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Corporate Social Responsibility and Earnings Reporting

Mary F. Calegari
San Jose State University, mary.calegari@sjsu.edu

T. Chotigeat
Nicholls State University

M. A. Harjoto
Pepperdine University

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Mary F. Calegari, San Jose State University
Tosporn Chotigeat, Nicholls State University
Maretno A. Harjoto, Pepperdine University

Despite increasing interests on corporate social responsibility (CSR) activities among managers, the relationship between CSR and firm value through earnings reporting quality is still unclear. Absence of a strong positive effect of CSR on firm value has led researchers to believe that CSR is a result of a principal-agent issue between shareholders and managers. This study argues CSR represents a corporate culture that influences how a corporation reports its earnings. CSR influences earnings reporting instead of earnings reporting drives CSR to delude shareholders. CSR induces better earnings reporting quality, therefore, CSR has an indirect but positive effect on firm value

Introduction

The unprecedented corporate scandals such as Enron, Global Crossing and Worldcom in recent years have amplified the awareness among the business community that maintaining a company's public image and reputation is a critical element of survival and success for corporations across the globe. Business leaders began to embrace social activities that are considered important to their stakeholders instead of focusing only on their shareholders. Corporate Social Responsibility (CSR) has become a buzzword among top managers. While managers are giving more careful thought to CSR, most of them are still unclear of what to accomplish and how to define CSR activities in their companies.

A recent report by the Economist Intelligence Unit of the Global Business Barometer, based on a survey of 1,192 global executives, shows that CSR is taking a proper account of the broader interests of society beyond that of the shareholders when making business decisions and the *trends of corporate social responsibility* are as follows (*Economist*, January 17, 2008):

1. Degree of high priority given to corporate social responsibility has been increasing, ranging from 34% three years ago, 56% today, and 69% three years hence.
2. Slightly over 53% agree that corporate social responsibility is a necessary cost of doing business.
3. Slightly over 53% agree that corporate social responsibility gives us a distinctive position in the market.
4. About 22.6% agree that corporate social responsibility is meaningless if it includes things that companies would do anyway.
5. About 3.8% agree that corporate social responsibility is a waste of time and money.

Although CSR has obviously become the center of managers' attention, there is still a limited body of knowledge about what is CSR, how is CSR relevant to corporations, and how does CSR fit into the way corporations conduct their businesses that eventually affect the firm's market value. This study attempts to make a contribution in understanding CSR as a corporate culture and how it affects the firm's value through earnings reporting.

Earnings reports are considered as one of the crucial pieces of information that fills the gap between managers and shareholders (Sloan 1996). Prior studies show that firms with persistent earnings are assigned a greater value in their securities (Kormendi and Lipe 1987, Collins and Kothari 1989, Ali and Zarowin 1992). Therefore, earnings persistence should reflect a higher quality of earnings. This study investigates the relationship between the firm's CSR activities with its quality of earnings reporting and firm value. However, managers in a corporation have the opportunity to manage its earnings quality through accruals (Dechow et al. 1995). Furthermore, the accruals can be decomposed into discretionary accruals (DA) and nondiscretionary accruals (NDA) that measure the flexible and non-flexible components of earnings management, respectively. Firms with higher NDA are considered to have better earnings reporting quality while those with higher DA are considered to have worse earnings reporting quality (Jones 1991, Kothari et al. 2005, and McNichols 2002). As this study decomposes the accruals, it attempts to unveil the interrelationship between CSR, earnings reporting quality and firm value.

Literature Review

First, managers of corporations need to have a better understanding about how corporate social responsibility fits into their companies. Friedman (1970) defines CSR as follows: "Corporate social responsibility is to conduct the business in accordance with shareholders' desires, which generally will be to make as much money as possible while conforming to the basic rules of society, both those embodied in law and those embodied in ethical custom." McWilliams and Siegel (2001) define CSR as actions that appear to further some social good beyond the firm's interests and that which is required by law. Also in a recent study, Hill, Ainscough, and Manullang (2007) define CSR as the economic, legal,

moral, and philanthropic actions of firms that influence the quality of life of relevant stakeholders. In summary, CSR entails business practices that maximize shareholders wealth but are still acceptable to non-investing stakeholders.

While the definition of CSR seems to be straight forward, existing literature finds an inconclusive relationship between CSR and firm value. This lack of evidence is critical to Friedman's argument and creates skepticism regarding the actual value added properties of CSR (if any) in a corporation. Margolis and Walsh (2003) survey over 120 studies between 1971 and 2001 that examine the empirical relation between CSR and financial performance. They conclude that most results are largely inconclusive. They suggest that assessments of previous studies are complicated because of the studies' various imperfections, such as measurement problems related to CSR and financial performance, omitted variable problems, a lack of necessary analyses of causality and/or endogeneity, a lack of methodological rigor, and a lack of theory.

Recent studies on CSR and firm value are based on the principal-agent theory (Jensen and Meckling 1976). Barnea and Rubin (2010) examine the relationship between firms' CSR ratings and their ownership and capital structures and find that insiders tend to over-invest in CSR. However, insiders' ownership and leverage reduce this potential over-investment. Fisman, Heal, and Nair (2008) examine the link between firms' CSR engagement and accounting profit. They find that the effect of CSR on profitability is stronger for firms in more competitive industries. Managers utilize CSR as a product differentiation when their firms operate in a more competitive industry. Sherer, Palazzo, and Baumann, (2006) indicate that the role of a corporation in a society is subject to discursive scrutiny by non-investing stakeholders (i.e., social or environmental activists) besides the shareholders. Managers use CSR activities as a conflict resolution between investing and non-investing stakeholders. Prior, Surroca and Tribo (2008) find CSR as a moderating role for earnings management. Managers use CSR practices to disguise earnings management that cannot be sustained over time.

