IS DOING GOOD GOOD FOR YOU? HOW CORPORATE CHARITABLE CONTRIBUTIONS ENHANCE REVENUE GROWTH

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This study examines the impact of corporate philanthropy growth on sales growth using a large sample of charitable contributions made by U.S. public companies from 1989 through 2000. Applying Granger causality tests, we find that charitable contributions are significantly associated with future revenue, whereas the association between revenue and future contributions is marginally significant at best. We then identify the mechanism underlying our findings. Our results are particularly pronounced for firms that are highly sensitive to consumer perception, where individual consumers are the predominant customers. In addition, we document a positive relationship between contributions and customer satisfaction. Overall, our evidence suggests that corporate philanthropy, under certain circumstances, furthers firms' economic objectives. Copyright © 2009 John Wiley & Sons, Ltd.

INTRODUCTION

The median level of charitable contributions from large, multinational corporations increased 5.6 percent in 2007, according to a study by the Committee Encouraging Corporate Philanthropy (2008). Notably, seven out of the eight companies in the study that reported a loss in 2007 still increased their level of giving. Despite substantial growth over the past two decades, corporate philanthropy remains controversial. Some critics argue that corporate contributions are a drain on shareholder wealth and a distraction of managers' attention, while others claim that the business sector is not giving enough. At the core of this debate is the question of whether corporate philanthropy enhances financial performance or whether it is

a distribution of corporate profits. If philanthropy enhances financial performance, then corporate giving is as economically justified as other business expenditures such as research and development (R&D), capital expenditures, and marketing campaigns, and should be evaluated by traditional business decision tools. If, on the other hand, corporate philanthropy is a distribution of profits, different criteria (social value measures) must be applied to evaluate giving activity. For the 'givers'—managers—the question of whether corporate philanthropy is a business activity or a distribution of profits is of significant importance in selecting decision rules: conventional return-on-investment criteria or, the somewhat less conventional and harder to justify to boards and shareholders, social choice rules. Accordingly, the purpose of this study is to examine whether corporate philanthropy furthers a major objective of business enterprises—revenue growth.

The debate over the legitimacy and effectiveness of corporate social responsibility (CSR) in

general, and corporate philanthropy in particular, is as old as corporate involvement in such activities (Berle, 1931; Dodd, 1932; Levitt, 1958; Friedman, 1970). Much of the research on CSR strives to establish empirically a business case for such activities (see Margolis and Walsh, 2001). Findings from this research generally indicate a positive relation between CSR and corporate economic performance, particularly in recent years (Capon, Farley, and Hoenig, 1990; Roman, Hayibor, and Agle, 1999; Margolis and Walsh, 2001; Orlitzky, Schmidt, and Rynes, 2003). However, as Margolis and Walsh (2003) note, much of the extant research focuses on documenting an *association* between social and financial performance without attempting to study the causal link underlying the association: do financially successful enterprises have more economic slack (i.e., cash, highly valued stock) to engage in socially responsible activities, or do socially responsible activities enhance fundamental business objectives, such as revenue growth? Or is there, perhaps, an omitted variable—investor monitoring or management quality, for example—which simultaneously affects both social and economic performance? Establishing causality by statistical means is notoriously difficult, challenging researchers not only in the CSR area but in other fields as well (e.g., the difficulties encountered in disentangling the effects of R&D or information technology expenditures on sales from the reverse causation). Thus, it is important for researchers to identify and test specific theoretical mechanisms by which CSR can influence economic performance.

In this study, we take a first, admittedly tentative, step at separating association from causation. We investigate the effect of corporate charitable contributions on the important 'top line'—annual revenues. We do this by using a large sample of charitable contributions made by public companies from 1989 through 2000, and employing a widely used methodology—Granger (1969) causality—for obtaining insight into cause and effect. While not without limitations, the Granger causality methodology is often used in economic and other social science research as an important step toward disentangling causality from association. Dowell, Hart, and Yeung (2000), for example, use Granger causality tests (perhaps for the first time in CSR research), to examine the relation between a firm's environmental standards and Tobin's q. They find the causality inconclusive; a firm's *current* environmental standards are not a significant predictor of *future* firm value or vice versa. Since establishing causation by statistical means is still a work in progress, we validate our findings by examining a specific mechanism by which corporate contributions enhance revenue growth via customer satisfaction.

Hillman and Keim (2001) suggest that it is useful for researchers to examine the individual components of CSR. Corporate philanthropy is one such component (Carroll, 2004), albeit an important, highly visible component with specific attributes that make it particularly amenable to empirical research. A rich dataset on contributions is available, spanning many firms, economic sectors, and years. The contribution data, which are reviewed by independent auditors, are measurable and comparable across companies and time, allowing researchers to use Granger causality tests. Also, compared to other social initiatives, such as environmental investments, it is relatively easy for a firm to turn on and off the corporate giving spigot in a given year, which gives contributions more variability over time and potentially more power to the researcher to identify the causal relation between financial and social performance.

Wood and Jones (1995) argue that researchers should expect a positive association between corporate social and financial performance only when there is a theoretical link between the two. The use of broad measures of financial performance, such as stock returns that are affected by multiple factors, some beyond managers' control, makes it difficult to tease out specific causal links. We, accordingly, focus on revenue growth as our measure of economic performance because, as discussed in the next section, we can motivate and test a direct link between charitable contributions and revenues. Specifically, carefully designed corporate philanthropy programs enable firms to attract and retain customers, ultimately leading to increased revenues. It is important to note that even though we focus on revenue, we recognize that charitable contributions can have other economic benefits, such as improved employee hiring or increased innovation. An advantage of using revenues when investigating causality is that consumer response to corporate giving via sales can happen relatively quickly (e.g., cause-related marketing, press coverage of charitable grants), whereas other potential benefits, such as better relations with regulators or improved employee productivity, are more likely

to materialize in the long term. In addition, Margolis and Walsh (2003) note that many studies examining the link between social and economic performance inadequately control for other factors that affect financial performance. In contrast, a large body of literature exists on the determinants of corporate revenues, enabling us to use adequate controls to isolate the effect of charitable contributions on revenue growth.

Our analysis indicates that growth in charitable contributions is significantly associated with *subsequent* revenue growth. Notably, when we perform the dual part of the Granger test—regressing subsequent charitable contributions on revenue growth—the coefficients on the latter are marginally significant at best. Thus, we do not find persuasive evidence that revenue growth substantially enhances corporate giving. Because Granger tests cannot definitively establish causality, we perform two additional tests that provide corroborative evidence for our initial result. We document that sensitivity to individual consumers' perception moderates the relationship between giving and sales. Specifically, our results are driven primarily by industries that have product market incentives (e.g., retailers, financial services) to appear philanthropic. We also document that customer satisfaction mediates the relationship between corporate giving and sales. Taken as a whole, our results are consistent with the conclusion that corporate philanthropy enhances future revenue growth.[1]

The remainder of the paper is organized as follows. We first provide background information and discuss how corporate giving is linked to revenue growth. We then describe the data and our methodology, and present results from the basic Granger causality tests. We further investigate the mechanism by which contributions enhance sales growth, specifically examining consumer sensitivity to philanthropy and customer satisfaction. Following these tests, we rule out alternative explanations for our findings. Lastly, we conclude by discussing the implications of our findings for managers and policy makers and for future research.

CORPORATE PHILANTHROPY AND REVENUES

In 2007, U.S. firms gave approximately $15.7 billion to the nonprofit sector (Giving USA, 2008).[2] Prior research suggests several reasons why managers contribute corporate resources to charity. These reasons include giving is a rational business decision, giving is a self-motivated managerial perquisite, and giving is purely altruistic. Clotfelter (1985) is among the early researchers to formally document the profit maximization motive for giving. Corporate philanthropy may enhance shareholder value by boosting sales, raising employee morale and productivity (Navarro, 1988; Greening and Turban, 2000), stimulating innovation, or improving relations with regulators and special interest groups (Barron, 2001; Neiheisel, 1994). Alternatively, contributions may simply represent an agency cost (Williamson, 1964; Jensen and Meckling, 1976). Critics of corporate contributions argue that managers contribute to charity to further their own objectives and community status (Balotti and Hanks, 1999), to the detriment of shareholders. Useem and Kutner (1984), Galaskiewicz (1997), Boatsman and Gupta (1996), and Brown, Helland, and Smith (2006) present evidence consistent with the CEO and board members wielding substantial personal interest over the firms' giving decisions. Finally, Galaskiewicz (1985) reports that the most common rationale provided by managers is that their firms have a moral obligation to the communities in which they operate.[3]

While it is difficult to ascertain managers' true motives for engaging in corporate philanthropy, we can study the effects of this activity. In particular, we examine a potential major consequence

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[1] As discussed in the results section, our tests indicate decreasing marginal returns to philanthropy. There is an upper bound on the benefits of giving with respect to sales, consistent with other corporate activities (i.e., advertising).

