

Accruals Quality and Corporate Social Responsibility: The Role of Industry

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In this paper, we examine the effect of industry classification on the relationship between corporate social responsibility (CSR) and accruals quality (AQ). Our CSR measures are the number of strengths and concerns from the KLD database which provides information from the following issue areas: the community, corporate governance, diversity, the product, employee relations, the environment, and human rights. Results show that across all industries, more socially responsible firms have higher quality accruals, our proxy for financial reporting transparency. Further, we find that this relationship varies across industries.

INTRODUCTION

Recent history has brought numerous instances of financial misreporting, to the point that Grant and Visconti (2006) call their numbers ‘unprecedented.’ They note that corporate financial statement restatements have doubled between 1998 and 2004, even though the number of corporations has declined. In the extreme cases such as Adelphi, Enron and WorldCom, the magnitude of misreporting was large enough to cause insolvency. The extensive impact of these accounting scandals is reflected in the fact that these companies have become household names for corruption.

Underlying these scandals is a lack of transparency in the corporations’ financial reports, and as investors rely on reported accounting numbers that are fraudulent and/or easily misinterpreted, there can be a heavy cost to society. Costs can take the form of massive losses in shareholder wealth, inefficient allocation of capital and weakened public confidence. In this light, the importance of transparent financial reporting cannot be overstated. Transparency in reporting is emphasized by the Financial Accounting Standards Board (FASB) and the Securities and Exchange Commission (SEC). The academic literature also recognizes that transparency plays an integral role within the context of a firm’s corporate social performance (Vogl, 2007; Waddock and Bodwell, 2004).

In this paper, we examine the relation between corporate social responsibility and a proxy for transparency in the financial statements, accruals quality. An objective of financial reporting is to provide information that is useful for predicting an entity’s future cash flows. This can be accomplished, in part, through the use of accounting accruals. The FASB allows managers some flexibility when estimating

accruals and accordingly, accounting accruals vary across firms in their ability to predict future cash flows. Accruals that do a better job of predicting future cash flows are considered to be more transparent and hence of higher quality (Dechow and Dichev, 2002).

Because evidence suggests that (1) CSR strengths and concerns are separate constructs (e.g., Mattingly and Berman, 2006) and (2) that the nature of CSR is inherently different across industries (e.g. Godfrey, Hatch and Hansen, 2010); we investigate the association between accruals quality and CSR separately for strengths and concerns while also considering industry affiliation. Our results show that positive actions (strengths) have a different association with accrual quality than do negative actions (concerns). We also find different social issues are important in different industries.

The rest of the paper is organized as follows. In the next section, we provide a literature review to support our research questions and hypotheses. Next, we describe our data and methodology. This is followed by a section with a discussion of our results. We end with our conclusions, contributions and the limitations of our research.

LITERATURE REVIEW AND HYPOTHESES

Donaldson and Preston (1995, 65) note “the idea that corporations have stakeholders has become commonplace in the management literature...” In fact stakeholder theory, which was introduced by Freeman (1984: 46), is referred to as a potentially powerful theoretical underpinning in the corporate social responsibility literature (Clarkson, 1995; Donaldson and Preston, 1995). In fact, Clarkson (1995, 106-107) notes that the corporation can be “defined as a system of primary stakeholder groups... with different rights, objectives, expectations and responsibilities.” Further, Clarkson (1995) goes on to note that managers are responsible for coordinating the different stakeholder interests where stakeholders are defined as “any group or individual who can affect or is affected by the achievement of the organization’s objectives,” (Freeman 1984: 46). Thus it is also recognized that key to stakeholder management is considering the interests, simultaneously, of all appropriate stakeholders (Maclagan, 1998, 147). Inherent in this decision making are managements’ core values, and Jones (1995) uses stakeholder theory to relate ethics and economics. Later, Rowe (2006) emphasizes the relatedness of ethics and corporate social responsibility. He states “... when practiced with sincerity, commitment and vision, CSR is profoundly ethical in nature (Rowe 2006, 449). Stephenson (2009) ties all three (ethics, CSR and stakeholder theory) together when he asserts that in the context of CSR, ethics can be useful to a firm in evaluating its relationships with its stakeholders.

