8-2012

Aiming for average: The effect of peer standing on the dynamic process of corporate social responsibility

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Abstract

We evidence a non-linear relationship between firm value and corporate social responsibility, adding to the mixed evidence on this relationship. We show that corporate social responsibility exhibits a dynamic process, which is largely dependent on a firm's industry, relative standing amongst peers and the distinction between responsible and irresponsible behavior. Surprisingly, we find that responsible behavior could sometimes destroy firm value, while irresponsible behavior could sometimes increase firm value. Endogeneity is mitigated through a novel process that allows us to keep constant the endogeneity inherent in this field, examining corporate social responsibility's effect on firm value separately.

Key words: Corporate Social Responsibility, stakeholder, peer, CSR, ESG, perception, firm value

JEL Classification: G32, G34, M14

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Introduction

The application of societal responsibility to corporations has been extensively examined starting with Bowen's (1953) *Social Responsibility' of the Businessman,* followed by Friedman's (1970) seminal work to more contemporary notions of corporate sustainability (van Marrewijk, 2003) and corporate citizenship (Logsdon & Wood, 2002). Most finance studies focus on particular aspects of corporate social responsibility (CSR); more often-environmental responsibility and illegal behavior are the main areas of concern (Statman & Glushkov, 2009). Most of the early work centered on irresponsible behavior or aggregated responsible and irresponsible behavior[2]. Recent work has a greater focus on CSR from a community or employee perspective[3].

Evidence of CSR's benefits are presented as mixed in the literature, albeit more positive than not[4]. It is shown that good corporate governance and adhering to environmental laws tend to benefit firms[5]. However activities with a societal focus or environmental actions beyond what is legally required tend to show conflicting results (Berman, Wicks, Kotha, & Jones, 1999; Chatterji et al., 2009). Clearly certain activities provide more value to a company than others and there is a good chance the stakeholders the firm engages affects the value of these activities and vice versa[6].

Related research in management, ethics and psychology documents that the benefits of positive behavior is strongly correlated with the notion of observation, with less dependence on intrinsic

[2] Chatterji, Levine, & Toffel, 2009; Margolis & Elfenbein, 2008; Statman & Glushkov, 2009

[3] Bassen et al., 2006; Becchetti & Ciciretti, 2006; Becchetti, Di Giacomo, & Pinnacchio, 2005; Gillan, Hartzell, Koch, & Starks, 2010

[4] Barnea & Rubin, 2010; Margolis & Elfenbein, 2008; Orlitzky et al., 2003

[5] Arora & Dharwadkar, 2011; Chatterji et al., 2009; Gillan et al., 2010; Statman & Glushkov, 2009

[6] Galbreath, 2010; Gillan et al., 2010; Wood, 1991

fulfillment[7]. Drawing on this knowledge one can assume that this behavior might manifest itself within the economic world. Simple good deeds undertaken by commercial entities might have less to do with the benefits provided to the recipient and more to do with the benefits provided to the giver[8]. An understanding has grown that corporate social responsible behavior (doing the right thing) and corporate social irresponsible behavior (doing the wrong thing) are not perfect opposites (Arora & Dharwadkar, 2011). It is the intent of this paper to distinguish between responsible and irresponsible corporate behavior. Furthermore, previous work has established that different industries are affected by CSR in different ways (Fernández-Kranz & Santaló, 2010), we find similar results. Most surprising are the completely different relationships or lack thereof exhibited between industries that we find. Using proprietary data from Kinder, Lydenberg and Domini (KLD) we show that engaging in Strength activities (responsible behavior) and Concern activities (irresponsible behavior) exhibit different relationships with firm value, and that an aggregate measure of the two needs caution when interpreting. Interestingly our results suggest that engaging in some irresponsible behavior is beneficial to firm value. We also evidence that engaging in responsible behavior has little effect on value and could perhaps destroy value, but must note that firms with the high levels of responsible behavior receive a value boost in some industries. This relationship is not robust to all industries and seems mainly driven by industries heavily dependent on physical inputs, labor and stakeholder management, like manufacturing and the service industry.

[7] Benabou & Tirole, 2010; Buraschi & Cornelli, 2003; DellaVigna, List, & Malmendier, 2009; Glazer & Konrad, 1996; Lacetera & Macis, 2010

[8] Bassen et al., 2006; Fernández-Kranz & Santaló, 2010; Mefford, 2011; van Tulder & Kolk, 2001

Hypotheses

CSR has been perceived as a proxy for good management (Galbreath, 2010), an element that is mispriced and undervalued by the market (Renneboog et al., 2008b), a form of diversification to aid competition (Fernández-Kranz & Santaló, 2010) or a function used to sate stakeholders and legitimize the firm (Carroll & Shabana, 2010). The evidence on CSR's effect on firms' performance and value is mixed, and it is believed that stakeholders, or at least a certain sub-group, may have a multi-attribute utility function that is not only based on the standard risk-reward optimization but also incorporates a set of personal and societal values (Bollen, 2007), which may attribute to previous confounding results. Firms that undertake CSR should either have increased returns (Orlitzky et al., 2003) or have a lower cost of equity (Becchetti & Ciciretti, 2006). The evidence on this relationship is mixed (Bassen et al., 2006; McWilliams & Siegel, 2001a). We believe that much of the disparity of findings is attributable to the aggregation of CSR measures. As responsible and irresponsible behavior are not necessarily perfect opposites nor equally weighted, summing the difference could make inferences noisy. There is a difference between avoiding negative behavior and engaging in positive behavior (Chatterji et al., 2009; Gillan et al., 2010).

Benabou and Tirole (2010) fail to present a strong link between CSR and profitability. They find that most CSR is associated with large profitable firms who produce final goods, this is contrasted with (Gillan et al., 2010) who do find a significant link between firm value, performance and CSR. However several studies[9] lament the aggregation of CSR across categories, across industries and between responsible and irresponsible behavior. We take a

[9] Benabou & Tirole, 2010 Chatterji et al., 2009; Gillan et al., 2010; Statman & Glushkov, 2009

closer look into this relationship by examining the differences between responsibility and irresponsibility, within industry and between categories.

H1.A

A firm's level of CSR is positively related to firm value and performance

A major stammering point, in the drive to understand CSR, is whether CSR is motivated by: a profit motive; pressure from shareholders, stakeholders; management; or a combination of the above. The value of engaging in CSR for a firm might be less reliant on what the firms actually does and more dependent on what it is perceived to do[10]. It is shown that people act differently depending on whether their actions are known and monitored and we believe that this human characteristic would drive the implementation of CSR. Public knowledge increases philanthropic behavior (Fernández-Kranz & Santaló, 2010), and people tend to perceive things in relative terms and not in absolute terms (Benabou & Tirole, 2010). This would imply that it is not the absolute level of CSR that determines how the environment responds to a firm but rather the level of a firm's CSR relative to other firms.

Statman and Glushkov (2009) show that adopting a best-in-class approach when forming portfolios on CSR leads to significant returns over strategies which focus on looking at the overall best. They adjust their CSR scores by industry mean and show that superior CSR performance relative to peers is related to increased returns. As an extension society should mirror this effect by valuing CSR in relative terms. It should hold that as firms increase (decrease) their level of CSR beyond the peer average, the effect of CSR on the firm would

[10] For a discussion on the effect of good deeds and perception see Benabou & Tirole, 2010; Buraschi & Cornelli, 2003; DellaVigna, List, & Malmendier, 2009; Glazer & Konrad, 1996; Lacetera & Macis, 2010.

become visible. Thus the confounding evidence on CSR might be due to a misspecification, as it is not the absolute level of CSR that drives financial characteristics, but a relative one. As a firm's CSR activities increase relative to their peers, stakeholders and shareholders should find it easier to differentiate the firm along a CSR continuum and respond appropriately. As such the benefit of CSR might not be a tangible internal creation but might flow through from stakeholder interaction and shareholder financing. These two entities might only forward the associated benefits of CSR once a firm's relative CSR performance is at a certain level.

H1.B

A firm's relative standing amongst its peers, in terms of CSR, is positively related to firm value and performance

To engage in CSR an initial investment is required, but the benefits of CSR might not accrue instantly and linearly in accordance with CSR expenditure. It is likely that firms would operate their CSR activities at a loss for some period before the benefit of CSR accrues to a point where CSR has a net beneficial effect on the firm. This is in accordance with much of the SRI literature which indicates that SRI funds have screening criteria which limit their ability to invest. As an example, if most of the market value of CSR is related to investment from SRI funds, then these benefits would only manifest once the firm has an appropriate level of CSR investment to qualify for SRI investment. The lag between a change in the fundamental characteristics of stocks and certain stakeholders' reaction can be extended from credit ratings research. It is well established, (Altman & Rijken, (2004), that a changes in the default risk of firms need to be significant enough and extend for long enough periods before ratings agencies would adjust a firm's rating. This implies that firms would have to incur the constraints of reducing default risk for a period

while it would not capture the benefit of a lower rating. Similarly Macro-Economists have studied the notion of thresholds at a national scale and found that a country's financial development would need to surpass a certain threshold before economic development would take place, conversely if economies pass certain inflation thresholds economic growth is shunted (Rousseau & Wachtel, 2002). Firm level thresholds do exist, like operating capital, and can impose significant costs associated with the process of passing through the threshold (Aghion, Fally, & Scarpetta, 2007).

H2

CSR investment will only provide positive financial benefits after a sufficient level of CSR investment is made.

Data and Methodology

Source description

This study is principally based on the Environmental Social and Governance (ESG) ratings developed by Kinder, Lydenberg and Domini (KLD). KLD is a proprietary database which rates some securities on the Russell 3000, according to various measures, since 1991. The ratings fall within 7 categories relating to Community, Corporate Governance, Diversity, Employee Relations, Environment, Human Rights, and Product. KLD also provides exclusionary screening criteria on securities with notable involvement with Alcohol, Gambling, Firearms, Military, Nuclear Power and Tobacco. Each category has several sub-categories representing possible Strengths or responsible behavior (positive points) and Concerns or negative behavior (negative points). KLD analysts rate firms on their various CSR characteristics annually by assigning a

binary point to several sub-categories within each aforementioned category. It is important to note that Strengths and Concerns within each category are not perfect opposites, nor are there equal amounts of possible Strengths and Concerns within each category or across categories. We exclude stocks (unless stated) that have been marked as controversial as well as stocks that were examined by KLD but failed to score. For a detail understanding please turn to the appendix for a copy of the KLD criteria.

KLD has been extensively covered in literature being the basis of many studies relating to CSR[11] . The most popular aggregation method amongst these studies takes the sum of Strengths net of Concerns for each category as per equation 1 and aggregates this into an overall score as per equation (2).

$$CSR_t^j = \sum_{s=1}^{u_t^j} stength_s^j - \sum_{r=1}^{k_t^j} concern_r^j \qquad (1)$$

$$ESG_t = \sum_{j=1}^{7} ESG_t^j \qquad (2)$$

Where ESG_t^j is the aggregated ESG score for category *j*, year *t*. Similarly $stenght_s^j$ is the Strength indicator, equal to 1 if the firm meets Strength *s* in category *j*, otherwise 0; $concern_r^j$ is the Concern indicator, equal to 1 if the firm meets Concern *r* in category *j*, otherwise 0.