Based on these recent studies, it seems that CSR is a result of a principal-agent problem where the manager is an agent who utilizes CSR as a tool to maximize their own private benefits (i.e. retention, compensation, conflict resolution, and earnings management) that may not necessarily increase shareholders' wealth. Therefore, the principal-agent theory suggests that CSR is a product of managers' self interest. However, the principal-agent theory does not allow the possibility that CSR is a fundamental corporate culture that might have been established within a corporation regardless of the principal-agent problem. CSR represents the level of firms (managers, owners, and employees) moral and ethical belief that eventually manifests itself in the way they conduct their businesses.

Contribution of the Study

This study presents a theory of CSR that represents corporate culture within a corporation. If CSR represents corporate culture, then earnings management and firm value should be derived from the intensity or lack of firm CSR activities. As the relationship between CSR and shareholders wealth is found unclear, the principal-agent theory (Jensen and Meckling, 1976) becomes one of the popular theories that explains why managers conduct CSR. However, it has some shortcomings. It fails to explain how corporate managers are able to fool shareholders, customers, suppliers and other stakeholders repetitively through CSR activities. More importantly, it does not allow the possibility that CSR may in fact be the fundamental factor that is engrained in the company on how to conduct its businesses such as corporate culture, ethics, beliefs, and social norms. Therefore, all other actions that the managers take to maximize the shareholders' wealth may in fact be a result of CSR. These following two diagrams illustrate the difference between the principal-agent theory and the corporate culture theory of CSR:

Figure 1 shows that CSR is *a result (moderator)* of earnings reporting and firm value that is influenced by earnings reporting. Prior et al. (2008) argues that firms with higher earnings management tend to conduct CSR. Barnea and Rubin (2010) state that firms with plenty of resources (firm value) give managers opportunities to over-invest in CSR activities which eventually reduce the value of the firm. All of these arguments are grounded on the basic premise of the principal-agent problem, where managers as agents may use CSR for their own self interests that are not necessarily maximizing shareholders' value. Figure 2 illustrates that CSR is the *fundamental (antecedent)* factor embedded in the firm culture that influences the way this firm reports its earnings and therefore its market value.

The CSR as a corporate culture argument is quite different from the principal-agent problem since CSR is assumed to be the antecedent of managers' earnings reporting style and firm value. Based on the corporate culture theory, this study performs two empirical investigations using the Kinder, Lyndenberg and Domini (KLD) data for the regression analysis to address the following two hypotheses:

Hypothesis 1 (H1): If the principal-agent theory is correct, then CSR represents a product of Earnings Quality (agency issue). However if CSR represents corporate culture, then CSR influences Earnings Reporting Quality instead of vice versa.

Hypothesis 2 (H2): If CSR represents a firm's Corporate Culture that influences Earnings Reporting, then CSR indirectly enhances Firm Value through Earnings Reporting.

Figure 1: Corporate Social Responsibility as a Principal-Agent Problem

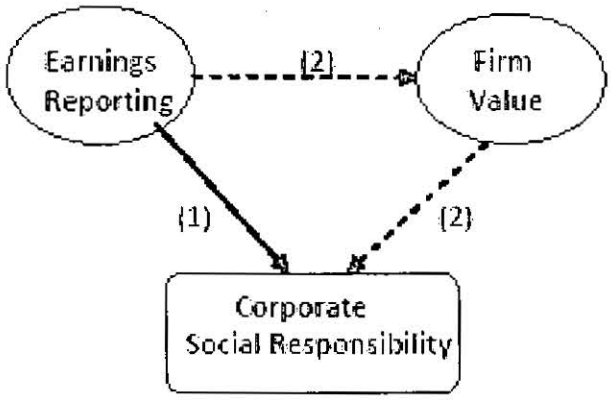
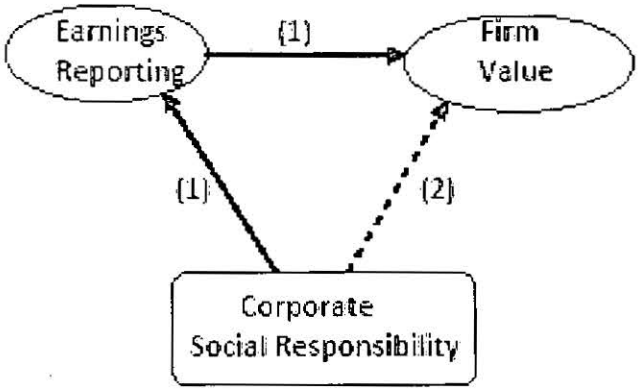


Figure 2: Corporate Social Responsibility as a Corporate Culture



Sample, Data and Variables

Corporate social responsibility (CSR) is measured based on a composite score of CSR strengths and concerns from the KLD Socrates database. This study utilizes KLD Socrates from 1991 to 2008. The following is a list of the strength items and concern items of the KLD Inclusionary Social Ratings for the following five categories: Community, Diversity, Employee Relations, Environment, and Product Quality and Safety.