Many stakeholder groups have a financial interest in the firm. For instance, debt and equity investors, as well as other creditors, are concerned about whether the firm will have sufficient resources (cash flows) to meet its obligations and/or provide a return on the stakeholders’ invested capital. The Financial Accounting Standards Board formally recognizes a firm’s responsibility to meet the financial information needs of its stakeholder groups within its Conceptual Framework. Specifically, the FASB’s Statement of Financial Accounting Concepts No. 8, Chapter 1 par. OB3 states

“...Investors’, lenders’, and other creditors’ expectations about returns depend on their assessment of the amount, timing, and uncertainty of (the prospects for) future net cash inflows to the entity. Consequently, existing and potential investors, lenders, and other creditors need information to help them assess the prospects for future net cash inflows to an entity.”

Accordingly, one objective of accrual accounting is to aid stakeholders in predicting an entity’s ability to generate cash flows. However, management is allowed a degree of flexibility when estimating accruals. Thus, to some extent, the ability of accounting accruals to predict future cash flows is subject to managements’ estimates, errors, judgments and motivations. Management may use accruals to clearly communicate information to stakeholders (Kirschenheiter and Melumad, 2002; Ronen and Sadan, 1981; Sankar and Subramanyam, 2001); but, management could use accruals opportunistically to mislead

stakeholders, to meet bonus compensation targets (Grant and Visconti, 2007; Healy 1985; Gaver, Gaver and Austin, 1995; Holthausen, Larker and Sloan, 1995) or prior to insider selling (Bartov and Mohanram, 2004; Beneish and Vargus, 2002). Thus managements' actions can influence the information that accruals provide about future cash flows, and ultimately reflect the firms' overall corporate culture and management of stakeholder relations.

Carroll (1996) includes ethics as one of the key attributes of corporate social responsibility while Maclagan (1998, 147) states that "Corporate social responsibility may be viewed as a process in which managers take responsibility for identifying and accommodating the interests of those affected by the organization's actions." In sum, a firm's overall corporate social performance can be reflected in how clearly that firm's financial information is presented to its stakeholders. This is consistent with prior research showing that some form of CSR is related to a measure of earnings quality. For example, Huan, Lauwers, Moffitt, and Zhang (2008) assert management signals the quality of its financial information through the choice of board membership and Bowen, Rajgopal and Venkatachalam (2008) find that accounting discretion and weak governance are linked. This is consistent with the Cornett, McNutt and Tehranian (2009) finding that more independent boards constrain earnings management and further, Klein (2002) shows a negative relation between board of directors' characteristics and both audit committee independence and abnormal accruals. Closely related to managements' financial reporting transparency is Gelb and Strawser's (2001) finding of a positive relation between disclosure and CSR. In a recent paper, Hong and Andersen (2011) find that CSR is associated with higher quality accruals. Although they use accrual quality to reflect (the lack of) earnings management, rather than to indicate transparent financial reporting, the result is still relevant. It also supports the finding of Labelle et. al. (2010); higher quality financial reporting is associated with a higher level of corporate moral development.

Corporate social responsibility is a complex construct. Yet much of the early literature would net a firm's positive and negative social actions to arrive at an overall measure of a firm's social performance. Although this does allow for parsimony, Godfrey, Hatch and Hansen (2010, 318) make the argument that netting positive and negative social actions "obscures more than it reveals." They ask the reader to consider two situations, one where a firm has no engagement in CSR activities; positive or negative, and another situation where a firm has significant positive socially responsible activities which offset that firm's negative effects on the environment and communities. They observe that these two situations are not the same.

Further, early research also recognized that there are different kinds of social activities. For instance, Carroll's (1979) framework included economic, legal, ethical and discretionary responsibilities; with each dimension providing different obligations and opportunities for firms. This is reiterated by Godfrey, Hatch and Hansen (2010, 319) when they state the following: "Material heterogeneity exists among the behaviors classified as socially responsible... Philanthropy and environmental remediation are different kinds of social activities, not merely different degrees of the same social activity." This is consistent with Mattingly and Berman's (2006) finding that when using a factor analysis, the social ratings data reported by Kinder Lydenberg Domini (KLD) loads on four factors, indicating distinct types of social action. Mattingly and Berman (2006, 37) observe that positive and negative social actions (strengths and concerns) are independent constructs that should not be combined in empirical research. Chatterji, Levine and Toffel (2009) also support handling strengths and concerns differently. As a result, we keep the strengths separate from the concerns, for each of the social action categories, when we measure corporate social responsibility.

