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Does it pay to outclass? Corporate Social Responsibility and its impact on Firm Value

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ABSTRACT

We show that conventional aggregation of corporate social responsibility (CSR) raw scores and its interpreted impact on firm value is less than reliable. Instead, the value impact of CSR activities relies heavily on the industry-specific relative position of the firm. Firms that distinguish themselves over their peers are associated with an increased value. This finding is robust and holds for both responsible and irresponsible behavior. Information concerns and portfolio construction allude to a possible CSR clientele, suggesting the existence of an optimal CSR level. Our peer-effect results are robust to unobserved heterogeneity.

JEL Classification: G10, G32
Keywords: Corporate Social Responsibility, CSR, Corporate Governance, Firm Value, Stakeholder, Asset Pricing, Environmental

Over the last decade, corporate social responsibility (CSR) has become a dominant paradigm in the corporate world. In fact, many corporations devote significant attention to CSR by dedicating segments of their annual reports and websites, incorporating CSR into their marketing strategy, and perhaps even considering CSR when setting strategic goals. Given the increasingly pervasive nature of CSR, do such activities enhance firm value, or do they satisfy stakeholders at the expense of long-term wealth creation? The academic community seems deeply divided on the topic (see Di Giuli and Kostovetsky (2014), Servaes and Tamayo (2013), Jiao (2010), Orlitzky, Schmidt and Rynes (2003), and Margolis, Elfenbein and Walsh (2009)), furthermore the problem is compounded by econometric and theoretical concerns and differences across studies.

Current evidence suggests CSR has been shown to enhance the reputation of a firm (Carroll and Shabana (2010) and Servaes and Tamayo (2013)), reduce idiosyncratic risk (Bassen, Meyer and Schlange (2006), McWilliams and Siegel (2001), and Lee and Faff (2009)), proxy for competent management (Renneboog, Ter Horst and Zhang (2008a) and Renneboog, Ter Horst and Zhang (2008b), and enhance credit ratings (Jiraporn, et al. (2013)). These CSR related benefits are in part attributable to stakeholder management (Carroll and Shabana (2010)), which in turn imparts value to firms (Jiao (2010)), or as some preliminary work suggests enhance revenue (Flammer (2012)). Broad consensus on the economic impact of CSR is still missing (Di Giuli and Kostovetsky (2014) and Servaes and Tamayo (2013)). Regardless, any potential CSR benefits[1] depend in some respect on the visibility of the prosocial behavior of the firm to stakeholders (Servaes and Tamayo (2013) and Cho, Lee and Pfeiffer Jr. (2013)). It is possible that reducing the asymmetric nature of CSR information is the key for firms wanting to extract benefits from CSR, and a contributing factor to the lack of academic consensus. However, a firm's ability to promote its prosocial behavior is restricted as stakeholders discount any behavior they perceive as "reputation buying." (Bénabou and Tirole (2006), Bénabou and Tirole (2010), and Glazer and Konrad (1996)).

[1] For example employee, customer, community, and supplier loyalty; see discussion in Carroll and Shabana (2010).

Instead, they value altruism. Simply put, the value impact of CSR could depend heavily on stakeholder welfare/perception and the markets' ability to price it.[2]

Recently, Jiao (2010), El Ghoul, et al. (2011), and Flammer (2012) have shown strong support for a positive relationship between CSR and firm value, while Servaes and Tamayo (2013) and Di Giuli and Kostovetsky (2014) have downplayed the relationship or presented contrary findings. We add to the debate by evaluating whether the relative level of CSR (as opposed to the absolute level) conforms to a generalized positive expectation. Inspired by investors constructing best-in-class or worst-in-class CSR portfolios to extract superior returns (Statman (2000), Statman and Glushkov (2009), and Renneboog, Ter Horst and Zhang (2008b)), we consider that the relationship between CSR and firm value may not be linear based on raw CSR metrics. On the other hand, shareholders (stakeholders) evaluate a firm's CSR profile relative to its peers when investing (engaging). This behavior in turn influences the market-based (stakeholder) benefits transferred to the firm and ultimately alters the correlation between CSR and firm value.

Using proprietary data from Kinder, Lydenberg, and Domini (KLD),[3] we show that the relationship between CSR quality (the mix of responsible and irresponsible behavior) and firm value is ambiguous when considering CSR raw scores. Both responsible and irresponsible behaviors positively affect firm value but the impact is more meaningful in terms of the magnitude and statistical significance of responsible behavior. Importantly, it is also arguable that CSR activities are, in part, endogenously determined by the firm's environment, which differs across firms in observable and unobservable ways. Firm-specific factors such as management talent, firm culture, and stakeholders could drive specific CSR activities or policies.[4] In econometric terms, failing to account for firm-specific characteristics could bias

[2] Whether investors can price CSR is debatable; see Renneboog, Ter Horst and Zhang (2008a).
[3] The majority of the CSR literature uses the KLD database. Some examples include Jiao (2010), El Ghoul, et al. (2011), Servaes and Tamayo (2013), and Cho, Lee and Pfeiffer Jr. (2013).
[4] Unobserved heterogeneity is prevalent in a number of governance issues (Adams and Ferreira (2009), Chi (2005), and Himmelberg, Hubbard and Palia (1999)).

the correlation between CSR and firm value if these characteristics are significantly correlated with the proxies for CSR. After controlling for unobserved heterogeneity (Gormley and Matsa (2013)), the positive value impact of responsible behavior turns negative and statistically significant.