As KLD data is binary with a heterogeneous amount of Concern and Strength criteria allocated across various subcategories, it could be misleading to simply look at firm's ultimate score. Firstly the result of the 'netting off' process would obscure information as Concerns and

[11] Becchetti & Ciciretti, 2006; Chatterji et al., 2009; Galema et al., 2008; Gillan et al., 2010; Hillman & Keim, 2001; Manescu, 2011; Statman & Glushkov, 2009

Strengths are not perfect opposites. Netting-off, erroneously assumes all binary points are equal and opposite. Secondly as the number of possible points vary not only across Concerns and Strengths but over subcategories as well, it becomes difficult to interpret the meaning of a whole number. In this study each firm is assigned a percentage of possible points for both Concerns and Strengths, referred to as their level of CSR (Manescu, 2011). This allows one to compare a firm's performance across subcategories, between Strength and Concern and between years.

Example: if a firm a scored 1 out of the possible 4 for the Strength section of the Environmental category it would be modified to 0.25. As there where 4 possible points available, but only 1 point was awarded. Following, if the firm also scored 2 Concern points (in the Environmental category) from a possible 10, a percentage score of 0.2 would be awarded. Under the binary system the firm would have a net score of -1 (1 Strength less 2 Concern), while as a percentage the firm would have a Net-CSR score of 0.05 (0.25 Strength less 0.2 Concern).

Formally the aggregation takes the following form in equation 3, with the overall score in equation 4.

$$ESG_t^j = \frac{\sum_{s=1}^{u_t^j} stenght_s^j}{u_t^j} - \frac{\sum_{r=1}^{k_t^j} concern_r^j}{k_t^j} \quad (3)$$

$$ESG_t = \sum_{j=1}^{7} \frac{ESG_t^j}{7} \quad (4)$$

The KLD data is matched with data from the Centre for Research in Securities Prices (CRSP) for the period beginning 1991 through 2009. We obtain market capitalization (size), average volume (volume), adjusted price (price) and adjusted shares outstanding (shares outstanding) for each calendar year end *t*. Furthermore Income Statement and Balance Sheet items are obtained by

matching the CRSP data with Compustat through CRSPlink. Turnover is calculated as the log of average monthly volume over shares outstanding at the end of each year *t*. Return on assets and return on equity are calculated as EBIT over total assets, book equity respectively. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity. Debt to asset ratio is the total liabilities over total assets. The interest rate is Interest expense to total liabilities. Foreign sales to sales is the level of sales made outside of the U.S to total sales received by the firm. Advertising to sales is the advertising expense over sales[12]

Descriptive statistics

Table 1.1 shows the number of firms assessed by KLD for each year that can be matched with CRSPlink, it is clear that the number of firms assessed increase dramatically over the years. Table 1.2 shows the descriptive statistics of the CSR sub-categories, while Table 1.3 shows the financial characteristics of the firms.

The average CSR (Net) undertaken by the sample is -0.02, with roughly twice as many Concerns for every Strength. The Community category stands out as the only category with a positive mean while all the rest are negative, especially Corporate Governance. Diversity has the highest average Strength and Concern scores while Humanity has the lowest average strength and concern scores. The average size of a firm is nearly $6bn. with a Tobin's Q of 2 and a market to book of 3.5.

Graph 1 in the appendix illustrates firm distribution along a CSR continuum. As one can see CSR is heavily concentrated around 0 indicating many firms either do not engage in CSR or that their

[12] Coded missing values to zero to ensure robust sample size, results are not affected.

responsible behavior is no more than their irresponsible behavior (equal amounts of Strengths and Concerns). Furthermore it is quite apparent that firms tend to cluster at certain levels of CSR, most notably a significant cluster to the left of the mean.

Graph 2, in the appendix, shows the distribution of Strength (responsible behavior), nearly 40% of firms do not score a single Strength with a notable gap between firms who engage in responsible behavior (as indicated by Strength scores) and those that do not. Similarly firms are seen clustering at certain levels. Graph 3, in the appendix, turns to Concern, where a similar pattern emerges. A quarter of firms do not engage in irresponsible behavior (Concern score of 0). A comparable gap is also present along with heavy clustering around certain points.

Table 1.4 shows the average yearly score of Strength, Concern and CSR (Net), it clearly indicates that there is a shift in the data around 2000, where firms suddenly attract half as many Strength scores opposed to Concern scores. This change could be a result of the inclusion of more stocks as KLD's sample selection increased. Hamilton and Statman (1993) also find a shift in their data over time, however their sample pre-dates ours. Both these results contrast Heinkel et al. (2001) who predicted that the growth in SRI would increase participation in CSR.

Peer Groups: A firm's relative standing

Accounting for the method by which stakeholders approximate CSR is important, as the majority of CSR's purported benefits stem from efficiencies or premiums extracted from stakeholders, and not necessary from a linear cost-benefit relationship.

> Example: If a firm was to build a crèche for its employees to use, the economic argument would suggest that employees would no longer have to pay for their own daycare and take as much time off work to tend to children; whilst gaining loyalty from employees.

> Although employees might take less time of work many other benefits (employee loyalty, willingness to work overtime, staff retention, etc.) might not arise if the employees do not feel that they are receiving perquisites greater than what they could receive elsewhere. The implication being that if the majority of workspaces provided a crèche employees would penalize their employers for a lack of a crèche, but not necessarily provide extended benefits as they see it as a staple. Similarly a firm who pioneered the crèche might see the value received initially begin to fade as other firms extend the same benefit.

As stakeholders have a multi-attribute utility function incorporating a set of personal and societal values (Bollen, 2007), their decision to and conditions under which they interact with a firm will depend upon the firm's level of CSR. Unfortunately stakeholders have imperfect information relating to a firm's level of CSR (Kempf & Osthoff, 2007; Statman & Glushkov, 2009) and will view a firm's CSR relative to other firms that stakeholders could possibly engage (Benabou & Tirole, 2010). It is shown that investment funds employ arbitrary CSR screens based on a best/worst in class criteria (Kempf & Osthoff, 2007; Statman & Glushkov, 2009). It is conceivable that stakeholders would employ a similar, if not more rudimentary, strategy when evaluating a firm's CSR profile based on their imperfect information, effectively trying to distinguish firms as "good" or "bad" from the plethora of average firms.

Graph 4, in the appendix, illustrates the process around a firm's perceived level of CSR. One can see that for any given point along the CSR continuum stakeholders would approximate the firm's level of CSR with a significant margin of error. It is therefore possible that a unit change in a firm's CSR level might not be observed by stakeholders unless that unit change resulted in the firm moving significantly away from a one group of peers into another that the stakeholder has

defined. The implication is thus: Assuming that all firms could only adjust their level of CSR by a set unit in a given period, stakeholders only adjust their perception of a firm's CSR level if the resulting change punctured an arbitrary threshold. Stakeholders would only adjust their perception of the firm, if the unit change moved the firm into a different category, other firms would not be seen to have moved at all, even though all firms moved by the same unit.

Therefore the most financial value would be extracted or lost by firms whose level of CSR places them over the cusp of a threshold. A standard change in the CSR level of these firms would dramatically effect their economic environment, as stakeholders adjust their behavior to factor in the new CSR loading.

It is important to note that not all stakeholders extract the same utility from CSR, have the same information, or define their CSR thresholds similarly. Secondly although a stakeholder's perception of the firm's CSR might have changed, an inertia would exist before the stakeholder's behavior towards the firm changes (contractual obligations, barriers to entry, transaction costs etc.). It is therefore possible that firms would less likely experience a hard threshold but more likely a soft transitional zone, as perception of the firm adjusts.

For the purpose of this study we define three sets of possible thresholds stakeholders could hold. The first threshold set will simply define firms within 5 peer groups based on quintiles using the 20^{th}, 40^{th}, 60^{th} and 80^{th} percentiles, known as peer group 1 through 5 respectively. The second set assumes that a firm would need to be significantly different from the average before it is noticed. This threshold named 'High', uses the 10^{th}, 30^{th} , 70th and 90^{th} percentiles, known as Peer Group 1 through 5 respectively. Alternatively the "Low" threshold set defines Peer Groups using the 10^{th}, 40^{th}, 60^{th} and 90^{th} percentiles. The assumption here is that

stakeholders notice easily when firms deviate from the average but only readjust their perceptions once the firm becomes best in class.

We must stress that the thresholds used should not be seen as robustness checks around the relationship between CSR and value. As stakeholders likely define arbitrary CSR thresholds, we employ several models to help us in determine where these thresholds lie. It is conceivable that if one bunches two groups of firms that are seen differently by stakeholders into the same peer group, then the relationship between CSR and value will change/suffer/or disappear altogether. Our assumption in this paper is that the linear relationship between CSR and value is not robust, but dependent on a firms relative standing amongst its peers. Therefore insignificant results are just as meaningful as significant results in determining where stakeholders define firms along a CSR continuum.

We assume that firms are perceived relative to their industry peers and not the market as a whole[13]. To ensure even representative peer groups we calculate peer groups for each industry for each year. This mitigates any CSR shift that occurs over time. Lastly we only define peer groups for the four largest industries, based on 2-digit SIC codes (Manufacturing, Transport, Finance and Service). We require that an industry have at least 30 firms per year for the whole sample, to allow us to calculate representative breakpoints[14].

[13] In earlier drafts peer groups were defined over the whole sample, irrespective of industry.

[14] This reduces our sample from over 23000 firm years to 19605, well over 80% of our original sample

Preliminary Findings

Table 2, in the appendix reports the regressions' coefficients for the relationship between firm value and CSR. Specifically we test each of the CSR (Net), Strength and Concern scores separately[15]. Our proxy for firm value is Tobin's Q and we control for firm size (log of market capitalization), leverage (total liabilities over total assets), advertising (advertising over sales) and foreign sales (foreign sales over sales) as well as industry (2-digit SIC code), fixed year effects and cluster standard errors at the firm level. Our model incorporates dummies ($\beta_2(D)_{it}$) to account for a firm's relative standing amongst its peers as perceived by stakeholders. We used the "Quintile" threshold to define peer groups as follows: peer group 1: 20th percentile or below, peer group 2: 40th percentile and below and above 20th percentile, peer group 3: 60th percentile and below and above 40th percentile, peer group 4: 80th percentile and below and above 60th percentile, peer group 5: above 80th percentile. If a firm falls within one of these peer groups, the associated dummy would take the value of 1, otherwise 0.

The model also includes interaction terms ($\beta_3(CSR)_{it} * (D)_{it}$) for each of the peer groups to indicate the marginal effect of CSR for each peer group. Specifically model (1) is:

$$Tobin's\ Q = \alpha + \beta_1(CSR)_{it} + \beta_2(D)_{it} + \beta_3(CSR)_{it} * (D)_{it} + \beta_4(\text{size})_{it} + \beta_5(leverage)_{it} + \beta_6(selling)_{it} + \delta_{i,t} + \varepsilon_{i,t} \quad (1)$$

[15] We also test with the Strength and Concern scores combined and the results, not reported, are qualitatively similar.

Relationship between CSR (Net) and firm value

Table 1.5 presents the reduced form[16] results of the relationship between CSR and firm value across all threshold specifications.

