8-2005

Too Little or Too Much? Reexamining the Relationship between Corporate Charitable Giving and Corporate Financial Performance

Heli WANG
Singapore Management University, hlwang@smu.edu.sg

Jaepil CHOI
Singapore Management University, jaepilchoi@smu.edu.sg

Jiatao LI
Hong Kong University of Science and Technology

TOO LITTLE OR TOO MUCH? REEXAMINING THE RELATIONSHIP BETWEEN CORPORATE GIVING AND CORPORATE FINANCIAL PERFORMANCE

HELI WANG
Department of Management of Organizations
Hong Kong University of Science and Technology
Clear Water Bay, Hong Kong
Phone 852-2358-7743
Fax 852-2335-5325
mnheli@ust.hk

JAEPIL CHOI
Hong Kong University of Science and Technology

JIATAO LI
Hong Kong University of Science and Technology

INTRODUCTION

How do corporate charitable contributions affect corporate financial performance? Instrumental stakeholder theory posits that corporate giving can lead to high levels of corporate financial performance through improved stakeholder relations. In contrast, agency theory suggests that corporate giving diverts valuable corporate resources and inhibits corporate financial performance. Extant empirical studies that have examined the relationship found inconclusive results. We depart from and extend the existing literature in two main aspects. First, building upon the instrumental stakeholder argument and agency perspective, we develop the argument that there is an inverse U-shaped relationship between corporate charitable giving and corporate financial performance. Second, we predict that the inverse U-shaped relationship changes over time: firms that engage in moderate amounts of giving in a later period would have a higher level of financial performance than those in an earlier period. The hypotheses are tested with a longitudinal data set of corporate giving from 1984 to 1999, providing strong support for our predictions.

THEORY AND HYPOTHESES

The Curvilinear Relationship between Corporate Giving and Financial Performance

Building upon and extending instrumental stakeholder theory, we posit that the positive effect of corporate giving on corporate financial performance can be better understood through the concept of organizational identity and its legitimized form, corporate reputation. In particular, corporate giving influences internal stakeholders (e.g., existing employees) through enhancing their organizational identification, and external stakeholders (e.g., customers, investors, potential future employees, etc.) through improving organizational reputation. Organizational identification and reputation enable firms to keep a trusting, cooperative relationship with stakeholders, which, in turn, increases firms' financial performance (Graves & Waddock, 1994; Fombrun & Shanley, 1990; Scott & Lane, 2000). Thus, corporate giving will have a positive effect on corporate financial performance.

This perspective, however, has overlooked the costs associated with corporate giving or implicitly assumed that the increased costs from engaging in corporate giving may not be significant enough to directly harm firms' competitive positions and financial performance. However, although it might be reasonable to not consider the cost aspect at low levels of corporate giving, when corporate giving increases up to a certain level, the costs can no longer be overlooked. First, high levels of corporate giving divert valuable corporate resources and thus impose direct costs on firms (Keim, 1978; Ullman, 1985). The costs that arise from corporate giving are not limited to expenditures in corporate financial and physical resources such as money and facilities. They also include costs associated with human resources. Another opposing dynamic that needs to be simultaneously considered is that too high levels of corporate giving are also likely to be interpreted as a signal that the firm has some severe agency problems (cf. Wright & Ferris, 1997). It has been demonstrated in the literature that high levels of slack resources positively affect subsequent corporate giving (Preston & O'Bannon, 1997; Seifert, Morris, & Bartkus, 2004). Thus excessive giving may be linked to a large amount of slack resources, which are likely to promote managers' opportunistic behaviors (Jensen & Meckling, 1976).