The calculation of the combined strength and concern scores for each of the five categories are defined below.[3]

COMMUNITY(i,t) = (sum of all community strength score for firm i at year t minus the sum of all community concern score for firm i at year t plus total maximum possible number of community concern score at year t) divided by (total maximum possible number of community strength score during year plus total maximum possible number of community concern score at year t)

DIVERSITY(i,t) = (sum of all diversity strength score for firm i at year t minus the sum of all diversity concern score for firm i at year t plus total maximum possible number of diversity concern score at year t) divided by (total maximum possible number of diversity strength score during year plus total maximum possible number of diversity concern score at year t)

EMPOYEE RELATIONS(i,t) = (sum of all employee strength score for firm i at year t minus the sum of all employee concern score for firm i at year t plus total maximum possible number of employee concern score at year t) divided by (total maximum possible number of employee strength score during year plus total maximum possible number of employee concern score at year t)

ENVIRONMENT(i,t) = (sum of all environment strength score for firm i at year t minus the sum of all environment concern score for firm i at year t plus total maximum possible number of environment concern score at year t) divided

by (total maximum possible number of environment strength score during year plus total maximum possible number of environment concern score at year t)

KLD Inclusionary Social Ratings[2]

Category	*Strength Items*	*Concern Items*
Community	Charitable Giving*	Investment Controversies*
	Innovative Giving*	Negative Economic Impact*
	Non-U.S. Charitable Giving*	Indigenous Peoples Relations ('00-'01)
	Support for Housing	Tax Disputes*
	Support for Education (added '94)	Other Concern
	Indigenous Peoples Relations (added '00, moved '02)	
	Volunteer Programs (added in '05)	
	Other Strength	
Diversity	CEO	Controversies*
	Promotion*	Non-Representation
	Board of Directors	Other Concern
	Work/Life Benefits	
	Women & Minority Contracting*	
	Employment of the Disabled*	
	Gay & Lesbian Policies*	
	Other Strength	
Employee Relations	Union Relations	Poor Union Relations
	No Layoff Policy (ended '94)	Health Safety Concern*
	Cash Profit Sharing*	Workforce Reductions
	Employee Involvement*	Pension/Benefits (added '92)
	Retirement Benefits Strength	Other Concern
	Health and Safety Strength (added '03)	
	Other Strength	
Environment	Beneficial Products & Services	Hazardous Waste*
	Pollution Prevention*	Regulatory Problems*
	Recycling*	Ozone Depleting Chemicals
	Clean Energy*	Substantial Emissions
	Communications (added '96)*	Agricultural Chemicals
	Property, Plant, and Equipment (ended '95)	Climate Change (added '99)
	Management Systems (added '06)*	Other Concern
	Other Strength	
Product Quality and Safety	Quality*	Product Safety*
	R&D/Innovation	Marketing/Contracting Concern*
	Benefits to Economically Disadvantaged*	Antitrust*
	Other Strength	Other Concern

PRODUCT(i,t) = (sum of all product strength score for firm i at year t minus the sum of all product concern score for firm i at year t plus total maximum possible number of product concern score at year t) divided by (total maximum possible number of product strength score during year plus total maximum possible number of product concern score at year t)

This study utilizes the data from KLD, Compustat and CRSP from 1991 through 2008. Throughout this period, the KLD database expanded the number of firms from the S&P500 firms to the Russell 2000 firms and firms in the Domini Social Index. Table 1 presents the descriptive statistics of the sample used in this study. The sample contains 16,232 firms-years across 3,467 firms during 1991 to 2008. The mean of social measures, KLDIDX and DISCIDX, are -0.0223

and 0.0101 for the overall (full) sample. The mean of total accruals (ACCR), nondiscretionary accruals (NDA), and discretionary accruals (DA) are 0.98, 0.91 and 0.07, respectively, indicating that total accruals are primarily due to the nondiscretionary accruals component. Since nondiscretionary accruals is associated with higher earnings reporting quality and discretionary accruals is associated with lower earnings reporting quality, the sample indicates that on average, firms' accruals are dominated by higher quality earnings reporting. The average firm size is $10.44 billion and its average age is 21.5 years indicating that the sample contains larger and older (well established) publicly traded firms.

On average, the firms have 22.75% financial leverage, 3.2% research and development expense, 1.34% advertising expense, 13.78% sales growth and 3.33% return on assets. Again indicating well established and relatively low growth public firms. A relatively low Hirschmann-Herfindahl Index (HHI) of 0.0016 indicates that these firms are operating in very competitive markets. Additionally, the firms have 9.7% volatility of monthly stock returns, 63% book to market ratio, 8.7% operating cash flow to total asset, 47.9% human capital, 1.28% capital expenditure to total asset, and 5.57% dividend to total equity ratio. These indicate larger, well established, stable, and capital intensive firms in the sample of this study.

The univariate t-tests for above and below the median of social rating disclosure measures show that firms with higher social disclosure ratings (DISCIDX) have less total accruals and discretionary accruals which indicate more sustainable earnings reporting. These firms have lower leverage and book to market ratio which indicate higher market value. The firms with higher disclosure also tend to be smaller, younger and operate in more competitive markets. The last finding is consistent with the Fisman et al. (2006) study.

Methodology

We use the following two measures of CSR in our analysis:

1) KLDIDX = KLD composite social rating index;
2) DISCIDX = Disclosure rating index from a subset of all KLD inclusionary criteria.

The Corporate Social Combined Score is calculated as follows:

KLDIDX = (COMMUNITY + DIVERSITY + EMPLOYEE + ENVIRONMENT + PRODUCT)/5

The Corporate Disclosure Score is calculated as follows:

DISCIDX= similar to KLDIDX but only selected items of strengths and concerns from Community, Environment, Diversity, Employee, and Product indicated by * in the KLD Inclusionary Social Ratings table above. These items describe how the company discloses information to the public and its stakeholders.