[2] Most firms spend the largest fraction of their contributions on education. Expectedly, health and human services organizations are the major beneficiaries of pharmaceutical companies. Arts and cultural, environmental, and community causes also receive substantial corporate support in the form of cash and noncash contributions, such as inventory, land, stock, and employee time. Firms can contribute directly to a charitable cause or through corporate-sponsored foundations (Petrovits, 2006).

[3] Interestingly, one fact is often overlooked in discussions of the reasons for corporate giving: the different motives are not necessarily mutually exclusive. For example, a contribution can help a manager attain a higher social status while simultaneously enhancing the firm's reputation among consumers. The various overlapping institutional pressures that corporate managers face with respect to giving decisions are discussed in Galaskiewicz (1997) and Marquis, Glynn, and Davis (2007).

of corporate giving—the enhancement of revenue growth. The contributions-revenue relation we conjecture is depicted in Figure 1. Anecdotal evidence, as well as the prior empirical and theoretical research discussed below, lay the groundwork for investigating this link between philanthropy and revenues.

Well-designed contributions can increase the firm's name and brand recognition among customers in a similar manner to advertising. For example, Sears Roebuck estimates that its $50,000 product donation to needy families, which was publicized by a nationally syndicated television program, resulted in a sales increase of $13–$40 million (Rochlin, Coutsoukis, and Carbone, 2001). A study by eNR Services indicates that charitable cause-related activities receive more press coverage than other types of corporate promotions including new product introductions. This study finds that while only 11 percent of the press releases examined were cause related, these press releases generated 34 percent of the media impressions.[4] In addition, consumers often evaluate firms on their level of generosity, as demonstrated by the popularity of books like *The Better World Shopping Guide* (Jones, 2008) and the frequent lists of the most charitable companies in the popular press. Philanthropy can improve the reputation of a company and enhance its customer loyalty, thereby reducing the price elasticity of demand.[5] Philanthropy programs can also raise consumer demand
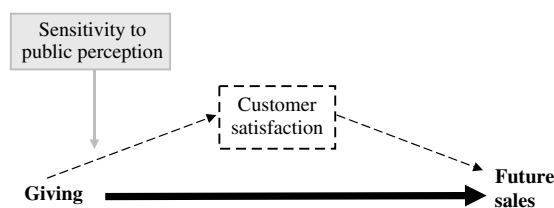

Figure 1. The link between corporate philanthropy and revenues

[4] See http://www.causemarketingforum.com/page.asp?ID=446 (accessed 10 August, 2009).
[5] According to a 2000 survey by Walker Information and the Council on Foundations, 94.9 percent of customers who rate a firm's philanthropy as high say they will continue doing business with the firm. In contrast, only 66.6 percent of customers who rate a firm's philanthropy as low say they will continue doing business with the firm. See http://www.cof.org/.../Measuring_the_Business_Value_of_Corp_Phil-Executive_Summary.pdf (accessed 10 August, 2009).

directly, as in General Mills' cause-related marketing campaign, Box Tops for Education, or the publishing company McGraw Hill's funding of literacy programs that likely increase its consumer base. Furthermore, firms can use their community involvement and relationships with nonprofit organizations, sustained by contributions, to generate new sales leads. Finally, firms can improve economic conditions internationally with the long-term goal of enhancing the size and quality of their markets. If corporate philanthropy does enhance revenue growth as suggested by this anecdotal evidence, then we expect that current year corporate giving is associated with future sales as indicated by the solid line in Figure 1, but we do not expect that current year sales are associated with future corporate giving.

Most prior empirical research on corporate contributions treats contributions as the dependent variable and focuses on identifying the determinants of the level of giving. For example, several studies document a positive association between advertising and corporate giving (Schwartz, 1968; Fry, Keim, and Meiners, 1982; Navarro, 1988; Boatsman and Gupta, 1996; Fisman, Heal, and Nair, 2006). Johnson (1966) reports that firms in industries characterized by rivalry contribute more than firms in industries characterized by perfect competition or monopoly because rival firms can differentiate themselves with contributions, among other things, whereas competitive firms cannot afford to and monopolists have no reason to. Fombrun and Shanley (1990), Williams and Barret (2000), and Werbel and Wortman (2000) provide evidence that charitable contributions are positively associated with the reputation of the firm. These studies suggest that firms use philanthropy to attract and retain customers, but only offer indirect evidence of a link between giving and financial performance.

A recent study by Wang, Choi, and Li (2008) does directly examine the effect of giving on financial performance. Wang *et al.* reports a positive regression coefficient on corporate giving and a negative coefficient on the quadratic term for corporate giving, which they interpret as decreasing marginal returns at higher levels of giving. This study is important because it highlights the nonlinear relationship between philanthropy and financial performance. However, Wang *et al.* (2008) do not attempt to address the causality issue; their

results are also consistent with high financial performance driving more philanthropy as a managerial perquisite. Wang *et al.* use a generalized notion that corporate philanthropy enhances reputation among firms' stakeholders which, in turn, enhances financial performance, as measured by return on assets and Tobin's *q*. We, in contrast, examine a specific mechanism—customer satisfaction—as the link between philanthropy and our theoretically driven measure of financial performance: revenue growth.

Although not specifically addressing corporate philanthropy, related marketing research indicates, in experimental settings, that corporate social responsibility often, but not always, leads to a positive effect on consumer attitudes (e.g., Brown and Dacin, 1997; Sen and Bhattacharya, 2001). Luo and Bhattacharya (2006) report that corporate social responsibility, as measured by *Fortune*'s annual subjective ranking of the 'most admired companies,' is positively associated with customer satisfaction. In addition, prior research (e.g., Anderson, Fornell, and Lehmann, 1994; Ittner and Larcker, 1998) demonstrates that customer satisfaction is associated with future financial performance. Based on these studies, we hypothesize that customer satisfaction *mediates* the relationship between corporate giving and sales, as indicated by the dashed line in Figure 1. If this mechanism is valid, we expect firms that engage in philanthropy have more loyal, satisfied customers, which, in turn, enhances revenue growth.

We further shed light on the causal relation between corporate contributions and revenue growth by focusing on the firm's product market incentives to appear charitable. Fisman *et al.* (2006) develop a model where philanthropy is a costly signal of trustworthiness when product quality is unobservable, and predict corporate philanthropy will be greater in industries where a firm's image is important to customers. Since individual consumers and industrial buyers are different in terms of their purchase decision-making process, advertising plays a much more important role in consumer goods marketing than in industrial purchasing (Corey, 1991).[6] If philanthropy aims to build trust or act as advertising, then firms that produce goods and services primarily for *individual customers* (high consumer sensitivity) have greater incentive to appear charitable in order to increase demand for their products than firms that produce goods and services primarily for industrial or governmental use (low consumer sensitivity). For example, charitable contributions by Bank of America will be more effective in changing customer attitudes, particularly at the local level, than contributions by Boeing, whose customers are mainly corporations and governments. Because of the psychological forces and social group factors that affect the buying behavior of individuals, we expect that firm sensitivity to individual consumer perceptions *moderates* the relationship between corporate philanthropy and customer satisfaction as indicated by the gray arrow in Figure 1.

Finally, even if a firm's actual motive for engaging in corporate philanthropy is to enhance revenue growth, it might not ultimately realize this benefit. First, customers may become disenchanted with a company's philanthropy if they perceive the company is exploiting a good cause for bottom line purposes (e.g., Webb and Mohr, 1998; Varadarajan and Menon, 1988). For example, Philip Morris was sharply criticized for spending $100 million to advertise $75 million of charitable giving (Levin, 1999). Also, Ittner and Larcker (1998) report that revenue growth resulting from improved customer satisfaction diminishes at higher satisfaction levels. Thus, it is an empirical question whether corporate giving is associated with future revenue growth. We examine this question in the next section.