This result informs the debate around the inconsistency in the literature about whether CSR quality has an impact on firm value, as some of the inconsistencies are attributable to unobserved characteristics such as management talent.

In this paper, we propose an alternative way of assessing CSR quality/profile of a firm by constructing peer groups to account for the relative CSR standing of a company within its industry. We document that higher firm value is achieved only when firms are above average (in the 60^{th} to 80^{th} percentile) in terms of their CSR (both responsible and irresponsible behavior). Below average firms experience insignificantly negative effects while the average firms (e.g. 40^{th} to 60^{th} percentile) are greeted with a null effect. Interestingly, well-behaved firms (80^{th} to 100^{th} percentile) do not benefit significantly from the boosted firm value. The intriguing results are found on the irresponsible behavior side. Firms with more severe concerns relative to others in the same industry are associated with higher firm value. These results are even monotonic in their direction and significant across average to above average groups. Overall, our findings support our notion that investors (stakeholders) incorporate a firm's relative CSR position when investing (engaging), possibly inducing an investment clientele.

Our peer-effect results are robust to the inclusion of firm fixed effects in contrast with the raw CSR scores, indicating that CSR affects firms financially, regardless of firm-specific factors, but with respect to relative CSR. Our results are also consistent when evaluating the impact of customer awareness on the CSR–CFP relationship.

In addition to documenting a possible *clientele effect* in CSR, this paper cautions against the use of aggregate absolute CSR measures. Our results underscore the understanding that corporate socially responsible behavior (doing the right thing) and corporate socially irresponsible behavior (doing the

wrong thing) are not perfect opposites (Arora and Dharwadkar (2011) and Chatterji, Levine and Toffel (2009)). Furthermore, our findings stress the importance of industry (Fernández-Kranz and Santaló (2010)) as we present a significant difference in the relationship between CSR and firm value across industries when not explicitly adjusting the CSR measure for industry. We propose analyzing CSR on a relative basis in order to overcome these issues, as our peer dummies are consistent across industries and remain consistent when controlling for unobserved heterogeneity

A. Related Literature

As alluded to earlier, corporate socially responsible behavior and corporate socially irresponsible behavior are not perfect opposites (Arora and Dharwadkar (2011)). Several studies (Servaes and Tamayo (2013),Di Giuli and Kostovetsky (2014), Bénabou and Tirole (2006), Chatterji, Levine and Toffel (2009), and Statman and Glushkov (2009)) highlight this issue and lament the aggregation of CSR across categories and between responsible and irresponsible behavior. Cho, Lee and Pfeiffer Jr. (2013) stress the importance of separately considering the impact of responsible and irresponsible CSR behavior. They show that the market's ability to process information differs between positive and negative behavior, perhaps due to differential information asymmetries and divergent opinions around the impact of positive and negative CSR. Some of the mixed findings present in the literature stem from inadvertently assuming that positive behavior and negative behavior share homogenous information costs, inverse performance effects, and the same cost–benefit tradeoff. As a result, we account for negative and positive behavior separately in our study.

The issues relating to responsible and irresponsible behavior are indicative of the informational concerns relating to CSR. The evidence suggests that CSR is mispriced by the market (Renneboog, Ter Horst and Zhang (2008a), Kempf and Osthoff (2007), and Statman and Glushkov (2009)). Fortunately, timely accurate CSR disclosure or increased visibility in part reduces these asymmetries (Dhaliwal, et al. (2012) and Ramchander, Schwebach and Staking (2012)). Notwithstanding these issues, market

participants face heterogeneous search costs and processing ability relating to CSR. These differences are compounded by the heterogeneous utility functions among investors (stakeholders) (Bollen (2007)). Bénabou and Tirole's (2006) incentive model for prosocial behavior suggests that the motivation behind CSR is key to market participants' utility. They conclude that the relative size of a firm's CSR should be used as a proxy for a firm's true CSR (Bénabou and Tirole (2010), Bénabou and Tirole (2006), and Glazer and Konrad (1996)). As a result, the asymmetric information or information opacity around CSR (Cho, Lee and Pfeiffer Jr. (2013)), coupled with the market's heterogeneous capacity and desire to price the complexities of CSR, could undermine the assumption that all aspects of CSR are uniformly, timely, and linearly priced. Even if CSR information were perfectly symmetric and freely accessible by market participants, the participants' reaction or non-reaction to the information would be heterogeneous depending on their utility function and the relative score of the firm's CSR. We posit that the asymmetry present in the market's ability to search, process, and value CSR would distort the relationship between CSR and CFP.