We use discretionary accruals to measure the magnitude of earnings management. We estimate discretionary accruals using an augmented modified Jones (1991) model that controls for performance (Kothari et al. 2005) and growth (McNichols 2002). We also follow Kothari et al.'s (2005) proposed alternative to the matched-firm approach by including performance (return on assets) as an independent variable in the modified Jones (1991) model regression of Dechow et al. (1995). In addition, we also control for growth options (book-to-market ratio) in the modified Jones model regression because prior research suggests that firms with higher growth opportunities tend to have higher accruals (e.g., McNichols 2002; Cohen et al. 2005).

We define discretionary accruals (DA) as:

$$DA_t = ACCR_t - NDA_t$$

Where ACCR is total accruals and NDA is nondiscretionary accruals.

Following previous studies (e.g., Dechow et al. 1995), ACCR is defined as follows:

$$ACCR_t = (\Delta CA_t - \Delta CL_t - \Delta Cash_t + \Delta STD_t - Dep_t)/(A_{t-1})$$

Where ΔCA is the change in current assets (data 4),
ΔCL is the change in current liabilities (data 5),
$\Delta Cash$ represents the change in cash and cash equivalents (data 1),
ΔSTD is the change in debt included in current liabilities (data 34), and

Dep represents depreciation (data 14).

To estimate nondiscretionary accruals, we use OLS regression (with no intercept) to first estimate the parameters of the following model:

$$ACCR_t = \alpha_1(1/A_{t-1}) + \alpha_2(\Delta REV_t/A_{t-1} - \Delta REC_t/A_{t-1}) + \alpha_3(PPE_t/A_{t-1}) + \alpha_4(ROA_t) + \alpha_5(BM_t) + \varepsilon_t$$

Where:
A represents total assets (data 6),
ΔREV is the change in revenues (data 12),
ΔREC is the change in net receivables (data 2 minus data 67),
PPE represents the amount of property, plant, and equipment (data 7),
ROA is defined as the net income before extraordinary items (data 18) scaled by lagged total assets, and
BM is the ratio of total assets to total assets minus book value of equity (data 60) plus market value of equity (the product of data 25 and data 199).

Discretionary accruals are then estimated as:

$$\hat{DA}_t = ACCR_t - \hat{NDA}_t$$

Where:

$$\hat{NDA}_t = \hat{\alpha}_1(1/A_{t-1}) + \hat{\alpha}_2(\Delta REV_t / A_{t-1} - \Delta REC_t / A_{t-1}) + \hat{\alpha}_3(PPE_t/A_{t-1}) + \hat{\alpha}_4(ROA_t) + \hat{\alpha}_5(BM_t)$$

This study ultimately examines the impact of CSR on firm value through its accruals (both discretionary and nondiscretionary accruals). As a measure of firm value, the study uses the Tobin's Q ratio (Tobin 1969). Tobin's Q is widely used as a measure of firm value for example, Chung and Pruitt (1994) and Chung and Jo (1996), among others. Following Chung and Pruitt (1994), Tobin's Q is calculated as:

> Tobin Q = {(Market value of common stock + Book value of preferred stock + Book value of long-term debt + Book value of current liabilities – (Book value of current assets – Book value of Inventories)) / Book value of total assets}.

We construct firm-specific control variables that Bowen et al. (1995) use to proxy for the extent of implicit claims between a firm and its shareholders. We use the firm's own R&D and advertising intensities, leverage, and human capital intensity. Similar to Hribar and Nichols (2007), we include firm characteristics that have been identified by prior studies to be correlated with the absolute value of discretionary accruals (Bergstresser and Philippon 2006; Bowen et al. 2005). Skinner and Sloan (2002) find that growth firms experience an asymmetrically large negative price response to negative earnings surprises. Therefore, the incentive to manage earnings is likely to be higher for growth firms. Hribar and Nichols (2007) suggest that the magnitude of discretionary accruals is likely to be correlated with measures of underlying operating volatility. Thus, we include the firm's volatility of cash flows, net income, and sales as additional controls.

We define our control variables as follows:
Total Asset = Firm total assets (in millions);
AGE = Number of years that a firm is listed in Compustat database;
Leverage = Long-term debt plus debt in current liability over total assets;
RNDR = R&D expense over total assets;
ADVR = Advertising expense over total assets;
HHI = Hirschmann-Herfindahl Index measure of firm's market concentration;
ROA = Net income over total assets;
Stdevret = Standard deviation of monthly stock returns;
BM = Book to market ratio of total assets over total liabilities plus market value of equity;
Cash Flow = Operating cash flow over total assets;
Salegrow = One year sales growth;
HumanCap = Total assets minus gross property, plant, and equipment divided by total assets;.
CAPXR = Capital expenditures over total assets;
DIVR = Total dividend divided by book value of total equity

To perform the causality test for CSR, we estimate the following regressions:

Table 1: Descriptive Statistics

Variables	All Sample	Below Median DISCIDX	Above Median DISCIDX	t-stats
KLDIDX	-0.0223	-0.1230	0.1594	10.02**
DISCIDX	0.0101	-0.1149	0.2356	13.02**
ACCR	0.9856	1.0144	0.9336	7.91**
NDA	0.9116	0.9225	0.8920	4.86**
DA	0.0740	0.0919	0.0416	5.62**
Total Asset	10440.14	11772.78	8036.134	4.40**
AGE	21.5099	21.9323	20.7478	4.75**
Leverage	0.2275	0.2438	0.1982	13.22**
RNDR	0.0320	0.0291	0.0373	6.87**
ADVR	0.0134	0.0119	0.0162	6.76**
HHI	0.0016	0.0019	0.0011	2.12*
ROA	0.0333	0.0312	0.0369	2.51**
Stdevret	0.0974	0.0967	0.0988	2.29*
BM	0.6356	0.6492	0.6111	9.06**
Cash Flow	0.0876	0.0851	0.0920	3.67**
Salegrow (%)	13.7801	13.5312	14.2291	1.42
HumanCap	0.4798	0.4695	0.4775	1.18
CAPXR (%)	1.2772	1.5766	1.2163	1.09
DIVR	0.0557	0.0471	0.0711	1.16
Sample Size	16232	8116	8116	
# Firms	3467	2865	2806	

