility for “doing good” while shareholders incur an opportunity loss.

¹Clotfelter (1985) reviews the economics and accounting literature on corporate giving. Also see an update by Webb (1996).

The literature on corporate charity spans multiple disciplines, including economics, finance, accounting, law, management, and ethics. Only a few empirical studies address the underlying debate regarding whether charitable giving enhances firm value.² Using firm-level data, Navarro (1988) concludes that corporate contributions represent a form of advertising, as firms that spend more on advertising also tend to give more to charity. Boatsman and Gupta (1996) study changes in firm contributions in response to a change in marginal tax rates and conclude that charitable contributions go beyond what would be profit maximizing. In this regard, Bartkus et al. (2000) provide evidence that active, powerful investors may perceive corporate giving as excessive and act to curtail it. Using a small matched-paired sample to control for industry and company size, they find weak evidence that “big givers” are associated with fewer numbers of blockholders and less institutional ownership than are small givers. In contrast, using UK firms, Adams and Hardwick (1998) find no connection between giving and ownership concentration, but do find that firm size, profits and low leverage are associated with more giving to charity and political causes.

The goal of this paper is to provide comprehensive tests of alternative theories using a large sample of firms that represent a variety of industries. Our results indicate that, controlling for firm size, agency cost considerations play a prominent role in explaining corporate giving. In particular, monitoring by debtholders appears to curtail giving (firms with more debt give less) and firms with large boards are more “generous” givers. Like Navarro, we find a positive relationship between advertising and giving. Perhaps more edifying is that firms subject to more public policy scrutiny, such as regulated firms and firms with high levels of investment in R&D (e.g., pharmaceutical companies) give significantly more than other firms. Overall, results

²The literature is intertwined with the “social responsibility of business” debate. One side is articulated best by Milton Friedman: “Few trends could so thoroughly undermine the very foundations of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money for their shareholders as possible.” (Friedman, 1962). In a debate between Friedman and Mackey (founder and CEO of Whole Foods), Mackey argues that Friedman’s view undersells the humanitarian dimension of capitalism: “Whole Foods’ business model could represent a new form of capitalism, one that more consciously works for the common good instead of depending solely on the ‘invisible hand’ to generate positive results for society.” (pg. 31). *Reason*, Vol 37, no. 5, October 2005, pgs. 29-37.

suggest that managers may view charity as a business expense but it is significantly more likely to be incurred when financial constraints and monitoring constraints are weak.

2. Determinants of Corporate Giving Behavior and Testable Hypotheses

Value enhancement and agency cost theories of corporate giving are not mutually exclusive, as a contribution could simultaneously cater to a manager's taste for charity and have a positive impact on profit. However, if proponents of charitable giving are correct and firm shareholders are better off if their agents give to charity, then there is no reason to expect giving practices to vary with variables that measure monitoring effectiveness.

2.1. Agency cost and monitoring variables

The variables we use to evaluate the agency cost theory are total board size, ratio of the number of insiders to total board size, debt-to-value ratio (where value is defined as total assets), percent of equity held by blockholders, and percent of equity held by institutions. We also include the firm's market-to-book ratio to control for the firm's access to economic rents. Testable implications are discussed below.

Literature on the effectiveness on boards as monitors has focused on both board size and composition.³ Several studies, including Yermack (1996) and Eisenberg, et al. (1998), suggest that smaller boards are associated with higher market valuations. Jensen (1993) suggests that as board size increases, candid discussions give way to "politeness and courtesy." Larger boards tend to become symbolic and a source of social interaction for the directors, and to become less connected to the managerial process.

A positive relationship between board size and giving may arise for two reasons. First, larger boards may have more significant free-rider issues and communication problems, leading to less effective monitoring. Second, if involvement with charitable giving is perceived as a job-related perquisite, then the larger the board, the more directors are likely to push for their own causes, leading to larger dollar contributions. For example, Aggarwal and Nanda (2004) provide a

³ Hermalin and Weisbach (2003) survey the economic literature.

theory for a positive relation between board size and the number of social objectives (community, diversity, environment, etc.) that a firm pursues. While boards provide a monitoring function, they also set objectives for firms, and other things constant, larger boards are associated with multiple objectives that go beyond shareholder value maximization.

We also consider the impact of the ratio of inside directors to total directors. Most large US public companies have boards with a majority of independent directors, and almost all have a majority of outside directors.⁴ This structure reflects the belief that the primary task of the board is to monitor managers and that independent directors provide more rigorous oversight than inside directors. On the other hand, if charitable giving is an agency cost, then it is not only insiders, but all board members, who could derive benefits from firm giving.⁵

Debt can provide a check on managerial excesses in several ways. First, debt has a “hands-tying” aspect: if firm managers are committed to make regular debt payments, free cash flow is reduced. In addition, the covenants and restrictions that accompany debt agreements limit the manager’s ability to spend money. Jensen (1986) argues that debt acts as a check on managerial discretion by enabling managers to effectively bond their promise to pay out future cash flows. Maloney, McCormick and Mitchell (1993) investigate the influence of leverage on project selection, testing the hypothesis that while leverage has costs, “...the necessity of making periodic, legally mandated, unalterable payments to bondholders forces managers to take extra care in decision making.” (p. 190). In the context of our study, we expect that higher debt-to-value ratios to be associated with less charitable spending.

Theory of the firm literature envisions that shareholders can perform a monitoring role, disciplining against managerial excesses. More effective monitoring is likely to arise from

⁴ Bhagat and Jefferis (2002) at p. 10.

⁵ As the recent Enron scandal demonstrates, outside director oversight is no answer to eliminating self-dealing. At least three independent directors of Enron reportedly were affiliated with charities that received large donations from the corporation. See Painter (20002) and Brudney and Ferrell (2002).

concentrated ownership.⁶ Such shareholders are more likely to involve themselves directly in oversight and to seek redress for perceived abuses. The two variables we use to evaluate this hypothesis are: the percent equity held by institutional owners and the percent equity held by blockholders (i.e., those shareholders who own 5% or more of the firm).

In evaluating the impact of monitoring variables, we include, as a control, the firm's book-to-market ratio (inverse of q ratio). The rationale is to guard against attributing explanatory power to monitoring variables when, in fact, giving is associated with the presence of economic rents. While the q ratio is a common measure of rents, interpretation is problematic, as rents can arise for at least two, non-mutually exclusive, reasons. A high q ratio may reflect superior performance—for example, a firm may be relatively well managed, but its managers are not able to capture the rents as salary. Alternatively, a high q ratio may indicate the firm's access to unique assets, such as patents, regulation, or intellectual property, which create barriers to entry. In industrial organization literature, the ratio of market value to replacement cost is a commonly used measure of market power (see, for example, Lindenberg and Ross, 1977). If a firm participates in a highly competitive product market, then it should expect to earn zero economic rents (i.e., a normal rate of return), and the market value of the firm's equity will approximate its replacement cost. If, on the other hand, investors expect the firm to earn economic rents, then the rents will be capitalized in the firm's market value, which will exceed replacement cost. With respect to giving behavior, perhaps better performing firms are better positioned to give to charity. Alternatively, managers may be more likely to consume job-related perquisites, such as giving to charity, in market settings where the firm faces less intense competition, as reflected in a higher market-to-book ratio. Hence, the empirical relationship between q and giving is open to interpretation.

2.2. Value enhancement variables

⁶ See Agrawal and Knober (1996). Among other control mechanisms, they examine institutions and large blockholders and their impact on firm performance.