The results across the whole sample shown in the first column (Pooled) of results show that only the 'High' model presented a significantly positive relationship between CSR and firm value, eroding the notion that CSR has a robust significantly positive relationship with firm value. Counter intuitively both the 'Quintile' and 'High' models indicate that firms that are perceived as irresponsible or 'Bad' are inherently more valuable. This would indicate that 'Bad' firms are not "punished' by society for irresponsible behavior. Similarly 'Good' firms have a significantly negative marginal relationship between CSR and firm value across all three models. The results would suggest that as a rule of thumb CSR is not associated with increased value, and significant investment in CSR is value destroying.

Turning to the industry panels it becomes clear that the relationship is not homogenous across industries, and that some industries are particularly sensitive to CSR. The second column shows the results for manufacturing firms. Again, the relationship between CSR and firm value is shown for the 'High' model, with 'Bad' firms being inherently more valuable ('Quintile' model only). Interestingly 'Good' firms are also inherently more valuable ('Quintile') but experience a negative marginal relationship between further involvement in CSR and value ('High' and 'Low' models). It would seem that the relationship between CSR and value is temperamental for the manufacturing industry, with the most robust result indicating too much CSR is value destroying.

[16] We also report the in-depth quantitative results in Table XXX in the appendix for the Quintile thresholds

Column three, showing transport firms, conversely suggest that CSR has a positive relationship with value for 'Good'('Low' model) firms and 'Bad' firms ('Quintile' and 'Low"). It would seem that firms are able to extract value from CSR if they are perceived as different from the mean or 'Average'. The results suggest that engaging in CSR only affects value as firms move from being 'Bad' to 'Average' or from 'Average' to 'Good'. It would suggest that Stakeholders with a sensitivity towards CSR will asses the CSR profile of firms more closely when they deviate away from the mean, while largely ignoring CSR changes in firms considered average.

Column four, showing the Finance Industry, is marginal at best showing only a positive marginal relationship between CSR and firm value for the 'Quintile' modelColumn five, showing the service industry, has the most robust result (possibly driving the results for the pooled regression). CSR exhibits a positive relationship with value; both the 'Quintile and 'Low" models showing extremely significant results[17]. Interestingly, it would seem that 'Bad' firms are inherently more valuable ('High' model) with a negative marginal relationship between CSR value ('Low' model). Most importantly, firms seen as 'Good' experience an inherent value drop (all three models), but also a negative marginal relationship ('Quintile' and 'Low') between CSR and value. The results imply that for 'Average' firms CSR adds value to the firm but too much is value destroying. Secondly it would seem that a healthy market exists for firms engaging in irresponsible behavior

In sum the results suggest CSR does not have a clear result with firm value, and that engaging in too much CSR has a negative impact. The results seem to be concentrated in the

[17] One must remember that the models capture different segments, again the 'High' model places a greater burden of proof on firms to differentiate themselves from 'Average' than the other models, while the 'Low' model focuses on the relationship of firms at the extreme end. Different models help us understand where stakeholders place their arbitrary CSR thresholds; they are not robustness checks for the relationship between CSR and value.

Service industry. If the results seem confounding the reader should not that the results presented are for CSR (Net) and take the difference between responsible and irresponsible behavior (Strengths less Concerns), we argue that this method produces results that are hard to interpret and argue that responsible and irresponsible behavior should be evaluated separately, as we will do in the following sections.

Relationship between responsible behavior (Strengths) and firm value

Turning to Table 1.6, the first column, showing the pooled results, indicates that overall Strength is negatively associated with firm value (Quintile and Low models), interestingly firms with high levels of Strength experience an inherent value increase (Quintile and Low), but do have a negative marginal relationship (Quintile only).

Turning to the second column, for manufacturing, Strength seems to bear little in terms of value. Looking at the third column, showing Transport, the 'Quintile' and 'Low' models predict contrasting results for the relationship between Strength and value, however it does seem that 'Average' firms have a marginally positive relationship with between value and Strength (Quintile and High models), but that high levels of Strength reduces value inherently (High and Low models) and might inversely affect the marginal relationship ('Low' model).

Column four, showing the results for Finance, indicates that the finance industry is largely subject to a negative relationship (Quintile and Low) between responsible behavior and value, but firms who are perceived as good are inherently more valuable (all models). This would suggest that responsible behavior is more costly than the benefits that are produced, until a firm is perceived as 'Good' when firm value is positively affected, although the relationship between Strength and value would still be negative. This would imply, engaging in Strength only to the

point where one sates the definition of being ‘Good’ (if the firm wanted to extract value from Stakeholders with a CSR utility function). Do remember that until the firm is perceived as ‘Good’ responsible behavior will most likely erode the firm financially.

Lastly, column five shows that firms in the Service industry are largely penalized for being perceived as ‘Average’ (all three models). This would suggest that the Service industry is subject to two distinct stakeholder groups, one with and the other without a utility function for responsible behavior. Engaging in ‘Average’ levels of responsible behavior could create uncertainty for both groups around engaging the firm and ultimately lead to negative impact on value.

In sum the relationship between Strength and Value is highly dependent on industry and peer group and any holistic assumption regarding Strength and its relationship with value should be abandoned.

Relationship between irresponsible behavior (Concerns) and firm value

Table 1.7 illustrates the relationship between Concerns and firm value, the first column showing the pooled results, indicates that Concern has a negative relationship with respect to firm value (‘Quintiles’ and ‘High’ models). Noteworthy is the phenomenon that firms with little Concern (‘Good’ or responsible firms) are inherently less valuable (‘Quintiles’ and ‘High’ models), these firms also experience a positive marginal relationship between Concern and firm value (‘Quintiles’ and ‘High’ models). Interestingly firms who engage in reasonable levels of irresponsible behavior (firms perceived as ‘Average’) are inherently more valuable (all models). Lastly as firms engage in more Concern, their marginal relationship between Concern and value becomes less negative (‘Quintiles’ and ‘High’ models). This would suggest that firms can only be

‘punished’ for engaging in negative behavior up to a certain point after which more irresponsible behavior does not have a negative impact on the firm.

Column two shows similar results for the manufacturing industry with Concern exhibiting a negative relationship in respect to value (Quintile and High). Similarly the marginal relationship is positive for firms with little concern/‘Good’ (Quintile and High) and ‘Average’ firms experience an inherent increase in value (Quintile and Low), while ‘Bad firms experience a decrease in value (High and Low).Columns three and four indicate that the relationship between concern and value is less clear for the transport and finance industries.

Finally the last column, suggests that firms’ value, in the service industry, is heavily affected by irresponsible behavior (concern). In step with the results from the pooled and manufacturing columns concern bears a negative relationship with value (High and Low), but ‘Average’ firms tend to experience higher inherent value (all models). More surprisingly ‘Bad’ firms or firms with the highest levels of concern also experience significant increases in value (all models). This would suggest that avoiding irresponsible behavior in the service industry is very costly. Perhaps avoiding irresponsible behavior severely limits economic opportunities for firms. As such, although there might be negative association between concern and value, foregoing certain opportunities might prove costly to firms. Interestingly ‘Good’ firms are not penalized in the service industry, as in the manufacturing industry.

In sum it is clear that that concern exhibits a much stronger and robust relationship to value compared to Strength, secondly much of the confounding results exhibited by CSR (Net) regressions are explained by the positive relationship ,for certain peer groups, between firm value and Concern.

Endogeneity

It's easy to conceive that a relationship between CSR and firms' value may simply be a manifestation of firm discretionary spending. It is therefore not clear in which direction causality flows; CSR[18]could improve firm performance contrariwise firms might engage in CSR if and when they have sufficient disposable cash-flows. It is indeterminate if firms with significant performance/value and high levels of CSR become valuable as a result of their CSR profile or that they increased their CSR engagement as they experienced exogenously generated increases in value, or a combination of both.

Endogeneity, with respect to CSR and firm value, will always present itself and one can only mitigate rather than eliminate any doubts pertaining to the notion. Fortunately, compared to other studies in governance and CSR, we present a novel approach to mitigate an endogenous effect between firm value and CSR.

Restricted OLS

We construct model (2) following model (1) by including 2 dummies that account for a change in a firm's peer group from t-*1* to *t*. We hope that these dummies will capture the economic effect associated when stakeholder perception of a firm changes. Specifically in model (2) the positive change dummy ($\beta_4(\Delta P)_{it}$) takes the value of 1 if a firm moved to a higher peer group in year *t* with respect to *t-1* otherwise 0, while the negative change dummy ($\beta_5(\Delta N)_{it}$) takes the value of 1 if a firm moved to a lower peer group in year *t* with respect to *t-1* otherwise 0.

[18] Assuming that the relationship between CSR and value is positive, if not the logic fails.

$$Tobin's\ Q = \alpha + \beta_1(CSR)_{it} + \beta_2(D)_{it} + \beta_3(CSR)_{it} * (D)_{it} + \beta_4(\Delta P)_{it} + \beta_5(\Delta N)_{it} + \beta_6(\text{size})_{it} + \beta_7(leverage)_{it} + \beta_8(foreign)_{it} + \beta_9(advertising)_{it} + \delta_{i,t} + \varepsilon_{i,t} \quad (2)$$

An economic argument could suggest that firm value affects CSR, however it is unlikely that a firm's value could affect whether a firm changes peer groups. Arguably, a firm could affect its peer group in the long run with successive large increases or decreases in its CSR level. We believe it unlikely that performance or value would determine whether firms switch peer groups, at least in the short and medium term[19].To further restrict the possibility of endogeneity, we assume that value does affect CSR, and explicitly account for this.

Unlike the earlier regressions we now restrict our sample to only include firms who did not experience a change in their CSR level in *t* with respect to *t-1*, but did experience a change in their peer group in *t* with respect to *t-1*. Therefore we now eliminate all firms, whose CSR profiles have changed, eliminating the effect of CSR on value. Therefore a significant result for either of the peer change dummies ($\beta_4(\Delta P)_{it}$,$\beta_5(\Delta N)_{it}$) would indicate that the firm's value is affected by change in the perception of a firm, without any actual change in the CSR profile of the firm. The results of model (2)'s regression is presented in table 1.8

Turning to Panel A, unsurprisingly we find that CSR does not exact a relationship on value, proxied by a change in CSR (Net), but 'Bad' (PG1 dummy) firms are inherently more valuable, with an economically large coefficient of 0.48

[19] We are addressing the change from one peer group to another and not the actual peer group, as such at any given time a certain level of CSR could determine which peer group a firm belongs to, but not whether it changes peer groups. By extension, even if firm value determined CSR it could not at any given time determine which peer group defines the firm, less likely cause a shift in peer groups.

(sig. at the 1% level). Similarly the positive and negative change dummies are insignificant. Panel B, presents the results for Strength and Concern, again Strength fails to present a significant marginal relationship with firm value but firms perceived as good (PG5 dummy) are inherently more valuable (0.26 at 1% sig.). Turning to the dummies capturing change, we see that a positive change in Strength peer groups (Pos.) is associated with a significant reduction in value -0.14 (sig. at 5%)[20]. This mirrors the general consensus of table 1.6 which shows that, in general, Strength exhibits a negative marginal relationship.