$KLDIDX = \alpha + \beta_1(lagKLDIDX) + \beta_2(lagACCR \text{ or } lagNDA \text{ or } lagDA) + \gamma(Control\ Variables) + \varepsilon$

$DISCIDX = \alpha + \beta_1(lagDISCIDX) + \beta_2(lagACCR \text{ or } lagNDA \text{ or } lagDA) + \gamma(Control\ Variables) + \varepsilon$

To perform the causality test for the accrual measures, we estimate the following regressions:

$ACCR = \alpha + \beta_1(lagACCR) + \beta_2(lag\ KLDIDX \text{ or } lag\ DISCIDX) + \gamma(Control\ Variables) + \varepsilon$

$NDA = \alpha + \beta_1(lagNDA) + \beta_2(lag\ KLDIDX \text{ or } lag\ DISCIDX) + \gamma(Control\ Variables) + \varepsilon$

$DA = \alpha + \beta_1(lagDA) + \beta_2(lag\ KLDIDX \text{ or } lag\ DISCIDX) + \gamma(Control\ Variables) + \varepsilon$

To analyze accruals and firm performance, we estimate the following regression equations for each measure of CSR (KLDIDX and DISCIDX) below the median and above the median.

$TOBINQ = \alpha + \beta_1 ACCR + \gamma(Control\ Variables) + \varepsilon$

$TOBINQ = \alpha + \beta_1 NDA + \gamma(Control\ Variables) + \varepsilon$

$TOBINQ = \alpha + \beta_1 DA + \gamma(Control\ Variables) + \varepsilon$

We also perform a two-stage least square (2SLS) estimation to alleviate endogeneity concerns arising from the potentially simultaneous relation between earnings reporting (ACCR, NDA, and DA), CSR (KLDIDX and DISCIDX) and firm value (Tobin Q). Earnings reporting and CSR are treated as endogeneous variables.

Results

First, this study tests the causality between earnings reporting (in terms of accruals) and social ratings (KLDIDX and DISCIDX) to gain a better understanding of whether accruals reporting drive CSR activities or vice versa. Table 2

Table 2: Causality Test for CSR

Dependent Variable	KLDIDX (Y_t)	KLDIDX (Y_t)	KLDIDX (Y_t)	DISCIDX (Y_t)	DISCIDX (Y_t)	DISCIDX (Y_t)
Lagged Dep. Var. (Y_{t-1})	0.4801 (69.58)**	0.4813 (68.26)**	0.4846 (67.83)**	0.4698 (64.53)**	0.4720 (63.41)**	0.4746 (62.98)**
lagACCR	**-0.0012**			**0.0001**		
	(0.46)			**(0.03)**		
lagNDA		**-0.0187**			**-0.0210**	
		(0.59)			**(0.57)**	
lagDA			**0.0249**			**0.0043**
			(1.72)			**(0.25)**
Total Asset (log)	-0.0123	-0.0137	-0.0140	-0.0196	-0.0220	-0.0228
	(3.72)**	(4.10)**	(4.16)**	(5.11)**	(5.68)**	(5.80)**
AGE	0.0001	0.00003	0.0001	0.0003	0.0001	0.0001
	(0.27)	(0.04)	(0.12)	(0.59)	(0.29)	(0.28)
Leverage	0.0045	0.0023	0.0035	0.0121	0.0085	0.0121
	(0.42)	(0.21)	(0.32)	(0.96)	(0.67)	(0.95)
RNDR	-0.0085	-0.0272	-0.0285	-0.0710	-0.0913	-0.0927
	(0.21)	(0.64)	(0.67)	(1.48)	(1.85)	(1.89)
ADVR	0.0156	0.0154	0.0276	-0.0260	-0.0226	-0.0086
	(0.25)	(0.24)	(0.44)	(0.36)	(0.31)	(0.12)
HHI	-0.8275	-0.2793	-0.2869	-0.5950	-0.4737	-0.4902
	(4.90)**	(1.29)	(1.33)	(3.03)**	(1.88)	(1.96)
ROA	0.0460	0.0459	0.0461	0.0196	0.0215	0.0231
	(4.21)**	(4.25)**	(4.28)**	(1.54).	(1.71)	(1.84)
Stdevret	-0.0458	-0.0457	-0.0442	0.0240	0.0237	0.0238
	(1.74)	(1.69)	(1.63)	(0.79)	(0.75)	(0.75)
Intercept	0.0835	0.0927	0.0942	0.1708	0.1900	0.1919
	(3.39)**	(3.78)**	(3.80)**	(5.94)**	(6.63)**	(6.64)**
Sample size	17714	16883	16517	17714	16883	16517
# Firms	3738	3549	3498	3738	3549	3498
R-squared	0.2756	0.2761	0.2792	0.2576	0.2608	0.2626

Absolute value of t-statistics in parentheses. Dummy variables for years are not reported to conserve space.
* significant at 5%; ** significant at 1%.

presents the Granger causality test to determine whether earnings reporting (ACCR, NDA and DA) affects CSR (KLDIDX or DISCIDX) using a panel data fixed effects regression. The results indicate that all the lagged accruals reporting variables (lagACCR, lagNDA and lagDA) do not affect firm CSR activities. Therefore, there is no empirical evidence to support that accruals reporting drives CSR activities. The study also uses two and three years of lagged accruals reporting (results are not reported in the tables) and still do not find any empirical evidence to support that accruals drive CSR activities. This study does not find evidence that managers use CSR activities to disguise shareholders from their earnings window dressing through accruals as was found in the Prior et al. (2008) study.