Highly visible companies may have incentives to foster reputations for “giving back” to the community, as this may induce friendlier treatment by regulators and policymakers. This is especially likely for those firms facing litigation risks, rate or entry regulation, or those that participate in industries that have observable environmental impact (extractive industries, paper mills, etc.). Hence, we include three industry-type variables to test for these incentives.

“Regulated industry” indicates the firm is in a non-financial industry that faces rate and entry regulation (communications, television broadcasting, electrical services, and natural gas industries). It is not clear, however, that a positive relationship between giving and regulation arises for value-enhancing reasons. As Alchian and Demsetz (1972) and Alchian and Kessel (1962) reason, regulation affords insulation from market pressures and may heighten incentives for managers to engage in perquisite consumption. Public donations to charity may also enhance the firm’s reputation with regulators, leading to more favorable treatment. For both reasons, we expect a positive relationship between giving and “regulated industry.”

“Environmental impact industry,” indicates that the firm operates in an industry that may pose a significant threat to the environment—e.g., paper products, chemicals and plastics, and petroleum; “Financial regulated industry” indicates that the firm operates in the banking or insurance markets, which are subject to regulatory scrutiny, primarily at the state level. Firms in these industries may anticipate that charitable giving will improve their public images, and the indicator is expected to be positively related to giving.

The final two variables included to test the value maximization theory are the ratio of R&D expenses to sales and the ratio of advertising expenses to sales. The theory predicts both will be positively related to giving. Public displays of charity are a form of advertising and likely to be driven by the same underlying considerations. The potential target audiences include customers, employees, suppliers, and policymakers, etc. The R&D variable takes on a higher value for firms that are more dependent on intangible assets (e.g., intellectual property, etc.). In our sample, the ratio is highest for firms in the pharmaceutical industry (a mean of 11.7%

compared to 2.5% for manufacturing). Such intangible assets may make the firm more vulnerable to appropriation arising from lawsuits and governmental regulation, thereby creating value-enhancing incentives to “buy” protection by creating goodwill with potential jurors, judges and regulators.

2.3. Legal Considerations Influencing Corporate Giving Behavior

Prior to the mid-1950s, the prevailing legal view was that corporate philanthropy was “ultra vires,” or “beyond the power of the corporation,” and contributions not directly related to the purposes of the corporation were illegal.⁷ Case challenges in the 1950s began to eat away at the standard that held that managers and directors would be violating fiduciary responsibilities by making contributions not directly related to corporate purposes.⁸ All states now have passed philanthropy statutes that validate corporate authority to make contributions.⁹ Twenty-four states, including Delaware, have adopted phrasing that enables corporations “to make donations for the public welfare or for charitable, scientific or educational purposes.” Nineteen have a two-provision statute that allows contributions for either “furthering the business affairs of the corporation” or for “charitable purposes.” The remaining seven authorize contributions “irrespective of corporate benefits.” In the models below we identify the relevant law by the state of the firm’s incorporation and include dummy variables to test whether states laws that allow contributions “irrespective of corporate benefit” foster higher levels of giving than do other laws. More restrictive laws presumably perform a monitoring function and restrain giving not in shareholder interest.

Most states have enacted statutes that provide guidelines as to whose interests managers are to consider in their decision-making. Delaware imposes a “shareholder primacy” criterion on

⁷ See Kahn (1997).

⁸ The turning point was *A.P. Smith Manufacturing Co. v. Barlow*, 98 A.2d 581 (N.J. 1953). The Supreme Court of New Jersey ruled that a cash contribution to Princeton University was legal even though there was no direct benefit to the business. Other states followed with similar rulings and statutes.

⁹ Early laws were more prescriptive than are current laws, as they typically limited acceptable charitable recipients to those located within the communities in which the corporation did business and several states required explicit shareholder approval of donations. See Kahn (1997).

managers (managers must place shareholders' interests first). Other states allow managers to consider broader constituencies such as employees, suppliers, customers, communities, etc. Leung (1997) reports that there are three different formulations currently in place: Delaware's shareholder primacy statute, Connecticut law, which *requires* consideration of non-shareholder interests, and "other constituency statutes," which indicate whose interests may be considered. The latter states give broad discretion to consider non-shareholders interests, and are used in 26 states. The remaining 22 states have not enacted specific laws, but instead follow the "business judgment rule," which holds that directors' decisions are presumed to be informed decisions, made in good faith, and in the belief that they are in the interest of the shareholders. Below we test the hypothesis that giving is positively associated with fiduciary responsibility laws that go beyond the business judgment rule in defining interests to be considered.

3. Sample Selection and Descriptive Data

The sample consists of all Fortune 500 firms identified in the 1998 issue. To obtain charitable giving data, we matched these firms with data provided in the 1999 *Corporate Giving Directory* (2000). The *Directory* has information on annual cash contributions by firm, and unlike other data sources, contains firm-level data on the allocation of the contributions (arts, health, science, and other categories reported below), management of the corporation, and the giving program or foundation. Corporations sometimes report their giving figures for more than one year. To take advantage of this additional information, our database includes up to three observations for the same firm. We combine the survey information from the *Directory* with financial data from Compustat, corporate governance data from SEC filings, and data from other sources identified in the tables below. Not all firms report information on charitable giving and, consequently, the resulting sample consists of 728 firm years of data for 262 firms.

Giving is defined as the amount the corporation identifies as cash contributions to not-for-profit organizations. Firms with foundations may make contributions both directly and

through their foundations.¹⁰ The giving amount includes cash contributions made through the corporate direct giving program and, if the corporation has a foundation, contributions made through the foundation. Some corporations also make in-kind contributions (complimentary use of corporate facilities, donations of products, services, employee volunteerism), but given the ambiguity and inconsistencies in how these contributions are valued by the firm, we do not include non-cash items in the measure of giving.

3.1. Sample Characteristics

Table 1 panel A shows mean and median values for basic characteristics for the sample of reporting firms. Panel B shows that the mean annual cash contribution is \$10.7 million dollars, which represents \$279 dollars per employee, or about \$1 per thousand dollars of sales. As an external check on the reasonableness of these values, we consulted the annual reports compiled by the Conference Board and other reporting agencies that compile statistics on corporate giving.¹¹ Our values are similar to other reports for the time period over which the sample was constructed. In our sample, average annual giving per director is \$846,000, and values range from around \$12.8 million to \$2000 per director.

Panel C reports mean and median values for our agency cost variables. Board sizes range between four and 29 for sample firms, with a mean of 12.5 directors. Inside directors (corporate officers and control persons) represent 20% of the total board. Gray directors are those who have substantial business relationships with the company, as reported in proxy statement in the director biography section or the section titled, “related transactions.” Examples include attorneys retained by the firm, external auditors, and consultants. If we define “gray” directors as insiders, the

¹⁰ The Conference Board (2003) estimates that during the 1990s, about half of corporate cash contributions were made through foundations and about half were made directly. In 2002, direct cash contributions and cash giving through foundations accounted for 30 and 34 percent of total giving, respectively (the remainder was non-cash giving.)

¹¹ Each organization uses a different methodology and sampling technique. Generally, they survey individual firms but report findings in a company-blind, aggregated format. Consequently, estimates of aggregate giving vary by reporting organization. The IRS, another source, provides aggregated and company-blind data in *Statistics of Income, Corporation Income Tax Returns*.

average increases to 24% insiders. We classify gray directors as outsiders, but results are not sensitive to this classification.

Panel D reports statistics for the value enhancement variables, and Panel E documents variations in governance structure of giving programs. The primary distinction is whether the corporation has established a charitable foundation. Approximately 84% of the firms in our sample have a foundation. As noted above, even if a firm delegates some of its charitable giving to a foundation, the firm may supplement with direct cash giving.