We employ a methodology that is amenable to the presence of arbitrary thresholds such as those found in socially responsible investment (SRI) funds which employ arbitrary CSR screens based on a best/worst-in-class criteria (Statman and Glushkov (2009) and Kempf and Osthoff (2007)). Of the CSR criteria employed by SRI funds, negative screening appears to be the most well accepted and simplest form of selecting securities (Bénabou and Tirole (2010) and Lee and Faff (2009)) but not necessarily the most effective (Statman and Glushkov (2009)). We therefore specifically ascertain whether the CSR–CFP relationship is heterogeneous at different levels of CSR following our peer group hypothesis.

Theoretical models (Heinkel, Kraus and Zechner (2001)) predict that SRI and, by extension, stakeholder activity would drive firms to increase their participation in CSR (Merton (1987)). This is echoed in the findings of Barnett and Salomon (2006) who document a curvilinear relationship between CSR investment screens and returns; with more screens being associated with lower returns initially and

higher returns at the extreme ends. Conversely, Flammer (2012) advocates that the benefit of CSR declines marginally as investment in responsible activities are increased. It is conceivable that the CSR–CFP relationship may not be strictly linear, and may in fact be curvilinear. In this paper, we test whether the CSR–CFP relationship is curvilinear and find that curvilinearity is indeed present but not robust to the presence of peer group dummies.

Second, although investors' and stakeholders' perception of the firm's CSR may change based on new information, an inertia, such as contractual obligations, barriers to entry, transaction costs, etc., could inhibit the market from adjusting to it. The consequence is twofold. On the one hand, the benefits of CSR may be present several periods after the CSR outlay, undermining the ability to capture the full effect of CSR. We address this concern by employing different lag specifications and using a first differenced approach. On the other, our peer group hypothesis may suffer as firms would be less likely to experience a hard threshold but more of a soft transitional zone as perception of the firm adjusts. These factors in turn could reduce the ability to capture a relative CSR phenomenon. Figure 1 displays an approximation of the potential impact that shareholder (stakeholder) perception could have on firm value. It attempts to illustrate how investors and other stakeholders perceive CSR, as the strength of this perception has an impact on the relationship between CSR and firm value. Market participants have difficulty perceiving a firm's actual CSR quality due to information asymmetry and opacity along with the costs associated with collecting and analyzing CSR information. We contend that, instead, the market classifies firms into groups with similar CSR levels based on their perception. Therefore, a change in a firm's actual level of CSR would only affect perception and, by extension, impact firm value, if the firm "moves" into a different grouping.

<PLEASE INSERT FIGURE 1 NEAR HERE>

I. Data and Methodology

A. Data

This study is principally based on the Environmental, Social and Governance (ESG) ratings developed by KLD, which is a proprietary database that rates securities from 1991 onward on the Russell 3000 according to various measures. The ratings fall within seven categories relating to community, corporate governance, diversity, employee relations, environment, human rights, and product. The KLD data also rate securities in the alcohol, gambling, firearms, military, nuclear power, and tobacco industries according to exclusionary screening criteria. Each category has several subcategories representing possible *strength* or responsible behavior (positive points) and *concern* or negative behavior (negative points). KLD analysts rate firms on their various CSR characteristics annually by assigning a binary point to several subcategories within each aforementioned category.

It is important to note that the *strength* and *concern* scores within each category are not perfect opposites, nor are there equal amounts of possible *strength* and *concern* criteria within each category or across categories. We exclude stocks (unless otherwise stated) that have been marked as controversial and stocks that were examined by KLD but failed to receive a score, in line with the literature. The KLD data have been extensively covered in the literature, being the basis of many studies relating to CSR.[5] The usual aggregation method of KLD takes the sum of *strength* net of *concern* for each category

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

and aggregates this into an overall score

$$CSR_t = \sum_{j=1}^{7} CSR_t^j, \quad (2)$$

[5] See Chatterji, Levine and Toffel (2009), Galema, Plantinga and Scholtens (2008), Statman and Glushkov (2009), Jiao (2010), Servaes and Tamayo (2013), Cho, Lee and Pfeiffer Jr. (2013), and El Ghoul, et al. (2011) for the use of the KLD dataset.

where CSR_t^j is the aggregated CSR score for category *j* in year *t*. Similarly, $strength_s^j$ is equal to 1 if the firm meets *strength s* in category *j*, otherwise 0; $concern_r^j$ is equal to 1 if the firm meets *concern r* in category *j*, otherwise 0.

