

The Impact of Operational Diversity on Corporate Philanthropy: An Empirical Study of U.S. Companies

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Abstract This paper investigates the impact of diversity on corporate philanthropy. Compared to previous studies that have considered the influence of board diversity and CEO gender on corporate philanthropy, this study introduces the concept of operational diversity, which is the implementation of diversity programs at management, employee, and supply chain levels, and further, it explains why operational diversity influences corporate philanthropy, by using the premises of resource dependence theory. Second, this study also investigates the influence of board diversity on corporate philanthropy. Third, this study uses a large sample of U.S. firms over the period of 1991–2009 and tries to mitigate possible omitted variables and endogeneity problems that are often overlooked in previous research. We demonstrate that firms with operational diversity programs are likely more dependent on a broad variety of resources and give more to community as a strategic maneuver; hence, operational diversity is a better indicator for predicting future corporate giving than board diversity alone. However, having a woman or a

member of a minority as a company's chief executive officer is not sufficient to impact its charitable giving. A battery of robustness tests support our conclusion and confirm that our results are not driven by a firm's general corporate social responsibility (CSR) score, gender or independence of board members, or firm ownership. This paper will assist researchers, practitioners, and other stakeholders in deepening their understanding of the predictors of corporate giving.

Keywords Corporate philanthropy · Operational diversity · Board of directors · Resource dependence theory

Introduction

Corporate philanthropy continues to be a field of interest in various academic, professional, business, and community circles as the emphasis has shifted to aligning business goals and resources with philanthropy (Porter and Kramer 2002; Smith 1994). Corporate philanthropy or corporate giving has been conceptualized in many different ways. Burlingame (2001) defined it broadly as an act of corporations giving a portion of their profits and resources to non-profit organizations. In recent decades, the dynamic of the relationship between corporations and the communities they serve has been changing (Ackerman 1973; Waddock and Boyle 1995), and demographic shift is one of the factors affecting this change. As more women, minorities, and people of different backgrounds and lifestyles—source of valuable resources—enter the marketplace, companies need to take advantage of this changing environment in order to remain competitive. This environment change increases the importance of diversity initiatives at the firm level. Given the growing interest in both corporate

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philanthropy and diversity programs within the firm, the relationship between firm diversity and corporate philanthropy presents a topic that is worth investigating. Does firm diversity influence more charitable contributions?

Previous research has identified several firm characteristics that influence how much a corporation gives to charity, including slack resources (Waddock and Graves 1997), cash flow (Seifert et al. 2003, 2004), advertising expenses (Brammer and Millington 2004; Fry et al. 1982; Navarro 1988; Zhang et al. 2010), firm size (Amato and Amato 2007; Boatsman and Gupta 1996; Brammer and Millington 2006), and board composition/diversity (Coffey and Wang 1998; Wang and Coffey 1992; Williams 2003). Studies on the relationship between firm characteristics and corporate charitable contributions, however, have been inconclusive (Vaidyanathan 2008). Coffey and Wang (1998, p. 1601) concluded that there is a need to reexamine the key assumptions about the philanthropic behavior of firms. In this paper, we use the elements of resource dependence theory (Pfeffer and Salancik 1978) to analyze the relationship between corporate philanthropy and firm diversity. Firms acquire essential resources they need to operate in competitive markets through the implementation of diversity programs and the development of relationships with other organizations in their environments. Specifically, we posit that the management and dynamism of interdependent relationships between a firm and its environment are more likely to lead to organizational behavior of corporate giving. In fact, previous research has found that firms use corporate philanthropy to reduce the risk associated with the acquisition of resources (Berman et al. 2005; Haley 1991). Our contention in this paper is that the acquisition of essential resources is related to the implementation of diversity programs at the board, management, employee, and supply chain levels of the firm. Following the Kinder, Lydenberg, Domini (KLD) database, we conceptualize a diverse board as one with women, minorities, and/or the disabled holding four or more seats on the board or one-third or more of the board seats if the board numbers are fewer than 12. We introduce the term “operational diversity” to designate diversity practices implemented beyond the leadership level, which include the promotion of women and members of minority groups to key positions; the implementation of work/life programs for employees; the commitment to work with women and/or minority-owned businesses as suppliers; the implementation of hiring programs for disabled; the provision of progressive policies towards its gay and lesbian employees; and other diversity programs under corporate leadership. We argue by applying the resource dependence theory that operational diversity program is strong evidence that firms with such programs are likely more dependent on a broad variety of resources, hence such

firms are more likely to give back to community as a strategic maneuver.

To the best of our knowledge, no other existing research has analyzed the influence of operational diversity on corporate philanthropy. This paper fills this gap in the literature by investigating corporate philanthropy further, along with its relationship with operational diversity. This study makes the following contributions: First, we demonstrate that the presence of women, minorities, and/or disabled on the board of directors influences more corporate giving. Second, we show that operational diversity has a stronger impact on future corporate giving than board diversity alone. Third, we demonstrate that a company’s chief executive officer (CEO) being a woman or a member of a minority group may not be sufficient to impact its charitable giving. Fourth, methodologically, we go beyond simple correlation and ordinary least square analyses to mitigate omitted variables and endogeneity problems often overlooked in previous research (see Garcia-Castro et al. 2010).¹

The rest of the paper is organized as follows: First, we develop the theoretical foundation of the study and then we formulate hypotheses. Next, we describe the methodology used to conduct the research. Finally, we present an analysis of the results followed by a discussion and conclusion.

Theoretical Background

The growing interest in both corporate philanthropy and diversity programs within the firm can be justified by the current dynamism of the marketplace and the urgency by firm managers to take advantage of the changing environment. Board diversity represents the diversity program at the leadership level and previous studies on board diversity emphasize the corporate decision making process for the maximization of shareholder’s value and its impact on corporate philanthropy. Operational diversity, on the other hand, reflects corporate strategic commitment to diversity below leadership level. As the first study that differentiates board diversity and operational diversity, we argue that even though both belong to the broad concept of firm diversity, the mechanisms of how they impact corporate philanthropy can be quite different. Resource dependent theory (Pfeffer and Salancik 1978) provides insight into how acquiring certain resources and developing stronger relationships with the community must be considered as key factors for a firm to remain competitive.

¹ Given the different levels of giving by industries and time, we include industry and year fixed effects in all of our regression analyses.

Following prior research on workforce diversity, we define diversity broadly in terms of a business model of a firm that values differences of cultural backgrounds, skills, and demographics of its stakeholders (Cox 1993; DiTomaso and Post 2007; Harrison and Klein 2007) at leadership, management, employees, and supply chain levels. This conceptualization of diversity as a business model underlines at least two key factors at the center of our study: organizational and economic perspectives and business strategy. First, diversity is analyzed in terms of its organizational and economic implications as opposed to ethical considerations. Firms embrace diversity as a reaction to environmental changes and imperatives that might bring about new economic opportunities. Second, as a business imperative, diversity becomes an integrated part of the firm strategies. As such, diversity is a firm rationalization of how to create value by acquiring different organizational resources and how various diversity programs that the company implements fit together.

Resource Dependence Theory

In proposing the resource dependence theory, Pfeffer and Salancik (1978, 2003) attempt to explain the behavior of organizations—in terms of actions and decisions—by looking at their interactions with a number of factors in their environments. The fundamental idea of resource dependence theory is that organizations depend on their environments to survive. The actions and decisions of organizations are influenced by the dependence on important resources acquired from their environments. These actions and decisions can also be explained by the particular situation created by the dependence.