Looking at Concern, we see that Concern still maintains a significant relationship, no matter what model we specify. The results reflect the earlier results that 'Low' levels of Concern (PG2) see firm value reductions (-0.67 at 15 sig.), while 'Average' (PG3 and PG4) and perhaps 'High' (PG5) levels of Concern are inherently associated with increased firm value (0.87,0.52 and 0.42 respectively all at 1% sig.), with the negative marginal relationship softening as firms become increasingly 'Bad'. Looking at the peer change dummies we see that a negative change in Concern peer groups (Neg.) is associated with a value increase (0.18 at 1% sig,). This confirms the early results indicating a negative marginal relationship between Concern and firm value.

In sum it seems that our restricted models suggest that both Strength and Concern have a negative marginal relationship with firm value, irrespective of firm performance's effect on CSR. This would explain the fragile results presented when

[20] One should remember that shareholders are included within stakeholder definitions. If shareholders are aware that responsible behaviour reduces value a shift in their perception of the firm's Strengths would reduce value, as they re-adjust their expectation.

examining CSR (Net). As our results show the netting off process erroneously assumes Strengths and Concerns have opposite relationships with value, in fact they both are negative[21]

Two Stage Least Squares

Utilizing our ability to proxy for firms' level of CSR by their relative standing amongst their peers, we utilize a two stage least squares model. We use a firm's peer group as an instrumental variable to estimate the endogenous CSR variables. As such we assume that a firm's peer group is exogenously determined, which we believe holds true in the short-medium term. Specifically the model (3a) takes the following form:

$$Tobin's\ Q$$

$$= \alpha + \beta_1(CSR)_{it} + \beta_2(\text{size})_{it} + \beta_3(leverage)_{it} + \beta_4(foreign)_{it} + \beta_5(advertising)_{it} + \delta_{i,t} + \varepsilon_{i,t} \quad (3a)$$

We instrument for CSR in model (3a) with model (3b):

$$CSR = \alpha + \beta_1(Tobin's\ Q)_{it} + \beta_2(\text{size})_{it} + \beta_3(leverage)_{it} + \beta_4(foreign)_{it} + \beta_5(advertising)_{it} + \beta_6(Peer\ group)_{it} + \delta_{i,t} + \varepsilon_{i,t} \quad (3b)$$

Specifically, CSR is the firm's actual level of CSR, which is instrumented by our peer group variable ($\beta_6(Peer\ group)_{it}$), which takes the values of 1-5 to indicate the firms' peer groups[22]. The two stage least square tests for a linear relationship between CSR and

[21] The implication that one should in fact sum Concerns and Strengths, but again the inference would be meaningless, they should be examined separately.

[22] Using the 'Quintile' threshold specification discussed earlier

value, similar to the models used by other studies (Gillen et al. ,2010)[23]. The results are presented in table 1.9. The first row presents the results between CSR (Net) and value. A significantly positive relationship (2.11 at 1% sig.) is shown to exist indicating that CSR is not necessarily a manifestation of discretionary spending. In keeping with the theme of our results Strength presents an insignificant result, by deduction the relationship for the CSR (Net) results are mainly driven by the strongly negative significant relationship (-3.84 at 1% sig.) between value and Concern. Arguably the results presented above make a moot point as most of our original results present that CSR should only be accounted for from in industry and peer group point of view. We believe that the significant results in the two stage model above indicate that there, at least, is a relationship between CSR and value that is not wholly endogenously determined, the direction might be debatable.

Discussion

The use of our aggregation method does not bias results; we find similar results those presented by Gillen et al. (2010) when running both OLS[24] and 2SLS, but with our aggregation method. However, as our hypotheses suggested this relationship is not robust to the inclusion of peer dummies[25]. The theme of our results suggests that engaging in CSR is not positively related to firm value and quite possibly is value destroying. The results indicate investors, stakeholders or investment funds perceive firms as belonging to certain groups based on the firm's CSR profile, and behave

[23] As a result we are less interested in the sign of the relationship but more the significance, as our finding suggest that assuming a linear relationship across all industries between CSR and value might not be correct.

[24] Results not reported

[25] Results not reported

accordingly. As such a firm's movement within such a 'peer bracket' is inept as the perception of the firm has not fundamentally changed. The firm only experiences a financial effect from CSR if it is perceived differently. However the value of shifting between 'peer brackets' could be statistically large, but heavily dependent on industry and whether the firm has engaged in more responsible behavior or reduced irresponsible behavior.

Importantly one must note that the effects of Strength and Concern are poorly understood and contribute to the negative effect above. The CSR (Net) measure would treat firm 'A' (with a net CSR score of 0, a Strength score of 1 and Concern score of 1) exactly the same as firm 'B' (with a net CSR score of 0, a Strength score of 4 and Concern score of 4). Arguably, however, those firms would have distinctly different CSR profiles and be perceived differently by different stakeholders, depending on their appetite for responsible and irresponsible behavior.

When firms are analyzed according to their engagement in Strength the results are mixed, Chatterji et al. (2009) allude to the negligible value of Strength measures. Strength activities seem to destroy firm value as a general assumption. Interestingly, in some industries, firms with above average levels of Strength do receive a value boost, perhaps as sound CSR performance proxies for good management (Renneboog, Ter Horst, & Zhang, 2008a; Renneboog et al., 2008b). This is in line with Kempf & Osthof (2007) who present that investors create arbitrary thresholds for positive screens. The results might indicate that stakeholders find it much harder to perceive

responsible behavior[26], and as such place a much higher threshold for extending benefits associated with responsible activities (Strengths). These results add weight to the concept that Strength measures carry little value in determining the effect of CSR on a firm. Alternatively the weak performance of Strength on a market measure like Tobin's Q might simply mirror the mispricing inherent with CSR activities, and that the market simply cannot capture the value inherent in Strength activities (Kemper & Martin, 2010; Kempf & Osthoff, 2007).

Conversely, the Concern results are very significant. Concern activities are negatively related to value, with the restricted OLS indicating stakeholders respond positively to reductions in Concern. However, firms who engage in average levels of Concern experience a value boost, perhaps as they are not precluded from the advantages and exploits some Concern opportunities present, and/or stakeholders focus their attention on the leaders and laggards along the Concern continuum. Finally firms with a high engagement in Concern have a much lower marginal cost for engaging in Concern activities. Once a firm is considered 'Bad' the firm's value would be reduced by a much lower marginal rate. Our results confirm the notions of SRI investing (Benabou & Tirole, 2010; Lee & Faff, 2009; Renneboog et al., 2008b) where SRI funds are more likely to screen along negative criteria, which could be driving our results.

As noted, (Manescu, 2011; Statman & Glushkov, 2009), the relationship between CSR and industry is important and varies greatly (Griffin & Mahon, 1997). More

[26] Or perhaps fail to value the benefits associated with Strength activities, in that they perceive the Strength activity but are uncertain around the economic impact of the activity.

importantly any statement regarding an overall relationship between CSR and value should be met with caution. Overwhelmingly the Strength results are very industry specific with inverse results between some industries, while the Concern results had greater congruence between industries. For the most part manufacturing and service industries are most sensitive to CSR[27], with most other industries remaining mute on the relationship between CSR and firm value. The finance and transport industries seems especially resilient to Concern or irresponsible behavior with no significant relationship coming afore. Our results might be attributed to the findings of Fernández-Kranz & Santaló (2010) who show that competition for consumers drives CSR, this follows our results as the manufacturing and service industries are perhaps more sensitive to consumers.

The service industry shows that firms with high levels of CSR are devalued, with a marginal effect that is negative. This contrasts Margolis & Elfenbein's (2008) meta-analysis, which indicates that engaging in CSR incurred no financial penalty. This is perhaps echoing Benabou & Tirole (2010) showing that each industry is subject to different stakeholder demands. It might be that manufacturing and service industries, which are heavily dependent on labor and interconnected with many suppliers and customers, who depend on the firms outputs, are much more sensitive to stakeholder action. As such the service and manufacturing firms need to sate their demands with CSR, and by doing so extract benefit.

[27] Surprisingly, finance and transport seem especially sensitive to Strength, where manufacturing fails to

The transport industry shows the most fragile relationship between CSR and value with some models presenting conflicting results. Furthermore transport fails to replicate the marginal effect of CSR as highly negative for industry leaders; this is true for every other industry. It might be that engaging in too much CSR is subject to marginal reducing returns and once all the cost effective measures of CSR are exploited any further engagement in CSR is value destroying. Surprisingly engaging in below average levels of CSR in the service and manufacturing industries is associated with value increases and the marginal effect at that level is positive as well for all industries except the service industry. The finance industry is the only industry in which firms with high levels of Strength (perceived as 'Good') receive an increase in value.

The most surprising finding is that engaging in some Concern activities creates value with a significant relationship between firms with average levels of Concern and firm value in the manufacturing and service industries. We believe that firms that are seen as average escape the negative connotations associated with Concern. It is likely that stakeholders focus on firms with high amounts of Concern, and are ignorant to the activity of average firms. Furthermore, engaging in some concern allows the firms to exploit certain benefits presented by 'dirty' opportunities or save on certain costs associated with adjusting activities or facilities to remove the Concern aspect. It must be noted that the service industry does not seem to unduly penalize 'Bad' firms.

Further Work

To complete this study and validate our hypotheses we will adapt our equations presented earlier to test the relationship between ROA, ROE and CSR. Secondly we

will increase the control variables included in our Tobin's Q results to substantiate the robustness of our findings. More importantly we will extend our study to account for the effects of different CSR categories on firm value and performance, while maintaining the distinction between Strength and Concern.

Conclusion

This study shows that CSR exacts a dynamic relationship that is perhaps non-continuous and certainly not linear on firm value. More importantly we control for endogeneity in two different ways and find that CSR definitely affects firm value beyond what might be endogenously presumed. The relationship is heavily affected by a firms relative standing amongst its peers and industry.

We show that practitioners need to be careful in valuing the effect of CSR activities that firm's undertake, and make clear distinctions between activities that relate to abstaining from bad as opposed to engaging in good. Most notably practitioners should re-evaluate the value of Concern and Strength activities as the implications might be inverse, and place greater pressure on rating agencies to create more dynamic rating systems. Similarly our results provide valuable insight for managers in making CSR decisions. Importantly management should ensure that CSR activities are of a sufficient magnitude to set the firm apart from its peers, but be careful to engage in Strength activities or needlessly refrain from Concern activities.

Our study provides a deeper understanding of CSR for academics and should encourage deeper investigation into the murky field. Lastly our results imply that the

market for CSR might not be driving firms toward better social responsibility and that relying on the free hand of economics to sate problems relating to the public good might not be ideal. Regulators should be aware that regulatory pressure is needed to reduce the economic payoff from engaging in Concern activities. Conjunctly regulation aimed at increasing the frequency, transparency and standardization around CSR reporting will allow stakeholders to better evaluate CSR and remove uncertainty, which could be penalizing CSR activity.

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Tables

Table 1.1
Number of firms in sample period

Year	Firms
1991	546
1992	556
1993	548
1994	546
1995	554
1996	561
1997	563
1998	565
1999	573
2000	561
2001	991
2002	1002
2003	2728
2004	2802
2005	2783
2006	2732
2007	2702
2008	2597
2009	2655

Table 1 shows the number of firms included in the study assessed by KLD for each calendar year from 1991 through to 2009.