As KLD data are binary with a heterogeneous amount of *strength* and *concern* criteria allocated across various subcategories, it could be misleading to look at a firm's ultimate score. First, the result of the "netting off" process would obscure information, as *concern* and *strength* are not perfect opposites. Netting off erroneously assumes all binary points are equal and opposite. The number of possible points varies not only across *strength* and *concern* categories but also over subcategories; it then becomes difficult to interpret the meaning of a whole number. Furthermore, comparing and ranking CSR scores across firms proves difficult if the range of possible CSR scores is confined to only several integers. In this study, each firm is assigned a percentage of possible points for both *strength* and *concern*, referred to as their level of CSR. This allows us to compare a firm's performance across subcategories, between *strength* and *concern*, and across years. For example, if a firm scored one 1 of the possible 4 for the *strength* section of the environmental category, it would be modified to 0.25, as there were four possible points available, but only one point was awarded. Following, if the firm also scored 2 from a possible 10 points for the *concern* section of the environmental category, a percentage score of 0.2 would be awarded. Under the binary system, the firm would have a net score of –1 (one *strength* less two *concerns*), while as a percentage the firm would have a Net CSR score of 0.05 (0.25 *strengths* less 0.2 *concerns*). Formally, our aggregation takes the following form

$$CSR_t^j = \frac{\sum_{s=1}^{u_t^j} strength_s^j}{u_t^j} - \frac{\sum_{r=1}^{k_t^j} concern_r^j}{k_t^j} \tag{3}$$

with an overall score of

$$CSR_t = \sum_{j=1}^{7} \frac{CSR_t^j}{7}. \tag{4}$$

The KLD data are matched with data from the Center for Research in Security Prices (CRSP) for the period 1991 to 2009. We 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 CRSP Link.

A.1. Variables

A.1.1 Firm Value

Awkwardly, CSR is the sum of many policies, procedure, activities, costs, and assets implemented fully or in part. The inherent structure of CSR undermines our ability to link the costs or measurement of CSR with its potential benefits. CSR benefits might accrue several periods after the initial outlay or only once investment reaches a critical mass. Traditional performance measures, such as return on assets, might be incapable of recognizing the long-term impact of CSR. We employ Tobin's Q as our measure of performance. Tobin's Q aims to incorporate the markets' adjustment to the firm's value with respect to CSR's effect on the present value of future cash flows and the value generated from the asset base. In line with the literature (Bebchuk and Cohen (2005)), we calculate Tobin's Q as market value of assets over book value of assets, where market value is equal to book value of assets plus market value of common stock less sum of book value of common stock. Concerns have been raised regarding measurement errors contained in Tobin's Q.[6] However, given that Tobin's Q is the dependent variable in our analysis and Greene's (2007) assertion that "… measurement error in the dependent variable can be absorbed in the disturbance of the regression and ignored …" (p. 326), we consider that, in the absence of an accessible, well-established alternative, any measurement errors, if present, should not materially impact our analyses (Jiao (2010)).

[6] For an informative discussion, see Erickson and Whited (2000), Almeida, Campello and Galvao (2010), and Erickson and Whited (2012).

A.1.2. Control Variables

Drawing on previous work linking Tobin's Q and CSR, we include the following control variables in our analysis: firm size = natural logarithm of total assets; leverage = total liabilities over total assets; turnover = natural logarithm of average monthly volume over shares outstanding at the end of each year *t*; return on assets (ROA) = earnings before interest and tax (EBIT) to total assets; advertising = advertising expense over sales; research and development (R&D) = R&D expenditure over sales; capital expenditure (CAPEX) = CAPEX over total assets; and sales growth = change in sales at time *t* with respect to *t–1*.[7]

B. Descriptive Statistics

Table I presents the number of firms assessed by KLD for each year matched with CRSP Link. Table II shows the descriptive statistics of the CSR subcategories, while Table III shows the financial characteristics of the firms. Table IV presents the shift in CSR scores over time and the average yearly score of *strength*, *concern*, and *Net-CSR*.

<PLEASE INSERT TABLE I NEAR HERE>

<PLEASE INSERT TABLE II NEAR HERE>

<PLEASE INSERT TABLE III NEAR HERE>

<PLEASE INSERT TABLE IV NEAR HERE>

Figure 2 illustrates firm distribution along the *Net-CSR strength*, and *concern continuums*. These figures illustrate the distribution of CSR percentage scores, as computed using equations (3) and (4), for the sample firms. The prevalence of firms that fail to score is apparent, contributing to the significantly skewed distributions. Furthermore, a noticeable gap exists between firms that do not attract a CSR score

[7] We assign missing values to zero to ensure a robust sample size (Himmelberg, Hubbard and Palia (1999)).

and those that do. Second, firms' *concern* scores appear to experience similar jumps or trenches at higher levels; a similar pattern is apparent for *Net-CSR* and, although less apparent, for *strength*.