Pfeffer and Salancik (2003) argue that organizations that lack “critical” resources to survive will seek to acquire and exchange them by establishing relationships with other entities from their environments by creating dependence between a firm and external units. The analysis of the environment and context in which an organization operates is central to understanding an organization’s behavior. In this perspective, the establishment of relationships with the environment will create “dependence” between the organization and the entities upon which it relies to gain resources. This dependence implies that the “critical” resources an organization needs are often owned by other groups or organizations. These “interest” groups can be found inside and outside the firm. Plant workers, first-line managers, middle and top managers, women, minorities, disabled, and minority suppliers are examples of interest groups that firms rely on to acquire and exchange resources.

Organizations use adaptation and alteration of the environment as strategies to manage and avoid resource

dependence (Pfeffer and Salancik 2003). Several studies have demonstrated that firms use corporate philanthropy to reduce the risk associated with the acquisition of resources (Berman et al. 2005; Haley 1991). This line of argument suggests that strategic corporate philanthropy (Porter and Kramer 2002) is a conspicuous example of altering the environment to fit the firm capabilities.

Resource dependence theory is particularly relevant in explaining the relationship between diversity and corporate philanthropy. First, because of resource constraints, firms depend on other groups and actors in their environments for acquiring resources through the recruitment of diverse board members, top managers, employees, and suppliers. Second, firms have interconnected power relationships with other organizations with which they share the discretion or power of control over the resources. Consequently, the implementation of diversity programs at operational levels may increase the levels of discretion of power among interest groups. Third, firms use corporate philanthropy to manage, minimize, and avoid dependence on their environment. Finally, we expect diversity to influence the organizational decisions and charitable giving.

Board Diversity and Corporate Philanthropy

Most of the research on boards of directors has analyzed their roles in the perspectives of agency relationship and resource dependence (Hillman et al. 2000). The agency role is embedded in the broader perspective of governance mechanisms (Bartkus et al. 2002; Hillman and Dalziel 2003; Kesner 1988; Pearce and Zahra 1992). These mechanisms are put in place to monitor managerial behavior to maximize shareholder’s value by reducing the scope and frequency of the agency problem (Jensen and Meckling 1976; Ross 1973). The directors play the role of both monitor and provider of essential resources to the corporations through links to the external environment (Boyd 1990; Daily and Dalton 2003; Hillman et al. 2000; Hillman and Dalziel 2003). However, most of the studies on board composition has focused on several characteristics of directors, including insiders and outsiders, gender (Boyd 1990; Pearce and Zahra 1992; Coffey and Wang 1998; Wang and Coffey 1992; Williams 2003), business experts, support specialists, community influentials (Hillman et al. 2000). Our study focuses on board diversity in the perspective of race, gender, and disabilities and its relationship to corporate philanthropy based on resource dependence theory.

The relationship between board diversity and corporate philanthropy is analyzed by using three arguments of resource dependence theory: diverse board as essential resource provider; women, minorities, and disabled directors’ discretion

over resource allocation; and, strategic nature of philanthropic activities and decision making of a diverse board of directors.

First, consistent with resource dependence theory, organizations need to acquire critical resources to survive by establishing relationships with other entities from their environments (Pfeffer and Salancik 2003). Barney and Arian (2001, p. 138) define firm resources as “tangible and intangible assets firms use to conceive of and implement their strategies.” This definition includes all assets, capabilities, organizational processes, firm attributes, information, and knowledge controlled by a firm, in order to improve efficiency and effectiveness (Barney 1991; Daft 1983). Firms seek linkages with the most beneficial resources and recruit board members on this basis. Pfeffer and Salancik (2003) argue that board linkages provide advice/counsel, legitimacy, and communication channels. Scholars have highlighted the importance of directors’ human capital and social capital. Becker (1964) argues that an individual’s cumulative stocks of education, skills, and experience in enhancing and producing capabilities benefit the individual and his/her organization. This argument may be applied to individuals from different backgrounds.

Second, Pfeffer and Salancik (2003) argue that the extent of discretion over the resource allocation and use by an interest group is a source of power relationships between the firm and other groups and organizations in its environments. This argument may suggest that as women, minorities, and disabled directors bring human capital to the board (Kesner 1988), they have discretion over the allocation and use of this human capital. In the same line of thought, with the discretion of the use and control of the resources they possess, women, minorities, and disabled tend to seek the welfare of other groups inside and outside of their organizations. In fact, Wang and Coffey (1992) reported that women and minorities board members tend to be more sensitive to corporate social performance, which tends to impact positively on corporate philanthropy. Wang and Coffey (1992) argued that women and minority directors are more likely to represent special interest groups because of their social and economic background. Stultz (1979) found that women’s careers were more diverse and less business-oriented. Consistent with resource dependence theory, this unique background and lessened business-orientation coupled with the ability to control the use of resource tends to be a major source of influence for women and minorities on boards of directors (Pfeffer and Salancik 2003, p. 49). The actions and decisions of organizations are the results of distribution of power and control within organizations. The sensitivity of women, minorities, and disabled to social issues can be considered as part of such distribution and control of power that emanate from the

possession and use of critical resources on the boards of directors.

Finally, resource dependence theory assumes that organizations use strategies to manage and avoid dependence on other entities or groups of actors. Pfeffer and Salancik (2003) argue that corporations can alter the conditions of their environments to fit their capabilities. This argument is in line with strategic corporate philanthropy resulting from the analysis of the conditions of the business environments. The strategic use of philanthropy would, according to Smith (1994, p. 105), give companies a powerful competitive edge. In this perspective, Porter and Kramer (2002) argue that “philanthropy can often be the most effective way for a company to improve its competitive context, enabling companies to leverage the efforts and infrastructure of nonprofits and other institutions” (p. 61). This perspective of resource dependence theory suggests that corporate philanthropy is a means by which a firm can exercise control over the allocation and use of resources. Consistent with resource dependence theory, this behavior results from the presence of diverse board members who bring unique resources and whose control and use of the resources impacts corporate philanthropy in a positive way.

Combining the above three arguments, we hypothesize that

H1 Firms with diverse boards of directors are more likely to give to charity than firms without such board room diversity.

CEO: Woman or a Member of a Minority Group and Corporate Philanthropy

Resource dependence theory can also be applied to consider a firm’s CEO who is a woman or a member of a minority group and the impact on corporate giving. While the studies are not extensive, scholars have looked at women and minorities in leadership positions and their influence on corporate philanthropy (see Marquis and Lee 2011). We build on these perspectives to analyze further the relationship between CEOs who are women and members of a minority group and the level of philanthropic activities of their respective firms. Three arguments of resource dependence theory are used: legitimacy; discretionary nature of corporate philanthropy; and, altruistic characteristic of women.

The recruitment of women and minority CEOs is consistent with the assumption that to survive, firms need to access resources and establish linkages with other organizations in their environments. Pfeffer and Salancik (2003) argue that these linkages provide advice/counsel,

legitimacy, and communication channels. Women and minority CEOs can be a source of organizational legitimacy and corporate reputation. The study by Terjesen et al. (2009) provides such evidence and found that women and minority CEOs have symbolic value both internally and externally. The study explains that where women (and minorities) hold executive positions, firms are likely to gain legitimacy from female and minority employees and from other stakeholders as “female friendly employers” (p. 331). Also, according to the same study, having women (and minorities) in leadership positions makes it more difficult to claim that there is discrimination in the firm (Terjesen et al. 2009).