DATA AND EMPIRICAL MODELS

Sample and descriptive statistics

We identify firms with corporate philanthropy programs using the *Taft Corporate Giving Directory* that covered the years 1989–2000 (Taft Group, 1994–2002). The Taft profiles include the type of giving (direct giving, via foundation, or both) and data on the amount of giving. These profiles are the primary source of direct corporate giving data. For firms identified in Taft as having a

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[6] The purchasing decision of an individual consumer is affected not only by product attributes, but also by social group forces, psychological factors, and the consumer's situational forces. In contrast, in industrial purchasing, the decision-making process is highly formalized, using defined procurement procedures, and subject to economic (cost/value) analysis. Industrial buyers are generally well informed about the seller's product and alternative suppliers of the product. In addition, unlike individual consumers, industrial buyers are often specifically identified by the seller and customer communication is carried out through personal selling (Corey, 1991).

corporate foundation, we collect foundation giving data from the National Center for Charitable Statistics (NCCS) Core Trend Private Foundation Data Extract. Thus, our measure of total giving, termed GIFT, equals direct giving, when available from Taft, as well as giving from the corporate foundation.[7] We use estimated marginal tax rates from Graham (1996a, 1996b), financial information from the COMPUSTAT annual database, and institutional investor holdings from Thomson Reuters 13F filings database. We delete firms with less than seven years of charitable giving data in order to have a sufficient time series for each firm to implement the Granger causality tests.[8] The final sample consists of 1,618 observations for 251 distinct firms.

A few noteworthy comments on the data are as follows. First, only firms that choose to report their direct giving to Taft are included in the sample, a fact that could introduce a sample selection bias, since firms choosing to disclose direct giving might be those that most effectively use charitable contributions to enhance performance. This concern, however, is mitigated by the fact that our sample is composed of a wide variety of firms in terms of size and industry (see Table 1), and therefore seems largely representative. Furthermore, all corporate foundation giving—the second component of total contributions—is disclosed via the foundation's publicly available tax return and included in our sample. Second, the Taft data is self-reported and not based on a uniform definition. Firms may have used different definitions of charitable giving, for example, one classifies an ad in a nonprofit magazine as a charitable gift, while another defines it as advertising. This introduces measurement error that is not likely to be systematic, but could lower the power of our tests. Third, some firms note that they report only charitable giving in the United States or giving at their headquarters. To the extent that giving is decentralized, our charitable contribution measure is understated, introducing certain noise in the charitable giving data. We mitigate these potential data problems by

examining the *change* in annual charitable giving, rather than its level. For example, the exclusion of foreign giving from our data for some firms may have a significant effect on the level of the variable GIFT, but likely a smaller effect on its growth rate.

Table 1, Panel A, provides the year-wise distribution of the sample. All years are well represented, from a low of 132 firms in 2000 to a high of 212 firms in 1997. Table 1, Panel B, provides the distribution of firms and observations across industry groups similar to the ones defined by Sharpe (1982). Of the 251 distinct firms, over 40 percent (105 firms) operate in the consumer goods sectors, while capital goods producers are represented by 38 firms and the financial services industry by 33 firms.

Table 1, Panel C, provides sample descriptive statistics. The overall sample mean (median) of revenue, denoted by SALE, is $8.9 ($3.6) billion. The mean (median) charitable giving, GIFT, is $8.93 ($1.99) million. On average, charitable giving represents about 0.1 percent of sales and 1.6 percent of net income. Firm size, as measured by market value, ranges from $25 million to $512 billion and the mean (median) size is $14.6 billion ($4.0 billion). Roughly 70 percent of the observations have nonzero R&D expenditures, suggesting that a large proportion of the sample firms pursue an innovation strategy.[9] Advertising expense is not reported separately by 1,123 out of 1,618 observations.[10] About 90 percent of the sample firms have positive net income and invest in capital expenditures, consistent with the sample period coinciding with economic growth.

As discussed in the previous section, a firm's reputation for philanthropy is more likely to affect the purchasing decisions of individual consumers than the purchasing decisions of corporations and governments. Thus, we partition the sample into

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[7] Corporate giving represents funds from the corporate coffers only and does not include individual giving by firm managers or employees (e.g., gifts from the Bill and Melinda Gates Foundation are not included in Microsoft's giving).

[8] This time-series requirement resulted in the loss of 79 firms. Of these deleted firms, only two firms declared bankruptcy within two years following the sample period. Thus, survivorship bias does not appear to be a significant issue in our analysis.

[9] R&D expenses that are missing in COMPUSTAT are considered zero, because the accounting rule (SFAS 2) requires firms to report such expenses separately.

[10] Advertising expenses that are missing in COMPUSTAT are considered zero. There is no accounting rule mandating the separate disclosure of advertising expense; thus, firms disclose advertising expense in their financial statements on a voluntary basis. Consequently, our assumption that firms that do not report advertising expense have zero expense could understate the effect of advertising expense for the overall sample. Our results are qualitatively similar when we drop advertising from the regression specifications.

Table 1.   Sample description

Panel A: Year representation

Year	Observations	
	Number	Percentage
1992	147	9.09
1993	169	10.44
1994	188	11.62
1995	204	12.61
1996	200	12.36
1997	212	13.10
1998	197	12.18
1999	169	10.44
2000	132	8.16
TOTAL	1,618	100.00

Panel B: Industry representation

Industry		Observations		Firms	
		Number	Percentage	Number	Percentage
1	Basic industries	166	10.26	26	10.36
2	Capital goods	250	15.45	38	15.14
3	Construction	42	2.60	7	2.79
4	Consumer goods	685	42.34	105	41.83
5	Energy	49	3.03	8	3.19
6	Finance	218	13.47	33	13.15
7	Transportation	77	4.76	13	5.18
8	Utilities	127	7.85	20	7.97
9	Other	4	0.25	1	0.40
	TOTAL	1,618	100.00	251	100.00

Industry classifications are based on Sharpe (1982). The following four-digit SIC codes are assigned to each group. (1) Basic industries: 1000–1299, 1400–1499, 2600–2699, 2800–2829, 2870–2899, 3300–3399; (2) Capital goods: 3400–3419, 3440–3599 excluding 3523, 3670–3699, 3800–3849, 5080–5089, 5100–5129, 7300–7399; (3) Construction: 1500–1599, 2400–2499, 3220–3299, 3430–3439, 5160–5219; (4) Consumer goods: 0000–0999, 2000–2399, 2500–2599, 2700–2799, 2830–2869, 3000–3219, 3420–3429, 3523, 3600–3669, 3700–3719, 3751, 3850–3879, 3880–3999, 4813, 4830–4899, 5000–5079, 5090–5099, 5130–5159, 5220–5999, 7000–7299, 7400–9999; (5) Energy: 1300–1399, 2900–2999; (6) Finance: 6000–6999; (7) Transportation: 3720–3799 excluding 3751, 4000–4799; (8) Utilities: 4800–4829 excluding 4813, 4900–4999; (9) Others: all other SIC codes.

two categories: firms where the predominant customer is the individual consumer and firms where the predominant customer is industry. Specifically, firms in the 'consumer goods' and 'finance' sectors are classified as having high sensitivity to public perception because these firms rely primarily on individual consumers to maintain demand for their products and services. Firms in all other industries are classified as having low sensitivity to public perception about corporate philanthropy. This classification results in 138 firms (903 observations) in the high customer sensitivity category and 113 firms (715 observations) in the low customer sensitivity category. The largest high consumer sensitivity firms include Walmart,

Ford, and Citibank, while the largest low consumer sensitivity firms include IBM, Mobil, and Boeing. Panel C of Table 1 indicates that high customer sensitivity firms are substantially larger in sales, net income and market value than low customer sensitivity firms. Consistent with prior research (e.g., Fry *et al.*, 1982), consumer-focused firms give more to charity than their industrial goods counterparts.