Firms also vary in whether top managers of the corporation are involved in managing the giving program. If profits guide decisions, corporations can be expected to involve their top managers if they wish to impose some oversight, presumably to ensure alignment with corporate strategy. However, time spent on philanthropy detracts from other uses. As an alternative motivation, corporate officers may view involvement in their firm's philanthropy as job-related consumption. The panel indicates that 83.9% of the firm observations have foundations, and of those, 42.0% involve their CEOs in foundation management, and 62.4% involve at least one top corporate executive (CEO, CFO, COO). These results contrast sharply with the sub sample of firms that do not have a foundation (16.1% of the sample). Only 2.7% of these firms involve the CEO in running the giving program, and 6.2% involve one or more of the top officers.

3.2. The Firm's Choice to Report Giving Data

There is no legal requirement for firms to disclose their charitable giving. Because the *Directory* contains data only for firms that choose to report, we use the Fortune 500 sample to evaluate the choice to report. We compiled data, including measures of agency cost and monitoring effectiveness, for the Fortune 500 firms that did not report. Table 2 contains probit regression models, where the dependent variable equals 1 if the firm reports data on its giving program and 0 otherwise. Model (1) includes only agency cost/monitoring variables; model (2)

includes only value-enhancement variables; model (3) adds firm characteristics related to size and age; and model (4) includes industry dummy variables.¹²

One interpretation of the choice to report is that it reflects managers' perceptions of whether public disclosure serves their goals—either value maximization and/or personal desires to be associated with charitable giving. Consistent with an agency cost theory that envisions both inside and outside directors can derive personal benefits from corporate giving, firms with larger boards and with relatively more outsiders are more likely to report. Consistent with the view that creditors and blockholders may curb managers' proclivities for giving away money, or that managers and directors of such firms try to conceal their giving activity, firms with higher debt-equity ratios and with relatively more blockholders are less likely to report. Also, results suggest that firms that advertise intensively are more likely to report. Models 4 and 5 suggest industry effects are important: regulated firms are less likely to report; firms participating in industries with environmental impacts perceive it as a good thing to report. Model 5 includes twelve categories of industries and, while individual results are not displayed, utilities, retailers, wholesalers and service firms are significantly less likely to report their charitable giving than are manufacturers.

4. Analysis of Giving Priorities by Industry

Table 3 contains information on how firms allocate giving across twelve categories. Results are reported by thirteen industrial classifications. We identify industry based on the firm's primary SIC code (as reported by Compustat), and make refinements of 2-digit classifications when there are sufficient numbers of observations to form more narrowly defined groups (generally four-digit industries). This classification results in groups with roughly similar number of observations, with the exception of manufacturing, which accounts for 45% of the observations.

¹² Manufacturing is the omitted category. Because of overlaps in classification, model (4) excludes "Regulated industry," "Environmental impact industry," and "Financial regulated industry."

Stated priorities may provide insights as to whether giving is consistent with profit maximization. For example, pharmaceutical firms give significantly more to health causes than do other firms (43% of their total giving). They may give to hospitals to build relationships with doctors and hospital administrators who, in turn, may buy their products and provide access for testing new products and drug treatments. Petroleum firms give significantly more to environmental causes than do firms in other industries, perhaps to counterbalance perceptions as being environmentally unfriendly. However, the average percentage of giving to the environment still is only 4%. Also, mining and construction firms do not allocate any money to the environment and arguably face similar image issues.

Other evidence indicates that firms are sensitive to profits when establishing priorities: firms in industries with little international exposure (utilities, wholesalers, retailers, and transportation firms) generally do not give to international causes. Also, science as a giving category holds little interest for firms. If firms find it profitable to invest in scientific research, especially when intellectual property can be protected, it is likely that they would incur those expenses as investment rather than gifts.

“Giving to the arts” is a candidate for agency cost interpretations, as it is difficult to link such spending to bottom-line profitability. Instead it is likely to lead to good seats and VIP status for managers and directors, private showings, social networking at events, etc. While access to social networks may engender business relationships, shareholders may question whether these business relationships can be pursued in more direct and less expensive ways. As shown in the table, firms in *every* industry give something to the arts. Securities dealers and investment banks, classified as “financial, nec”, stand out as giving an unusually large amount, relative to other industries, designating on average 22 percent of giving as to the arts. Perhaps building business relationships with wealthy clients (who are likely to be patrons of the arts) is more important in this industry or it may be a form of advertising directed at potential clients. In contrast, retail trade firms give a significantly lower percentage to the arts than do other firms, although retail

firms are not very specific in their allocations, designating, on average, 45% of their giving as “general”.

The “general” category is one that firms may select if they do not wish to report details on their giving. The firms that select this category generally designate 100% of their giving as “general.” As shown, utilities and firms in the transportation and retail trade are significantly more likely to select this category in lieu of providing more refined details of their giving.

5. The Firm’s Choice to Establish a Charitable Foundation

Corporate foundations derive their funds from their associated for-profit corporations, but legally they are separate entities. While corporations establish foundations with the espoused goal of promoting the interests of the corporation, the presence of a separate decision-making body suggests that the foundation may have more autonomy to pursue interests that do not conform to those of the corporation. The presence of corporate officers on the foundation board may mitigate concerns with agency problems, but the officers also may receive benefits from these positions. One rationale for establishing a foundation is that the foundation’s endowment can shelter the firm from business cycle fluctuations, allowing a corporation to maintain a constant giving level over time.¹³ The corporation can smooth earnings by using windfall gains to add to the foundation’s endowment and by reducing transfers to the foundation in other years.

Table 4 shows comparative statistics for firms with established foundations versus those without. On average, firms with foundations are ten years older and have 15,500 more employees than those without foundations. Consistent with foundations being associated with agency cost, firms with charitable foundations have larger boards, lower debt ratios, lower institutional holdings, and lower blockholdings. In terms of giving priorities, firms with foundations are more likely to specify priorities rather than identify the “general” category. As shown, firms with

¹³ Freddie Mac, for example, made a \$225 million cash contribution to its philanthropic programs late in 2002, reducing its fourth-quarter earnings by \$146 million after taxes (or \$0.21 cents per diluted share). Reportedly, \$205 million was put into the Freddie Mac Foundation and the remaining money was distributed directly to charities. The press release identified a “terrific year” enabled the firm to make the contributions and identified the motive as ensuring that the “Foundation has a permanent and sustainable source of funds.” *Wall Street Journal*, December 9, 2002.

foundations give more to the arts, education, religion, social services and science. As discussed above, firms with foundations are much more likely to involve corporate officers in the management of their giving programs. In spite of these differences, the presence of a foundation does not result in significant differences in giving, irrespective of whether giving is measured as total giving, giving per employee, giving per dollar assets, or giving per dollar sales.

There are several data limitations associated with modeling the presence of a foundation. One is that we are limited to cross-sectional data. Also, the firms' choices to establish foundations were made in previous years, and we do not have data from the time of the choice. With these caveats in mind, Table 5 shows results of probit models, where the dependent variable equals 1 if the firm has a foundation, 0 otherwise.

Consistent with an agency cost explanation, firms with foundations are associated with weaker monitoring by creditors and blockholders. It does not appear that a firm's advertising intensity is related to establishment of a foundation, but this seems reasonable in that firms with foundations can also make direct gifts. Model 2 indicates that the firm's industry is important. The omitted industries are mining and construction, pharmaceuticals, and communications (*all* of the firms in these industries have foundations), and manufacturing. Compared to this group, firms in all other industries, except for utilities, are less likely to have foundations. If foundations are used to "smooth" charitable giving over time, we would expect that firms in industries characterized by more volatile earnings are more likely to use foundations. Hence, it is not surprising that utilities are significantly less likely to have foundations than firms subject to more earnings fluctuations (e.g., pharmaceuticals, mining, construction, and communications).