Corporate philanthropic activities are discretionary responsibilities of top managers such as CEOs. Carroll (1979) conceptualizes that corporate philanthropy is a discretionary responsibility over and above economic, legal, and ethical obligations. Carroll (1979) argues that it could be expected that there would be little pressure on executives to exercise such responsibilities and so managers may choose to give to charities if they have abundant resources. This argument is consistent with the discretion of the control and use of resources, as explained by Pfeffer and Salancik (2003). This suggests that women and minority in leadership positions such as CEOs can use philanthropic activities as a means by which they exercise power conferred by the control and use of resources. Williams (2003) found a relationship between women in leadership positions (on boards) and charitable support of community and cultural activities. Williams (2003) offered an explanation that woman directors might experience the influence of giving as a source of power.

A large body of empirical research from economics has found that women tend to be more altruistic (Anderoni and Vesterlund 2001; Cox and Deck 2006; Dufwenberg and Muren 2006; Eckel and Grossman 1998; Kamas et al. 2008; Simmons and Emanuele 2007). Marquis and Lee (2011) found that companies with more female leaders contribute more to charity. Women and minority CEOs would have an interest in protecting a diverse workforce by engaging in corporate philanthropic behavior. This can be explained by the fact that many of the same women and minority members who have reached the level of CEO have experienced several changes dealing with being a woman or a member of a minority group on their way to climbing up the corporate ladder. These leaders would support corporate philanthropy in the companies that they govern (Wang and Coffey 1992).

Based on the above, we suspect that

H2 Firms whose CEO is a woman or a member of a minority group are more likely to give more to charity than firms whose CEO is not a woman or a member of a minority group.

Operational Diversity and Corporate Philanthropy

Operational Diversity Defined

The very term “operational diversity” conveys the main content of this study. We conceptualize it in the perspective of the linkages that a firm establishes with other organizations its environments, which is at the core of resource dependence theory. On the one hand, firms are facing pressures from multiple stakeholders to have all their programs and operations reflect their market, customers, and/or employee base, which is more and more diverse. On the other hand, firms feel the need to be like their customers, including the need to understand and communicate with them in terms that reflect their concerns and interests. Operational diversity builds this bridge between the firm and its environments. We conceptualize operational diversity as a business model of a firm that values differences of cultural backgrounds, skills, and demographics of its stakeholders at management, employees, and supply chain levels for the sake of survival.

Operational diversity is “operational” because it focuses on organizational and economical perspectives as opposed to ethical considerations. With operational diversity, we look at the effects of diversity on a wide range of work-related outcomes within and outside the firm. Previous studies in human resource and strategic management have focused on diversity programs at management and employee levels (see Barney and Wright 1998; Carrell and Mann 1995; Cox 1993; Cox and Blake 1991; Osterman 1995; Robinson and Dechant 1997; Richard 2000; Thomas 1993). Our conceptualization of operational diversity considers diversity programs and their outcomes at management, employee, and supply chain levels. Operational diversity implies both the breadth (nature of programs) and depth (level of implementation) of diversity initiatives of the firm. Breadth means that operational diversity programs are broad in scope. In fact, operation diversity encompasses a wide range of initiatives: promotion of women and members of minority groups to key positions; implementation of work/life programs for employees; employment of disabled; gay and lesbian policies; and, other diversity programs under corporate leadership. This variety of programs includes some clusters of diversity according to McGrath et al. (1995), specifically demographic characteristics such as age, ethnicity, gender, sexual orientation, physical status, religion and education; and, status in the organization such as one’s hierarchical position, professional domain, departmental affiliation and seniority. Depth means that operational diversity programs are intense in scope. These programs are implemented at different levels of the firm: management, employee, and supply chain.

Our conceptualization of operational diversity differs from board diversity for two reasons. First, board diversity as defined above is more concerned with the composition and characteristics of directors in terms of race, gender, and disabilities. Second, board diversity is often analyzed with regard to the role of directors—agency and resource—in the broader perspective of governance mechanisms put in place to monitor managerial behavior to maximize shareholder's value. In this perspective, the notion of board diversity refers to the “formality” of diversity as it pertains to conventional rules of monitoring senior manager behaviors to maximize shareholder's value, while operational diversity bears the meaning of the “materiality” of the notion of diversity. The implementation of programs at management, employee, and supply chain levels materialize the need of a firm to be like their customers, and to understand and to communicate with them in order to be competitive.

Operational Diversity and Corporate Philanthropy

We use resource dependence theory to demonstrate the extent to which operational diversity drives corporate philanthropy. As stated earlier, research on the relationship between operational diversity and corporate philanthropy is scarce. Therefore, we build our conceptual framework upon previous studies in related fields and make assumptions. Our contention is that these assumptions cannot be achieved by board diversity alone. The assumptions are drawn from the notion that operational diversity is an essential resource that operational diversity recognizes the demands of social reality, and that corporate philanthropy enters the field as a reasonable response to environmental constraints.

To respond to the changing environment and improve productivity, corporate executives have to consider the business implications of the diversity of its stakeholders. These implications are at least threefold. First, operational diversity addresses the needs of employees. Women, minorities, and people of different background and lifestyles want their companies to recognize and internalize their demands and concerns into daily operations. Second, firms can utilize operational diversity to satisfy the demands of the competitive landscapes. Differences of cultural backgrounds, skills, and demographics of people in corporations (Cox 1993; DiTomaso and Post 2007; Harrison and Klein 2007) contribute to a full range of human potential. Richard (2000) demonstrated that cultural diversity does in fact add value, and within the proper context, contributes to the firm's competitive advantage (p. 164). Finally, firms utilize diversity programs to create stronger relationships with the communities they serve. The resource dependence theory supports the idea that

firms and their environments are ‘interconnected organizations’ (Pfeffer and Salancik 2003, p. 70).

The ability to control the use of the resources would become a major source of influence for interest groups at management, employee, and supply chain levels. Pfeffer and Salancik (2003) contend that “employees are frequently in a position to control use most directly and occasionally obtain satisfaction of their demands by using the power such use confers” (p. 49). We follow Amason (1996) to suggest that operational diversity within decision-making interest groups will lead to changes in corporate strategy that would be advantageous to philanthropic activities.

The implementation of operational diversity is more likely to bring changes to the organizational culture and employee mind-set, which are crucial to the effective implementation of corporate strategies (Hill and Jones 2010). These changes in the organizational culture are more likely to result in part from the establishment of several interest groups within and outside the firm. Each one of these interest groups has certain discretion to use certain resources (skills, knowledge, information, organizational processes, and business connections), which are the basis of the interconnected relationships with the firm. For instance, the promotion of women and minorities to line positions with profit-and-loss responsibilities in the corporation would increase the discretion of this particular group of managers. The existence of several interest groups may increase the level of discretion among these interest groups. Consistent with resource dependence theory, members of these interest groups may be better able and more willing to influence organizational decision making based on the social realities and demands of those with whom they deal and upon whom they depend for support to accomplish their activities. The more the firm implements diversity programs at management, employee, and supply chain levels, the more likely the levels of shared discretion will increase. Organizations use strategies to manage and avoid the dependence and their actions and decisions are determined by environmental context (Pfeffer and Salancik 2003). Following this rationale, we infer that, to minimize environmental constraints resulting from operational diversity and control over resources exercised by interest groups, a firm will more likely to engage in corporate philanthropy. Several studies used resource dependence theory to demonstrate that corporate philanthropy can help a firm reduce the risk associated with resource acquisition (Berman et al. 2005; Haley 1991) and reduce the risk associated with the loss of resources already controlled (Barnett and Salomon 2006; Brammer and Millington 2004; Godfrey 2005).