Basic empirical model

Our objective is to investigate whether corporate philanthropy has a positive effect on economic performance. Our basic methodology, following

Table 1.   (*Continued*)
Panel C: Descriptive statistics

Variable	Full sample (n = 1, 618)		High consumer sensitivity (n = 903)		Low consumer sensitivity (n = 715)	
	Mean	Median	Mean	Median	Mean	Median
SALE ($ millions)	8,911	3,592	10,079	4,420	7,436	3,039
GIFT ($ millions)	8.93	1.99	10.54	2.5	6.92	1.65
$(\text{SALE}_t/\text{SALE}_{t-1}) - 1$ (%)	7.87	6.64	8.06	7.08	7.44	5.56
$(\text{GIFT}_t/\text{GIFT}_{t-1}) - 1$ (%)	4.26	4.46	5.72	5.25	3.7	3.16
RD ($ millions)	247	7	248	0	247	15
CEX ($ millions)	682	159	706	102	652	259
ADVT ($ millions)	473	183	534	226	285	133
NI ($ millions)	558	192	679	248	405	129
MV ($ millions)	14,580	4,018	16,844	5,083	11,721	2,886
OC ($ millions)	1,577	511	1,934	653	1,126	403
MB	3.54	2.46	4.01	2.74	2.94	2.17
MTR (%)	28	35	29	35	26	35
MERGER	0.17	0	0.16	0	0.18	0
INST	0.49	0.54	0.5	0.54	0.49	0.56
IND_ROS	0.05	0.05	0.06	0.06	0.05	0.04

Variable definitions: SALE = annual revenue (data item #12); GIFT = annual direct corporate giving + corporate foundation giving; RD = research and development (data item #46 or zero if data item #46 is missing); CEX = capital expenditures (data item #128); ADVT = advertising (data item #45); NI = net income before extraordinary items (data item #18); MV = market value (data item #199 × data item #125); OC = organization capital from Lev and Radhakrishnan (2005); MB = market-to-book ratio ((data item #199*data item #125)/(data item #60)); MTR = marginal tax rate from Graham (1996a, 1996b); MERGER = 1 if data item AFTNT1 indicates a merger or acquisition, and 0 otherwise; INST = number of shares held by institutions divided by the number of shared outstanding; and IND_ROS = Σ NI divided by Σ Total sales for all firms in an industry (two-digit SIC code). High consumer sensitivity includes firms in the consumer goods and finance industries; low consumer sensitivity includes firms in all other industries.

Granger causality tests (Granger, 1969) involves the examination of current revenue growth as a function of prior growth in charitable giving, and alternatively, current charitable giving growth as a function of prior revenue growth. Specifically, as a first step, we estimate the following equations by means of regressions:

We comment as follows. First, Equations (1) and (2) are specified in terms of first differences to mitigate concerns about autocorrelation resulting from the panel data estimation (see Anderson and Hsiao, 1982). Second, we include two lags of the explanatory variables, based on chi-squares from a regression selection model. Our results are qualitatively

Figure 1, we would expect past values of contributions growth to improve the prediction of future sales, but we would not expect past values of sales growth to help predict future contributions. Equations (1) and (2), as well as the subsequent empirical models, are designed to test these expectations.

$$\log(\text{SALE}_{it}/\text{SALE}_{i(t-1)}) = a_0 + a_1 \log(\text{GIFT}_{i(t-1)}/\text{GIFT}_{i(t-2)})$$
$$+ a_2 \log(\text{GIFT}_{i(t-2)}/\text{GIFT}_{i(t-3)}) + \text{error}, \tag{1}$$

$$\log(\text{GIFT}_{it}/\text{GIFT}_{i(t-1)}) = a_0 + b_1 \log(\text{SALE}_{i(t-1)}/\text{SALE}_{i(t-2)})$$
$$+ b_2 \log(\text{SALE}_{i(t-2)}/\text{SALE}_{i(t-3)}) + \text{error}, \tag{2}$$

where SALE_{it} is firm i's net revenue in year t, and GIFT_{it} is its charitable contributions in year t. Because changes in sales and giving are highly right skewed, we use a logarithmic functional form in Equations (1) and (2). The intuition behind these regressions is that if corporate contributions 'cause' sales growth, as depicted in

Table 2.   Gifts and sales: Granger causality tests for the full sample

Panel A: Regression of sales growth on prior giving growth; dependent variable = $\log(SALE_t/SALE_{t-1})$

$n = 1{,}618$	Equation (1)			Equation (3)		
	Coeff.	*t*-stat	*P*	Coeff.	*t*-stat	*P*
$\log(GIFT_{t-1}/GIFT_{t-2})$	**0.05**	**3.60**	**0.00**	**0.03**	**2.79**	**0.01**
$\log(GIFT_{t-2}/GIFT_{t-3})$	**0.02**	**2.31**	**0.02**	**0.02**	**1.77**	**0.08**
$\log(SALE_{t-1}/SALE_{t-2})$				0.39	6.65	0.00
$\log(SALE_{t-2}/SALE_{t-3})$				−0.08	−1.39	0.16
$\log(RD_{t-1}/RD_{t-2})$				0.04	2.00	0.05
$\log(RD_{t-2}/RD_{t-3})$				0.01	1.43	0.15
$\log(CEX_{t-1}/CEX_{t-2})$				0.02	2.54	0.01
$\log(CEX_{t-2}/CEX_{t-3})$				0.01	0.24	0.81
$\log(ADVT_{t-1}/ADVT_{t-2})$				0.01	0.47	0.64
$\log(ADVT_{t-2}/ADVT_{t-3})$				0.02	0.98	0.33
$MERGER_{t-1}$				0.05	6.16	0.00
$\log(MV_{t-1})$				0.01	4.06	0.00
Adj R^2		1.68%			17.40%	

Panel B: Regression of giving growth on prior sales growth; dependent variable = $\log(GIFT_t/GIFT_{t-1})$

$n = 1{,}618$	Equation (2)			Equation (4)		
	Coeff.	*t*-stat	*P*	Coeff.	*t*-stat	*P*
$\log(GIFT_{t-1}/GIFT_{t-2})$				−0.22	−3.40	0.00
$\log(GIFT_{t-2}/GIFT_{t-3})$				−0.01	−0.21	0.83
$\log(SALE_{t-1}/SALE_{t-2})$	**0.46**	**2.11**	**0.04**	**0.39**	**1.74**	**0.08**
$\log(SALE_{t-2}/SALE_{t-3})$	**0.09**	**0.52**	**0.60**	**0.16**	**0.99**	**0.32**
$\log(RD_{t-1}/RD_{t-2})$				0.04	0.56	0.57
$\log(RD_{t-2}/RD_{t-3})$				0.04	1.63	0.10
$\log(CEX_{t-1}/CEX_{t-2})$				0.03	1.07	0.28
$\log(CEX_{t-2}/CEX_{t-3})$				0.04	1.62	0.11
$\log(ADVT_{t-1}/ADVT_{t-2})$				0.03	0.32	0.75
$\log(ADVT_{t-2}/ADVT_{t-3})$				−0.11	−0.79	0.43
$MERGER_{t-1}$				0.02	0.73	0.46
MTR_{t-1}				0.20	2.67	0.01
$\log(MV_{t-1})$				0.03	4.30	0.00
Adj R^2		0.52%			5.44%	

unchanged if we use one or three lags. Third, Granger causality tests generally include lagged values of the dependent variable in the equation and investigate whether prior independent variables provide information over and above that provided by prior values of the dependent variable. We too incorporate lagged values of the dependent variables in the subsequent regressions. Finally, we note that neither the Granger causality test nor any other statistical test can *definitively* establish cause and effect. Strictly speaking, Granger tests identify if a variable has predictive value and, as such, shed light on causality. Thus, similar to prior research, we use the term 'Granger-cause' to indicate that one time series is useful in forecasting another series.

Panels A and B of Table 2 provide the estimates of Equations (1) and (2), respectively. We estimate these equations using the generalized least-squares technique to address the potential overstatement of the t-statistic due to serially correlated errors. Specifically, we allow for the error terms to be serially correlated and firm-specific, computing the robust variance–covariance matrix estimates by firm clusters (see Arellano, 1987, 1989; Wooldridge, 2002).[11] Panel A (left three

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[11] Results for this and subsequent tests are qualitatively similar when we cluster by year or when we use ordinary least squares.