Table 1.2

KLD ESG Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Net CSR	26565	-0.02	0.06	-0.40	0.34
Strength	26565	0.03	0.05	0.00	0.49
Concern	26565	0.06	0.06	0.00	0.51
Community Net	26565	0.01	0.11	-0.61	1.00
Community Strength	26565	0.03	0.09	0.00	1.00
Community Concern	26565	0.02	0.07	0.00	0.75
Corporate Governance Net	26565	-0.05	0.17	-1.00	0.75
Corporate Governance Strength	26565	0.04	0.09	0.00	0.75
Corporate Governance Concern	26565	0.08	0.14	0.00	1.00
Diversity Net	26565	-0.04	0.22	-0.67	0.88
Diversity Strength	26565	0.07	0.12	0.00	0.88
Diversity Concern	26565	0.11	0.16	0.00	0.67
Employment Net	26565	-0.03	0.16	-0.80	0.83
Employment Strength	26565	0.05	0.11	0.00	0.83
Employment Concern	26565	0.08	0.12	0.00	0.80
Environmental Net	26565	-0.01	0.10	-0.83	0.60
Environmental Strength	26565	0.02	0.07	0.00	0.80
Environmental Concern	26565	0.03	0.10	0.00	1.00
Humanity Net	24915	-0.01	0.07	-0.75	1.00
Humanity Strength	24915	0.00	0.04	0.00	1.00
Humanity Concern	26565	0.02	0.08	0.00	1.00
Product Net	26565	-0.03	0.15	-1.00	0.75
Product Strength	26565	0.02	0.07	0.00	0.75
Product Concern	26565	0.05	0.13	0.00	1.00

Table 2. presents the descriptive statistics of the Net, Strength and Concern scores for each of the KLD ESG categories as well as the overall score. The scores presented are transformed from the binary aggregation system used by KLD and represent a percentage of possible points obtained. The statistics are calculated on the pooled sample, spanning calendar years 1991 through 2009.

Table 1.3

Financial Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Adjusted Price	26565	28.66	58.06	1.00	3561.00
Adjusted Shares ('000)	26565	204,401	588,845	372	22900000
Average Monthly Volume ('000)	26565	1,317,066	5,372,910	189	484000000
Market Capitalization ('000)	26565	$5,925,838	$19,900,000	$5,831	$602,000,000
ln(Mcap)	26565	14.15	1.56	8.67	20.22
ln(Turnover)	26565	1.65	1.09	-4.43	7.74
Tobin's Q	26163	2.00	1.80	0.34	56.98
Market to Book	26162	3.49	56.25	-2266.34	7508.73
EBIT to Assets	26152	0.07	0.17	-12.48	1.95
EBIT to Equity	26145	0.20	5.66	-568.93	324.34
Cash to Total Assets	26165	0.16	0.20	0.00	1.00
Cash to Current Liabilities	20558	1.29	3.22	0.00	265.71
Interest Expense to Total Liabilities	22366	0.03	0.02	-0.01	1.13
Total Liabilities to Total Assets	26101	0.57	0.28	0.00	7.71
Foreign Sales to Sales	7278	0.10	0.22	-0.10	8.87
Advertising to Sales	8694	0.03	0.07	0.00	3.32

Table 3. reports the descriptive statistics for the pooled sample spanning calendar years 1991 through 2009.(‘000) indicate figures presented in thousands. EBIT is earnings before interest and tax, Ln(Mcap) is the log of market capitalization, ln(Turnover) is the log of volume over shares outstanding.

Table 1.4

Shift in CSR scores over time

Year	Net	Strength	Concern
1991	0.01	0.04	0.03
1992	0.01	0.05	0.04
1993	0.00	0.06	0.06
1994	-0.01	0.05	0.06
1995	0.00	0.06	0.06
1996	0.01	0.06	0.04
1997	0.00	0.06	0.06
1998	0.00	0.06	0.06
1999	0.00	0.06	0.07
2000	-0.01	0.06	0.07
Average	0.00	0.06	0.06
2001	-0.01	0.04	0.05
2002	-0.02	0.04	0.06
2003	-0.02	0.02	0.04
2004	-0.03	0.03	0.06
2005	-0.03	0.02	0.05
2006	-0.03	0.03	0.06
2007	-0.03	0.03	0.06
2008	-0.03	0.03	0.06
2009	-0.03	0.03	0.06
Average	-0.03	0.03	0.06

Table 6 reports the yearly average CSR score of Net-CSR, Strength and Concern for calendar years 1991 through 2009. The average score for each decade is also reported.

Table 1.5
Relationship between firm value and CSR

	Pooled			Manufacturing			Transport			Finance			Service		
Variable	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low
CSR		**(+) ****			**(+) ****								**(+) *****		**(+) *****
Bad	**(+) *****	**(+) ****		**(+) *****										**(+) ****	
Bad * CSR	**(+) ****						**(+) ****		**(+) ****	**(+) ****					**(−) ****
Average															
Average * CSR															
Good				**(+) *****									**(−) *****	**(−) ****	**(−) *****
Good * CSR	**(−) ****	**(−) *****	**(−) ****		**(−) ****	**(−) ****			**(+) ****				**(−) *****		**(−) *****

Table 1.5 reports a reduced form results of the relationship between firm value and CSR employing 3 different specifications over the pooled sample and within each of four industries, defined by 2-digit SIC code, from calendar year 1991 through 2009. Each of the Quint., High and Low columns report the regression results obtained when the 'Quintile', 'High' and 'Low' threshold specifications used, respectively. 'Quintile' defines firms within 5 peer groups based on quintiles using the 20th, 40th, 60th and 80th percentiles, 'High' defines firms using the 10th, 30th , 70th and 90th percentiles and the 'Low' threshold set defines peer groups based on the 10th, 40th, 60th and 90th percentiles. Peer groups are calculated at the end of each year *t* for each industry *j* and take the value of 1 if a firm falls within that peer group in that year or 0 otherwise. CSR represents the level of CSR undertaken by each firm. Bad, Average and Good approximate for the low, mid and high peer group dummies across the three threshold specifications. We control for year fixed effects and cluster standard errors at the firm level. Specifically we model: $Tobin's\ Q = \alpha + \beta_1(CSR)_{it} + \beta_2(D)_{it} + \beta_3(CSR)_{it} * (D)_{it} + \beta_4(\text{size})_{it} + \beta_5(leverage)_{it} + \beta_6(foreign)_{it} + \beta_7(foreign)_{it} + \delta_{i,t} + \varepsilon_{i,t}$. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity at the end of each year t. Size is the log of market capitalization at the end of each year t (not reported). Leverage is the total liabilities over total assets at the end of each year t, foreign is foreign sales to sales at the end of each year t, advertising is advertising expense to sales at the end of each year *t*. **(+),(−)** indicate a positive or negative relationship between the variable and Tobin's Q based on the sign of the corresponding coefficient in the regression results. *,**,*** indicate significance levels at the 10%, 5% and 1% significance level respectively.

Table 1.6
Relationship between firm value and Strength

	Pooled			Manufacturing			Transport			Finance			Service		
Variable	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low
Strength	**(−) ****		**(−) *****				**(−) ****		**(+) ****	**(−) ****		**(−) ****			
Low															
Low * Strength															
Average				**(+) ****									**(−) ****	**(−) *****	**(−) *****
Average * Strength	**(+) ****						**(+) *****	**(+) ****						**(+) ****	**(+) ****
High	**(+) ****		**(+) ****					**(−) *****	**(−) *****	**(+) ****	**(+) ****	**(+) ****			
High * Strength	**(−) ****								**(−) *****						

Table 1.6 reports a reduced form results of the relationship between firm value and Strength employing 3 different specifications over the pooled sample and within each of four industries, defined by 2-digit SIC code, from calendar year 1991 through 2009. Each of the Quint., High and Low columns report the regression results obtained when the 'Quintile', 'High' and 'Low' threshold specifications used, respectively. 'Quintile' defines firms within 5 peer groups based on firms that failed to score and firms who fall in the 40th, 60th and 80th percentiles, 'High' defines firms in 4 peer groups for the firms who failed to score and firms who fall in the 30th , 70th and 90th percentiles and the 'Low' threshold set defines 4 peer groups based on firms who failed to score and firms who fall in 40th, 60th and 90th percentiles. Peer groups are calculated at the end of each year *t* for each industry *j* and take the value of 1 if a firm falls within that peer group in that year or 0 otherwise. CSR represents the level of CSR undertaken by each firm. Bad, Average and Good approximate for the low, mid and high peer group dummies across the three threshold specifications. We control for year fixed effects and cluster standard errors at the firm level. Specifically we model: $Tobin's\ Q = \alpha + \beta_1(Strength)_{it} + \beta_2(D)_{it} + \beta_3(CSR)_{it} * (D)_{it} + \beta_4(\text{size})_{it} + \beta_5(leverage)_{it} + \beta_6(foreign)_{it} + \beta_7(foreign)_{it} + \delta_{i,t} + \varepsilon_{i,t}$. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity at the end of each year t. Size is the log of market capitalization at the end of each year t (not reported). Leverage is the total liabilities over total assets at the end of each year t, foreign is foreign sales to sales at the end of each year t, advertising is advertising expense to sales at the end of each year *t*. **(+),(−)** indicate a positive or negative relationship between the variable and Tobin's Q based on the sign of the corresponding coefficient in the regression results. *,**,*** indicate significance levels at the 10%, 5% and 1% significance level respectively.

Table 1.7
Relationship between firm value and Concern

	Pooled			Manufacturing			Transport			Finance			Service		
Variable	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low	Quint.	High	Low
Concern	**(−) *****	**(−) *****		**(−) *****	**(−) *****		**(−) ****					**(−) *****		**(−) *****	**(−) *****
Low	**(−) *****	**(−) ****		**(−) *****											
Low * Concern	**(+) *****	**(+) *****		**(+) *****	**(+) *****		**(+) ****							**(+) ****	
Average	**(+) *****	**(+) *****	**(+) *****	**(+) *****		**(+) *****							**(+) *****	**(+) *****	**(+) *****
Average * Concern			**(−) ****			**(−) *****				**(+) ****			**(−) ****		
High				**(−) ****		**(−) ****							**(+) *****	**(+) *****	**(+) *****
High * Concern	**(+) ****	**(+) *****													

Table 1.7 reports a reduced form results of the relationship between firm value and Concern employing 3 different specifications over the pooled sample and within each of four industries, defined by 2-digit SIC code, from calendar year 1991 through 2009. Each of the Quint., High and Low columns report the regression results obtained when the 'Quintile', 'High' and 'Low' threshold specifications used, respectively. 'Quintile' defines firms within 5 peer groups based on firms that failed to score and firms who fall in the 40th, 60th and 80th percentiles, 'High' defines firms in 4 peer groups for the firms who failed to score and firms who fall in the 30th, 70th and 90th percentiles and the 'Low' threshold set defines 4 peer groups based on firms who failed to score and firms who fall in 40th, 60th and 90th percentiles.. Peer groups are calculated at the end of each year *t* for each industry *j* and take the value of 1 if a firm falls within that peer group in that year or 0 otherwise. CSR represents the level of CSR undertaken by each firm. Bad, Average and Good approximate for the low, mid and high peer group dummies across the three threshold specifications. We control for year fixed effects and cluster standard errors at the firm level. Specifically we model: $Tobin's\ Q = \alpha + \beta_1(Concern)_{it} + \beta_2(D)_{it} + \beta_3(CSR)_{it} * (D)_{it} + \beta_4(\text{size})_{it} + \beta_5(leverage)_{it} + \beta_6(foreign)_{it} + \beta_7(foreign)_{it} + \delta_{i,t} + \varepsilon_{i,t}$. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity at the end of each year t. Size is the log of market capitalization at the end of each year *t* (not reported). Leverage is the total liabilities over total assets at the end of each year t, foreign is foreign sales to sales at the end of each year t, advertising is advertising expense to sales at the end of each year *t*. **(+),(−)** indicate a positive or negative relationship between the variable and Tobin's Q based on the sign of the corresponding coefficient in the regression results. *,**,*** indicate significance levels at the 10%, 5% and 1% significance level respectively.