Based on the above, we expect operational diversity to influence corporate philanthropy. Therefore, we propose the following:

Table 1 Distribution of observations according to industry sectors

Industry by 1-digit SIC code	# of sample firms	% of firms with GIVING = 1	Community strength score average
Agriculture, Forestry, and Fishing (0)	63	6.35	0.111
Mining and Construction (1)	1,294	2.94	0.080
Manufacturing (2 & 3)	10,134	9.25	0.195
Transportation and Public Utilities (4)	2,450	3.43	0.171
Wholesale and Retail Trade (5)	2,425	4.04	0.142
Finance, Insurance, and Real Estate Services (6)	5,085	3.38	0.263
Services (7)	2,647	0.79	0.081
Health, Legal, and Administrative Services (8)	783	0.51	0.006
Public Administration and other (9)	63	3.17	0.524
Total/Average	24,944	3.50	0.174

H3 Firms that have operational diversity programs beyond board level diversity give more to charity than firms that do not have operational diversity programs.

Research Methods

Sample

The data consist of pooled time series and cross-sectional observations of U.S. corporations rated by Kinder, Lydenberg, Domini Research & Analytics, Inc. (KLD) for their environmental, social, and governance performances over the period from 1991 through 2009. KLD offers the advantage of multiple rating criteria for social performance (Vaidyanathan 2008) and has been used intensely by researchers in corporate social responsibility (CSR) related studies (see Albinger and Freeman 2000; Chen et al. 2008; Bear et al. 2010; Post et al. 2011). For our study purpose, we extract corporate giving information, as well as firm diversity characteristics. Our sample spans the full range during which KLD has collected data from 1991 to 2009. We also recognize a major limitation of the KLD data: Most variables are coded as dummy variables without more specific information. For example, the giving variable is a dummy as defined by KLD and does not provide the information on amount of giving in dollars.

We then combine KLD with firm-level financial data, which come from Compustat. Our final sample represents 4,438 unique firms and 24,944 firm-year observations. These firms represent various industry sectors according to the 1-digit Standard Industry Code (SIC). Table 1 provides the distribution of the giving firms by the industries they belong to and shows that corporate giving varies by industry (Brammer and Millington 2004). The wide industry variation shows that it is critical to control for the industry effect in order to investigate the true effect of diversity on corporate giving. Table 2 provides annual

distribution of giving and non-giving firms by years. We see that there are big differences in sample size before and after Year 2003, as KLD has added more firms in Year 2003.² As more smaller firms were added in Year 2003 and after, the percentage of firms' giving has reduced dramatically. The yearly distribution confirms that bigger firms are more likely to give. It also suggests that controlling for firm size and year fixed effects is critical for this study.

Dependent and Independent Variables

A definition of all the variables used in the regressions is provided in Appendix. Correlations and summary statistics of the main variables are contained in Table 3. The main dependent variable is a dummy variable, GIVING, which equals 1 for a company that has consistently given more than 1.5 % of trailing 3-year net earnings before taxes and 0 otherwise. The mean value of GIVING is 0.03. The main explanatory variables include eight dimensions of KLD diversity strengths: (1) CEO equals 1 for a company's CEO being a woman or a member of a minority group and 0 otherwise. The mean value of CEO is 0.04. (2) PROMOTION equals 1 for the promotion of women and minorities to positions with profit-and-loss responsibilities and 0 otherwise. The mean value of PROMOTION is 0.22. (3) BOARD equals 1 if women, minorities, and/or the disabled hold four or more seats on the corporate board, or one-third or more of the board seats if the board numbers fewer than 12, and 0 otherwise. The mean value of BOARD is 0.08. (4) WORK/LIFE equals 1 for the implementation of outstanding work/life benefits for employees and 0 otherwise. The mean value of WORK/LIFE is 0.07. (5) CONTRACTING equals 1 for

² According to KLD Stats (www.kld.com), the coverage universe of KLD has expanded over time. Between 1991 and 2000, KLD covers only S&P 500 Index firms. Domini 400 Social Index firms, 1,000 Large U.S. Companies, and Large Cap Social Index firms were added in 2001 and 2002. From 2003 on, KLD covers all the above, with the addition of 2,000 Small Cap U.S. Companies and Broad Market Social Index firms.

Table 2 Summary statistics: Number of observations for our sample

Years	Number of firms (Giving = 0)	Number of firms (Giving = 1)	Total firms having Giving information	Percent of firms (Giving = 1)
1991	304	33	337	9.79
1992	306	40	346	11.56
1993	312	43	355	12.11
1994	316	45	361	12.47
1995	378	51	429	11.89
1996	395	50	445	11.24
1997	401	49	450	10.89
1998	438	45	483	9.32
1999	463	42	505	8.32
2000	482	40	522	7.66
2001	857	36	893	4.03
2002	907	42	949	4.43
2003	2,503	45	2,548	1.77
2004	2,607	42	2,649	1.59
2005	2,645	48	2,693	1.78
2006	2,626	59	2,685	2.20
2007	2,644	60	2,704	2.22
2008	2,709	52	2,761	1.88
2009	2,778	51	2,829	1.80
Total/Average	24,071	873	24,944	3.50

the commitment to conduct at least 5 % of purchasing or subcontracting with businesses owned by women and/or minorities and 0 otherwise. The mean value of CONTRACTING is 0.04. (6) DISABLED equals 1 for a company that has implemented innovative hiring programs for disabled, or has a superior reputation as an employer of disabled. The mean value of DISABLED is 0.04. (7) GAY equals 1 for a company that has implemented progressive policies toward its gay and lesbian employees. The mean value of GAY is 0.14. (8) OTHER equals 1 for a company that has made a notable commitment to diversity that is not covered by other KLD ratings. The mean value of OTHER is 0.003. The mean value of overall operations-level diversity (DIV_OPER), which is the sum of PROMOTION, WORK/LIFE, CONTRACTING, DISABLED, GAY, and OTHER except top-level diversity items (BOARD and CEO), is 0.48 and highly correlated (correlation is 0.16) with our main research variable, GIVING. The overall diversity sum variable (DIV_COUNT) is also correlated with GIVING (correlation is 0.15), but interestingly our main research variable DIV_OPER is more correlated with GIVING (correlation 0.16), with fewer individual diversity variables.

Control Variables

Several variables have been suggested by the literature to affect corporate philanthropy and we include them as control variables for regression analysis.