Table 3. Gifts and sales: Granger causality tests by sensitivity to public perception

Panel A: Regression of sales growth on prior giving growth; dependent variable = log(SALE$_t$/SALE$_{t-1}$)

	High consumer sensitivity ($n = 903$)			Low consumer sensitivity ($n = 715$)		
	Coeff.	t-stat	P	Coeff.	t-stat	P
log(GIFT$_{t-1}$/GIFT$_{t-2}$)	**0.04**	**2.83**	**0.01**	**0.02**	**1.06**	**0.29**
log(GIFT$_{t-2}$/GIFT$_{t-3}$)	**0.02**	**2.12**	**0.04**	**0.01**	**0.45**	**0.65**
log(SALE$_{t-1}$/SALE$_{t-2}$)	0.39	5.53	0.00	0.26	2.81	0.01
log(SALE$_{t-2}$/SALE$_{t-3}$)	−0.01	−0.08	0.94	−0.17	−2.18	0.03
log(RD$_{t-1}$/RD$_{t-2}$)	0.04	1.58	0.12	0.05	2.31	0.02
log(RD$_{t-2}$/RD$_{t-3}$)	0.01	0.69	0.49	0.03	1.43	0.15
log(CEX$_{t-1}$/CEX$_{t-2}$)	0.01	1.22	0.23	0.08	4.10	0.00
log(CEX$_{t-2}$/CEX$_{t-3}$)	0.01	0.01	0.99	0.01	0.98	0.33
log(ADVT$_{t-1}$/ADVT$_{t-2}$)	−0.02	−1.14	0.26	0.08	1.23	0.22
log(ADVT$_{t-2}$/ADVT$_{t-3}$)	−0.03	−1.44	0.15	0.12	3.17	0.00
MERGER$_{t-1}$	0.04	3.49	0.00	0.06	4.74	0.00
log(MV$_{t-1}$)	0.01	3.52	0.00	0.01	1.95	0.05
Adj R^2		13.29%			21.45%	

Panel B: Regression of giving growth on prior sales growth; dependent variable = log(GIFT$_t$/GIFT$_{t-1}$)

	High consumer sensitivity ($n = 903$)			Low consumer sensitivity ($n = 715$)		
	Coeff.	t-stat	P	Coeff.	t-stat	P
log(GIFT$_{t-1}$/GIFT$_{t-2}$)	−0.21	−1.85	0.07	−0.24	−4.06	0.00
log(GIFT$_{t-2}$/GIFT$_{t-3}$)	−0.06	−067	0.50	0.02	0.37	0.72
log(SALE$_{t-1}$/SALE$_{t-2}$)	**0.25**	**0.75**	**0.45**	**0.49**	**1.24**	**0.22**
log(SALE$_{t-2}$/SALE$_{t-3}$)	**0.33**	**1.02**	**0.35**	**−0.18**	**−0.85**	**0.39**
log(RD$_{t-1}$/RD$_{t-2}$)	−0.02	−0.13	0.89	0.08	2.04	0.04
log(RD$_{t-2}$/RD$_{t-3}$)	−0.01	−0.08	0.93	0.07	1.95	0.05
log(CEX$_{t-1}$/CEX$_{t-2}$)	0.04	1.20	0.23	−0.01	−0.15	0.89
log(CEX$_{t-2}$/CEX$_{t-3}$)	0.02	0.67	0.51	0.10	2.67	0.01
log(ADVT$_{t-1}$/ADVT$_{t-2}$)	−0.01	−0.08	0.94	0.01	0.02	0.99
log(ADVT$_{t-2}$/ADVT$_{t-3}$)	−0.29	−1.64	0.11	0.23	1.81	0.07
MERGER$_{t-1}$	0.02	0.70	0.48	0.01	0.29	0.77
MTR$_{t-1}$	0.12	1.07	0.29	0.26	2.49	0.01
log(MV$_{t-1}$)	0.03	2.88	0.01	0.02	3.05	0.00
Adj R^2		4.03%			11.74%	

columns) indicates that the coefficient estimates on prior-year growth in contributions (GIFT) and two-years-back growth in contributions are 0.05 and 0.02, respectively, both statistically significant at the 0.00 and 0.02 levels. This provides an initial indication that corporate giving Granger-causes revenue. Correspondingly, the coefficient estimates on prior-years growth in sales, reported in Panel B, are 0.46 and 0.09, respectively, and only the former is significant (0.04 level). Thus, the preliminary results indicate that contributions are associated with subsequent sales growth to a greater degree than the reverse. In subsequent,

more comprehensive tests (Table 3), we find that sales are not associated with future contributions.

Controls for fundamental drivers of revenue and contributions

The documented relation between contributions and subsequent revenue growth may be due to omitted correlated variables, such as revenue-drivers like R&D and capital expenditures, which happen to be correlated with both charitable contributions and future sales. The same concern applies to Equation (2), where missing drivers of contributions may distort estimated coefficients on sales

growth. To address the possibility of spurious correlation, we control for four major corporate activities aimed at enhancing sales: R&D, capital expenditures, advertising and promotion, and mergers and acquisitions. We also include the lagged values of the dependent variables (sales and contributions) among the regressors, in accordance with typical Granger causality tests. We estimate the following equations:

1997). Thus, we include R&D and capital expenditures as potential determinants of contributions. In addition, as noted earlier, prior research has documented a positive association between advertising and contributions motivating us to add advertising to Equation (4). Finally, the firm's marginal tax rate, MTR, will affect the timing of charitable contributions, as firms prefer to make contributions when they face high tax rates (Clotfelter, 1985).

$$
\begin{aligned}
\log(\text{SALE}_{it}/\text{SALE}_{i(t-1)}) = {} & a_0 + a_1 \log(\text{GIFT}_{i(t-1)}/\text{GIFT}_{i(t-2)}) + a_2 \log(\text{GIFT}_{i(t-2)}/\text{GIFT}_{i(t-3)}) \\
& + a_3 \log(\text{SALE}_{i(t-1)}/\text{SALE}_{i(t-2)}) + a_4 \log(\text{SALE}_{i(t-2)}/\text{SALE}_{i(t-3)}) + a_5 \log(\text{RD}_{i(t-1)}/\text{RD}_{i(t-2)}) \\
& + a_6 \log(\text{RD}_{i(t-2)}/\text{RD}_{i(t-3)}) + a_7 \log(\text{CEX}_{i(t-1)}/\text{CEX}_{i(t-2)}) + a_8 \log(\text{CEX}_{i(t-2)}/\text{CEX}_{i(t-3)}) \\
& + a_9 \log(\text{ADVT}_{i(t-1)}/\text{ADVT}_{i(t-2)}) + a_{10} \log(\text{ADVT}_{i(t-2)}/\text{ADVT}_{i(t-3)}) \\
& + a_{11}\text{MERGER} + a_{12} \log(\text{MV}_{i(t-1)}) + \text{error}, \qquad (3) \\
\log(\text{GIFT}_{it}/\text{GIFT}_{i(t-1)}) = {} & a_0 + b_1 \log(\text{GIFT}_{i(t-1)}/\text{GIFT}_{i(t-2)}) \\
& + b_2 \log(\text{GIFT}_{i(t-2)}/\text{GIFT}_{i(t-3)}) + b_3 \log(\text{SALE}_{i(t-1)}/\text{SALE}_{i(t-2)}) \\
& + b_4 \log(\text{SALE}_{i(t-2)}/\text{SALE}_{i(t-3)}) + b_5 \log(\text{RD}_{i(t-1)}/\text{RD}_{i(t-2)}) + b_6 \log(\text{RD}_{i(t-2)}/\text{RD}_{i(t-3)}) \\
& + b_7 \log(\text{CEX}_{i(t-1)}/\text{CEX}_{i(t-2)}) + b_8 \log(\text{CEX}_{i(t-2)}/\text{CEX}_{i(t-3)}) \\
& + b_9 \log(\text{ADVT}_{i(t-1)}/\text{ADVT}_{i(t-2)}) + b_{10} \log(\text{ADVT}_{i(t-2)}/\text{ADVT}_{i(t-3)}) \\
& + b_{11}\text{MERGER} + b_{12}\text{MTR}_{i(t-1)} + b_{14} \log(\text{MV}_{i(t-1)}) + \text{error}, \qquad (4)
\end{aligned}
$$

where RD is the annual R&D expense (data item #46 in COMPUTSTAT); CEX is capital expenditures (data item #128); ADVT is advertising expense (data item #45); MERGER is an indicator variable that equals one if a merger or acquisition is indicated in the COMPUSTAT footnote code AFTNT #1 for the year, and zero otherwise; MV is the market value of equity, computed as the product of the stock price (data item #199) and the number of shares outstanding (data item #25); and MTR is the marginal tax rate. MV controls for size differences that may affect future growth (e.g., due to economies of scale).

In addition to prior sales and lagged gifts, Equation (4) includes other potential drivers of corporate contributions as control variables. McWilliams and Siegel (2000) note that previous tests of the association between CSR and financial performance are misspecified because they omit R&D outlays. They suggest that R&D and CSR are positively correlated, since aspects of CSR can enhance innovation (e.g., Russo and Fouts,

The right side of Panel A of Table 2 presents the estimates of Equation (3) and indicates that RD, CEX, and MERGER are, as expected, positively associated with future sales growth. The variable ADVT is not associated with future sales growth, possibly due to the large number of missing observations (see Footnote 10). Notably, the coefficient on prior-year growth in gifts is 0.03, the coefficient on two-years-back growth in gifts is 0.02, and both are statistically significant (0.01 and 0.08 levels, respectively). Thus, even after controlling for the major revenue drivers, our results continue to indicate that corporate contributions Granger-cause sales growth.