Finally, we include four variables to determine if state laws regulating charitable giving are related to the presence of foundations. Results are mixed. Fiduciary responsibility laws are associated with greater likelihood of having a foundation, but the specific laws governing philanthropy are not significant.

6. Determinants of Corporate Giving

We use two approaches to examine corporate giving in a multivariate setting. First, Table 6 presents results of five ordinary-least-square (OLS) regressions. The dependent variable in (1) and (2) is the natural log of total cash giving. As we are interested in explaining variations in giving relative to firm size, in models (3), (4) and (5) dollar giving is standardized by, respectively: employees, dollar sales, and dollar equity. The rationale for standardizing by employees is that a commonly stated philanthropic objective is to enhance firm image and employee morale, and many of the benefits of corporate contributions are likely to accrue to labor rather than capital.¹⁴ Second, recognizing that endogeneity is an issue for studies that include measures of corporate governance and firm performance, we estimated a three-stage-least-squares (3SLS) model of charitable giving, board size, and the book-to-market ratio. The results are reported in Table 7. As we discuss below, the key OLS findings are not sensitive to endogeneity of right-hand side variables.

In Table 6, models (1) and (2) differ only in the inclusion (exclusion) of the industry variables. Because there are overlaps between industry definitions and three of the value-enhancement variables, and because we have no specific theory regarding industry effects, we exclude the industry dummies in models 3-5. Results for remaining independent variables are robust with respect to their exclusion.

Results for models (1) and (2) show that firms with more employees, more net income and higher asset values, are associated with more giving. In models (3)-(5) we exclude employees and assets (both firm size proxies) as independent variables because the dependent variable is standardized by a firm size measure. As a check on sensitivity of results to alternative measures of current income, we also ran the regressions using the Lehn and Poulsen (1989)

¹⁴ We ran the same set of regressors on giving per dollar assets and found similar results as for giving per dollar sales. We also ran the regressions using a Heckman model to control for the selection effect associated with the finding that larger firms are more likely to respond to the survey questions (Table 2). While not shown, the coefficients that are significant in table 6 remain significant and are of approximately the same magnitude.

measure of free cash flow instead of net income. The results for all models are similar to those shown in Table 6 and are not sensitive to substitution of the cash flow measure.

Consistent with the view that charitable giving is affected by agency costs, we find that, controlling for firm size in various ways, larger boards are associated with significantly more giving. This result conforms to the idea that larger boards are less effective as monitors. The composition of the board does not appear to matter; that is, having relatively more outside directors does not dampen proclivity for charitable spending. One concern with the interpretation is that there may be non-linear relationships between charitable giving and factors such as firm age and firm size, which also may be related to board size. To consider this we included quadratic specifications for firm age and the various size measures and confirmed that the significant and positive relationship between giving and board size remains.

The results for the debt-to-value ratio suggest that managers spend more on charity when they face fewer constraints on how cash flow is used, as indicated by a lower level of fixed debt obligations. To check for the possibility that the ratio may measure current or temporary debt obligations and therefore not be indicative of a long-term measure of monitoring, we ran the regressions with two alternative specifications for the debt variable: debt to value in the five years prior to the observation and the average debt-to-value ratio over the past five years. Results are not sensitive to this measurement change.

Blockholders and institutional investors do not appear to have a systematic impact on giving, suggesting that any monitoring and discipline that these stakeholders provide is less effective than is debt in controlling perquisite consumption.¹⁵

In the regressions we use the inverse of the q ratio since book values can be negative, and as shown the sign on book-to-market ratio is negative for all models except (5). This result could

¹⁵The results suggest the possibility that blockholders (including company founders, who may have charitable projects they wish to promote) may have a positive effect on firm giving. As examples, Eli Lilly, Hershey, Hewlett-Packard, and Kellogg are corporations in our sample that report significant blockholdings held by family charitable foundations. These family foundations have demonstrated tastes for giving, which may translate into more generous giving by the corporations in which they own significant holdings.

indicate that when managers face less intense competition (as proxied by higher levels of economic rents), they choose to spend more on charity; it could also indicate that managers of better performing firms (again, proxied by higher levels of economic rent) choose to spend more on charity. We cannot distinguish between interpretations; both could be at play. As giving is standardized by market equity in model (5), the sign for the book-to-market ratio is picking up a positive relationship between book equity and dollar giving.

As expected, the results show a positive relationship between advertising intensity and giving. Other findings indicate that firms with substantial investments in intangible assets, as proxied by R&D to sales, give significantly more. Pharmaceutical firms have the highest values for this variable and the results indicate such firms view giving as complementary to investments in research and brandname.

Other industry effects are important. In particular, except in model (5), regulated firms are associated with significantly more giving. For these firms, giving may create goodwill with regulators. However, the agency cost interpretation is plausible as well: because managers of regulated firms are more insulated from competition, they have greater opportunities and incentives to consume perquisites. Related to this, Table 2 indicates that regulated firms are less likely to disclose their giving than other firms, and Table 3 indicates that regulated utilities characterize a large portion of their giving as “general.” These two findings add support to the agency-cost interpretation.

The positive sign for “regulated industry” contrasts with the negative sign for banks and insurance companies (“financial regulated industry”). Financial firms also face regulation (though not rate regulation), but donate significantly less in absolute dollars and less per employee.

While not shown, individual industry effects are included in model (2). Firms in mining and construction, transportation, and retail trade donate significantly less to charities than do manufacturers. In contrast, utilities, petroleum, and pharmaceutical firms donate significantly more than do manufacturers. Consistent with value enhancement in the face of regulation and

other market attributes, it is not surprising that similarly situated firms make similar calculations about charitable spending. When this set of variables is included in the other models, results are consistent with those reported in the table.

Corporate fiduciary laws are not specific to philanthropy, but they do identify which constituent interests are to be considered when making corporate decisions, and in the case of Delaware, by ordering constituent interest by importance (shareholder primacy). We find little evidence of impact, however. Only one category of state law (laws that that mandate or allow managers to consider interests other than shareholders') has a significant impact on giving. The finding of a negative-signed coefficient, however, is puzzling, as it runs counter to expectations; we would expect that corporations headquartered in states that allow firms to consider non-shareholder interests would spend more on charity than those located in states where the law follows the business judgment rule.

In Table 6, total directors and book-to-market equity are treated as exogenous variables. Previous work indicates that that board size and Tobin's q are related to each other (Yermack, 1996). Other work indicates that the direction of causality is uncertain. See, for example, Bhagat and Black (2001), Boone et al. (2005), Coles et al. (2005), Mulherin (2005), and Hermalin and Weisbach (2003). As a first step in assessing the issue in our analysis of corporate giving, we examined pair-wise correlations among the various agency cost and value enhancement variables. For our sample of firms, the correlations are low, suggesting estimation biases due to endogeneity are likely to be slight.¹⁶ To more directly assess the effects of endogeneity, we estimated simultaneous systems of three equations for 1) charitable giving, 2) board size, and 3) book-to-market ratio.

As shown in Table 7, the giving variable is not statistically significant in either the book-to-market equation or the board size equation, and board size is not significant in the book-to-

¹⁶ There are only three pairs of variables (out of all the variables used in Table 6) that have correlations above 0.30. These are $\ln(\text{assets})$ and $\ln(\text{board size})$: $r^2 = .35$; debt/assets and the "financial regulated industry" dummy (banks and insurance companies): $r^2 = -.35$; and institutional ownership and net income: $r^2 = .33$.

market equation, and vice versa. The results for the dollar giving equation are similar to those reported for OLS. In the system, the only significant relationships among the three variables appear in the giving equation, further indicating that potential endogeneity is not driving the OLS results.