Because the objective of accrual accounting is to convey information that is useful to stakeholders in assessing a firm's future cash flows, we refer to higher quality accruals as those which provide a better mapping to that firm's future cash flows. Consistent with previous literature, we expect a relationship between CSR and accruals quality. Specifically, our research questions address how CSR strengths and concerns relate to accruals quality. Common sense and the nature (direction) of the prior empirical results discussed previously give rise to the following hypotheses:

H₁: CSR strengths are positively related to accrual quality.

H₂: CSR concerns are negatively related to accrual quality.

A consistent result in the literature for both accruals and CSR has been that industry matters. Regarding accruals, a firm's net income is cash flows adjusted for accounting accruals, where accruals represent current-period changes in the entity's assets and liabilities. Intuitively, how those assets and liabilities will convert to cash flows depends partially on the nature of the underlying asset or liability. Assets such as accounts receivable or merchandise inventory might be expected to convert to cash in a different pattern than investments in plant, equipment or natural resources. And, to some degree assets will vary with industry. For example, retailers would tend to carry more merchandise inventory whereas those in manufacturing and mining would invest relatively more in plant and equipment or natural resources, respectively. Factors that can vary across industries such as environmental uncertainty (Ghosh and Olsen, 2009), length of operating cycle and variability of operations (Dechow and Dichev, 2002) may also affect how accruals convert to cash flows and accordingly, Dechow and Dichev (2002) document a relation between accrual quality and industry characteristics.

Industry membership is related to a company's CSR as well. Godfrey, Hatch and Hansen (2010, 322) state: "We begin with the unremarkable, yet robust observation that industries differ along materially important dimensions, both economically (Porter 1980) and sociologically (Scott 1995)." Sethi and Sama (1998) also discuss the notion that competition and other industry characteristics create both incentives and impediments to managements' social responsibility options whereas Amato and Amato (2008) note that higher impact industries have greater incentives to reduce negative publicity. In sum, stakeholder sets differ across industries and many of the social issues are defined at the sector/industry level (Godfrey, Hatch and Hansen 2010; Griffin and Mahon 1997; and Sethi 2003). In addition, a number of empirical studies have found that industry is an important variable to consider (*e.g.*, Andersen and Olsen, 2011; Callan and Thomas 2009; McWilliams and Siegel 2001; Padgett and Galan 2010; and Sethi and Sama 1998).

Because both accruals and CSR can vary by industry, our final research question addresses the relation between CSR and accruals quality across industries. We state our third, and final, hypothesis:

H₃: The relation between accrual quality and CSR strengths and concerns differs across industries.

DATA AND METHODOLOGY

Measuring CSR

We use information from the KLD Social Ratings dataset to construct our measures of corporate social action. While Hillman and Keim (2001) identify the KLD database as the best source of social action measures available, Waddock and Graves (2003) also state that KLD still provides the best data currently available for measuring corporate social responsibility. Mattingly and Berman (2006, 28) reinforce this view when they note that the KLD data "has become the standard for quantitative measurement of corporate social action." This is in part attributed to KLD's consideration of multiple company attributes, objective screening criteria, and independent reviews by analysts who apply the same criteria to all companies over time (Graves and Waddock, 1994). The KLD database covers more than 3,000 companies for which strengths and concerns are reported in seven social issue areas: human rights, corporate governance, diversity, employee relations, the environment, product characteristics and community relations. A more detailed description of these items is provided in the appendix.

For each company included in our sample, we sum the number of strengths within each of the areas. We do the same for the concerns. This results in 14 measures of social responsibility consisting of seven (7) measures of concerns and seven (7) measures of strengths.

Measuring Financial Reporting Transparency

The quality of accruals is our proxy for financial reporting transparency. Recall, the objective of accrual accounting is to aid stakeholders in assessing the entity's future cash flows and accordingly, underlying our measure of accrual quality is the strength of the relation between accruals and cash flows. Francis, LaFond, Olsson and Schipper (2005, 301) note that the "uncertainty in accruals is best captured by the measure of accruals quality developed by Dechow and Dichev (2002)." Dechow and Dichev's (2002) model assesses the relation of current-period accruals with prior, current and subsequent period cash flows. McNichols (2002) recognized that in addition to cash flows, changes in sales revenue and property, plant and equipment are important for estimating accruals. She shows that including these variables in Dechow and Dichev's (2002) model increases explanatory power and reduces measurement error. Accordingly, we measure accrual quality (AQ) as the standard deviation of the residuals ($\sigma(\varepsilon)$) from Equation 1, which relates accruals to cash flows:

$$TCA_t = b_0 + b_1CFO_{t-1} + b_2CFO_t + b_3CFO_{t+1} + b_4\Delta Rev_t + b_5PPE_t + \varepsilon_t \quad \text{Equation (1)}$$