It is important to note that the sum of the GIFT coefficients (elasticity) in Table 2 is less than one. Because Equation (3) is an exponential multiplicative model, we can interpret this result as indicating that contributions exhibit decreasing marginal returns to scale with respect to sales growth. Contributions will not enhance sales in perpetuity,

consistent with the nonlinear relationship documented by Wang *et al.* (2008). Thus, charitable contributions behave like other business investments.

Table 2, Panel B presents the estimates of Equation (4) and reports that the coefficient on prior-year growth in sales is 0.39 and the coefficient on two-years-back sales growth is 0.16. Only the former is (marginally) significant (0.08 level).[12] The coefficients on firm size and the marginal tax rate are statistically significant. Thus, after controlling for the various drivers of corporate giving, we find only weak evidence consistent with an association between contributions and prior sales, and substantially stronger evidence of contributions predicting future sales, consistent with the fundamental relationship depicted in Figure 1.

THE MECHANISM BY WHICH CONTRIBUTIONS ENHANCE REVENUES

Sensitivity to public perception regarding philanthropy

To further explore the causal relation between corporate contributions and revenues, we focus next on firms' product market incentives to appear charitable. As discussed previously, firms that produce goods and services primarily for individual customers have greater incentives to appear charitable in order to increase demand for their products than firms that produce goods and services primarily for industrial or governmental use. Thus, we expect the public's perception of the firm's philanthropic activities to moderate the relationship between charitable giving and sales.[13]

Table 3, Panel A provides separate estimates of Equation (3) for firms with high and low consumer sensitivity. The former are firms operating in the consumer goods and finance sectors (selling to individual customers) while the latter are the remaining sample firms (selling to companies and governments). Our expectation is that charitable contributions Granger-cause sales for high consumer sensitivity firms more effectively than for low consumer sensitivity firms. In the left side of Panel A, the coefficient estimates on prior-year growth in contributions and two-years-back growth in contributions for the high consumer sensitivity firms are 0.04 and 0.02, respectively, significant at the 0.01 and 0.04 levels. In contrast, in the right side of Panel A, the coefficient estimates on prior-year and two-years-back growth in contributions for the low consumer sensitivity firms, 0.02 and 0.01, respectively, are not statistically significant. We also estimate Equation (3) using the full sample including an interaction term for contributions and high consumer sensitivity. The coefficient on this interaction term (untabulated) is significantly positive, consistent with the results reported in Panel A. In Panel B, we report estimates of Equation (4)—contributions on lagged sales—by consumer sensitivity. Notably, for both types of firms, there is no evidence that revenues Granger-cause contributions growth. Overall, Table 3 provides strong support for the relationship depicted in Figure 1.

As to the economic impact of contributions on subsequent revenue growth, for firms in the consumer-focused industries, the estimated proportion of actual sales growth explained by contributions is 0.32 percent, on average.[14] This implies that, on average, a $500,000 increase in charitable contributions results in an estimated $3 million increase in sales. Using the sample average gross profit percentage, our evidence indicates that a $500,000 increase in giving results in an estimated $1.32 million increase in gross profit, and an

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[12] Our charitable contributions measure includes both cash and product contributions. It is possible that firms make cash gifts when they have the capacity, or liquidity, to contribute cash. In untabulated tests we include a liquidity variable (cash divided by sales or net current assets divided by sales) in Equation (4) and find similar results.

[13] In theory, sensitivity to public perception moderates the relationship between giving and customer satisfaction (Figure 1). However, as a practical matter, sales are consistently reported for all sample firms in all years, whereas the availability of customer satisfaction information is limited. Accordingly, our main tests focus on how sensitivity to public perception affects revenue growth. Customer satisfaction tests in the next section provide supporting evidence.

[14] For each observation, we compute the impact of giving to sales growth as the difference between (1) the predicted sales growth using the actual lagged growth in giving and (2) the predicted sales growth with zero growth in giving. The actual value of all explanatory variables other than giving is used to derive the predicted sales growth. The proportion of actual sales growth explained by giving equals the mean impact of giving to sales growth divided by the actual sales growth.

Table 4.   Gifts and customer satisfaction

Panel A: Descriptive statistics

Variable	Full sample (n = 197)		High consumer sensitivity (n = 106)		Low consumer sensitivity (n = 91)	
	Mean	Median	Mean	Median	Mean	Median
Adj_ACSI	−0.67	0.00	−0.65	0.00	−0.7	0.00
$GIFT_t/SALE_{t-1}$	0.08	0.06	0.08	0.06	0.07	0.06
$RD_t/SALE_{t-1}$	1.13	0.02	0.96	0.02	1.33	0.02
$Log(OC_t)$	7.63	7.76	7.44	7.62	7.85	8.04
PROD_QUAL	0.11	0.00	0.09	0.00	0.15	0.00

Panel B: Regression of customer satisfaction on giving; dependent variable = Adj_ACSI

	Full sample (n = 197)			High consumer sensitivity (n = 106)			Low consumer sensitivity (n = 91)		
	Coeff.	t-stat	P	Coeff.	t-stat	P	Coeff.	t-stat	P
$GIFT_t/SALE_{t-1}$	**7.02**	**2.93**	**0.02**	**9.13**	**5.67**	**0.00**	**6.75**	**2.53**	**0.06**
$RD_t/SALE_{t-1}$	0.13	4.17	0.00	1.09	9.47	0.00	−0.11	−1.41	0.22
$Log(OC_t)$	0.88	3.54	0.01	0.93	2.23	0.07	1.84	3.08	0.04
$PROD\_QUAL_t$	2.32	6.46	0.00	3.70	5.12	0.00	1.64	2.04	0.11
Adj R^2	3.50%			18.12%			11.53%		

Variable definitions: Adj_ACSI equals the customer satisfaction scores (on a scale of 0 to 100) minus the industry median customer satisfaction score. SALE = annual revenue (data item #12); GIFT = annual direct corporate giving + corporate foundation giving; RD = research and development (data item #46 or zero if data item #46 is missing); OC = organization capital from Lev and Radhakrishnan (2005); and PROD_QUAL = 1 if KLD indicates that company has quality program that is recognized as exceptional (PRO-str-A). High consumer sensitivity includes firms in the consumer goods and finance industries; low consumer sensitivity includes firms in all other industries.

estimated $791,500 increase in net income on average.[15] Accordingly, the association between contributions and subsequent firm financial performance is both statistically and economically significant. However, as noted previously, our results also indicate decreasing marginal returns to philanthropy; that is, our estimates of enhanced sales growth are based on sample averages and will not continue in perpetuity.

Corporate giving and customer satisfaction

Our Granger causality tests provide evidence consistent with corporate contributions 'causing' revenue growth. However, given the difficulties of establishing causality by statistical means, we conduct an alternative test to identify the link

between philanthropy and sales growth. Specifically, we examine whether customer satisfaction mediates the relationship between corporate giving and sales as depicted by the dashed line in Figure 1.

We obtain all available customer satisfaction scores (ACSI) for our sample firms from the American Customer Satisfaction Index (http://www.theacsi.org) for the years 1994–2000. These scores, reported on a 0-100 scale, assess the overall customer satisfaction of total purchase and consumption experiences at the firm level (Fornell *et al.*, 1996). Since the customer satisfaction scores vary systematically by industry (Fornell *et al.*, 1996), we compute the measure of interest, Adj_ACSI, as the difference between firms' ACSI and their industry median ACSI. Panel A of Table 4 reports descriptive statistics on Adj_ACSI for the 197 observations in our sample where customer satisfaction scores are available. In particular, there is no significant difference in Adj_ACSI between high customer sensitivity and low customer sensitivity firms.

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[15] The estimated increase in net income equals the estimated increase in gross profit less the corporate charitable contributions, and less the estimated administrative expenses related to running a corporate philanthropy program. These administrative costs are estimated to be 5.7 percent of annual giving, based on a survey of 72 companies with large, organized giving programs (Shah, Morgan, and Rochlin, 2006).