<PLEASE INSERT FIGURE 2 NEAR HERE>

C. Peer Groups

To account for information asymmetry, search costs, and heterogeneous utility functions among market participants, we define five peer groups based as closely as possible on quintiles.[8] In Figure 1, we attempt to capture the possible groupings that may exist based on investors' perception or ranking of firms in terms of CSR. Although arbitrary, it is likely that investors' screens are no more arbitrary or simple.[9] We define peer groups as follows: For *strength* and *concern*, peer group 1 represents firms with a score of zero; peer group 2, firms in the 40th percentile and below; peer group 3, the 40th to 60th percentiles; peer group 4, the 60th to 80th percentiles; and peer group 5, the 80th percentile and above.

Accounting for potential institutional and stakeholder norms within each industry, we assume that firms are perceived relative to their industry peers and not to the market as a whole. To ensure even representation, each firm is classified into one peer group depending on its industry, for each year. This mitigates any CSR shift that occurs over time. We further require an industry, based on two-digit Standard Industrial Classification (SIC) codes, to have at least 30 firms per year per industry for the whole study.[10] Defining peer groups for industries with small erratic samples proved difficult, as there are not enough firms to fill each of the peer groups every year, and not enough variability between each

[8] For *strength* and *concern*, it is impossible to divide the sample into true quintiles; far too many firms have a score of 0, so we approximate as best as we can.

[9] Funds tend to define their CSR screens arbitrarily when constructing portfolios (Kempf and Osthoff (2007)); additionally, individual or less sophisticated investors are unlikely to have the capacity for complex CSR screens, similar to portfolio diversification (Goetzmann and Kumar (2008)).

[10] The manufacturing (Division D: SIC codes 20 through 39), transportation (Division E: SIC codes 40 through 49), finance (Division H: SIC codes 60 through 67), and services (Division I: SIC codes 70 through 89) industries qualify.

firm's level of CSR to designate peer group breakpoints. This reduces our sample from over 23,000 firm years to 19,605 but it remains well over 80% of our original sample.[11]

D. Methodology

We proxy for firm value with Tobin's Q and control for firm size (natural logarithm of total assets), leverage (total liabilities over total assets), turnover (the natural logarithm of average monthly volume over shares outstanding at the end of each year *t*), ROA (EBIT over total assets), advertising intensity (advertising expense over sales), R&D intensity (R&D expenditure over sales), CAPEX expenditure (CAPEX over sales), and sales growth (change in sales at time *t* with respect to *t–1*). We include industry (defined by two-digit SIC codes) and year fixed effects, and cluster standard errors at the firm level. Following on from our earlier discussion, we construct a model similar to that found in the existing literature but distinguish between responsible and irresponsible behavior.

Specifically, we use

$$Tobin's\ Q = \alpha + \beta_1{}'CSR + \beta_2{}'Y + \varepsilon_{i,t}. \quad (5)$$

We build on equation (5) by incorporating peer group dummy variables D_{it} to account for a firm's relative standing among its peers. If a firm fell within one of these peer groups at the end of time *t–1*, the associated dummy would take the value of 1, otherwise 0.

This gives us

$$Tobin's\ Q = \alpha + \beta_1{}'CSR + \beta_2{}'D_{it} + \beta_3{}'Y + \varepsilon_{i,t}, \quad (6)$$

where $'CSR$ is the vector of CSR measures, namely *concern* and *strength*; $'D_{it}$ is the vector of dummy variables indicating peer groups for *concern* and *strength*, respectively; and $'Y$ is the vector of control variables.

[11] We also employ two other methods to define peer groups for robustness but do not report the results in the interest of parsimony.

II. Results

We start by examining whether responsible and irresponsible behavior held separately still conforms to the expected CSR–CFP relationship. Following equation (5), we employ a pooled ordinary least squares (OLS) regression and regress firm value on CSR. We include control variables, industry (two-digit SIC code) and year fixed effects, and cluster standard errors at the firm level. Model 1 of Table V presents the results of firm value as a function of responsible and irresponsible behavior (*strength* and *concern*, respectively). Notably, the coefficient for responsible behavior (*strength*) is positively significant, while the coefficient for irresponsible behavior (*concern*) is insignificant.

<PLEASE INSERT TABLE V NEAR HERE>

This finding confirms our suspicion that responsible and irresponsible behavior may be associated differently with firm value. Next, we model the same relationship but include firm-level fixed effects (FE) to control for unobserved heterogeneity that could be correlated with CSR. We regress a panel data model with firm value as a function of responsible and irresponsible behavior along with control variables, year and industry fixed effects, and cluster standard errors at the firm level. Interestingly, once we control for the unobserved heterogeneity across firms, the *strength* coefficient changes sign and becomes significantly negative, while the *concern* coefficient remains insignificant. The inconsistency of the *strength* measure across the OLS and FE approaches in models 1 and 2 is troubling.[12] We consider that CSR, or at least *strength,* is correlated with certain unobserved firm-specific characteristics that affect firm value, akin to talent or culture within the firm. In addition, Chatterji, Levine and Toffel (2009) allude to the negligible value of the *strength* measures in their criticism of the KLD measures.