Table 3: Causality Test for Accrual Measures

	ACCR (Y_t)	NDA (Y_t)	DA (Y_t)	ACCR (Y_t)	NDA (Y_t)	DA (Y_t)
Lagged Dep. Var.	-0.0269	-0.0123	-0.1746	-0.0262	-0.0124	-0.1746
(Y_{t-1})	(3.57)**	(1.59)	(22.07)**	(3.47)**	(1.61)	(22.07)**
lagKLDIDX	**-0.0990**	**0.0003**	**-0.0996**			
	(4.88)**	**(0.17)**	**(2.42)***			
lagDISCIDX				**-0.0724**	**0.0015**	**-0.0737**
				(3.94)**	**(0.92)**	**(3.51)****
Total Asset (log)	-0.3403	-0.0036	0.0042	-0.3403	-0.0036	0.0043
	(34.27)**	(4.32)**	(2.31)*	(34.25)**	(4.28)**	(2.32)*
AGE	-0.0006	0.0000	-0.0000	-0.0006	0.0000	-0.0000
	(0.56)	(0.38)	(0.22)	(0.53)	(0.37)	(0.22)
Leverage	0.8195	-0.0033	0.0417	0.8196	-0.0033	0.0417
	(25.58)**	(1.21)	(7.02)**	(25.57)**	(1.21)	(7.02)**
RNDR	1.7249	0.0328	-0.1330	1.7268	0.0329	-0.1330
	(13.85)**	(3.04)**	(5.68)**	(13.86)**	(3.05)**	(5.68)**
ADVR	1.1772	-0.0364	0.0445	1.1825	-0.0363	0.0445
	(6.49)**	(2.37)*	(1.33)	(6.52)**	(2.36)*	(1.33)
HumanCap	-0.0003	0.0047	-0.0145	0.0016	0.0047	-0.0145
	(0.01)	(1.19)	(1.69)	(0.04)	(1.19)	(1.69)
BM	0.1091	-0.0042	-0.0382	0.1120	-0.0042	-0.0383
	(4.62)**	(2.10)*	(8.72)**	(4.75)**	(2.10)*	(8.73)**
ROA	-0.4081	0.0510	0.0908	-0.4074	0.0510	0.0908
	(12.38)**	(18.54)**	(15.22)**	(12.36)**	(18.55)**	(15.22)**
Cash Flow	-0.0678	-0.0244	-0.4087	-0.0685	-0.0244	-0.4087
	(1.34)	(5.65)**	(43.29)**	(1.35)	(5.64)**	(43.28)**
Salegrow	-0.0026	0.0002	0.0000	-0.0026	0.0002	0.0000
	(24.12)**	(17.93)**	(2.35)*	(24.06)**	(17.90)**	(2.34)*
Stdevret	0.1305	-0.0028	-0.0737	0.1322	-0.0026	-0.0737
	(1.69)	(0.42)	(5.10)**	(1.71)	(0.40)	(5.10)**
Intercept	3.7011	-0.0024	0.0373	3.6986	-0.0027	0.0372
	(40.82)**	(0.39)	(2.26)*	(40.77)**	(0.44)	(2.25)*
Sample size	16361	16234	15937	16361	16234	15937
# Firms	3475	3446	3388	3475	3446	3388
R-squared	0.2724	0.1220	0.1839	0.2719	0.1220	0.1839

Absolute value of t-statistics in parentheses. Dummy variables for years are not reported to conserve space.
* Significant at 5%; ** significant at 1%.

Table 3 shows the regression results to test the causality of whether CSR activities drive the firms' accruals reporting. We find strong evidence that lagged social ratings (lagKLDIDX and lagDISCIDX) significantly reduce firms' total accruals (ACCR) and more importantly discretionary accruals (DA). Nondiscretionary accruals are associated with higher earnings reporting quality while discretionary accruals are associated with lower earnings reporting quality. Therefore, this finding demonstrates that firms with higher CSR activities tend to have lower accruals, especially discretionary accruals, which imply better quality of earnings reporting.

A one percent increase in social rating, measured by KLDIDX, reduces total and discretionary accruals by 9.9% and 9.96%, respectively. A one percent increase in social rating, measured by DISCIDX, reduces total and discre-