If all of the above countervailing forces are simultaneously considered, we expect that a curvilinear relationship between corporate giving and financial performance should emerge. Corporate giving first promotes organizational identification and corporate reputation and attracts stakeholders to actively participate in the firm. But with the amount of giving increasing to a sufficiently high level, this effect is offset by increased direct and labor costs, and an increased stakeholder concern about the firm's potential agency problems. These arguments suggest that there is an intermediate level of corporate giving that is optimal for corporate financial performance. This leads to:

Hypothesis 1: The level of corporate giving and corporate financial performance have an inverse U-shaped curvilinear relationship.

The Moderating Effect of Time on the Giving-Performance Relationship

The relationship between corporate giving and financial performance may change over time, with the increasing awareness of corporate giving by stakeholders and the instrumental use of corporate giving by firms. In an earlier period, although there may still exist an inverse U-shaped relationship, we expect that the marginal performance benefits with an increase in the amount of corporate giving would not be substantial, albeit positive, since stakeholders were less responsive to it and since corporate giving was executed in a less efficient manner. As corporate giving becomes a taken-for-granted norm in organizational fields (DiMaggio & Powell, 1983), stakeholders respond more actively to it, and firms execute it in a more efficient way (Smith, 1994). Thus with the evolution of corporate giving over time, an increase in the level of corporate giving should generate greater financial benefits. For the same reason, we expect that the moderate level of corporate giving that gives rise to optimal financial performance should be associated with a higher financial performance in a later period than in an earlier period.

Another change that may affect the relationship between corporate giving and financial performance is that dominant beliefs about corporate governance have shifted toward an "agency" model of corporate control (Davis & Thompson, 1994; Useem, 1993, 1996; Westphal & Zajac, 1998; Zajac & Westphal, 1995). The corporate logic draws legitimacy from its connection to the logic of capitalist markets (Friedland & Alford, 1991), given its emphasis on allocative efficiency through the invisible hand of the stock market rather than through the

visible hand of corporate managers (Donaldson, 1990). To the extent that such a market logic of resource allocation have become more prevalent in some sections of the economy, stakeholders' concerns for agency problems within corporations become more salient over time. Therefore, as we have argued that agency costs become dominant beyond an optimal level of corporate giving, we expect that the agency costs are greater in a later period since stakeholders have increased their concerns for potential agency problems and these concerns affect their participation in the firm. As a result, time further strengthens the negative effect of corporate giving on financial performance, when a firm gives beyond the optimal level of corporate giving.

Thus, although we hypothesized that there is an inverse U-shaped relationship between corporate giving and financial performance, the above arguments suggest that such a relationship (both the positive and negative effects) should become more pronounced in a later period. Therefore,

> *Hypothesis 2: Time moderates an inverse U-shaped corporate giving-financial performance relationship in such a way that the relationship becomes more pronounced over time and firms that engage in a moderate amount of giving will have higher level of financial performance in the later sample period than in an earlier sample period.*

METHOD

Data and Sample

We used two main data sources in this study: Taft Corporate Giving Directories and Standard & Poor's Compustat. We began our sample selection with the group of firms whose charitable giving data appeared in the Taft Corporate Giving Directory. We then merged the corporate giving information with Standard & Poor's Compustat series to obtain more detailed financial information for the companies in the dataset. In the end we had a sample of 854 companies and about 9,125 firm-year observations over the 16 year study period.

Estimation Method

Since our sample only included firms that engaged in corporate charitable giving, there may exists sample selection bias if firms do not engage in giving activities randomly. To overcome potential sample selection bias, we estimated the effect of the level of charitable contributions on corporate financial performance using the Heckman selection model, a two-stage procedure that corrects for sample selection bias in regression analysis (Heckman, 1976, 1979). The Heckman model included two equations: the first (selection) equation estimated the likelihood of firms engaging in charitable contributions with a probit model for the full sample of firms, which includes both our main sample of firms and those in the control group. In the first stage, an adjustment term called the "inverse Mills ratio" or "non-selection hazard" (λ) was calculated. In the second equation, the sample was limited to our main sample of firms that engaged in charitable contributions and was incorporated in the Directory. In this equation, the corporate financial performance model was reestimated with the "inverse Mills ratio" included as a control variable (Heckman, 1976). Thus, the Heckman two-stage model corrects for sample selection bias because parameter estimates from the first-stage probit model, which were based on information that represents all firm-years in the population, were incorporated in the second-stage models.