Table 1.8
Relationship between Corporate Social Responsibility and firm value (Restricted OLS)

Panel: A

	c.	CSR	PG1	PG2	PG4	PG5	I1	I2	I4	I5	Pos.	Neg.	Size	Debt	Foreign	Adv.	Obs.	R^2
Net	-1.59***	0.53	0.48***	0.23	0.19	0.19	5.81	4.93	-5.77	-2.11	-0.05	0.02	0.276***	-0.57***	-0.00***	2.56***	6725	0.1745

Panel: B

	c.	CSR	PG2	PG3	PG4	PG5	I2	I3	I4	I5	Pos.	Neg.	Size	Debt	Foreign	Adv.	Obs.	R^2
Strength	-1.91***	-3.48	-0.17	0.13	0.153	0.26***	3.69	-	4.66	-0.03	-0.14**	-0.11	0.24***	-0.59***	-.00***	1.92***	10841	0.1619
Concern	-3.38***	12.86***	-0.67***	0.87***	0.52***	0.42***	-	-34.36***	-23.06***	-20.48***	-0.03	0.18***	0.34***	-0.38***	-0.00***	3.05***	9214	0.2042

Table 1.8 reports the regression coefficients for the relationship between firm value and CSR over the pooled restricted sample from calendar year 1991 through 2009 using the 'Quintile' thresholds. Panel A reports the results for Net CSR levels undertaken by firms (Strengths less Concerns), Panel B reports the results for the relationship between Strengths and Concerns against firm value separately. CSR represents the level of CSR undertaken by each firm within each of Net-CSR, Strength and Concern. Peer groups are calculated at the end of each year *t* for each industry *j* and take the value of 1 if a firm falls within that peer group in that year or 0 otherwise. Pos. represents the positive change dummy ($\beta_4(\Delta P)_{it}$) takes the value of 1 if a firm moved to a higher peer group in year *t* with respect to *t-1* otherwise 0, while Neg. presents the negative change dummy ($\beta_5(\Delta N)_{it}$) takes the value of 1 if a firm moved to a lower peer group in year *t* with respect to *t-1* otherwise 0. We restrict the sample to only include firms who did not experience a change in their CSR level in *t* with respect to *t-1*, but did experience a change in their peer group in *t* with respect to *t-1*. For Panel A, peer group 1 represents the 20th percentile and below, peer group 2 represents the 20th through 40th percentiles, peer group 3 represents the 40th through 60th percentiles, peer group 4 represents the 60th through 80th percentiles and peer group 5 represents the 80th and above percentiles. For Panel B, peer group 1 represents firms with no score, peer group 2 represents firms in the 40th percentile and below, peer group 3 represents the 40th through 60th percentiles, peer group 4 represents the 60th through 80th percentiles and peer group 5 represents the 80th and above percentiles We control for year fixed effects, industry fixed effects using 2-digit SIC codes and cluster standard errors at the firm level. Specifically we model: $Tobin's\ Q = \alpha + \beta_1(CSR)_{it} + \beta_2(D)_{it} + \beta_3(CSR)_{it} * (D)_{it} + \beta_4(\Delta P)_{it} + \beta_5(\Delta N)_{it} + \beta_6(\text{size})_{it} + \beta_7(leverage)_{it} + \beta_8(foreign)_{it} + \beta_9(advertising)_{it} + \delta_{i,t} + \varepsilon_{i,t}$. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity at the end of each year t. Size is the log of market capitalization at the end of each year t, Debt is the total liabilities over total assets at the end of each year t, foreign is foreign sales to sales at the end of each year t, advertising is advertising expense to sales at the end of each year *t*..*,**,*** indicate significance levels at the 10%, 5% and 1% significance level respectively.

Table 1.9

Relationship between Corporate Social Responsibility and firm value (2SLS)

	c.	CSR	Size	Debt	Foreign	Adv.	Obs.	R^2
Net	-0.729***	2.11***	0.213***	-0.74***	-0.005***	2.97***	19605	0.15
Strength	-0.57**	0.069	0.205***	-0.76***	-0.0049***	3.09***	19605	0.15
Concern	-1.304***	-3.84***	0.265***	-0.68***	-0.004***	2.99***	19605	0.16

Table 1.9 reports the two stage least squared regression coefficients for the relationship between firm value and CSR over the pooled sample from calendar year 1991 through 2009. We control for year fixed effects, industry fixed effects using 2-digit SIC codes and cluster standard errors at the firm level. Specifically we model: $Tobin's\ Q = \alpha + \beta_1(CSR)_{it} + \beta_2(\text{size})_{it} + \beta_3(leverage)_{it} + \beta_4(foreign)_{it} + \beta_5(advertising)_{it} + \delta_{i,t} + \varepsilon_{i,t}$.

We instrument CSR as follows: $CSR = \alpha + \beta_1(Tobin's\ Q)_{it} + \beta_2(\text{size})_{it} + \beta_3(leverage)_{it} + \beta_4(foreign)_{it} + \beta_5(advertising)_{it} + \beta_6(Peer\ group)_{it} + \delta_{i,t} + \varepsilon_{i,t}$. CSR is the firm's actual level of CSR, which is instrumented by our peer group variable ($\beta_6(Peer\ group)_{it}$), which takes the values of 1-5 to indicate the firms' peer group. Peer groups are calculated at the end of each year *t* for each industry *j*. A Peer group value of 1 represents the 20th percentile and below, 2 represents the 20th through 40th percentiles, 3 represents the 40th through 60th percentiles, 4 represents the 60th through 80th percentiles and finally the value 5 represents the 80th and above percentiles. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity at the end of each year t. Size is the log of market capitalization at the end of each year t, Debt is the total liabilities over total assets at the end of each year t, foreign is foreign sales to sales at the end of each year t, advertising is advertising expense to sales at the end of each year *t*..*,**,*** indicate significance levels at the 10%, 5% and 1% significance level respectively.

Appendix

Tables

Table 2.

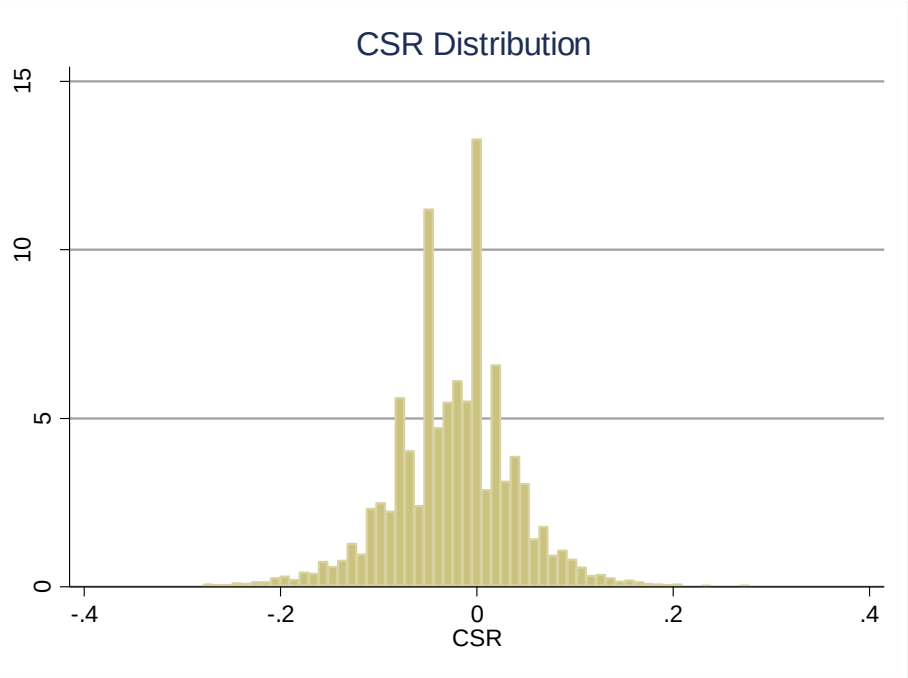
Relationship between Corporate Social Responsibility and firm value

Panel: A																															
	c.		CSR		PG1		PG2		PG4		PG5		I1		I2		I4		I5		Size		Debt		Foreign		Adv.		Obs.	R^2
Net	-1.66	***	1.56		0.26	***	0.02		0.13		0.12		3.74	**	0.64		-5.07	**	-3.24		0.23	**	-0.71	***	0.00	***	3.01	***	19605	0.16
Panel: B																															
	c.		CSR		PG2		PG3		PG4		PG5		I2		I3		I4		I5		Size		Debt		Foreign		Adv.		Obs.	R^2
Strength	-1.80	***	-15.79	**	-0.31		0.14		0.20		0.19	**	21.26	**	12.28	**	14.66	**	11.86	**	0.23	***	-0.73	***	0.00	***	3.18	***	19605	0.15
Concern	-2.46	***	-14.81	***	-0.70	***	0.64	***	0.30	***	0.13		30.14	***	-1.04		7.51		9.18	**	0.29	***	-0.63	***	0.00	***	2.97	***	19605	0.1658