We next estimate a regression of Adj_ACSI scores on corporate contributions. We use the generalized least-squares estimation technique to correct reported t-stats for serial correlation. Luo and Bhattacharya (2006: 1) report that 'innovativeness capability' affects the relation between social responsibility and customer satisfaction. Thus, we include RD (R&D) and OC (organization capital)[16] as proxies for innovation capacity. In addition, firms that contribute to charity may also attract customers with high product quality, which is a driver of customer satisfaction. Accordingly, we include an indicator variable (PROD_QUAL) that equals one if KLD Social Ratings indicate that the firm has a long-term, company-wide quality program or has a quality program that is recognized as exceptional in the industry, and zero otherwise. All continuous variables are scaled by prior year sales.

Table 4, Panel B indicates that, for the full sample, the coefficient on giving is 7.02, statistically significant at the 0.02 level.[17] The coefficients on RD, OC, and PROD_QUAL are all significantly positive. The coefficient on giving for firms with high consumer sensitivity to philanthropy (9.13) is highly significant, while the coefficient on giving for firms with low consumer sensitivity (6.75) is only marginally significant. Untabulated tests that use the full sample and include an interaction term for giving and high consumer sensitivity indicate that the effect of giving on customer satisfaction is significantly larger for high sensitivity firms than for low sensitivity firms. Overall, these results are consistent with the notion that customer satisfaction mediates the relation between giving and sales; customer satisfaction is a conduit from contributions to revenue growth, particularly for consumer-focused firms, corroborating and strengthening our earlier results from the Granger-causality tests.

ROBUSTNESS TESTS TO ADDRESS ALTERNATIVE EXPLANATIONS

It is possible that the observed relationship between charitable contributions and subsequent sales growth is not due to an actual relationship between these variables, but rather to a third factor that drives both giving and sales.[18] One such factor is the presence of institutional investors with large holdings who monitor managers closely and can affect their decisions (Kochhar and David, 1996). These investors may have the power to influence both social and economic decisions. For example, pension fund managers not only seek to maximize firm value, but also often pursue political agendas, such as green investing or limiting executive compensation. It is possible, therefore, that institutional owners press managers to increase both revenues and corporate philanthropy.[19] Accordingly, we include a variable, INST, which measures the percentage of shares held by institutions at the beginning of the year in Equation (3). If institutional investment is the factor responsible for our findings, then by including it, INST will be statistically significant while charitable contributions will cease to be so.[20]

We also address the possibility that effective managers drive both social and financial performance (Waddock and Graves, 1997b); successful managers will, by definition, enhance sales growth, and may also increase charitable giving programs, responding to several stakeholder groups simultaneously. To address this possibility, we need a measure of managerial quality. One such measure is 'organization capital,' which the economics literature defines as the nexus of the systems, processes, and organizational designs of a firm that drive its abnormal performance and cannot be completely transferred to other firms or imitated by them (Evenson and Westphal, 1995). Organization capital includes the unique product design

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[16] Organization capital is discussed in more detail in the next section.

[17] When we use the overall level of customer satisfaction rather than an industry adjusted measure, we do not find a significant relation between customer satisfaction and corporate philanthropy.

[18] We are not speaking here about the fundamental revenue drivers, such as R&D and capital expenditures that were already controlled for in Equation (3), but rather of alternative explanations for our results.

[19] The empirical literature on the effect of institutional investors on corporate social responsibility is mixed. Waddock and Graves (1994) find a positive relationship between the number of institutions holding shares and social performance as measured by KLD. Coffey and Fryxell (1991) report a positive association between institutional ownership and diversity, but not for institutional ownership and charitable giving. Bartkus, Morris and Seifert (2002) find that institutional owners limit corporate giving.

[20] It is also possible that institutional investors are more attracted to firms with high sales growth (i.e., a clientele effect). If this is the case, including institutional investors in the regression will bias against finding an association between contributions and sales growth.

systems, production management, marketing techniques, personnel policies, project selection, and financing mechanisms aimed at achieving superior economic performance, all of which evolve from and are controlled by management. Accordingly, organization capital can be a proxy for managerial quality. We include in Equation (3) a measure of firm-specific organization capital, OC, developed by Lev and Radhakrishnan (2005) as an indicator of management quality.[21] This measure empirically captures the 'abnormal efficiency' in using the firm's resources (capital, labor, R&D) relative to competitor firms and reflects managerial quality.

Another factor potentially affecting our findings relates to industry performance. Certain industries are growing for macro-economic reasons faster than others, and these industries may also be the ones that are more likely to contribute more to charity because of industry norms. If this is the case, the observed association between giving and subsequent sales could result from omitting an industry effect. We control for industry profitability, IND_ROS, in Equation (3), using the industry average return-on-sales (two-digit SIC).

Yet another alternative explanation for our results is that managers may decide how much to contribute toward charitable causes based on their *expectations* of future sales growth. In this case, our finding of GIFT predicting SALE is due to the way managers make contribution decisions, rather than the inherent effect of contributions on revenue growth. Note that since giving in advance of actual economic performance is risky if giving does not provide benefit, it is unlikely that managers make contribution decisions in anticipation of future performance. Nevertheless, to rule out this possibility, we include in Equation (3) a common indicator of a company's expected growth—its market-to-book ratio (MB). This is the ratio of the forward-looking capital market value of the company to its historical book value (net assets on the balance sheet), thereby reflecting aggregate investor expectations

of future company growth.[22] The MB ratio has been shown in previous research to be a successful predictor of firm growth (e.g., Fama and French, 1995).

Panel A of Table 5 provides estimates of Equation (3) with the above-motivated variables, INST, OC, MB, and IND_ROS, as additional controls. The estimates indicate that the proxies for management quality (OC), expected growth (MB), and industry effects (IND_ROS) are strongly associated with future sales growth for the overall sample and for both the high and low consumer sensitivity firms. Notably, the coefficient on prior-year growth in contributions (0.03) and on the two-years-back growth in contributions (0.02)—our focus variables—remain statistically significant for the overall sample, and for high consumer sensitivity firms (but not for low consumer sensitivity firms), consistent with our primary findings in Table 3. Thus, after controlling for four alternative explanations, our results still indicate that charitable contributions Granger-cause sales growth for consumer-focused industries.

Panel B of Table 5 presents the results from estimating Equation (4)—contributions on lagged values of sales growth—with INST, OC, MB, and IND_ROS as additional controls. The coefficients on prior sales growth are not significantly different from zero for the overall sample or for either the high or low consumer sensitivity categories. Interestingly, institutional investment is positively associated with giving for high consumer sensitivity firms and negatively associated with giving for low consumer sensitivity firms. This initial result suggests that the influence of institutional investors on a firm's social performance varies depending on the financial consequences of such social performance, a result warranting further research. Overall, the results in Table 5 provide strong and consistent evidence that growth in charitable contributions is associated with subsequent sales growth as depicted in Figure 1, and no evidence that growth in sales is associated with subsequent increases in giving, thereby supporting our main hypothesis that charitable contributions by consumer-focused firms enhance sales growth.

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[21] The Lev and Radhakrishnan (2005) measure is based on the notion that organization capital contributes to the abnormal sales generating capability and cost efficiency of an organization when compared to peers. Specifically, they model the firm's output as a function of physical capital, labor, and R&D. Organization capital is computed as abnormal sales and cost containment that is not explained by physical capital, labor, and R&D. They validate their organization capital measure by showing that it constitutes a significant portion of the market value of the firm and is correlated with subsequent earnings growth.

[22] Results are similar if we measure management's expectations of sales growth as *ex post* realized sales growth rather than the MB ratio.