Financial statement data are obtained from Compustat and TCA is total current accruals, defined as $TCA = \Delta CA - \Delta CL - \Delta CF + \Delta DCL + DAE$

Where: ΔCA = change in current assets, Compustat data item 4;
 ΔCL = change in current liabilities, Compustat data item 5;
 ΔCF = change in cash, Compustat data item 1;
 ΔDCL =change in long-term debt in current liabilities, Compustat data item 34;
 DAE = depreciation and amortization expense, Compustat data item 14;
 CFO =operating cash flows, Compustat data item 308;
 ΔRev =change in revenues, Compustat data item 12; and
 PPE = total property, plant and equipment, Compustat data item 7.

To control for outliers, the extreme values of the distribution are winsorized to the 1st and 99th percentile before we estimate equation (1) as a time series, at the firm level. The time series regression requires eight consecutive firm-year observations, leaving at least six accruals residuals to calculate its standard deviation, our measure of accrual quality [$\sigma(\varepsilon)$]. Because the residual ε reflects the part of the accruals that does not map into cash flows, a low $\sigma(\varepsilon)$ indicates high accrual quality and more transparency in the financial statements.

Model Selection

We hypothesize that more socially responsible corporations will have higher quality accruals and hence, more transparent financial statements. We model the association between accrual quality and corporate social responsibility strengths and concerns in Equation 2:

$$\sigma(\varepsilon)_t = b_0 + b_1COM_str_t + b_2 COM_con_t + b_3 CGOV_str_t + b_4 CGOV_con_t + b_5 DIV_str_t + b_6 DIV_con_t + b_7 EMP_str_t + b_8 EMP_con_t + b_9 ENV_str_t + b_{10} ENV_con_t + b_{11} HUM_str_t + b_{12} HUM_con_t + b_{13} PRO_str_t + b_{14} PRO_con_t + b_{15}LnOC_t + b_{16}Size_t + b_{17}\sigma(Sales)_t + b_{18}\sigma(Cash)_t + b_{19}\sigma(NI)_t + b_{20}FreqNNI_t + \varepsilon_t \quad \text{Equation (2)}$$

Where:
 COM_str = Strengths in community;
 COM_con = Concerns in community;
 $CGOV_str$ = Strengths in corporate governance;
 $CGOV_con$ = Concerns in corporate governance;
 DIV_str = Strengths in diversity;
 DIV_con = Concerns in diversity;

EMP_str = Strengths in employee relations;
 EMP_con = Concerns in employee relations;
 ENV_str = Strengths in environment;
 ENV_con = Concerns in environment;
 HUM_str = Strengths in human rights;
 HUM_con = Concerns in human rights;
 PRO_str = Strengths in products;
 PRO_con = Concerns in products;
 LnOC = the natural log of the operating cycle, $\{[360/(\text{Sales}/\text{Average Accounts Receivables})] + [360/(\text{Cost of Goods Sold}/\text{Average Inventory})]\}$;
 Size = the natural log of total assets, Compustat data item 6;
 $\sigma(\text{Sales})$ = the standard deviation of sales, Compustat data item 12;
 $\sigma(\text{Cash})$ = the standard deviation of cash flows, Compustat data item 308;
 $\sigma(\text{NI})$ = the standard deviation of net income, Compustat data item 18; and
 FreqNNI = the frequency of negative net income.

Prior research (Dechow and Dichev (2002) and Francis, LaFond, Olsson and Schipper (2005)) suggests adding the following control variables to capture the influence of the operating environment and business model on accruals quality: LnOC, size, $\sigma(\text{Sales})$, $\sigma(\text{Cash})$, $\sigma(\text{NI})$ and FreqNNI. Therefore, our model in Equation 2 contains the variables of interest plus these control variables.

Sample

Table 1 shows the sample distribution by industry where an industry is represented by its one-digit standard industry classification (SIC) code.