For the board size equation, we follow Coles et al. (2005) and include CEO tenure and a free cash flow measure as instruments. Because Compustat data on free cash flow are not available for a number of financial firms, we deleted those observations and omitted the “financial regulated industry” variable from the model.¹⁷ Both free cash flow and CEO tenure are positively and significantly related to board size. In the book-to-market equity equation, the instruments we use are the number of operating segments (as reported by Compustat) and return on equity. Consistent with the diversification discount literature, we find a positive relationship between book-to-market and the number of operating segments. We also find that firms that have lower book-to-market ratios tend to have higher rates of return on equity capital. We expect that it is not the rate of return but the level of income that influences the level of corporate giving.¹⁸

While we have not controlled for other potentially endogenous relationships between giving and other firm characteristics, the findings suggest that the OLS relationships documented in Table 6 are robust to alternative specifications. The 3SLS results show that the agency variables remain significantly related to giving. The value enhancement variables exhibit the same general relationships as reported in Table 6. We ran 3SLS models for the three alternative measures of the dependent variable: giving per employee, giving per dollar sales and giving per

¹⁷ The OLS estimates in Table 6 using the full sample are not sensitive to deleting the “Financial regulated industry” dummy variable. We also ran the OLS models on the smaller sample of firms and the results are not sensitive to the reduction in sample size.

¹⁸ Book-to-market ratios can be low because they represent a high level of rents or because the market expects higher future returns (Fama and French (1992, 1995)) and Billings and Morton (2005). If current return on equity is a predictor of future returns, then the 3SLS approach works to decompose the effect of book-to-market into two parts, with the measurement of rents surviving as the primary component in the giving equation.

dollar equity. The results are similar to those reported in Table 7 for the agency cost variables. The results for the value enhancement variables are somewhat less stable.¹⁹

7. Conclusions

Using firm-specific data, we evaluate two hypotheses for corporate philanthropy. Agency cost theory suggests the hypothesis that corporate giving reflects managers' tastes for using firm resources to satisfy personal preferences for charitable giving. An alternative, but not mutually exclusive, hypothesis is that firms design their giving programs, much like advertising, to maximize value for stockholders. Charitable giving may be a way for firms to enhance their public reputations and to create goodwill with customers, employees, and regulators. We do find, for example, that giving is positively associated with firms that advertise intensively and with regulated firms and with firms with higher levels of intangible assets (high R&D-to-sales ratios).

Much of our evidence is consistent with the agency cost hypothesis. We find that larger firms with larger boards give significantly more cash to charity. Such firms are more likely to report details regarding their philanthropy, and are more likely to have foundations. As an indication of the benefits that directors may receive from the corporation's giving, our data show that, on average, charitable donations per director are over \$800,000 per year, and for some firms the values are considerably larger—a number of pharmaceutical firms, for example, contribute around \$10 million per year per director. It is not the composition of the board (outsiders to insiders) that appears to matter in generating more giving, but rather absolute board size.

Consistent with the view that higher levels of debt reduce agency costs, we find that firms with higher debt-to-value ratios give significantly less to charity. Using a measure of Tobin's q to proxy for economic rents, our findings indicate that firms with higher q ratios are more generous in their giving. Our empirical work suggests that the results are not driven by possible endogeneity of charitable giving, Tobin's q and board size.

¹⁹ While R&D expenditures remain positively and significantly related to the alternative definitions of giving, the "Regulated industry" variable is significant in only one of the three models and the "Environmental industry variable" is significant in one model.

The total amount of corporate giving may appear small relative to other corporate expenditures. For example, U.S. corporations gave approximately \$12.2 billion in 2002, an amount that represents approximately 1% of pre-tax income.²⁰ However, as is well recognized, direct estimates of agency costs are elusive. At best, we can develop measures that provide some indication of the overall magnitude of agency costs. Charitable giving is a potentially useful measure in that, even if the giving enhances a firm's goodwill, it also can represent a form of perquisite consumption for managers and directors who wish to be involved or associated with philanthropy. In this broader context, the paper provides evidence on firm attributes that are conducive to imposing agency costs on shareholders.

²⁰ Dollar estimates include total cash and non-cash contributions as reported by The American Association of Fundraising Counsel (AAFRC) in *Giving USA 2003 Edition*, and reported in the Conference Board, *Corporate Contributions in 2002*.

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Table 1
Descriptive Statistics for Corporations Reporting Charitable Contributions

<i>Panel A) Firm Attributes</i>	Mean	Median	Std. Dev.	Minimum	Maximum
Net income, millions (\$)	880.715	433.000	1,364.235	-2,138.000	9,296.000
Assets, millions (\$)	26,977.820	10,951.000	50,126.710	961.830	355,935.000
Employees, thousands	56.739	32.039	87.643	0.050	745.000
Firm age	94.686	95.000	45.695	2.000	213.000
<i>Panel B) Giving Rates</i>					
Annual dollar giving, millions (\$)	10.700	3.855	18.300	0.025	141.000
Annual giving per employee	279.021	142.180	470.419	1.613	4578.314
Annual giving per director (\$000)	846.021	311.111	1,488.218	2.083	12,800.000
Annual giving per million \$ sales	968.935	570.500	2003.378	8.000	28,102.500
Annual giving per million \$ assets	712.209	447.700	994.932	3.812	8,225.332
<i>Panel C) Agency Cost and Monitoring Variables</i>					
Total directors	12.502	12.000	2.752	4.000	29.000
Ratio inside directors to total directors	0.201	0.182	0.106	0.056	0.800
Ratio (inside + gray) to total directors	0.241	0.222	0.124	0.056	0.818
Ratio of book equity to market equity	0.429	0.388	0.254	0.017	2.385
Ratio of total debt to value	0.218	0.175	0.172	0.000	0.782
Percent equity held by institutions	59.702%	61.000%	14.708%	4.000%	96.000%
Percent equity held by blockholders	14.574%	9.800%	16.823%	0.000%	95.800%
<i>Panel D) Value Enhancement Variables</i>					
Ratio of advertising to total sales	0.015	0.000	0.038	0.000	0.361
Ratio of R&D to total sales	0.018	0.002	0.033	0.000	0.227
Regulated industry	0.074	0.000	0.262	0.000	1.000
Environmental impact industry	0.124	0.000	0.330	0.000	1.000
Financial regulated industry	0.175	0.000	0.381	0.000	1.000
<i>Panel E) Governance of Giving Program</i>					
Percent of firms with a charitable foundation	83.9	1.0	36.8	0.0	100.0
Percent of firms with a foundation that identify the CEO as running the foundation	42.0	0.0	49.4	0.00	100.0
Percent of firms with a foundation that identify a corporate officer (CEO, CFO, COO) as running the foundation	62.4	1.0	48.5	0.00	100.0
Percent of firms w/o a foundation that identify the CEO as running the giving program	2.7	0.0	16.2	0.00	100.0
Percent of firms w/o a foundation identifying a corporate officer (CEO, CFO, or COO) as running the giving program	6.2	0.0	24.2	0.00	100.0

Financial data, number of employees, institutional holdings are from Compustat; Board composition and blockholdings are from proxy statements, www.sec.gov/archives/edgar. Firm value is measured as total assets. Firm age is measured as the greater of: years from IPO date reported by Compustat or the date the company first appeared on the CRSP tapes, or founding date as reported by Jovanovic and Rousseau (2001). Dollar giving amounts and giving program governance attributes (philanthropic foundation, CEO and officer involvement in foundation or giving program) are reported in *Corporate Giving Directory*. "Regulated industry" =1 if firm operates in one of the following industries (SIC code): Radiotelephone communications (4812); Telephone communications (4813); Television broadcasting stations (4833); Cable and other pay tv services (4841); Electric services (4911); Natural gas transmission (4922); Gas distribution (4923); Electric and other services (4931). "Environmental impact industry" =1 if firm operates in: Lumber, wood and paper products (2400, 2600, 2621, 2631); Chemicals and plastics (2800, 2810, 2820-21, 2860, 2870); Petroleum refining (2911); "Financial regulated industry" =1 if firm operates in: National banks, state banks, and savings and credit institutions (6021-6022, 6035, 6141); Financial services and security brokers (6199, 6211); Life and health insurance (6311, 6321); Hospital and medical services plans (6324); Fire, marine, casualty insurance (6331); Insurance agents and brokers (6411). SIC codes are from Compustat and matched with classifications in the 1997 Economic Census. Based on 701 firm-year observations.