- Firm Size: Studies have suggested that bigger firms have higher propensity to give (Amato and Amato 2007; Boatsman and Gupta 1996; Brammer and Millington 2006). We use logarithm of total assets (LOGTA) for firm size. We expect positive relationship between firm size and giving. As giving improves firms' reputations, bigger firms will enjoy more benefit from reputation improvement, *ceteris paribus*.
- Asset Tangibility: According to trade-off theory of firm's capital structure or liquid asset holdings, firms tend to hold more liquid assets when firms' potential bankruptcy cost is high and/or future investment opportunities are high. When intangible assets are a big part of a firm's assets, a firm's potential bankruptcy cost is high and/or future investment opportunities are high, and therefore firms tend to hoard more liquid assets or cash in this situation. In order to have more cash in hand, firms are likely to spend less money for corporate giving. On the other hand, according to the insurance benefit story of corporate giving (Godfrey 2005), firms will give more when firms have more intangible assets. Hence, the sign of asset tangibility is an empirical issue. The ratio of a company's property, plant, and equipment over total assets (PPE_TA) is used as a proxy variable for asset tangibility.
- Advertising: A body of literature has found that advertising intensity is positively associated with corporate giving (Brammer and Millington 2004; Fry

Table 3 Summary statistics and correlation

Variable	Nobs	Mean	Std	var1	var2	var3	var4	var5	var6	var7	var8	var9	var10	var11	var12
var1 GIVING	24,944	0.035	0.184	1											
var2 TOTAL GIVING	24,944	0.174	0.519	0.549	1										
var3 CEO	24,944	0.043	0.203	-0.022	0.035	1									
var4 BOARD	24,944	0.078	0.268	0.084	0.227	0.236	1								
var5 DIV_OPER	24,944	0.478	0.841	0.162	0.449	0.104	0.373	1							
var6 DIV_COUNT	24,944	0.599	1.024	0.150	0.435	0.345	0.614	0.939	1						
var7 LOGTA	24,944	7.435	1.755	0.127	0.385	-0.023	0.223	0.392	0.375	1					
var8 TOBIN'S Q	24,901	1.979	1.600	-0.010	-0.019	0.009	-0.014	0.031	0.024	-0.289	1				
var9 ROA	24,933	0.020	0.195	0.031	0.048	-0.006	0.034	0.053	0.051	0.158	-0.143	1			
var10 XAD_TA	24,944	0.012	0.040	0.042	0.058	0.036	0.063	0.075	0.085	-0.096	0.132	0.048	1		
var11 CASH_TA	24,942	0.160	0.198	-0.071	-0.106	0.068	-0.063	-0.009	-0.010	-0.433	0.401	-0.181	0.041	1	
var12 PPE_TA	23,904	0.248	0.238	0.049	-0.016	-0.066	0.016	-0.039	-0.041	0.084	-0.090	0.051	-0.005	-0.332	1

et al. 1982; Navarro 1988; Zhang et al. 2010). When consumers’ perceptions are important, companies tend to spend more money for advertising. We expect positive relationship between advertising expenses and corporate giving. The ratio of a company’s advertising expenses over total assets (XAD_TA) is used for the advertising effect.

- Profitability: Many studies have suggested that abundance of slack resources has a significant impact on corporate giving (Waddock and Graves 1997, Seifert et al. 2003, among others). We expect a positive relationship between profitability and corporate giving. Return on assets (ROA) is used for profitability.
- Cash: On the one hand, high growth firms and/or more capital-intensive firms may have higher cash balances (see Seifert et al. 2003). But at the same time, less-consumer-related firms do not seem to donate as much. Therefore, the relationship between cash and giving remains an empirical issue. The ratio of a company’s cash and marketable securities to total assets (CASH_TA) is used for Cash.
- Tobin’s Q: Firms with high Tobin’s Q are considered as high growth firms. High growth firms tend to give less to the public because these firms have to invest more resources to meet high future growth. On the other hand, firms with high Tobin’s Q may be well regarded firms among investors and these successful firms may give more to public to maintain positive image among investors. The relation between Tobin’s Q and Cash is an empirical issue. The ratio of a company’s market value to its book value (TOBIN’S Q) is used for Tobin’s Q.
- Industry and year fixed effects: we also include industry (using 2-digit SICs) and year dummies to control for variation of industries and years.

Univariate Analysis of Diversity and Corporate Giving

As a first step, we calculate the percentage of GIVING for firms with diverse boards and those without. Panel A of Table 4 shows that GIVING is higher for firms with diverse boards than firms with non-diverse boards (8.80 vs. 3.05 %) and the difference is statistically significant at 1 % level. TOTAL GIVING, which is total counts of community giving strengths (broader concept of giving), is also higher for firms with diverse boards than firms with non-diverse boards (0.5805 vs. 0.1401). In Panel B, we calculate GIVING and TOTAL GIVING for firms with board diversity (BOARD) alone and with both board level diversity (DIVERSITY) and operational diversity (OPER_DIV). Of firms with board-level diversity alone, 2.78 % give, while firms with both board level diversity and operational diversity give

Table 4 Univariate analysis

Panel A: Based on Board Diversity (BOARD)			
	Diverse board Mean	Non-diverse board Mean	<i>t</i> -statistics
GIVING	0.0880	0.0305	13.29***
TOTAL GIVING	0.5805	0.1401	36.86***
Panel B: Based on Board Diversity (BOARD) and Company Operational Diversity (DIV_OPER)			
	Diverse Board Plus Operational Diversity Program Mean	Diverse Board Plus No Operational Diversity Program Mean	<i>t</i> -statistics
GIVING	0.1052	0.0278	5.03***
TOTAL GIVING	0.6964	0.1704	11.04***

t-statistics are for testing for differences in means

*** Significance at the 1 % level

10.52 %. Our univariate analysis strongly shows that operational diversity has more impact on corporate giving than board-level diversity alone.

Model and Results

We test for the relationship between corporate philanthropy and board and operational diversity with the following base model:

$$\text{Giving} = f(\text{board diversity, CEO, operational diversity, control variables})$$

Three regressions are run to examine the above relationship and results are reported in Table 5. We find that companies with diverse boards and operational diversity programs are more likely to give. Operational

diversity programs are shown to have the stronger impact than board diversity, while whether CEO is female or from a diverse group actually has a negative impact on a company's giving decision.

Model 1 estimates GIVING with only financial variables and industry and year dummy variables. As expected, the coefficients of control variables LOGTA, PPE_TA, XAD_TA, ROA are positive and statistically significant. Similar results are reported for Models 2–3. When we add BOARD from Model 1, the pseudo R^2 increases from 16.5 to 17.2 % in Model 2. But when we further add OPER_DIV, the pseudo R^2 increases to 20.4 %. When we add both BOARD and DIV_OPER variables in Model 3, DIV_OPER is still statistically significant at 1 % level, but the BOARD is not significant anymore. From these results, we confirm the univariate result, suggested by Table 4, that operational diversity has more impact on corporate giving

Table 5 Firm diversity and giving—empirical results from logit regressions (dependent variable = GIVING)

Variables	Model 1	Model 2	Model 3
LOGTA	0.315*** (−0.072)	0.262*** (0.074)	0.041 (0.073)
TOBIN'S Q	0.031 (−0.068)	0.029 (0.068)	−0.005 (0.074)
ROA	0.925*** (0.278)	0.916*** (0.286)	0.877** (0.345)
XAD_TA	3.709*** (1.247)	3.441*** (1.271)	2.664** (1.351)
CASH_TA	−0.984 (0.866)	−1.007 (0.846)	−1.650* (0.857)
PPE_TA	0.292 (0.653)	0.236 (0.657)	0.228 (0.699)
CEO		−0.902** (0.451)	−1.120*** (0.437)
BOARD		0.750*** (0.213)	0.293 (0.211)
DIV_OPER			0.631*** (0.079)
Industry effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Firm fixed effect	No	No	No
Constant	−3.524*** (1.213)	−2.952*** (1.205)	−1.331 (1.345)
Observations	21,451	21,451	21,451
Pseudo R^2	0.165	0.172	0.204

Two-digit SIC is used to control for industry effects. Standard errors are robust standard errors and are adjusted for clustering at a firm level

* $p < 0.1$, ** $p < 0.05$,
*** $p < 0.01$

than board-level diversity alone, even after controlling for other important control variables to influence corporate giving. Our empirical results support H1 and H3, but reject H2.