TABLE 1
SAMPLE DISTRIBUTION BY INDUSTRY

Industry	SIC Code	# of Unique Firms	# of Firm-year Observations
Agriculture, Forestry, and Fishing	0	7	20
Mining, Construction	1	92	373
Food, Tobacco, Textile, Apparel, Lumber, Furniture, Paper, Printing, Petroleum, and Chemical Manufacturing	2	387	1812
Primary Materials, Machines, and Equipment Manufacturing	3	612	2516
Transportation and Public Utilities	4	241	1104
Trade	5	242	1064
Hotel, Personal, Business, Auto, and Amusement Services	7	284	917
Health, Legal, Education, Social, Museum, and Engineering Services	8	91	267
Public Administration	9	2	5

Our sample of US firms results from merging the Compustat North America tape with the corporate social responsibility data from the KLD database. We require a firm to have 8 consecutive years of data available to estimate accruals quality. Hence, observations are lost either because of incomplete data in

the databases or because eight years of observations for determining the accrual quality measure were unavailable.

The first digit of the standard industrial classification (SIC) code is used to identify the economic sectors. Three sectors are removed from the sample. SIC codes 0 and 9 are eliminated because they have an insufficient number of available observations for hypothesis testing. SIC code 0 representing agriculture, forestry and fishing contains 7 unique firms and 20 firm-year observations while SIC code 9, public administration, has only 2 unique firms and 5 firm-year observations. SIC code 6 is also removed because this represents financial institutions and their earnings quality is different from that of non-financial firms. The remaining sample contains 1949 unique firms and spans seven (7) single-digit SIC codes.

Descriptive Statistics

Table 2 presents the means for each of the model variables described for equations (1) and (2), by industry.

TABLE 2
VARIABLE MEANS BY INDUSTRY

Variable	Means by Single-digit SIC Code						
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>7</u>	<u>8</u>
$\sigma(\varepsilon)$	0.035	0.037	0.044	0.026	0.038	0.049	0.046
COM_str	0.064	0.291	0.182	0.214	0.167	0.095	0.015
COM_con	0.153	0.084	0.046	0.189	0.024	0.034	0.034
CGOV_str	0.131	0.125	0.148	0.147	0.109	0.147	0.109
CGOV_con	0.319	0.383	0.337	0.284	0.314	0.419	0.322
DIV_str	0.110	0.845	0.533	0.764	0.731	0.804	0.461
DIV_con	0.351	0.196	0.331	0.255	0.283	0.298	0.277
EMP_str	0.429	0.385	0.426	0.332	0.233	0.294	0.094
EMP_con	0.429	0.393	0.393	0.409	0.463	0.362	0.270
ENV_str	0.241	0.235	0.176	0.299	0.065	0.023	0.011
ENV_con	0.625	0.482	0.234	0.714	0.085	0.028	0.000
HUM_str	0.000	0.005	0.004	0.002	0.009	0.000	0.000
HUM_con	0.204	0.092	0.089	0.064	0.130	0.026	0.004
PRO_str	0.008	0.125	0.160	0.061	0.073	0.051	0.045
PRO_con	0.204	0.418	0.153	0.399	0.201	0.121	0.292
LnOC	4.555	4.744	4.942	4.163	4.260	4.287	4.231
Size	7.551	7.491	7.135	8.522	7.384	6.931	6.541
$\sigma(\text{Sales})$	0.131	0.127	0.154	0.107	0.178	0.167	0.174
$\sigma(\text{Cash})$	0.056	0.053	0.056	0.031	0.045	0.061	0.055
$\sigma(\text{NI})$	0.053	0.052	0.063	0.027	0.029	0.091	0.053
FreqNNI	0.184	0.183	0.189	0.140	0.084	0.272	0.167

This table shows that the accrual residuals vary across industries where the mean standard deviation ranges from 0.026 for SIC Code 4 and 0.049 for SIC Code 7. The control variables also appear to differ by industry. The average operating cycle (OC) is around 86 days (not reported) and the standard deviation

of sales ($\sigma(\text{Sales})$) ranges from a mean of 0.107 to a mean of 0.178. The mean standard deviation of cash flows $\sigma(\text{Cash})$ is lowest for SIC Code 4 at 0.031 and highest for SIC Code 7 at 0.061; the mean standard deviation of earnings ($\sigma(\text{NI})$) ranges from 0.027 to 0.091; and the mean frequency of negative net income (FreqNNI) spans from 0.084 to 0.272. Although these data are comparable to those in Dechow and Dichev (2002), our sample firms are slightly larger (with a mean natural log of total assets ranging from 6.541 to 8.522). Because Dechow and Dichev (2002) find a negative relation between firm size and the accrual residual, our sample of larger firms with more stable income and more industry experience would tend to bias against finding a significant relation between CSR and accrual quality.