Table 4: Accruals and Firm Performance

Panel A: KLDIDX

	Below Median KLDIDX	Above Median KLDIDX	Below Median KLDIDX	Above Median KLDIDX	Below Median KLDIDX	Above Median KLDIDX
	TOBINQ	TOBINQ	TOBINQ	TOBINQ	TOBINQ	TOBINQ
ACCR	**0.5998**	**0.6055**				
	(2.60)**	**(2.89)****				
NDA			**0.9935**	**1.9436**		
			(3.80)**	**(3.22)****		
DA					**-0.1163**	**-0.4045**
					(2.04)*	**(1.84)**
Total Asset (log)	-0.4720	-0.8235	-0.4332	-0.7218	-0.4364	-0.7401
	(16.59)**	(17.05)**	(15.91)**	(15.43)**	(16.01)**	(15.89)**
AGE	-0.0025	0.0016	-0.0023	-0.0002	-0.0024	0.0007
	(0.96)	(0.19)	(0.88)	(0.02)	(0.91)	(0.08)
Leverage	-0.6647	-1.1945	-0.7502	-1.4177	-0.7716	-1.4409
	(8.15)**	(6.82)**	(9.55)**	(8.22)**	(9.75)**	(8.33)**
RNDR	2.5907	4.0960	2.3693	3.6533	2.3476	3.6465
	(7.78)**	(7.16)**	(7.21)**	(6.41)**	(7.14)**	(6.39)**
ADVR	-1.1468	0.7639	-1.3463	0.5674	-1.3741	0.4557
	(1.73)	(1.08)	(2.04)*	(0.80)	(2.08)*	(0.64)
CAPXR	0.0002	-0.0028	0.0002	0.0038	0.0002	0.0063
	(0.95)	(0.08)	(0.84)	(0.12)	(0.87)	(0.19)
HHI	-1.5606	-0.0302	-1.4723	-0.2720	-1.6243	-0.3820
	(0.68)	(0.01)	(0.64)	(0.13)	(0.71)	(0.19)
Salegrow	0.0025	0.0044	0.0026	0.0049	0.0028	0.0053
	(9.17)**	(7.20)**	(9.59)**	(8.26)**	(10.37)**	(8.93)**
DIVR	0.0058	0.0137	0.0056	0.0135	0.0055	0.0140
	(0.58)	(2.07)*	(0.57)	(2.02)*	(0.55)	(2.10)*
Stdevret	0.3547	0.1188	0.3432	0.0178	0.3382	-0.0126
	(1.77)	(0.28)	(1.71)	(0.04)	(1.68)	(0.03)
Intercept	5.2810	8.2641	4.9934	7.4247	4.9902	7.5014
	(25.65)**	(21.94)**	(25.69)**	(20.78)**	(25.64)**	(20.98)**
Sample Size	8116	8116	8116	8116	8116	8116
# Firms	3000	2990	3000	2990	3000	2990
R-squared	0.1407	0.2019	0.1402	0.1955	0.1388	0.1939

Absolute value of t-statistics in parentheses. Dummy variables for years are not reported to conserve space.
* significant at 5%; ** significant at 1%.

tionary accruals by 7.24% and 7.37%, respectively. Interestingly, both social rating index measures do not significantly affect the nondiscretionary accrual (NDA). Rather, NDA is more influenced by firms' specific characteristics such as size, R&D, advertising expenses, ROA, sales growth, etc. Overall results from Tables 2 and 3 provide an answer for our first hypothesis **(H1)**. We reject the principal-agent theory and find that CSR drives the quality of earnings reporting rather than earnings reporting drives the CSR activities.

After establishing causality, the study examines the impact of accruals on firm value (measured by Tobin's Q). The study breaks down the full sample into two subsamples of firms that have social index (KLDIDX and DISCIDX) below the median of social index and those above the median. The main purpose of this analysis is to examine the impact of CSR on firm value through accruals reporting.

Table 4 presents the fixed effects panel data regression results. Both social indexes indicate that total accruals positively affect firm value and the effect of total accruals on firm value is larger for firms with above median CSR index. This evidence is even more pronounced for the nondiscretionary accruals. On the other hand, the discretionary accruals reduce firm value, especially for those firms with above median CSR index. The last finding is actually consistent with the Prior et al. (2008) finding which indicates that the negative impact of discretionary accruals on firm value is even worse for firms that have higher CSR activities. These firms use the CSR activities to cover up their lower quality of earnings reporting.

Table 4 (continued): Accruals and Firm Performance

Panel B: DISCIDX

	Below Median DISCIDX	Above Median DISCIDX	Below Median DISCIDX	Above Median DISCIDX	Below Median DISCIDX	Above Median DISCIDX
	TOBINQ	TOBINQ	TOBINQ	TOBINQ	TOBINQ	TOBINQ
ACCR	**0.3360**	**0.5832**				
	(2.95)**	**(6.44)****				
NDA			**1.2182**	**1.5204**		
			(4.49)**	**(8.80)****		
DA					**-0.1265**	**-0.4278**
					(2.98)**	**(2.13)***
Total Asset (log)	-0.4972	-0.7848	-0.4695	-0.6828	-0.4742	-0.6964
	(17.31)**	(16.41)**	(17.08)**	(14.81)**	(17.23)**	(15.16)**
AGE	-0.0020	-0.0032	-0.0019	-0.0046	-0.0020	-0.0044
	(0.76)	(0.39)	(0.71)	(0.55)	(0.73)	(0.52)
Leverage	-0.6599	-1.3085	-0.7113	-1.5018	-0.7360	-1.5285
	(7.72)**	(7.88)**	(8.63)**	(9.16)**	(8.86)**	(9.30)**
RNDR	2.2779	4.1689	2.1351	3.6872	2.1131	3.6455
	(6.37)**	(7.89)**	(6.05)**	(7.03)**	(5.98)**	(6.95)**
ADVR	-1.0490	0.6268	-1.1400	0.3894	-1.1669	0.2833
	(1.89)	(0.77)	(2.06)*	(0.48)	(2.11)*	(0.35)
CAPXR	0.0004	-0.0129	0.0002	-0.0076	0.0003	-0.0068
	(0.45)	(0.84)	(0.28)	(0.49)	(0.35)	(0.44)
HHI	-1.2415	-0.4214	-1.1086	-0.6757	-1.2779	-0.7727
	(0.56)	(0.21)	(0.50)	(0.33)	(0.58)	(0.38)
Salegrow	0.0025	0.0041	0.0025	0.0046	0.0027	0.0048
	(8.51)**	(7.81)**	(8.64)**	(8.74)**	(9.41)**	(9.42)**
DIVR	0.0062	0.0139	0.0062	0.0139	0.0059	0.0144
	(0.62)	(2.14)*	(0.62)	(2.13)*	(0.59)	(2.21)*
Stdevret	0.1268	0.5514	0.1335	0.4317	0.1163	0.4476
	(0.61)	(1.46)	(0.64)	(1.14)	(0.56)	(1.18)
Intercept	5.3456	7.9016	5.0925	6.8787	5.0988	6.9269
	(20.70)**	(16.96)**	(21.01)**	(15.57)**	(20.99)**	(15.68)**
Sample Size	8116	8116	8116	8116	8116	8116
# Firms	2865	2806	2865	2806	2865	2806
R-squared	0.1366	0.2006	0.1380	0.1938	0.1358	0.1931

Absolute value of t-statistics in parentheses. Dummy variables for years are not reported to conserve space.
* significant at 5%; ** significant at 1%.