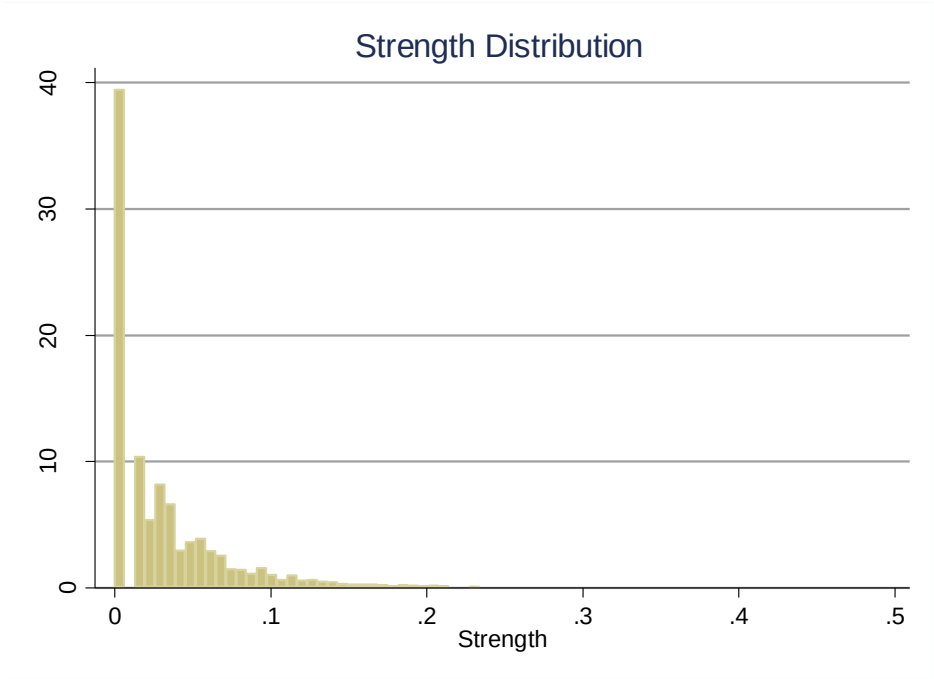
Table 2 reports the regression coefficients for the relationship between firm value and CSR over the pooled sample from calendar year 1991 through 2009 using the 'Quintile' thresholds. Panel A reports the results for Net CSR levels undertaken by firms (Strengths less Concerns), Panel B reports the results for the relationship between Strengths and Concerns against firm value separately. CSR represents the level of CSR undertaken by each firm within each of Net-CSR, Strength and Concern. Peer groups are calculated at the end of each year *t* for each industry *j* and take the value of 1 if a firm falls within that peer group in that year or 0 otherwise For Panel A, peer group 1 represents the 20th percentile and below, peer group 2 represents the 20th through 40th percentiles, peer group 3 represents the 40th through 60th percentiles, peer group 4 represents the 60th through 80th percentiles and peer group 5 represents the 80th and above percentiles. For Panel B, peer group 1 represents firms with no score, peer group 2 represents firms in the 40th percentile and below, peer group 3 represents the 40th through 60th percentiles, peer group 4 represents the 60th through 80th percentiles and peer group 5 represents the 80th and above percentiles We control for year fixed effects, industry fixed effects using 2-digit SIC codes and cluster standard errors at the firm level. Specifically we model: $Tobin's\ Q = \alpha + \beta_1(CSR)_{it} + \beta_2(D)_{it} + \beta_3(CSR)_{it} * (D)_{it} + \beta_4(\text{size})_{it} + \beta_5(leverage)_{it} + \beta_6(foreign)_{it} + \beta_6(advertising)_{it} + \delta_{i,t} + \varepsilon_{i,t}$. Tobin's Q is calculated as market value of assets over book value of assets, where market value is equal to total assets plus market equity less book equity at the end of each year t. Size is the log of market capitalization at the end of each year t, Debt is the total liabilities over total assets at the end of each year t, foreign is foreign sales to sales at the end of each year t, advertising is advertising expense to sales at the end of each year *t*..*,**,*** indicate significance levels at the 10%, 5% and 1% significance level respectively.

Illustrative Graphs

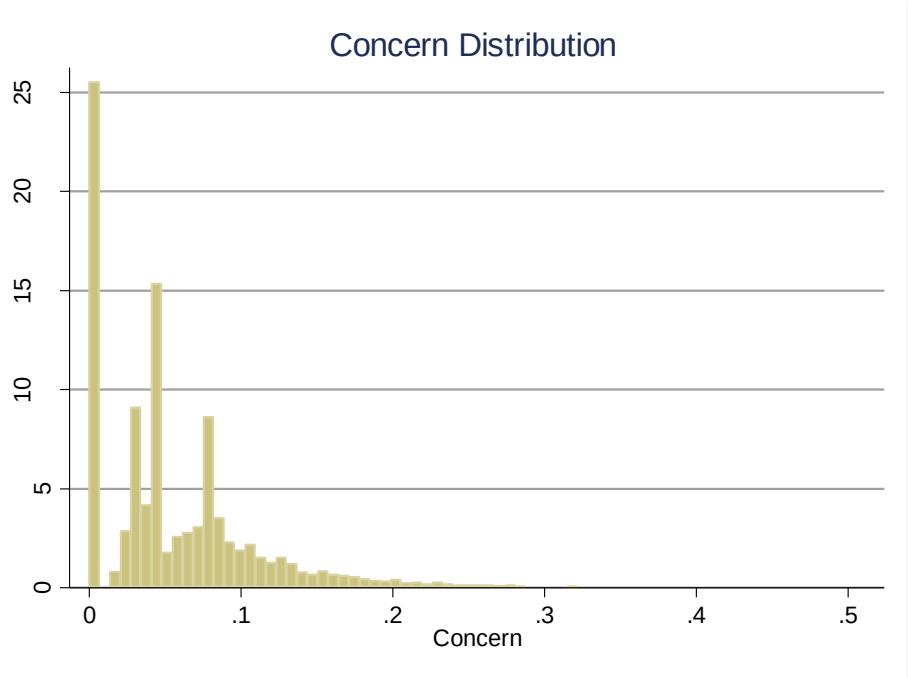
Graph One



Graph Two

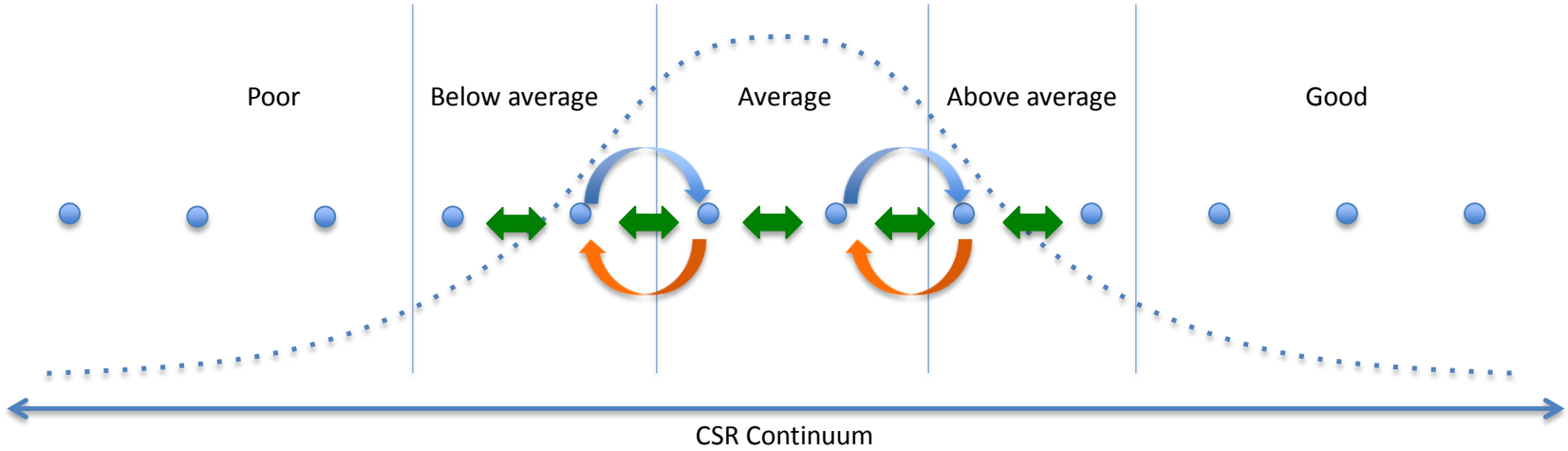


Graph Three



Graph Four

Stakeholders' approximation of a firms CSR level



KLD Categories.

Community

Strengths

Charitable Giving (COM-str-A). The company has consistently given over 1.5% of trailing three year net earnings before taxes (NEBT) to charity, or has otherwise been notably generous in its giving. In 2002, KLD renamed the Generous Giving Strength as Charitable Giving.

Innovative Giving (COM-str-B). The company has a notably innovative giving program that supports nonprofit organizations, particularly those promoting self-sufficiency among the economically disadvantaged. Companies that permit nontraditional federated charitable giving drives in the workplace are often noted in this section as well.

Non-US Charitable Giving (COM-str-F). The company has made a substantial effort to make charitable contributions abroad, as well as in the U.S. To qualify, a company must make at least 20% of its giving, or have taken notably innovative initiatives in its giving program, outside the U.S.

Support for Housing (COM-str-C). The company is a prominent participant in public/private partnerships that support housing initiatives for the economically disadvantaged, *e.g.*, the National Equity Fund or the Enterprise Foundation.

Support for Education (COM-str-D). The company has either been notably innovative in its support for primary or secondary school education, particularly for those programs that benefit the economically disadvantaged, or the company has prominently supported job-training programs for youth. In 1994, KLD added the Support for Education Strength.

Indigenous Peoples Relations (COM-str-E). The company has established relations with indigenous peoples in the areas of its proposed or current operations that respect the sovereignty, land, culture, human rights, and intellectual property of the indigenous peoples. KLD began assigning this strength in 2000. In 2002 KLD moved this strength rating into the Human Rights area.

Volunteer Programs (COM-str-G). The company has an exceptionally strong volunteer program. In 2005, KLD added the Volunteer Programs Strength.

Other Strength (COM-str-X). The company has either an exceptionally strong in-kind giving program or engages in other notably positive community activities.

Concern

Investment Controversies (COM-con-A). The company is a financial institution whose lending or investment practices have led to controversies, particularly ones related to the Community Reinvestment Act.

Negative Economic Impact (COM-con-B). The company's actions have resulted in major controversies concerning its economic impact on the community. These controversies can include issues related to environmental contamination, water rights disputes, plant closings, "put-or-pay" contracts with trash incinerators, or other company actions that adversely affect the quality of life, tax base, or property values in the community.

Indigenous Peoples Relations (COM-con-C). The company has been involved in serious controversies with indigenous peoples that indicate the company has not respected the sovereignty, land, culture, human rights, and intellectual property of indigenous peoples. KLD began assigning this concern in 2000. In 2002 KLD moved this strength rating into the Human Rights area.

Tax Disputes (COM-con-D). The company has recently been involved in major tax disputes involving Federal, state, local or non-U.S. government authorities, or is involved in controversies over its tax obligations to the community. In 2005, KLD moved Tax Disputes from Corporate Governance to Community.

Other Concern (COM-con-X). The company is involved with a controversy that has mobilized community opposition, or is engaged in other noteworthy community controversies.

Corporate Governance

In 2002 KLD renamed the Other category to Corporate Governance in order to better communicate the intent and content of
these ratings.

Strengths

Limited Compensation (CGOV-str-A). The company has recently awarded notably low levels of compensation to its top management or its board members. The limit for a rating is total compensation of less than $500,000 per year for a CEO or $30,000 per year for outside directors.

Ownership Strength (CGOV-str-C). The company owns between 20% and 50% of another company KLD has cited as having an area of social strength, or is more than 20% owned by a firm that KLD has rated as having social strengths. When a company owns more than 50% of another firm, it has a controlling interest, and KLD treats the second firm as if it is a division of the first.

Transparency Strength (CGOV-str-D). The company is particularly effective in reporting on a wide range of social and environmental performance measures, or is exceptional in reporting on one particular measure. In 2005, KLD added the Transparency Strength, which incorporates information from the former Environment: Communications Strength (ENV-str-E) as part of its content.

Political Accountability Strength (CGOV-str-E). The company has shown markedly responsible leadership on public policy issues and/or has an exceptional record of transparency and accountability concerning its political involvement in state or federal-level U.S. politics, or in non-U.S. politics. In 2005, KLD added the Political Accountability Strength.

Other Strength (CGOV-str-X). The company has a unique and positive corporate culture, or has undertaken a noteworthy initiative not covered by KLD's other corporate governance ratings.

Concerns

High Compensation (CGOV-con-B). The company has recently awarded notably high levels of compensation to its top management or its board members. The limit for a rating is total compensation of more than $10 million per year for a CEO or $100,000 per year for outside directors.