[12] Servaes and Tamayo (2013) also noted a tendency for CSR measures to be sensitive to fixed effects, although our results not only indicate a change of sign, but also a maintained significance. In addition, we document that the likely origin of this effect lies with *strength*, not necessarily with *concern.*

These results appear to contrast with previous work linking CFP and CSR, but we are mindful of such an interpretation. We must stress that we account for *strength* and *concern* separately and that the "net" measure of CSR likely accounts for the discrepancy. Our results suggest giving careful consideration when "netting off" the "good" and "bad" aspects of a firm. Ultimately, it is likely that each individual CSR aspect (as measured by KLD), whether a *strength* or *concern*, affects the firm uniquely and over different periods and be interpreted by different stakeholders heterogeneously

Models 3 and 4 in Table V employ equation (6), which includes peer group dummy variables $'D_{it}$. These peer dummies capture any groupings implied by investors when analyzing firms along a CSR continuum. Heterogeneous information constraints and utility functions could lead investors and stakeholders to value CSR differently, inducing striations along the CSR–CFP continuum similar to a clientele effect. By implication, the financial effect of CSR would be present as a firm moves across striations or into clienteles. We construct these peer groups in an attempt to capture any differences in the markets' CSR appetite. Again, model 3 employs a pooled OLS approach, contrasted with model 4, which utilizes an FE approach. Both the models include dummy variables (*peer dummy 2* through *peer dummy 5*) taking the value of 1 if a firm falls within a specific quintile for either *strength* or *concern.*

The CSR coefficients for responsible and irresponsible behavior are inconsistent across the OLS and FE models, with *strength* significant at all times. In contrast, a firm's relative grouping, proxied by the dummies, not only is significant, indicating certain trenches of the market in CSR terms are associated with higher levels of value but these results also are consistent across both the OLS and FE models. It seems that above average and high levels (*peer dummy 4* and *peer dummy 5*) of responsible behavior (*strength*), relative to firms with no CSR, is associated with a Tobin's Q that is 6.5% higher (e.g., if *peer dummy 5* took the value of 1, Tobin's Q is expected to be higher by 0.130 and this increase of 0.130 over the mean Tobin's Q of 2 is 6.5%) at a 1% significance level under OLS (model 3). Similarly, above

average levels of responsible behavior (*peer dummy 4*) are associated with a Tobin's Q that is 4.5% higher at 5% significance with an FE approach.

The results for irresponsible behavior provide striking ground for greater exploration. Apparently, a moderate to high level (*peer dummy 3* through *peer dummy 5*) of irresponsible behavior (*concern*) is associated with a higher level of firm value. A moderate level of irresponsible behavior (*peer dummy 3*), modeled with OLS, is associated with a Tobin's Q 7.5% higher at 1% significance. The findings remain positively significant for the FE model where a high level of irresponsible behavior (*peer dummy 5*) is associated with a Tobin's Q 6.3% higher at 1% significance. We consider firms heavily constrained by restrictive CSR policies are unable to exploit lucrative, albeit controversial, opportunities. Furthermore, accessing controversial opportunities is not mutually exclusive to engaging in some responsible behavior. We contend that firms that best manage the delicate interplay between responsible and irresponsible behavior extract the greatest return from CSR over firms that shun irresponsible behavior in favor of responsible behavior.

A. Intra-Industry Analysis

Next, we investigate whether the relationship between CSR and value is consistent across industries. Again, we build on equation (5) by interacting each of the CSR measures with industry dummies $'CSR_{it} * IND_{it}$ to capture the incremental impact of CSR on firm value per industry. Specifically,

$$Tobin's\ Q = \alpha + \beta_1'CSR + \beta_2'CSR_{it} * IND_{it} + \beta_3'Y + \varepsilon_{i,t}. \quad (7)$$

Models 5 and 6 in Table V represent the results for the OLS and FE approaches respectively, using equation (7). If all industries had similar institutional norms with respect to CSR, the interaction terms should remain insignificant. However, our results indicate otherwise. The interaction terms of responsible and irresponsible behavior in the transport industry (*strength*transport industry dummy* and *concern*transport industry dummy*) are significant for both the OLS and FE models. All the *strength*

interaction terms are significant in the OLS model with the transport and finance industries indicating significant and opposite signs. The size and sign of the coefficients for the transport and finance industries in economic terms implies no association between value and CSR, with only the service industry indicating a relationship that might be more pronounced than that found in the manufacturing industry. The evidence suggests that simply including industry fixed effects could underestimate the differences across industries. CSR potentially affects firm value in opposite directions across industries, not just at different levels.