RESULTS

Hypotheses 1 and 2: Corporate Social Strengths/Concerns and Accruals Quality

Recall, a higher standard deviation for the accrual residual ($\sigma(\varepsilon)$) represents lower accrual quality. Thus, when estimating equation (2), we expect a negative coefficient on CSR strengths and a positive coefficient on CSR concerns. Table 3 shows the results of regressing accruals quality, the proxy for transparent financial reporting, on the corporate social responsibility strengths and concerns for the entire sample.

This model has an adjusted R^2 of almost 30 percent, indicating that the relation between transparency and social responsibility is quite strong. The coefficient for each of the control variables is significant and in the expected direction, indicating the desirability of including the control variables in the model.

Hypothesis 1 predicts a positive relation between CSR strengths and accrual quality while hypothesis 2 predicts a negative relation between CSR concerns and accrual quality. Overall, the coefficients on strengths in community and corporate governance are significant at the one percent level. Interestingly, the corporate governance strengths have the expected negative coefficient; but the community strengths have an unexpected positive coefficient. With corporate governance, as the number of strengths increases, the standard deviation of the residuals decreases. This implies that as strengths increase, the accrual quality increases as does the transparency of the financial reporting. But the opposite is true for the community strengths. As the number of community strengths increases, the variability of the residuals increases so the quality of the accruals decreases. This suggests that firms which have a good record in community relations provide lower quality financial statements. This result is counter-intuitive.

Some recent working papers may aid in beginning to explain this unusual finding. Kotchen and Moon (2011) find a strong relationship between what they call corporate social responsibility and corporate social irresponsibility in the area of community relations. That is, when companies do more “harm,” they also do more “good.” Similarly, Andersen and Hong (2012), in their working paper, report that Industry 4 (Transportation and Public Utilities) is very high in concerns but also relatively high in strengths in community relations. And Financial Services, Industry 6 which is not covered in our paper, is high in community relations strengths but very high in community relations concerns. It appears that the social issue of community relations is a particularly complex area of corporate social responsibility.

For the overall sample, concerns in the following areas are significant: corporate governance (at the one percent level), the environment (at the ten percent level) and the product (at the five percent level). All of the coefficients for the concerns are positive, as expected. This suggests that if a company has a poor performance in corporate social responsibility, it is likely to have financial reporting of lower quality.

There are three concerns which are significant and in the expected direction, and only one strength has a significant coefficient with the anticipated sign; providing partial support of hypotheses 1 and 2. This suggests an asymmetric relation of accruals quality with strengths and concerns and provides further evidence that strengths and concerns should not be combined. All of the control variables are significant, indicating the desirability of including them in the model.

TABLE 3
TESTS OF HYPOTHESES 1 AND 2

Equation (2) : Regression of Accruals Quality on the Strengths and Concerns for
Corporate Social Responsibility Issues

$$\begin{aligned} \sigma(\varepsilon)_t = & b_0 + b_1 \text{COM_str}_t + b_2 \text{COM_con}_t + b_3 \text{CGOV_str}_t + b_4 \text{CGOV_con}_t + b_5 \text{DIV_str}_t \\ & + b_6 \text{DIV_con}_t + b_7 \text{EMP_str}_t + b_8 \text{EMP_con}_t + b_9 \text{ENV_str}_t + b_{10} \text{ENV_con}_t \\ & + b_{11} \text{HUM_str}_t + b_{12} \text{HUM_con}_t + b_{13} \text{PRO_str}_t + b_{14} \text{PRO_con}_t + b_{15} \text{LnOC}_t \\ & + b_{16} \text{Size}_t + b_{17} \sigma(\text{Sales})_t + b_{18} \sigma(\text{Cash})_t + b_{19} \sigma(\text{NI})_t + b_{20} \text{FreqNNI}_t + \varepsilon_t \end{aligned}$$