Measurements

The primary dependent variable in this study was corporate financial performance. We used three different measures of corporate financial performance: return on assets (ROA), return on sales (ROS), and Tobin's q. We measured our key independent variable, level of corporate charitable contributions, using the dollar amount of charitable giving reported in the Taft Corporate Giving Directory. The value of each firm's contributions was divided by the firm's average sales during the same time period in order to control for the effects of firm size. Our moderating variable, time, was measured using an indicator ranging from 0 to 15, with one number representing each particular year. In addition, we also included firm size, management's risk tolerance, and organizational slack, R&D and advertising expenditures as control variables.

RESULTS

Table 1 presented the results from the Heckman model's second-stage estimation using inverse Mills ratios from the first stage probit model (first-stage results were omitted to save space) to account for the selection bias with the firms' participation in charitable contributions (although we used three different dependent variables, ROA, ROS, and Tobin's q, respectively, the table only showed the results using Tobin's q as an illustration). We conducted hierarchical multiple regression analyses to test the hypothesized curvilinear relationship between corporate charitable giving and corporate financial performance, and the quadratic-by-linear interaction between the amount of corporate charitable giving and time.

Insert Table 1 about here

Model 1 reported the effects of control variables, including firm risk, firm size, R&D intensity, advertising expenditure, and organizational slack, and time. This model served as a baseline from which the analysis proceeded. Entering control variables and time into the regressions yielded significant equations for ROA (R^2=.120, p<.001), ROS (R^2=.091, p<.001) and Tobin's q (R^2=.160, p<.001). Most of the variables had the expected signs and had significant effects. R&D and organizational slack consistently showed significantly positive effects on all three measures of financial performance. Firm size was found to affect ROS and Tobin's q positively but showed no significant effect on ROA. Firms with higher risk levels (greater debt) tended to have lower levels of financial performance, except for ROS, which had insignificant coefficient. The only apparent contradiction across three dependent variables was the effect of time, which was shown to have negative effect on ROA and ROS, but the effect became positive when Tobin's q was used as performance measure. In step 2, the main effect of the level of corporate giving was entered. But it was found to have no significant effect on ROA and Tobin's q, while a positive and significant effect was found on ROS.

The quadratic term of giving amount was entered in step 3. The coefficients on both the linear giving term and quadratic term were highly significant for all three measures of financial performance (at least at p<.001 level for linear terms, at least at p<0.01 level for quadratic terms). The positive coefficient sign on the linear term and the negative sign on the quadratic term are consistent with the predicted curvilinear (inverse U-shaped) effect of charitable giving on corporate financial performance. We gathered further evidence of the role of quadratic charitable

giving function in explaining financial performance by comparing the variance explained by the models. While including only the level of giving (Model 2) did not yield significantly better model fit, including both giving and its squared term led to increases in the R^2 term (ΔR^2 equals to 0.012, 0.015, and 0.010, respectively, for three Panels), suggesting better-specified models. F-tests on the changes in R^2 resulting from the addition of the quadratic functions of the giving variable suggested that the difference is significant. Thus, Hypothesis 1 was strongly supported with all three performance measures.

In steps 4 and 5, the linear and quadratic-by-linear interactions of charitable giving and time were entered. When only linear interactions were added, the interactions of time and amount of giving were not found to have significant effects on ROA and ROS, while it had a positive and significant effect on Tobin's q. When quadratic-by-linear interactions were further added, for two out of the three performance measures (ROS and Tobin's q), the coefficients on linear interaction became significant with positive signs (at least at $p<.01$ level), and those on the quadratic-by-linear interaction were negative and significant (at least at $p < .01$ level). Furthermore, including time and its interaction terms led to better-specified models for the two performance measures, with increases in the R^2 of 0.002 and 0.001. F-tests on the changes in R^2 suggested that the differences were significant. These results supported our hypothesis 2, indicating that time positively moderates the inverse U-shaped giving-financial performance relationship in such a way that the relationship becomes more pronounced over time and firms that engage in a moderate amount of giving have higher level of financial performance in the later sample period than in an earlier sample period.