In Table VI we model equation (6) again but restrict our sample to each of the four industries in turn. The manufacturing, services, and transportation industries are most sensitive to CSR and peer dummies. Similar to our earlier findings, *strength* is sensitive to FE, while the peer dummies remain consistent, albeit less pronounced, with our previous results. The results of our industry analysis are, in part, attributable to the smaller sample sizes, as manufacturing has the strongest results and the largest sample. The great number of control variables and fixed effects in the smaller industries could reduce the power of the models. Notably, only the finance industry has a marginally significant result under OLS for our *concern peer dummy 3* that is not consistent with the previous findings, although the effect disappears under FE.

<PLEASE INSERT TABLE VI NEAR HERE>

Overall, the results indicate that the value impact of responsible behavior is inconsistent across the OLS and FE models, as well as across industries. The evidence supports the notion that market participants evaluate firm CSR relative to the CSR present in the market. Additionally, it seems that above average levels of responsible behavior are associated with higher levels of firm value regardless of the estimation technique. More surprisingly, irresponsible behavior may also be associated with higher levels of firm value. Our peer group dummies show a consistent highly significant correlation between moderate to high levels of *concern* and high levels of firm value. The industry level analysis indicates that

not only does the level of CSR differ across industries, but also the direction of value impact may differ. Although our peer dummy results weaken when industries are analyzed separately, the results remain consistent. We contend that the lack of power speaks to this effect and that our peer dummies offer a more consistent measure of the value impact of CSR across industries when compared with the earlier industry results.[13]

III. Robustness

A. Curvilinear function

As discussed previously and alluded to in previous work (Flammer (2012)), CSR may affect firm value in a curvilinear fashion, perhaps due to marginally reducing returns. As a result, the dummies in our model may be criticized for capturing the quadratic nature of CSR. We modify equations (5) and (6) into equations (8) and (9), respectively, to include squared terms of the CSR variables ($'CSR\text{^}2_{it}$) to capture any curvilinear concern, specifically

$$Tobin's\ Q = \alpha + \beta_1'CSR + \beta_2'CSR\text{^}2_{it} + \beta_3'Y + \varepsilon_{i,t} \quad (8)$$

and

$$Tobin's\ Q = \alpha + \beta_1'CSR + \beta_2'CSR\text{^}2_{it} + \beta_3'D_{it} + \beta_4'Y + \varepsilon_{i,t}. \quad (9)$$

Using a pooled ordinary least squares (OLS) approach in model 1 of Table VII, we regress firm value as a function of the square of the responsible and irresponsible behavior in accordance with equation (8). The results, at first, indicate that CSR does indeed conform to some curvilinear functional form with respect to firm value. Both the coefficients of *strength* and *concern* are significant and positively associated with firm value, while those of *strength*^2 and *concern*^2 are negative and

[13] Possibly with the exception of the finance industry.

significant. Consistent with our earlier findings, the FE results presented in model 2 fail to support the OLS regression where all the CSR coefficients become insignificant, with *strength* again changing signs. Next, we combine the squared CSR terms with the peer group dummies. The OLS and FE results are represented in models 3 and 4, respectively, in Table VII.

<PLEASE INSERT TABLE VII NEAR HERE>

Our peer dummies remain significant and consistent across the OLS and FE approaches even in the presence of squared CSR terms. The significance and magnitude of the *strength* and *strength*^2 variables fall while *concern* and *concern*^2 become insignificant. All significance is lost for the CSR variables in the presence of firm fixed effects and most experience a sign change, while the peer dummy variables remain consistent and significant. We do not suspect that a curvilinear aspect of CSR drives our peer dummies. However, we provide some evidence to suggest that CSR has a curvilinear functional form.

B. Lags

The financial benefits associated with CSR might not accrue to the firm instantly upon taking a certain CSR position, especially if those benefits depend on investors rebalancing their portfolios (or stakeholders adjusting their behavior toward the firm). Therefore, a significant lag between implementing CSR and accruing tangible benefits recognizable by investors could exist. The inconsistent performance of our CSR measures might stem from a timing issue. In Table VII, models 5 through 8, we build on equations (5) and (6) to include a *t–1* lag of the CSR measures to capture the potential performance lag associated with CSR. However, in the interest of parsimony, we have not reported the qualitatively similar results for lags of different lengths, specifically

$$Tobin's\ Q = \alpha + \beta_1{}'CSR + \beta_2{}'CSR_{it-1} + \beta_3{}'Y + \varepsilon_{i,t} \quad (10)$$

and

$$Tobin's\ Q = \alpha + \beta_1'CSR + \beta_2{}'CSR_{it-1} + \beta_3{}'D_{it} + \beta_4{}'Y + \varepsilon_{i,t}. \quad (11)$$