Ownership Concern (CGOV-con-F). The company owns between 20% and 50% of a company
KLD has cited as having an area of social concern, or is more than 20% owned by a firm KLD has rated as having areas of concern. When a company owns more than 50% of another firm, it has a controlling interest, and KLD treats the second firm as if it is a division of the first.

Accounting Concern (CGOV-con-G). The company is involved in significant accounting-related controversies. In 2005, KLD added the Accounting Concern.

Transparency Concern (CGOV-con-H). The company is distinctly weak in reporting on a wide range of social and environmental performance measures. In 2005, KLD added the Transparency Concern.

Political Accountability Concern (CGOV-con-I). The company has been involved in noteworthy controversies on public policy issues and/or has a very poor record of transparency and accountability concerning its political involvement in state or federal-level U.S. politics, or in non-U.S. politics. In 2005, KLD added the Political Accountability Concern.

Other Concern (CGOV-con-X). The company is involved with a controversy not covered by KLD's other corporate governance ratings.

Diversity

Strengths

CEO (DIV-str-A). The company's chief executive officer is a woman or a member of a minority group.

Promotion (DIV-str-B). The company has made notable progress in the promotion of women and minorities, particularly to line positions with profit-and-loss responsibilities in the corporation.

Board of Directors (DIV-str-C). Women, minorities, and/or the disabled hold four seats or more (with no double counting) on the board of directors, or one-third or more of the board seats if the board numbers less than 12.

Work/Life Benefits (DIV-str-D). The company has outstanding employee benefits or other programs addressing work/life concerns, *e.g.*, childcare, elder care, or flextime. In 2005, KLD renamed this strength from Family Benefits Strength.

Women & Minority Contracting (DIV-str-E). The company does at least 5% of its subcontracting, or otherwise has a demonstrably strong record on purchasing or contracting, with women and/or minority-owned businesses.

Employment of the Disabled (DIV-str-F). The company has implemented innovative hiring programs; other innovative human resource programs for the disabled, or otherwise has a superior reputation as an employer of the disabled.

*Gay & Lesbian Policie*s (DIV-str-G). The company has implemented notably progressive policies toward its gay and lesbian employees. In particular, it provides benefits to the domestic partners of its employees. In 1995, KLD added the Gay & Lesbian Policies Strength, which was originally titled the Progressive Gay/Lesbian Policies strength.

Other Strength (DIV-str-X). The company has made a notable commitment to diversity that is not covered by other KLD ratings.

Concerns

Controversies (DIV-con-A). The company has either paid substantial fines or civil penalties as a result of affirmative action controversies, or has otherwise been involved in major controversies related to affirmative action issues.

Non-Representation (DIV-con-B). The company has no women on its board of directors or among its senior line managers.

Other Concern (DIV-con-X). The company is involved in diversity controversies not covered by other KLD ratings.

Employee Relations

Strengths

Union Relations (EMP-str-A). The company has taken exceptional steps to treat its unionized workforce fairly. KLD renamed this strength from Strong Union Relations.

No-Layoff Policy (EMP-str-B). The company has maintained a consistent no-layoff policy. KLD has not assigned strengths for this issue since 1994.

Cash Profit Sharing (EMP-str-C). The company has a cash profit-sharing program through which it has recently made distributions to a majority of its workforce.

Employee Involvement (EMP-str-D). The company strongly encourages worker involvement and/or ownership through stock options available to a majority of its employees; gain sharing, stock ownership, sharing of financial information, or participation in management decision making.

Retirement Benefits Strength (EMP-str-F). The company has a notably strong retirement benefits program. KLD renamed this strength from Strong Retirement Benefits.

Health and Safety Strength (EMP-str-G). The company has strong health and safety programs.

Other Strength (EMP-str-X). The company has strong employee relations initiatives not covered by other KLD ratings.

Concerns

Union Relations (EMP-con-A). The company has a history of notably poor union relations. KLD renamed this concern from Poor Union Relations.

Health and Safety Concern (EMP-con-B). The company recently has either paid substantial fines or civil penalties for willful violations of employee health and safety standards, or has been otherwise involved in major health and safety controversies.

Workforce Reductions (EMP-con-C). The company has made significant reductions in its workforce in recent years.

Retirement Benefits Concern (EMP-con-D). The company has either a substantially under funded defined benefit pension plan, or an inadequate retirement benefits program. In 2004, KLD renamed this concern from Pension/Benefits Concern.

Other Concern (EMP-con-X). The company is involved in an employee relations controversy that is not covered by other KLD ratings.

Environment

Strengths

Beneficial Products and Services (ENV-str-A). The company derives substantial revenues from innovative remediation products, environmental services, or products that promote the efficient use of energy, or it has developed innovative products with environmental benefits. (The term “environmental service” does not include services with questionable environmental effects, such as landfills, incinerators, waste-to-energy plants, and deep injection wells.)

Pollution Prevention (ENV-str-B). The company has notably strong pollution prevention programs including both emissions reductions and toxic-use reduction programs.

Recycling (ENV-str-C). The company either is a substantial user of recycled materials as raw materials in its manufacturing processes, or a major factor in the recycling industry.

Clean Energy (ENV-str-D). The company has taken significant measures to reduce its impact on climate change and air pollution through use of renewable energy and clean fuels or through energy efficiency. The company has demonstrated a commitment to promoting climate-friendly policies and practices outside its own operations. KLD renamed the Alternative Fuels strength as Clean Energy Strength.

Communications (ENV-str-E). The company is a signatory to the CERES Principles, publishes a notably substantive environmental report, or has notably effective internal communications systems in place for environmental best practices. KLD began assigning strengths for this issue in 1996, and then incorporated the issue with the Corporate Governance: Transparency rating

Property, Plant, and Equipment (ENV-str-F). The company maintains its property, plant, and equipment with above average environmental performance for its industry. KLD has not assigned strengths for this issue since 1995.

Other Strength (ENV-str-X). The company has demonstrated a superior commitment to management systems, voluntary programs, or other environmentally proactive activities.

Concerns

Hazardous Waste (ENV-con-A). The company's liabilities for hazardous waste sites exceed $50 million, or the company has recently paid substantial fines or civil penalties for waste management violations.

Regulatory Problems (ENV-con-B). The company has recently paid substantial fines or civil penalties for violations of air, water, or other environmental regulations, or it has a pattern of regulatory controversies under the Clean Air Act, Clean Water Act or other major environmental regulations.

Ozone Depleting Chemicals (ENV-con-C). The company is among the top manufacturers of ozone depleting chemicals such as HCFCs, methyl chloroform, methylene chloride, or bromines.

Substantial Emissions (ENV-con-D). The company's legal emissions of toxic chemicals (as defined by and reported to the EPA) from individual plants into the air and water are among the highest of the companies followed by KLD.

Agricultural Chemicals (ENV-con-E). The company is a substantial producer of agricultural chemicals, *i.e.*, pesticides or chemical fertilizers.

Climate Change (ENV-con-F). The company derives substantial revenues from the sale of coal or oil and its derivative fuel products, or the company derives substantial revenues indirectly from the combustion of coal or oil and its derivative fuel products. Such companies include electric utilities, transportation companies with fleets of vehicles, auto and truck manufacturers, and other transportation equipment companies. In 1999, KLD added the Climate Change Concern.

Other Concern (ENV-con-X). The company has been involved in an environmental controversy that is not covered by other KLD ratings.

Human Rights

In 2002 KLD reorganized the presentation of data in the Non-U.S. Operations and Community category. Ratings in the Human Rights area were mostly taken from the former Non-U.S. Operations category.

Strengths

Positive Record in South Africa (HUM-str-A). The company's social record in South Africa is noteworthy. KLD assigned strengths in this category in 1994 and 1995.

Indigenous Peoples Relations Strength (HUM-str-D). The company has established relations with indigenous peoples near its proposed or current operations (either in or outside the U.S.) that respect the sovereignty, land, culture, human rights, and intellectual property of indigenous peoples. In 2000, KLD added the Indigenous Peoples Relations Strength. In 2004, KLD moved the Indigenous Peoples Relations Strength from Community to Human Rights.

Labor Rights Strength (HUM-str-G). The company has outstanding transparency on overseas sourcing disclosure and monitoring, or has particularly good union relations outside the U.S., or has undertaken labor rights-related initiatives that KLD considers outstanding or innovative. In 2002, the Labor Rights Strength was added.

Other Strength (HUM-str-X). The company has undertaken exceptional human rights initiatives, including outstanding transparency or disclosure on human rights issues, or has otherwise shown industry leadership on human rights issues not covered by other KLD human rights ratings.

Concerns

South Africa (HUM-con-A). The company faced controversies over its operations in South Africa. KLD assigned concerns for this issue from 1991 to 1994.

Northern Ireland (HUM-con-B). The company has operations in Northern Ireland. KLD assigned concerns for this issue from 1991 to 1994.

Burma Concern (HUM-con-C). The company has operations or direct investment in, or sourcing from, Burma. KLD started assigning concerns for this issue in 1995.

Mexico (HUM-con-D). The company's operations in Mexico have had major recent controversies, especially those related to the treatment of employees or degradation of the environment. KLD assigned concerns for this issue from 1995 to 2002.

Labor Rights Concern (HUM-con-F). The company's operations have had major recent controversies primarily related to labor standards in its supply chain. KLD started assigning concerns for this issue in 1998, and subsequently renamed it from International Labor Concern. KLD subsequently created the Labor Rights Concern using data from the International Labor Concern. KLD started assigning concerns for this issue in 1998.

Indigenous Peoples Relations Concern (HUM-con-G). The company has been involved in serious controversies with indigenous peoples (either in or outside the U.S.) that indicate the company has not respected the sovereignty, land, culture, human rights, and intellectual property of indigenous peoples. KLD started assigning concerns for this issue in 2000.

Other Concern (HUM-con-X). The company's operations have been the subject of major recent human rights controversies not covered by other KLD ratings.

Product

Strengths

Quality (PRO-str-A). The company has a long-term, well-developed, company-wide quality program, or it has a quality program recognized as exceptional in U.S. industry.

R&D/Innovation (PRO-str-B). The company is a leader in its industry for research and development (R&D), particularly by bringing notably innovative products to market.

Benefits to Economically Disadvantaged (PRO-str-C). The company has as part of its basic mission the provision of products or services for the economically disadvantaged.

Other Strength (PRO-str-X). The company's products have notable social benefits that are highly unusual or unique for its industry.

Concerns

Product Safety (PRO-con-A). The company has recently paid substantial fines or civil penalties, or is involved in major recent controversies or regulatory actions, relating to the safety of its products and services.

Marketing/Contracting Concern (PRO-con-D). The company has recently been involved in major marketing or contracting controversies, or has paid substantial fines or civil penalties relating to advertising practices, consumer fraud, or government contracting. (Formerly: Marketing/Contracting Controversy)

Antitrust (PRO-con-E). The company has recently paid substantial fines or civil penalties for antitrust violations such as price fixing, collusion, or predatory pricing, or is involved in recent major controversies or regulatory actions relating to antitrust allegations.

Other Concern (PRO-con-X). The company has major controversies with its franchises, is an electric utility with nuclear safety problems, defective product issues, or is involved in other product-related controversies not covered by other KLD ratings.