Based on empirical evidence from the causality test, accrual measures are endogenously determined by CSR activities. Therefore, it calls for a simultaneous equation to properly examine the impact of accruals on firm value. Table 5 shows the two-stage least square (2SLS) results for accruals and firm value. Both social indexes indicate that CSR activities increase the firm's nondiscretionary accruals but reduce its discretionary accruals. This reaffirms the earlier finding from Table 3 that CSR activities enhance the firm's earnings reporting quality.

The impact of all accrual measures on firm value in the 2SLS regression is also consistent with the findings in Table 4. Nondiscretionary accruals increase firm value while discretionary accruals reduce firm value. Total accruals still positively affect firm value because most of the total accruals results are driven from nondiscretionary accruals. Overall, the 2SLS regression results provide an answer to our second hypothesis **(H2)**. Tables 4 and 5 consistently show that CSR activities indirectly, but positively, influence firm value since CSR activities increase the quality of earnings reporting from nondiscretionary accruals. The same control variables in Tables 3 and 4 are used in this 2SLS regression and the estimated slope coefficients for control variables are not reported to conserve space.

Conclusion

This study attempts to test two theories on Corporate Social Responsibility (CSR) that explain the relationship between CSR and firm value. CSR can be viewed as a principal-agent problem versus CSR as a corporate culture. In other words, is CSR a result of managers' self interest to spend the firm's resources on CSR for their own benefit and therefore negatively (or insignificantly) affect firm value or does CSR represent corporate culture that positively influences earnings reporting quality and therefore enhances firm value? This study finds supporting evidence that CSR represents a firm's corporate culture which positively enhances earnings reporting quality instead of earnings reporting influencing CSR activities as predicted by the principal-agency theory. The results indicate that firms with higher CSR activities have higher nondiscretionary accruals and have lower discretionary accruals which enhance earnings reporting quality. More importantly, this study finds that through higher nondiscretionary accruals and lower discretionary accruals (which implies better earnings reporting quality), CSR indirectly, but positively, affects firm value.

Table 5: Accruals and Firm Performance from Simultaneous Equations (2SLS)

Panel A: LagKLDIDX

	TOBINQ	ACCR	TOBINQ	NDA	TOBINQ	DA
LagKLDIDX		0.0035		0.0045		-0.0037
		(1.45)		(3.76)**		(2.60)**
ACCR	0.1642					
	(2.26)**					
LagACCR		0.1640				
		(25.78)**				
NDA			0.7324			
			(5.55)**			
LagNDA				0.4030		
				(74.83)**		
DA					-0.4576	
					(2.10)*	
LagDA						0.0593
						(8.70)**
Intercept	2.7023	0.0194	2.6361	-0.0137	2.7317	0.0418
	(4.80)**	(5.34)**	(4.54)**	(7.61)**	(4.16)**	(8.15)**
Observations	15970	15970	16090	16090	15804	15804
R-squared	0.1579	0.2259	0.1588	0.3624	0.1658	0.1228

Panel B: LagDISCIDX

	TOBINQ	ACCR	TOBINQ	NDA	TOBINQ	DA
LagDISCIDX		0.0034		0.0039		-0.0023
		(1.41)		(3.37)**		(2.93)**
ACCR	0.1650					
	(2.18)**					
LagACCR		0.1640				
		(25.78)**				
NDA			0.7593'			
			(4.60)**			
LagNDA				0.4033		
				(74.90)**		
DA					-0.4664	
					(2.31)*	
LagDA						0.0594
						(8.71)**
Intercept	2.7023	0.0188	2.6359	-0.0144	2.7314	0.0422
	(2.80)**	(5.12)**	(4.53)**	(7.93)**	(4.16)**	(9.23)**
Observations	15970	15970	16090	16090	15804	15804
R-squared	0.1579	0.2259	0.1587	0.3623	0.1657	0.1227

Absolute value of t-statistics in parentheses. Dummy variables for years are not reported to conserve space.
* significant at 5%; ** significant at 1%

Corporate culture theory offers a different explanation about the relationship between CSR, earnings reporting and firm value from the existing theory of the principal-agent problem. However, this study does not dismiss the possibility that CSR may in fact be a result of a principal-agent theory in another spectrum of a corporation such as corporate governance, corporate donations, and other social and financial activities (Barnea and Rubin 2010).

Also, this study finds supporting evidence that for firms with CSR activities higher than the median, the negative impact of discretionary accruals on firm value is heightened. This implies that firms with lower earnings reporting quality, measured by discretionary accruals, may use CSR to delude shareholders from their lower earnings reporting quality (Prior et al. 2008).

Notes

1. Further details on the definition of each indicator are available from KLD Research & Analytics, Inc at http://www.kld.com/research/ratings_indicators.html.
2. Source: The Kinder, Lydenberg, and Domini's (KLD) Stats database.

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