Number of Observation = 6,943

Adjusted R-Square = 0.2948

<u>Variables</u>	<u>Estimate</u>	<u>t-value</u>
Intercept	.0264***	8.54
COM_str	.0015***	2.69
COM_con	.0016	1.48
CGOV_str	-.0021***	-2.62
CGOV_con	.0029***	4.82
DIV_str	-.0002	-0.75
DIV_con	.0000	0.02
EMP_str	-.0003	-0.58
EMP_con	-.0003	-0.71
ENV_str	-.0005	-0.74
ENV_con	.0007*	1.79
HUM_str	-.0002	-0.05
HUM_con	.0014	1.54
PRO_str	-.0003	-0.32
PRO_con	.0011**	2.24
LnOC	.0041***	9.04
Size	-.0033***	-12.5
$\sigma(\text{Sales})$	.0352***	15.62
$\sigma(\text{Cash})$	.1536***	16.98
$\sigma(\text{NI})$	.0386***	6.01
FreqNNI	.0084***	6.03

***, **, * indicates significance at the 1, 5, and 10 percent levels, respectively.

Hypothesis 3: The Impact of Industry

Hypothesis 3 predicts that the relation between accrual quality and CSR strengths and concerns will differ across industries. We provide evidence concerning the effect of industry on the association between accrual quality and corporate social responsibility measures in Table 4.

TABLE 4
TEST OF HYPOTHESIS 3

Equation (2) : Regression of Accruals Quality on the Strengths and Concerns for
Corporate Social Responsibility Issues; By Industry

$$\begin{aligned} \sigma(\varepsilon)_t = & b_0 + b_1 \text{COM_str}_t + b_2 \text{COM_con}_t + b_3 \text{CGOV_str}_t + b_4 \text{CGOV_con}_t + b_5 \text{DIV_str}_t \\ & + b_6 \text{DIV_con}_t + b_7 \text{EMP_str}_t + b_8 \text{EMP_con}_t + b_9 \text{ENV_str}_t + b_{10} \text{ENV_con}_t \\ & + b_{11} \text{HUM_str}_t + b_{12} \text{HUM_con}_t + b_{13} \text{PRO_str}_t + b_{14} \text{PRO_con}_t + b_{15} \text{LnOC}_t \\ & + b_{16} \text{Size}_t + b_{17} \sigma(\text{Sales})_t + b_{18} \sigma(\text{Cash})_t + b_{19} \sigma(\text{NI})_t + b_{20} \text{FreqNNI}_t + \varepsilon_t \end{aligned}$$

Variables	Industry by Single-digit SIC Code						
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>7</u>	<u>8</u>
Intercept	.1069***	.0266***	.0184**	.0272***	-.0016	.0329**	.0062
COM_str	.0069	.0001	.0026**	.0010	.0032*	.0081*	.0000
COM_con	.0008	.0035*	-.0006	.0013	-.0076	-.0055	.0102
CGOV_str	-.0044	.0006	-.0009	-.0061***	-.0033	-.0048	.0096
CGOV_con	.0050*	.0024**	.0037***	.0040***	.0028*	.0056**	.0041
DIV_str	.0049	-.0004	-.0004	.0008	-.0021**	-.0007	-.0071**
DIV_con	-.0069**	.0020	.0000	.0008	.0021	-.0087***	.0051
EMP_str	.0054*	-.0008	-.0003	.0012	-.0019	-.0039	-.0143
EMP_con	-.0061**	-.0021**	.0003	.0001	-.0006	.0031	-.0129***
ENV_str	-.0027	.0016	-.0023*	.0007	.0016	-.0051	.0000
ENV_con	.0001	.0001	.0022**	.0009	.0106***	-.0003	.0000
HUM_str	.0000	-.0088	.0051	.0200	-.0070	.0000	.0000
HUM_con	.0047	.0014	-.0009	-.0002	.0027	-.0139	.0000
PRO_str	.0015	.0007	-.0007	-.0060**	-.0117***	-.0135*	-.0213**
PRO_con	.0185***	.0012	-.0004	-.0017	.0042***	.0006	-.0003
LnOC	-.0042	.0026***	.0056***	.0002	.0058***	.0051***	.0117***
Size	-.0094***	-.0024***	-.0030***	-.0019***	-.0005	-.0047***	-.0061***
$\sigma(\text{Sales})$	.0197*	.0321***	.0449***	.0064	.0309***	.0332***	.0936***
$\sigma(\text{Cash})$	.1435**	.1412***	.1204***	.2654***	.2641***	.3088***	.2729***
$\sigma(\text{NI})$	.1117**	.0022	.0395***	.0610***	.0487	.0285	-.2552***
FreqNNI	-.0029	.0126***	.0058**	.0098***	.0061	.0069	.0746***
# of observations	277	1685	2483	901	931	399	123
Adjusted R-square	.3430	.2594	.2504	.2632	.3197	.4195	.6106