The estimated coefficients of advertising expenses (XAD_TA) given in Models 2 and 3 are positive and statistically significant at 5 %. This indicates that firms with high advertising expenses participate more in corporate philanthropy (Fisman et al. 2006). This is consistent with what other studies have found: consumer-sensitive companies spend more on advertising and participate more in corporate philanthropy (Brammer and Millington 2004; Zhang et al. 2010). The estimated coefficients of return on assets (ROA) given in Models 2 and 3 are positive and statistically significant at 1 %. This indicates that, regardless of industry, firms that are good at converting their investments into profits participate more in corporate philanthropy.

Robustness Tests

In Year 2003, KLD increases sample size dramatically. As a result, more relatively smaller firms have been added since Year 2003. To investigate whether different sample firm sizes influence our major research findings, we separate the sample into two periods (1991–2002 and 2003–2009) in Models 1 and 2 of Panel A of Table 6. We also want to make sure our results are not sensitive to the definition of corporate giving. In Panel A of Table 6, we use TOTAL GIVING as a dependent variable for robustness tests. BOARD is significant during 2003–2009, but it is only marginally significant (at 10 %) during 1991 and 2002. The Sarbanes–Oxley Act of 2002 may explain the different significance level of BOARD variables for two different periods. But the DIV_OPER is very significant at 1 % for both periods.

As with most corporate finance and management studies, omitted variables and endogeneity are major issues that can lead to wrong interpretations based on spurious empirical results. We next examine whether our main results are driven by omitted variables. Unknown firm characteristics may influence both GIVING and diversity-related variables (BOARD and DIV_OPER). If this is the case, even though BOARD and DIV_OPER are not associated with GIVING, we may find the BOARD and DIV_OPER are significant determinants of GIVING. To address the omitted variable issue, we include a firm fixed effect model in Model 3 of Table 6. After controlling for firm fixed effects, board diversity (BOARD) now loses its significance, but operational diversity (DIV_OPER) remains highly statistically significant. Panel A of Table 6 demonstrates that our main results are not driven by

specific sample periods and omitted variables: operational diversity consistently influences corporate giving. Results from Panel A of Table 6 confirm that operational diversity programs play a similarly important role on a company's decision to overall philanthropic activities, including innovative giving that supports nonprofit organizations, charitable giving made outside U.S. borders, support for housing, primary and secondary education programs, and so forth.

Panel B of Table 6 uses the Granger causality test to address the endogeneity issue, which may be caused by reverse causality. Lev et al. (2010) used a similar method to address causality issue. In Model 1, the incremental TOTAL GIVING is a dependent variable and in Model 2, the incremental DIV_OPER is a dependent variable. In Model 1, we see that past incremental DIV_OPER variables ($DIV_OPER_{t-1} - DIV_OPER_{t-2}$ and $DIV_OPER_{t-2} - DIV_OPER_{t-3}$) influence the incremental TOTAL GIVING. But in Model 2, we do not have an evidence that past incremental TOTAL GIVING variables ($TOTAL\ GIVING_{t-1} - TOTAL\ GIVING_{t-2}$ and $TOTAL\ GIVING_{t-2} - TOTAL\ GIVING_{t-3}$) influence the incremental TOTAL GIVING. From the results in Panel B of Table 6, we confirm that operational diversity drives a firm's philanthropy, and not the other way around. When operational diversity improves, we find the firm's future philanthropy increases. From the Granger causality test, we also find that board diversity is not a significant variable for a firm's future philanthropy activity. In conclusion, operational diversity influences corporate giving, and operating diversity is shown to be a more important driving factor for future corporate philanthropy than board diversity.

Another endogeneity-related concern is that overall CSR activities rather than diversity may drive our main findings. To address whether firms' overall CSR activities rather than operational diversity induce more corporate giving, we split samples into two groups: firms with other CSR activities versus firms without other CSR activities. Following previous CSR studies using KLD database, we select five broad categories (Community, Diversity, Employment, Employee, and Production). After eliminating two categories, one used for independent variables (Diversity) and the other used for dependent variables (Community), we left with three categories (Employment, Employee, and Production). When there is any strength in three categories, the firm will be coded as the firm with other CSR activities. If a firm does not have any strength in three categories, the firm will be coded as the firm with no other CSR activity. We found that DIV_OPER remains highly significant for both groups. But BOARD is only marginally significant for the group with no other CSR activity and BOARD is not significant for the group with other CSR activity group.

Table 6 Robustness tests. Panel A: Impact of Diversity on Total Giving (dependent variable = TOTAL GIVING), Panel B: Granger Causality Test on Operational Diversity and Corporate Philanthropy, Panel C: Impact of Diversity on Corporate Philanthropy, Controlling for Other CSR Activities (dependent variable = GIVING)

Panel A			
Variables	Model 1 (1991–2002)	Model 2 (2003–2009)	Model 3 (1991–2009 with firm fixed effects)
LOGTA	0.060*** (1.213)	0.060*** (0.006)	0.042** (0.018)
TOBIN'S Q	−0.007 (0.011)	0.012*** (0.003)	−0.007 (0.004)
ROA	0.011 (0.054)	−0.011 (0.015)	−0.022* (0.013)
XAD_TA	0.999* (0.540)	0.310* (0.171)	−0.102 (0.296)
CASH_TA	−0.126 (0.118)	0.040 (0.029)	−0.014 (0.048)
PPE_TA	−0.006 (0.110)	−0.029 (0.031)	0.190* (0.097)
CEO	−0.002 (0.066)	−0.017 (0.030)	−0.043 (0.039)
BOARD	0.106* (0.062)	0.113*** (0.037)	0.015 (0.033)
DIV_OPER	0.270*** (0.029)	0.179*** (0.017)	0.097*** (0.018)
Industry effect	Yes	Yes	No
Year fixed effect	Yes	Yes	Yes
Firm fixed effect	No	No	Yes
Constant	0.278 (0.338)	−0.450*** (0.077)	−0.179 (0.129)
Observations	5,921	17,929	23,850
R ²	0.305	0.303	0.221
Panel B			
Independent variables	Model 1 ^a Coefficient	Model 2 ^b Coefficient	
Intercept	−0.003 (0.003)	0.046*** (0.004)	
TOTAL GIVING _{t−1} − TOTAL GIVING _{t−2}	−0.109*** (0.016)	0.005 (0.018)	
XAD_TA _{t−1} − XAD_TA _{t−2}	−0.238 (0.138)	−0.325 (0.239)	
ROA _{t−1} − ROA _{t−2}	0.008 (0.014)	0.030 (0.028)	
CASH_TA _{t−1} − CASH_TA _{t−2}	0.008 (0.028)	0.002 (0.055)	
TOBIN'S Q _{t−1} − TOBIN'S Q _{t−2}	−0.003 (0.002)	0.005 (0.004)	
BOARD _{t−1} − BOARD _{t−2}	0.023 (0.016)	0.012 (0.027)	
CEO _{t−1} − CEO _{t−2}	0.004 (0.023)	−0.051 (0.045)	
DIV_OPER _{t−1} − DIV_OPER _{t−2}	0.015* (0.008)	−0.116*** (0.013)	
LOGTA _{t−1} − LOGTA _{t−2}	−0.000* (0.014)	0.036* (0.020)	
PPE_TA _{t−1} − PPE_TA _{t−2}	−0.078 (0.058)	0.010 (0.084)	
TOTAL GIVING _{t−2} − TOTAL GIVING _{t−3}	−0.080*** (0.016)	0.009 (0.017)	
XAD_TA _{t−2} − XAD_TA _{t−3}	0.126 (0.144)	0.017 (0.194)	
ROA _{t−2} − ROA _{t−3}	−0.006 (0.014)	0.027 (0.039)	
CASH_TA _{t−2} − CASH_TA _{t−3}	0.003 (0.022)	0.075 (0.052)	
TOBIN'S Q _{t−2} − TOBIN'S Q _{t−3}	0.002 (0.002)	−0.001 (0.004)	
BOARD _{t−2} − BOARD _{t−3}	−0.017 (0.023)	0.014 (0.030)	
CEO _{t−2} − CEO _{t−3}	0.033 (0.024)	−0.039 (0.043)	
DIV_OPER _{t−2} − DIV_OPER _{t−3}	0.018** (0.008)	−0.084*** (0.012)	
LOGTA _{t−2} − LOGTA _{t−3}	0.019* (0.010)	0.022 (0.019)	
PPE_TA _{t−2} − PPE_TA _{t−3}	0.030 (0.050)	−0.100 (0.080)	
P value for F test	0.00	0.00	
R ²	0.020	0.021	
# of Obs	12,216	12,216	