Table 5. Gifts and sales: robustness tests

Panel A: Regression of sales growth on prior giving growth; dependent variable = log(SALE$_t$/SALE$_{t-1}$)

	Full sample (n = 1618)			High consumer sensitivity (n = 903)			Low consumer sensitivity (n = 715)		
	Coeff.	t-stat	P	Coeff.	t-stat	P	Coeff.	t-stat	P
log(GIFT$_{t-1}$/GIFT$_{t-2}$)	**0.03**	**2.89**	**0.00**	**0.03**	**2.96**	**0.00**	**0.01**	**0.81**	**0.42**
log(GIFT$_{t-2}$/GIFT$_{t-3}$)	**0.02**	**2.04**	**0.04**	**0.02**	**1.89**	**0.06**	**0.01**	**0.73**	**0.46**
log(SALE$_{t-1}$/SALE$_{t-2}$)	0.16	2.65	0.01	0.18	2.33	0.02	0.04	0.49	0.62
log(SALE$_{t-2}$/SALE$_{t-3}$)	−0.21	−3.98	0.00	−0.14	−1.84	0.07	−0.30	−4.13	0.00
log(RD$_{t-1}$/RD$_{t-2}$)	0.05	2.52	0.01	0.04	1.49	0.13	0.04	2.43	0.02
log(RD$_{t-2}$/RD$_{t-3}$)	0.02	2.15	0.03	0.02	1.68	0.10	0.02	1.36	0.17
log(CEX$_{t-1}$/CEX$_{t-2}$)	0.02	2.81	0.01	0.01	1.31	0.19	0.06	3.99	0.00
log(CEX$_{t-2}$/CEX$_{t-3}$)	−0.01	−0.19	0.84	0.01	0.03	0.97	0.01	0.16	0.87
log(ADVT$_{t-1}$/ADVT$_{t-2}$)	0.01	0.04	0.96	−0.03	−1.20	0.23	0.06	1.03	0.30
log(ADVT$_{t-2}$/ADVT$_{t-3}$)	−0.00	−0.02	0.98	−0.03	−1.40	0.16	0.05	1.17	0.24
MERGER$_{t-1}$	0.04	5.16	0.00	0.03	2.95	0.00	0.04	3.65	0.00
log(MV$_{t-1}$)	−0.04	−7.63	0.00	−0.04	−5.39	0.00	−0.04	−6.29	0.00
INST$_{t-1}$	0.02	0.24	0.81	0.02	1.31	0.23	0.03	1.36	0.17
log(OC$_{t-1}$)	0.04	8.97	0.00	0.05	6.87	0.00	0.04	6.49	0.00
log(MB$_{t-1}$)	0.05	7.72	0.00	0.05	4.67	0.00	0.07	8.48	0.00
IND_ROS$_{t-1}$	0.51	4.78	0.00	0.76	5.11	0.00	0.44	2.85	0.01
Adj R^2		25.70%			23.70%			33.38%	

Panel B: Regression of giving growth on prior sales growth; dependent variable = log(GIFT$_t$/GIFT$_{t-1}$)

	Full sample (n = 1618)			High consumer sensitivity (n = 903)			Low consumer sensitivity (n = 715)		
	Coeff.	t-stat	P	Coeff.	t-stat	P	Coeff.	t-stat	P
log(GIFT$_{t-1}$/GIFT$_{t-2}$)	−0.24	−3.62	0.00	−0.23	−2.04	0.04	−0.29	−4.64	0.00
log(GIFT$_{t-2}$/GIFT$_{t-3}$)	−0.02	−0.45	0.65	−0.08	−0.87	0.38	−0.01	−0.14	0.88
log(SALE$_{t-1}$/SALE$_{t-2}$)	**0.35**	**1.24**	**0.25**	**0.26**	**0.76**	**0.45**	**0.33**	**1.22**	**0.22**
log(SALE$_{t-2}$/SALE$_{t-3}$)	**0.12**	**0.72**	**0.47**	**0.51**	**1.01**	**0.32**	**−0.30**	**−1.41**	**0.16**
log(RD$_{t-1}$/RD$_{t-2}$)	0.02	0.37	0.71	−0.19	−1.07	0.28	0.08	1.96	0.05
log(RD$_{t-2}$/RD$_{t-3}$)	0.04	1.60	0.11	−0.01	−0.19	0.84	0.04	1.81	0.07
log(CEX$_{t-1}$/CEX$_{t-2}$)	0.02	0.93	0.36	0.03	1.26	0.20	−0.03	−0.70	0.48
log(CEX$_{t-2}$/CEX$_{t-3}$)	0.04	1.61	0.11	0.02	0.70	0.48	0.09	2.59	0.01
log(ADVT$_{t-1}$/ADVT$_{t-2}$)	0.04	0.37	0.71	−0.04	−0.38	0.70	0.09	0.63	0.53
log(ADVT$_{t-2}$/ADVT$_{t-3}$)	−0.11	−0.82	0.41	−0.32	−1.67	0.10	0.17	1.66	0.10
MERGER$_{t-1}$	0.01	0.41	0.68	0.02	0.77	0.44	−0.01	−0.46	0.64
MTR$_{t-1}$	0.17	2.39	0.02	0.18	1.94	0.05	0.18	2.10	0.04
log(MV$_{t-1}$)	0.01	1.06	0.29	0.02	1.00	0.32	0.00	0.08	0.93
INST$_{t-1}$	0.15	2.78	0.01	0.14	1.86	0.06	−0.14	2.00	0.05
log(OC$_{t-1}$)	−0.00	−0.12	0.90	−0.01	−0.08	0.93	0.00	0.16	0.87
log(MB$_{t-1}$)	0.05	2.51	0.01	0.01	0.25	0.80	0.13	4.94	0.00
IND_ROS$_{t-1}$	0.01	0.03	0.97	0.60	1.47	0.14	0.03	0.09	0.92
Adj R^2		6.45%			5.34%			16.94%	

A final robustness test: our primary hypothesis and analysis concern the relation between contributions and subsequent revenue growth. The mechanism through which contributions affect sales—customer satisfaction—points at revenue as the focus outcome variable. However, for the sake of completeness, we also analyze the impact of contributions on gross profits. Specifically, we replicate the analysis reported in Tables 2, 3, and 5, substituting gross profit for revenue, and obtain very similar results to those reported in the tables.

CONCLUDING DISCUSSION

Our analysis supports the conclusion that charitable contributions by U.S. companies enhance future revenue growth. Specifically, corporate giving is associated with subsequent sales growth after controlling for the major drivers of sales growth. Charitable contributions appear most effective in enhancing revenues in the consumer sectors, such as retailers and financial services. Doing good is apparently good for you under certain circumstances. We go beyond documenting an association between contributions and subsequent growth by identifying customer satisfaction as the mechanism underlying this relation.

While we find at best marginal evidence consistent with revenue growth spurring increased future giving, we cannot rule out the possibility of a simultaneous relation, or a 'virtuous circle' (Waddock and Graves, 1997a: 307) between charitable contributions and revenues. Given that no one empirical methodology can conclusively establish causality, future research that uses other methods, such as natural experiments, to examine the causal link between contributions and economic performance would be valuable.

There is no evidence that firms whose primary customers are governments or other corporations enhance revenues through charitable giving programs. This result does not necessarily imply that low consumer sensitivity firms waste their charitable contributions or give purely for altruistic or managerial self-interest reasons. Their philanthropy may advance objectives other than sales growth, such as employee productivity, government relations, or targeted social investment.

Even though the practice of corporate giving is currently prevalent, the debate over its legitimacy continues. While versions of recent corporate tax legislation (e.g., the CARE Act of 2002) include proposals enhancing tax incentives for charitable giving, presumably to encourage philanthropy, other legislation (e.g., House Resolutions 944 and 945 in 1997, early versions of the Sarbanes-Oxley Act of 2002, and a Senate Finance Committee proposal in 2004) sought to place controls over corporate philanthropy under the belief that it is detrimental to shareholders. The contradictory grounds on which these legislative proposals are based demonstrate the need for a thorough understanding of the consequences of corporate philanthropy.

To the best of our knowledge, ours is the first study that explicitly examines the causality between corporate philanthropy and financial performance and a specific mechanism underlying that link. There is some anecdotal evidence (Smith, 1994; Byrnes, 2005; Shah, Morgan, and Rochlin, 2006) that in recent years corporate philanthropy programs have evolved toward congruence between business and social objectives ('strategic giving'), and that firms will not substantially invest in corporate giving unless it adds economic value. Our evidence confirms this anecdotal evidence and demonstrates that corporate managers can more easily justify philanthropy programs to skeptical shareholders if they can explain *how* corporate giving will enhance customer satisfaction and, in turn, sales growth.

Finally, we note that there are important questions beyond exploring the causal link between philanthropy and revenue that need to be addressed. We show that charitable contributions are associated with future sales growth, but leave open the question of whether the current level of giving is optimal, suboptimal, or excessive. In addition, further research is needed to investigate other mechanisms by which corporate philanthropy enhances a firm's competitive advantage (e.g., spurring innovation, improving labor relations, or influencing legislators and regulators), and to examine the effectiveness of different types of corporate philanthropy programs (e.g., product giving, volunteering) on firm performance. Finally, it is important to gain an understanding of how corporate giving interacts with firms' other CSR activities and whether corporate giving does indeed achieve the desired social impact (enhancing welfare, mitigating poverty, etc.).

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