***, **, * indicates significance at the 1, 5, and 10 percent levels, respectively.

The adjusted R² for these regressions varies from 0.25 to 0.61. Even at the industry level, there is a strong relationship between corporate social responsibility and accrual quality, our proxy for financial reporting transparency. Perhaps the most obvious observation is that the seven industries reported have

very different strengths and weaknesses which are important. There is definitely an industry effect. This supports the importance of industry found in the Godfrey, Hatch and Hansen (2010) study where they find that the industry variables account for much of the variance explained by their models. Padgett and Galan (2010) find that R&D intensity has a significant positive effect in manufacturing industries but no effect on non-manufacturing industries.

Corporate governance seems to be an important CSR variable. Although corporate governance strengths are significant in only one industry; corporate governance concerns are significant in six of the industries. Another important CSR variable is the product issue area. Product strengths are significant in four industries. Product concerns are significant in two industries, and both have the expected positive coefficient. Overall, the evidence supports hypothesis 3 that the relation between accruals quality and corporate social responsibility varies across industries. A comparison of the significant corporate social responsibility variables in Table 4 with those in Table 3 emphasizes the heterogeneity in the importance of these variables in the various industries.

Trying to unravel how strengths are similar to and different from concerns and how the CSR issue areas differ in importance across industries will take much additional effort. But it could yield interesting findings with significant economic consequences.

CONCLUSION

In this paper, we have provided evidence that socially responsible firms have more transparent financial reporting. Further, we have shown that the association between socially (ir)responsible actions and transparency varies widely across industries. As corporate leaders look to engage in specific social actions and programs, it would be helpful to know which areas are most important to their stakeholders. We are beginning to find some useful indicators.

This paper contributes to the literature in the following ways: a) we look at CSR strengths and concerns separately, b) we look at industries separately, c) we provide evidence of the differences between the effects of CSR strengths and CSR concerns on the transparency of financial reporting, and finally d) we provide evidence that corporate social responsibility and its components differ across industries as well as differ in the way they are related to the transparency of financial reporting.

As with all empirical papers, this one is subject to limitations. One of the primary concerns is the fit between the constructs we are attempting to investigate (corporate social responsibility and financial transparency) and our operationalization of them (CSR strengths and weaknesses and accrual quality). We also need to point out the absence of an overarching theory upon which to rely. We use the stakeholder management theory to support our contention that firms will engage in different social activities to satisfy varying sets of stakeholders, but there is no compelling theoretical framework on which to build the social responsibility/financial transparency relationship. Much of the support for what we have done is based on past empirical evidence. Finally, there is a concern that we may not be able to justify generalizing our results. There are certainly some interesting relationships suggested; however, much work remains and this can be a fruitful area for future research.

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APPENDIX

FIGURE 1
SEVEN QUALITATIVE ISSUE AREAS AND EXAMPLES OF THEIR STRENGTHS AND CONCERNS FROM THE KLD DATABASE

<u>Issue Area</u>	<u>Examples of Strengths</u>	<u>Examples of Concerns</u>
<u>Community</u>	Charitable giving Support for housing Support for education Volunteer programs	Investment controversies Negative economic impact Tax disputes
<u>Corporate Governance</u>	Limited compensation Ownership strength Transparency strength	High compensation Ownership concern Political accountability concern
<u>Diversity</u>	CEO Promotion Work/Life benefits Board of directors Employment of the disabled	Non-representation Controversies
<u>Employee Relations</u>	Union relations No-layoff policy Employee involvement Retirement benefits Cash profit sharing Health and safety	Union relations Health and safety Workforce reductions Retirement benefits
<u>Environment</u>	Beneficial products and services Pollution prevention Recycling Clean energy Management systems	Hazardous waste Regulatory problems Agricultural chemicals Substantial emissions Climate change
<u>Human Rights</u>	Labor rights Indigenous peoples relations Other strengths	Labor rights Indigenous peoples relations Other concerns
<u>Product</u>	Quality R&D/Innovation Benefits to economically disadvantaged	Product safety Antitrust Marketing/Contracting