Table 6 continued

Panel C		
Variables	Model 1 ^c No other CSR activities	Model 2 ^d With other CSR activities
LOGTA	−0.036 (0.100)	−0.030 (0.085)
TOBIN'S Q	−0.084 (0.126)	0.003 (0.081)
ROA	0.836** (0.333)	1.593* (0.856)
XAD_TA	6.513*** (1.529)	−0.124 (2.051)
CASH_TA	−1.267 (1.080)	−2.169* (1.120)
PPE_TA	0.848 (1.209)	0.409 (0.860)
CEO	−1.542** (0.751)	−0.814* (0.469)
Board	0.592* (0.592)	−0.003 (0.248)
DIV_OPER	0.938*** (0.137)	0.461*** (0.087)
Industry effect	Yes	Yes
Year fixed effect	Yes	Yes
Firm fixed effect	No	No
Constant	0.572 (1.376)	−1.792 (1.483)
Observations	12,714	6,821
(Pseudo) R^2	0.284	0.130

Two-digit SIC is used to control for industry effects. Standard errors are robust standard errors and are adjusted for clustering at a firm level

^a Model 1: regression of change in corporate philanthropy on prior change in diversity. Dependent variable = $TOTAL\ GIVING_t - TOTAL\ GIVING_{t-1}$

^b Model 2: regression of change in diversity on prior corporate philanthropy change. Dependent variable = $DIV_OPER_t - DIV_OPER_{t-1}$

^c Model 1 includes firms that do not have other corporate social responsibility (CSR) activities besides corporate philanthropy

^d Model 2 includes firms that have other CSR activities besides corporate philanthropy

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

To address the effect of corporate governance on corporate giving, we use the variables from Risk Metrics (1997–2008) and Thomson Reuter's 13 *f* (1997–2007) databases in Table 7. Even after including the number of board members (BOARDSIZE), percentage of female directors on the board (%FEMALE), percentage of independent directors on the board (%INDEP), and percentage of institutional ownership holdings (%INSTITUTION), the main research variable, DIV_OPER, remains significant at 1 % level. From this result, we claim that the effect of DIV_OPER is not much influenced by the quality of a firms' corporate governance and the effect of DIV_OPER on GIVING is not spurious.

Discussion and Implications

The purpose of this study is to investigate how both operational and board diversity impact corporate philanthropy. We conducted a series of robustness tests on a large sample of both large and small firms in an effort to mitigate omitted variable and endogeneity issues and to achieve a better understanding of the impact of operational and board diversity on corporate giving. The robustness tests included

the control for the firm's general CSR performance, important corporate governance variables, board size, percentage of female directors, percentage of independent directors, and percentage of institutional ownership holdings. We further find that operational diversity influences corporate giving much more than board diversity alone. The commitment to diversity within, and not just at the top-level of the firm, appears to influence corporate giving more effectively.

Practical Implications

The findings of the present study have implications for managers in social sector organizations that depend on corporate charitable contributions as a source of income. In the wake of the financial meltdown of 2008, many experts have expressed concerns that the work of nonprofits, foundations, and charitable institutions throughout the United States and the world would be compromised substantially (see Van Fleet 2010; Urriolagoitia and Vernis 2010). Managers in social sector organizations can utilize the findings of the present study and look at companies committed to diversity as a consistent source of corporate giving. While the scale and impacts of the recent financial

Table 7 Corporate philanthropy, diversity, and corporate governance (dependent variable = GIVING)

Variables	Model 1 ^a	Model 2 ^b
LOGTA	−0.103 (0.142)	−0.097 (0.138)
TOBIN'S Q	−0.012 (0.090)	−0.038 (0.093)
ROA	4.157** (1.735)	5.520*** (2.039)
XAD_TA	4.491* (2.349)	6.653** (2.715)
CASH_TA	−3.416*** (1.246)	−3.636*** (1.196)
PPE_TA	−0.781 (1.273)	−1.098 (1.345)
CEO	−1.169** (0.558)	−1.060* (0.594)
DIV_OPER	0.483*** (0.106)	0.404*** (0.117)
BOARDSIZE	0.109** (0.052)	0.099* (0.053)
INDEPDIR %	0.224 (0.682)	0.789 (0.681)
FEMALE %	4.015*** (1.072)	4.043*** (1.120)
INSTITUTION %		−1.648** (0.777)
Industry effect	Yes	Yes
Year fixed effect	Yes	Yes
Firm fixed effect	No	No
Constant	−2.055 (1.684)	−1.053 (1.664)
Observations	6,417	5,522
(Pseudo) R^2	0.206	0.209

Two-digit SIC is used to control for industry effects. Standard errors are robust standard errors and are adjusted for clustering at a firm level

^a Model 1 controls for board size and percentage of independent directors and female directors on the board

^b Model 2 controls for board size and percentage of independent directors as well as percentage of institutional share holders

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

crisis are unprecedented, the results of the study suggest that the future of corporate philanthropy relies on companies being committed to diversity on both board and operational levels.

Much remains to be learned about the relationship between firm diversity and corporate philanthropy. First, our study depended on coded dummy variables pooled from the KLD index without more specific information. It would be interesting if future research can replicate the study and utilize other databases that provide more detail about individual variables such as the amount of giving in dollars. In addition, future research can also be designed to collect reliable data directly from the firms. Although such studies would represent significant challenges in data collection, researchers can use for example a small sample of firms with appropriate representativeness to administer surveys and conduct interviews. Such considerations of alternative methodology might shed light on the relationship between corporate philanthropy and firm diversity programs.

Second, although we used a larger sample of companies than previous studies, our analysis did not focus on specific

industries. Future research should consider the impact of operational and board diversity on corporate giving along with its relationship with specific industries, including consumer sensitive ones. It would also be interesting to conduct research aimed at determining the impact of different levels of diversity—board and operational—on firm future performance. Finally, although this study used the premises of resource dependence theory to demonstrate the impact of operational and board diversity on corporate philanthropy, we did not use a direct measure of a firm interdependence with its environment.