Table 2

Probit Regressions: Determinants of Firm Choice to Provide Charitable Giving Data

Independent Variables	(1)	(2)	(3)	(4)
Agency Variables				
Total directors (Ln)	1.254*** (0.194)		0.397* (0.207)	0.389* (0.209)
Fraction inside directors (Ln)	-0.497*** (0.086)		-0.527*** (0.091)	-0.456*** (0.093)
Book equity to market equity	-0.324** (0.151)		-0.054 (0.182)	0.036 (0.187)
Ratio of total debt to value	-0.990*** (0.347)		-1.229*** (0.456)	-0.774* (0.456)
Equity held by blockholders (%)	-0.997*** (0.228)		-0.761*** (0.240)	-0.681*** (0.245)
Equity held by institutions (%)	-0.289 (0.267)		-0.151 (0.284)	0.21 (0.290)
Value Enhancement Variables				
Ratio of advertising to total sales		7.218*** (2.429)	5.799*** (1.628)	4.344*** (1.466)
Ratio of R&D to total sales		6.510*** (1.662)	1.625 (1.734)	0.783 (2.032)
Regulated industry		-0.011 (0.133)	-0.546*** (0.189)	
Environmental impact industry		0.991*** (0.167)	0.887*** (0.218)	
Financial regulated industry		0.602*** (0.120)	-0.149 (0.241)	
Firm Characteristics				
Net income			0.0001 (0.000)	0.0002* (0.000)
Employees (Ln)			0.148** (0.059)	0.108 (0.075)
Assets (Ln)			0.279*** (0.079)	0.295*** (0.078)
Age (Ln)			0.414*** (0.057)	0.425*** (0.060)
Industry dummies included				
Constant	No -2.788*** (0.507)	No 0.054 (0.059)	No -5.691*** (0.674)	Yes -5.670*** (0.684)
No. of observations	1133	1133	1133	1133
No. of firms	397	397	397	397
Pseudo R-squared	0.11	0.06	0.28	0.29

The dependent variable equals 1 if the firm reports giving amounts, information on the charitable foundation, or giving priorities as published in *Corporate Giving Directory* (n= 701); variable equals 0 otherwise (n=432). Financial data, number of employees, and institutional holdings are from Compustat; Board composition and blockholdings are from proxy statements, www.sec.gov/archives/edgar. Firm value is measured as total assets. Firm age is measured as the greater of: years from IPO date reported by Compustat or the date the company first appeared on the CRSP tapes, or founding date as reported by Jovanovic and Rousseau (2001). Definitions for regulated industry, environmental impact industry and financial regulated industry appear in Table 1. Eqn (4) includes dummy variables for thirteen industry categories: mining and construction, transportation, communications, utilities, wholesale trade, retail trade, depository institutions, financial nec, insurance carriers, services, pharmaceuticals, petroleum, manufacturing (omitted).

Robust standard errors are based on clustering by firm.

*** = z statistic significant at the .01 level, two-tailed test

** = z statistic significant at the .05 level, two-tailed test

* = z statistic significant at the .10 level, two-tailed test

Table 3
Allocation of Corporate Donations by Industry

	Charitable Giving Categories											
	Arts	Civic	Education	Environ- mint	Health	Inter- national	Matching	Religion	Science	Social Services	Other	General
Industry (SIC codes)												
Mining, Construction (1000-1900) N=17	7.94	4.41	32.29	0.00 ^a	21.88 ^c	0.53	0.00 ^a	2.65	0.53	11.18	0.88 ^a	17.65
Manufacturing (1500-3900) nec, N=339	7.95 ^b	6.53	31.53 ^a	1.04	14.78	0.79	1.61	0.74	0.15	14.24	4.03 ^a	17.71 ^a
Transportation (4100-4700) N= 25	12.72	2.40 ^a	7.44 ^a	0.6	17.28	0.00 ^a	0.00 ^a	0.00 ^a	0.00 ^a	5.40 ^a	0.60 ^a	52.00 ^a
Pharmaceuticals (2834) N=27	6.22 ^a	5.56	19.78 ^a	0.56 ^b	42.56 ^a	2.78 ^c	1.44	0.00 ^a	0.00 ^a	6.11 ^a	4.11	11.11 ^c
Petroleum (2900) N=31	9.45	5.21	33.16 ^b	3.82 ^a	10.94	0.97	0.00 ^a	0.00 ^a	0.58	13.74	1.74	16.13
Communications (4800) N=23	7.17	6.91	47.00 ^a	0.00 ^a	7.17 ^a	0.91	0.91	0.00 ^a	0.00 ^a	8.74 ^b	2.65	13.04
Utilities (4900) N=33	8.64	8.64	22.64	1.82	7.55 ^a	0.00 ^c	0.00 ^a	2.36 ^a	0.00 ^a	12.91	0.27 ^a	36.36 ^c
Wholesale trade (5000-5100) N= 20	8.45	7.7	30.1	0.9	14.75	0.00 ^a	0.00 ^a	0.00 ^a	0.00 ^a	12.45	4.35 ^c	20
Retail trade (5200-5900) N=47	5.04 ^a	3.68 ^a	10.18 ^a	0.26 ^a	12.19	0.00 ^a	0.03 ^a	0.45	0.45	21.70 ^c	1.72 ^c	44.68 ^a
Depository institutions (6000) N=49	10.67	8.94	21.00 ^b	0.37 ^a	13.3	1.02	2.45	0.00 ^a	0.18	19.78 ^c	1.80 ^c	20.41
Insurance carriers (6300) N=50	11.1	7.68	24.36	2.7	14.34	0.18 ^a	0.78	1.98	0.18	10.68	1.92	24
Financial, insurance and real estate, nec (6100-6200,6400-6700) N=24	21.75 ^a	7	25.38	0.75	20.13	1.25	5.75 ^a	0.00 ^a	0.00 ^a	22.50 ^c	0.00 ^a	0.00 ^a
Services industries (7000-8900) N=16	8.75	0.88 ^a	23.5	0.81	14.44	1.31	2.5	0.00 ^a	0.00 ^a	3.19 ^a	2.19	43.75
Overall Mean	8.85	6.33	27.28	1.1	15.21	0.73	1.35	0.71	0.17	13.88	2.88	21.83

The table shows percentage of charitable contributions that firms allocate to various categories, by industry. If a percentage range is reported, the midpoint is used. Those firms that respond that they contribute to a "general" category of causes generally identify 100% of their allocation as "general." Data are from *Corporate Giving Directory, 1999*. Primary SIC codes are from Compustat and matched with classifications in the 1997 Economic Census.