Of additional interest to us was the inflection point (i.e., the optimal level of corporate giving that maximizes financial performance) and how this point changes over time. To address this question, we examined the curvilinear giving-financial performance regression curves corresponding to an earlier (standardized t = -4.55, one standard deviation below the mean), an intermediate (standardized t = 0, mean) and a later (standardized t = 4.55, one standard deviation above the mean) time periods respectively (Aiken & West, 1991). We found that there was an increase in the values at the inflection points of the regression curves over time. Using Tobin's q for an illustration, at an early time period (t = -4.55), the level of giving at the inflection point was 0.023 (2.3 percent of sales). At later periods this value increased to 0.042 (4.2 percent of sales) at t = 0 and 0.053 (5.3 percent of sales) at t = 4.55. A consistent pattern was also found when ROS was used as the performance measure. These results suggest that, over time, the optimal level of corporate giving that maximizes corporate financial performance increases.

CONCLUSION

This study argued that corporate giving and corporate financial performance have an inverse U-shaped relationship. This prediction was strongly supported by our data with both accounting- and market-based performance measures. Moreover, due to increased stakeholders' responsiveness to corporate giving and changes in corporate practices over time, we expected that the inverse U-shaped relationship would be more pronounced in a later period. We found support for this prediction as well.

REFERENCES AVAILABLE FROM THE AUTHORS

Table 1: GLS results for financial performance (Tobin's q)

Variables	**DV: Tobin's Q**				
	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	-1.064***	-1.064***	-1.091***	-1.078***	-1.073***
	(0.144)	(0.144)	(0.144)	(0.144)	(0.144)
Risk	-0.706***	-0.706***	-0.672***	-0.677***	-0.680***
	(0.062)	(0.061)	(0.061)	(0.061)	(0.061)
Size	0.097***	0.097***	0.099***	0.098***	0.098***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
R&D	8.193***	8.201***	7.976***	8.012***	8.011***
	(0.400)	(0.402)	(0.401)	(0.400)	(0.400)
Advertising	4.452***	4.453***	4.381***	4.378***	4.371***
	(0.275)	(0.275)	(0.273)	(0.273)	(0.273)
Slack	2.055***	2.056***	2.012***	2.011***	2.015***
	(0.122)	(0.122)	(0.122)	(0.121)	(0.121)
Time	0.039***	0.039***	0.038***	0.038***	0.038***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Level of Giving		-0.489	98.75***	85.11***	81.90***
		(2.320)	(10.71)	(11.24)	(11.29)
Giving Squared [c]			-1.081***	-1.095***	-0.980***
			(0.114)	(0.119)	(0.153)
Giving x Time				7.400***	10.460***
				(1.870)	(2.130)
Giving Squared x Time					-54.62**
					(18.01)
Lambda	0.791***	0.792***	0.797***	0.797***	0.797***
(Inverse Mills Ratio)	(0.078)	(0.078)	(0.077)	(0.077)	(0.077)
N	8113	8113	8113	8113	8113
F Value	219.12	191.72	182.29	165.93	151.81
R^2	0.160	0.160	0.170	0.171	0.172
Model Fitness			ΔR^2 vs. Model 1:		ΔR^2 vs. Model 3:
			0.010***		0.002**

[a]: Standard errors are shown in parentheses.
[b]: The coefficients shown are multiplied by 10^3.
[c]: the coefficients shown are multiplied by 10^{-3}.
$^{+}$ $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$