Conclusion

This study contributes to the literature in four ways. First, our findings are consistent with previous research that board diversity influences corporate giving (Wang and Coffey 1992; Williams 2003). Moreover, the significant presence of women, minorities, and/or people who are disabled influences more corporate giving. With women, minorities, and/or the disabled on the board of directors, corporations seek linkages with the most influential resources (Pfeffer and Salancik 1978) and have access to more ideas, information, legitimacy, and communication channels (Daily and Dalton 2003; Boyd 1990; Hillman and Dalziel 2003; Pfeffer and Salancik 2003). This suggests that the presence of diverse board members who bring and control unique resources results in organizational behavior of corporate giving. As Pfeffer and Salancik (2003) noted, the actions and decisions of organizations are the results of distribution of power and control within organizations. Our findings on the impact of board diversity on corporate giving add support to recent studies by Bear et al. (2010) and Marquis and Lee (2011). In fact, Bear et al. (2010) found that the increased number of female board members was positively related to KLD strength ratings for CSR, which includes corporate giving. Marquis and Lee (2011) concluded that corporations with a greater proportion of women senior managers had higher corporate philanthropic contributions. However, our analysis was not limited to the presence of women on board of directors, as it included minorities and/or disabled board members. The results of our study shed light on the strength of the relationship between board diversity and corporate giving.

Second, this study extends the topic of prior studies regarding board composition (Wang and Coffey 1992; Williams 2003; Bear et al. 2010) by analyzing operational diversity. We investigate the impact of operational diversity and board diversity on corporate giving and find that the former is a more important indicator that predicts future corporate giving. This suggests that the implementation of diversity programs at the operational levels materializes

diversity while addressing employee needs. Companies value diversity at the firm level and commit to it as a firm resource (Barney 1991; Wernerfelt 1984) for strategic purposes (Dwyer et al. 2003; Roberson and Park 2007; Richard 2000; Richard et al. 2007). An operational diversity program is strong evidence that the firms feel the need to be like their customers, including the need to understand and communicate with them in terms that reflect their concerns. Operational diversity would result in more interdependent relationships with the environment than board diversity alone. The more the firm implements diversity programs at management, employee, and supply chain levels, the more likely the levels of pressures and constraints will increase. Consistent with resource dependence theory, a firm would minimize the environmental constraints resulting from operational diversity and control over resources exercised by interest groups by engaging in philanthropic activities. As noted earlier, several studies have demonstrated that corporate philanthropy can help a firm reduce the risk associated with resource acquisition (Berman et al. 2005; Haley 1991) and risk associated with the loss of resources already controlled (Barnett and Salomon 2006; Brammer and Millington 2004; Godfrey 2005).

Third, the study demonstrates that having a company's CEO who is a woman or a member of a minority group may not be sufficient to impact its charitable giving. Previous studies have analyzed the impact of the contribution of women and minorities on corporate giving in conjunction with their roles as members of the board of directors (see Bear et al. 2010; Marquis and Lee 2011; Wang and Coffey 1992; Williams 2003). Our study looked specifically at their role as CEO and could not find a correlation with corporate giving.

Finally, the study's methodological strength contributes to existing literature in the field of corporate giving. Beyond the analyses of a large panel data set on a sample of U.S. firms over the period of 1991–2009, we try to mitigate omitted variables and endogeneity issues to the best of our ability. For example, the impact of diversity on corporate giving is significant, regardless of corporations' participation in other CSR activities; firm fixed effect is used to minimize other unknown factors' influence on both corporate giving and diversity. Granger causality test is used to examine the direction of causality between diversity and corporate giving. The numbers of female and independent directors as well as institutional ownership are included to control for the impact of corporate governance on corporate philanthropy. With rigorous regression analyses and after a battery of robustness tests, the effect of diversity on corporate giving, especially that of operational diversity, not only survives but also remains strong.

In summary, our study goes beyond simple correlation and ordinary least square analyses to mitigate endogeneity

problems often overlooked in previous research in corporate philanthropy (Garcia-Castro et al. 2010). Previous corporate giving studies have suffered from small sample sizes and methodological limitations. We hope that the results provided herein will assist researchers, practitioners, and other stakeholders in deepening their understanding of the predictors of corporate giving.

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Appendix

Description of main variables

Variable	Description
GIVING (Com_Str_a)	GIVING equals 1 for a company that has consistently given more than 1.5 % of trailing 3-year net earnings before taxes (NEBT) to charity over the period 1991–2009, or has been notably generous in its giving, and 0 otherwise
TOTAL GIVING (Com_Str_num)	Total counts of community giving strength
CEO (Div_Str_a)	CEO equals 1 for a company's chief executive officer being a woman or a member of a minority group, and 0 otherwise
PROMOTION (Div_Str_b)	PROMOTION equals 1 for a company that has made progress in the promotion of women and minorities, particularly to line positions with profit-and-loss responsibilities in the corporation, and 0 otherwise
BOARD (Div_Str_c)	BOARD equals 1 for a company where women, minorities and/or disabled hold four seats or more (with no double counting) on the board of directors, or one-third or more of the board seats if the board number is less than 12
WORK/LIFE (Div_Str_d)	WORK/LIFE equals 1 for a company that has outstanding employee benefits or other programs addressing work/life concerns, e.g., childcare, elder care, or flextime, and 0 otherwise
CONTRACTING (Div_Str_e)	CONTRACTING equals 1 for a company that does at least 5 % of its subcontracting, or has a demonstrably strong record on purchasing, with women—and/or minority—owned businesses, and 0 otherwise
DISABLED (Div_Str_f)	DISABLED equals 1 for a company that has implemented innovative hiring programs for disabled, or has a superior reputation as an employer of disabled

Appendix continued

Variable	Description
GAY (Div_Str_g)	GAY equals 1 for a company that has implemented progressive policies toward its gay and lesbian employees
OTHER (Div_Str_x)	OTHER equals 1 for a company that has made a notable commitment to diversity that is not covered by other KLD ratings
DIV_OPER (Div_Str_extra)	DIV_OPER equals the count of all strengths the company has received in the category of diversity minus BOARD and CEO. (DIV_OPER = DIV_COUNT – BOARD – CEO). It measures operational diversity level of the company
DIV_OPER_N (Div_Str_Robust)	DIV_OPER_N is a narrower definition for DIV_OPER. DIV_OPER_N = DIV_OPER – WORK/LIFE – GAY
DIV_COUNT (Div_Str_num)	DIV_COUNT equals the count of all strengths the company has received in the category of diversity
LOGTA	LOGTA is the logarithm of a company's total assets in million US dollars
TOBIN'S Q	Tobin's Q is defined as the ratio of a company's market value to its book value
ROA	ROA equals a company's return on assets
XAD_TA	XAD_TA equals a company's advertising expenses over total assets
CASH_TA	CASH_TA equals a company's cash, marketable securities over total assets
PPE_TA	PPE_TA equals a company's property, plant, and equipment over total assets
BOARDSIZE	BOARDSIZE is the number of board members
%FEMALE	%FEMALE is the percentage of female directors on the board
%INDEPDIR	%INDEPDIR is the percentage of independent directors on the board
%INSTITUTION	%INSTITUTION is the percentage of institutional shareholders

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