Note-- t-tests of significance of the difference between: the value of the specific industry's mean percentage contribution to a specific category relative to the mean percentage reported for all other industries, adjusted for multiple-year observations for a firm

a= t-test significant at the .01 level, two-tailed test

b= t-test significant at the .05 level, two-tailed test

c= t-test significant at the .10 level, two-tailed test

Table 4
Comparison of Firms with and without Foundations

Variable	Foundation	No Foundation	t-statistic
Panel A)			
Firm Attributes	(N= 588)	(N=113)	
Net income, millions (\$)	908.32	737.04	1.227
Assets, millions (\$)	29059	18280	2.002**
Employees, thousands	59.24	43.74	1.725*
Firm age (years since IPO)	96.31	86.24	2.149**
Panel B) Giving Rates			
Annual dollar giving (\$000)	11,100.00	8,368.53	1.454
Annual giving per 1000 employees (\$)	278.91	279.59	-0.014
Annual giving per million \$ assets	747.84	526.79	2.169**
Annual giving per million \$ sales	1016.83	719.71	1.445
Annual giving per director (\$000)	876.85	685.62	1.252
Panel C) Agency and Monitoring Variables			
Total directors	12.58	12.11	1.672*
Ratio inside directors to total directors	0.20	0.19	1.369
Ratio (inside directors + gray directors) to total directors	0.24	0.26	-1.647*
Ratio of book equity to market equity	0.43	0.42	0.274
Ratio of total debt to book value	0.17	0.22	-3.524**
Percent equity held by institutions	59	63.2	-2.741***
Percent equity held by blockholders	13.40	20.67	-4.261***
Panel D) Value Enhancement Variables			
Ratio of advertising to total sales	0.02	0.01	1.412
Ratio of R&D to total sales	0.02	0.01	1.922*
Regulated industry	0.07	0.07	0.150
Environmental impact industry	0.12	0.12	0.008
Financial regulated industry	0.16	0.27	-2.758***
Panel E) Allocation of Giving (% of total giving)			
Arts	9.34	6.32	2.914***
Civic	6.54	5.25	1.299
Education	29.77	14.37	6.872***
Environment	1.16	0.81	0.848
Health	15.57	13.36	1.177
International	0.70	0.90	0.708
Matching gifts	1.29	1.6	0.473
Religion	0.84	0	1.736*
Science	0.2	0	1.751*
Social science	15.28	6.58	4.381***
Other	2.83	3.13	-0.343
General	16.67	48.67	-7.913***
Panel F) Governance of Giving Program			
Percent of firms with one or more corporate officers (CEO, CFO, COO) identified as running the foundation/giving program	62.41	6.19	12.038***

The table compares mean values of variables for those firms that have established a foundation and those that have not. The last column provides significance tests of the differences in means (t-statistics are adjusted for multiple-year observations). Dollar giving amounts and giving program governance attributes (philanthropic foundation, CEO and officer involvement in foundation or giving program) are reported in *Corporate Giving Directory*. Firm age is measured as the greater of: years from IPO date reported by Compustat or the date the company first appeared on the CRSP tapes or founding date as reported by Jovanovic and Rousseau (2001). Industry variables defined in Table 1. Other data are from Compustat and www.sec.gov/archives/edgar

***= significant at .01 level; **= significant at .05 level; *=significant at .10 level, two-tailed test

Table 5
Probit Models of Corporate Decision to Establish a Charitable Foundation

Independent Variables	Corporation has a Charitable Foundation			
	Coefficient (1)	t-statistic	Coefficient (2)	t-statistic
Agency Variables				
Total directors (Ln)	0.378	0.262	0.311	0.288
Fraction inside directors (Ln)	0.202*	0.116	0.121	0.119
Book equity to market equity	0.838***	0.298	1.172***	0.352
Ratio of total debt to book value	-2.643***	0.602	-2.663***	0.624
Equity held by blockholders (%)	-1.328***	0.392	-1.391***	0.396
Equity held by institutions (%)	-0.442	0.485	-0.443	0.500
Value Enhancement Variables				
Ratio of advertising to total sales	2.151	1.648	0.764	1.608
Ratio of R&D to total sales	0.166	1.992	-2.24	1.926
Regulated industry	0.293	0.243		
Environmental impact industry	0.207	0.222		
Financial regulated industry	-0.443	0.269		
State Laws				
Shareholder primacy	0.823***	0.240	0.700***	0.243
Permits/Mandates firm to consider other interests	0.764***	0.228	0.651***	0.226
Permits charity for public welfare	0.048	0.248	0.034	0.248
Permits charity for furthering business	0.292	0.262	0.204	0.267
Firm Characteristics				
Net income	-0.0001	0.000	-0.0001	0.000
Employees (Ln)	0.177**	0.084	0.043	0.103
Assets (Ln)	-0.062	0.097	0.037	0.100
Age (Ln)	0.316***	0.092	0.260***	0.094
Industry Variables				
	No		Yes	
Constant	-1.053	0.997	-0.847	1.062
No. of observations	701		701	
No. of firms	241		241	
Pseudo R-squared	0.14		0.16	

The dependent variable indicates that the corporation has established a charitable foundation (yes=1; no=0), as reported in *Corporate Giving Directory*. State philanthropy laws are documented in Kahn (2001). Laws that define fiduciary responsibility in corporate decisions are documented in Dunfee (1999). State laws are classified by state of incorporation. Other data are from Compustat and Edgar: www.sec.gov/archives/edgar. Firm age is measured as the greater of: years from IPO date reported by Compustat or the date the company first appeared on the CRSP tapes or founding date as reported by Jovanovic and Rousseau (2001). Industry variables defined in Table 1. Other data are from Compustat and Edgar: www.sec.gov/archives/edgar. Eqn (2) includes dummy variables for thirteen industry categories; omitted industries are mining and construction, communications, and pharmaceutical (all firms in these industries have foundations) and manufacturing. Primary SIC codes are from Compustat and matched with 1997 Economic Census classifications.

Robust standard errors are based on clustering by firm.

*** = significant at the .01 level; ** = significant at the .05 level; * = significant at the .10 level, two-tailed tests

Table 6
Ordinary Least Squares Regression Models of Corporate Cash Contributions

Independent Variables	Dollar Giving (Ln)		Giving per 1,000 Employees (Ln)	Giving per Dollar Sales (Ln)	Giving per Dollar Equity (Ln)
	(1)	(2)	(3)	(4)	(5)
Agency Variables					
Total directors (Ln)	0.548*** (0.160)	0.654*** (0.175)	0.430*** (0.176)	0.790*** (0.159)	0.498*** (0.160)
Fraction inside directors (Ln)	-0.066 (0.076)	-0.091 (0.073)	-0.042 (0.092)	-0.099 (0.081)	-0.066 (0.073)
Book equity to market equity	-0.830*** (0.166)	-0.790*** (0.172)	-0.584*** (0.179)	-0.696*** (0.155)	0.996*** (0.217)
Ratio of total debt to book value	-1.343*** (0.316)	-1.221*** (0.350)	-1.347*** (0.408)	-0.956*** (0.313)	-0.574* (0.301)
Equity held by blockholders (%)	0.278 (0.197)	0.27 (0.204)	0.488** (0.211)	0.147 (0.198)	0.304 (0.198)
Equity held by Institutions (%)	0.378 (0.239)	0.411* (0.232)	0.438 (0.312)	0.415 (0.274)	0.499* (0.256)
Value Enhancement Variables					
Ratio of advertising to total sales	2.995*** (0.833)	2.696*** (0.811)	3.739*** (0.972)	3.234*** (0.806)	1.416* (0.801)
Ratio of R&D to total sales	8.967*** (1.090)	7.655*** (1.363)	10.198*** (1.393)	10.112*** (1.242)	4.521*** (1.078)
Regulated industry	0.278* (0.146)		1.216** (0.170)	0.541** (0.133)	-0.134 (0.133)
Environmental impact industry	0.147 (0.092)		0.717*** (0.101)	-0.046 (0.082)	-0.053 (0.073)
Financial regulated industry	-0.622*** (0.203)		-0.942*** (0.129)	0.362 (0.112)	-0.309 (0.118)
State Corporate Philanthropy Laws					
Shareholder primacy	-0.083 (0.153)	-0.071 (0.148)	0.235 (0.155)	-0.041 (0.126)	0.019 (0.019)
Permits/Mandates firm to consider other interests	-0.237* (0.136)	-0.287** (0.129)	-0.146 (0.157)	-0.251** (0.118)	-0.121 (0.135)
Permits donations for "public welfare"	-0.191 (0.129)	-0.223* (0.131)	-0.420 (0.131)	-0.237 (0.124)	-0.160 (0.133)
Permits donations for furthering business	0.07 (0.151)	0.085 (0.141)	0.046 (0.191)	0.062 (0.140)	0.156 (0.166)

Firm Characteristics					
Net income	0.0001*** (0.000)	0.0001*** (0.000)	0.0002*** (0.000)	0.00004** (0.000)	0.00002 (0.000)
Employees (Ln)	0.197*** 0.053	0.183*** 0.053			
Assets (Ln)	0.510*** 0.071	0.540*** 0.069			
Age (Ln)	0.069 (0.047)	0.088* (0.051)	0.126** (0.056)	0.115** (0.064)	0.099** (0.047)
Industry Variables	No	Yes	No	No	No
Constant	8.350*** (0.593)	7.752*** (0.623)	9.764*** (0.554)	3.732*** (0.495)	3.895*** (0.493)
No. of observations	701	701	701	701	701
No. of firms	241	241	241	241	241
R-squared	0.607	0.632	0.306	0.278	0.122

The dependent variable in models (1) and (2) is the natural log of the annual dollar value of cash gifts made by the corporation. The dependent variables in models (3) (4) and (5) are, respectively, ln (dollar giving standardized by employees), ln (giving per dollar sales), ln (giving per dollar of market equity). Dollar giving amounts from *Corporate Giving Directory*. Data on board composition and block holdings are reported in proxy statements located on the SEC website: www.sec.gov/archives/edgar; other firm-specific variables are from Compustat. State philanthropy laws are documented in Kahn (2001). Laws that define fiduciary responsibility in corporate decisions are documented in Dunfee (1999). Firm age is measured as the greater of: years from IPO date reported by Compustat or the date the company first appeared on the CRSP tapes or founding date as reported by Jovanovic and Rousseau (2001). “Regulated industry” variable =1 if firm operates in one of the following industries (SIC code): Radiotelephone communications (4812); Telephone communications (4813); Television broadcasting stations (4833); Cable and other pay tv services (4841); Electric services (4911); Natural gas transmission (4922), Gas distribution (4923), Electric and other services (4931). “Environmental impact industry” variable =1 if firm operates in: Lumber, wood and paper products (2400, 2600, 2621, 2631); Chemicals and plastics (2800, 2810, 2820-21, 2860, 2870); Petroleum refining (2911); “Financial industry” variable =1 if firm operates in: National banks, state banks, and savings and credit institutions (6021-6022, 6035, 6141); Financial services and security brokers (6199, 6211), Life and health insurance (6311, 6321), hospital and medical services plans (6324); Fire, marine, casualty insurance (6331), Insurance agents and brokers (6411). Primary SIC codes are from Compustat and matched with 1997 Economic Census classifications. In model 2 the omitted industry is manufacturing.

Robust standard errors are based on clustering by firm, and appear in parentheses below the coefficients.

*** = significant at the .01 level; ** = significant at the .05 level; * = significant at the .10 level, two-tailed tests

Table 7
Three Stage Least Squares Regression Model of Corporate Cash Contributions

	Dependent Variable		
	Dollar Giving (Ln) (1)	Total Directors (Ln) (2)	Book Equity to Market Equity (3)
Dollar Giving (Ln)		-0.01 (0.04)	-0.058 (0.05)
Agency Variables			
Total directors (Ln)	3.264* (1.73)		-0.406 (0.28)
Fraction inside directors (Ln)	-0.137 (0.09)	-0.016 (0.02)	-0.047** (0.02)
Book equity to market equity	-1.418*** (0.49)	0.028 (0.12)	
Ratio of total debt to book value	-1.838*** (0.58)	0.256*** (0.08)	0.059 (0.13)
Equity held by blockholders (%)	0.121 (0.23)		0.038 (0.06)
Equity held by institutions (%)	0.17 (0.37)		-0.124 (0.08)
Value Enhancement Variables			
Ratio of advertising to total sales	1.998* (1.21)	0.196 (0.25)	-0.809*** (0.28)
Ratio of R&D to total sales	8.806*** (1.60)	-0.173 (0.39)	-0.975* (0.58)
Regulated industry	0.17 (0.20)	0.112*** (0.04)	
Environmental impact industry	0.268** (0.12)	0.02 (0.03)	
State Corporate Philanthropy Laws			
Shareholder primacy	-0.027 (0.20)		
Permits/Mandates firm to consider other interests	-0.119 (0.17)		
Permits donations for "public welfare"	-0.057 (0.13)		
Permits donations for furthering business	0.315* (0.17)		
Firm Characteristics			
Net income	0.0002*** (0.00)		-0.00002 (0.00)
Employees (Ln)	0.128 (0.08)	0.048*** (0.02)	-0.024* (0.01)

Assets (Ln)	0.376*** (0.08)	0.025 (0.02)	0.090*** (0.02)
Age (Ln)	-0.021 (0.10)	0.038*** (0.01)	
Free cash flow		0.422** (0.17)	
CEO tenure		0.002* (0.00)	
Return on equity			-0.004*** (0.00)
Number of operating segments			0.007* (0.00)
Constant	3.598 (3.34)	1.936*** (0.34)	1.641*** (0.48)
No. of observations	600	600	600
No. of firms	207	207	207

The table shows estimates from the 3SLS model where corporate giving, board size and the book to market ratio are jointly determined. Dollar giving amounts are reported in *Corporate Giving Directory*; data on board composition and block holdings and CEO tenure are reported in proxy statements located on the SEC website: www.sec.gov/archives/edgar; other firm-specific variables are from Compustat. Free cash flow is measured as ((net income + depreciation – capital expenditures)/assets) and CEO tenure is number of years CEO has served. State philanthropy laws are documented in Kahn (2001). Laws that define fiduciary responsibility in corporate decisions are documented in Dunfee (1999). All state laws are classified by state of incorporation. Firm age is measured as the greater of: years from IPO date reported by Compustat or the date the company first appeared on the CRSP tapes or founding date as reported by Jovanovic and Rousseau (2001). “Regulated industry” variable =1 if firm operates in one of the following industries (SIC code): Radiotelephone communications (4812); Telephone communications (4813); Television broadcasting stations (4833); Cable and other pay tv services (4841); Electric services (4911); Natural gas transmission (4922), Gas distribution (4923), Electric and other services (4931). “Environmental impact industry” variable =1 if firm operates in: Lumber, wood and paper products (2400, 2600, 2621, 2631); Chemicals and plastics (2800, 2810, 2820-21, 2860, 2870); Petroleum refining (2911); Primary SIC codes are from Compustat and matched with 1997 Economic Census classifications. Primary SIC codes are from Compustat and matched with 1997 Economic Census classifications.

***= significant at .01 level; **= significant at .05 level; *=significant at .10 level, two-tailed test