Comparing models 5 and 6, the OLS and FE approaches, respectively, responsible behavior is again inconsistent across OLS and FE. The concern lag, *L1.Concern*, is positive and significant across both models. The results suggest that irresponsible behavior in *t–1* could be associated with higher levels of firm value at time *t*. In the presence of peer dummies (models 7 and 8), *L1.Concern* is insignificant and changes signs. Our peer dummies maintain their significance and signs across both the models in the presence of lags.[14] We posit that a dynamic model is likely to represent the true nature of CSR; however, the market's ability to anticipate the dynamic nature of CSR is captured by the peer dummies instead.

C. Endogeneity

Any discussion about CSR's link with CFP will in due course have to address the endogenous nature of CSR and firm performance. We do not believe that we can effectively eliminate all endogeneity concerns in this study. First, the quantification of a qualitative process such as CSR will undoubtedly introduce measurement error, which ultimately leads to a correlation between the CSR variables and the error term, a problem that will only diminish as our ability to standardize and better quantify CSR increases. Furthermore, it is conceivable that firms adjust their CSR spending based on their access to funds, which in turn is dependent on the firm's financial performance. It follows that increases in firm performance lead to more disposable funds, which could precipitate increases in CSR spending. One potential reprieve from this endogenous cycle is our finding that irresponsible behavior is associated with higher levels of firm value. Although plausible, it is highly unlikely that firms would increase irresponsible behavior in response to an increase in disposable funds. Responsible behavior is usually costly, while irresponsible behavior is often brought about by inaction, cost cutting, poor management, and/or safety procedures. In theory, it is highly unlikely that the results linking moderate to high levels of irresponsible behavior with higher levels of firm performance are purely endogenous. Moreover, the

[14] We construct a firm's peer group at time *t* based on the relative standing of the firm at time *t–1*. In effect, our peer groups could capture any lag associated with CSR, information, and financial benefits indirectly.

construction of our dummies represents a firm's relative level of CSR with respect to its industry at the end of the previous year. We contend that observing firms relative to each other reduces the absolute impact of a change in CSR and, in so doing, some of the endogeneity, as well as the lagged nature of CSR, is mitigated. Nonetheless, to increase the robustness of our results, we estimate the first difference estimator based on equation (6), as

$$\Delta Tobin's\ Q = \alpha + \beta_1'\Delta CSR + \beta_2'\Delta D_{it1} + \beta_3'\Delta Y + \Delta\varepsilon_{i,t}. \quad (12)$$

Model 9 of Table VII presents the results of a first-differenced estimator approach, regressing a change in firm value (ΔTobin's Q) as a function of a change in responsible and irresponsible behavior, peer group dummy variables, control variables, year and industry fixed effects, and clustered standard errors at the firm level. In line with the FE results, responsible behavior is again negatively associated with value. However, irresponsible behavior is significantly negative at the 1% level. This result contrasts with our earlier findings where irresponsible behavior is linked to higher levels of value. Economically, the result implies that a 10% increase in the average level of *concern* associates with a 0.15% reduction in the average level of Tobin's Q. The economic impact of increasing or decreasing irresponsible behavior, although significant according to these results, might be lost. More importantly, our peer dummies indicating irresponsible behavior are significantly positive at the 5% and 10% levels; those for responsible behavior are insignificant. Firms shifting into the top quintile of irresponsible behavior (*Peer dummy 5 (concern)*) incur an associated increase in firm value of 3%, as measured by Tobin's Q, not an economically insignificant effect.

To further address the potential feedback between firm performance and CSR, we regress a restricted version of the first differenced estimator in equation (12). We restrict our sample to firms that 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 that experienced a change in their CSR profile, eliminating the effect of CSR on value. Due to the reduced sample, we had to drop

our peer dummies. Alternatively, we constructed dummy variables capturing a positive or a negative change in any peer group in *t* with respect to *t–1*. The dummy variable *Pos.*Δ*strength* takes the value of 1 if a firm experiences a lift in peer groups for *strength*, *Neg.*Δ*strength* is 1 if a firm experiences a drop in peer groups for *strength*, *Pos.*Δ*concern* is 1 if a firm experiences a lift in peer groups for *concern* (more concern relative to other firms), and *Neg.*Δ*concern* is 1 if a firm experiences a drop in peer groups for concern (less concern relative to other firms). Accordingly, a significant result for any of the peer change dummy variables would indicate that firm value is sensitive to changes in the perception of firms.

The results presented in model 10 of Table VII are consistent with our previous findings that the dummy variable indicating a reduction in *concern* peer groups (*Neg.*Δ*concern*) is significant and negative at the 5% level. This suggests that firms that move into lower *concern* quintiles experience a reduction in value of around 3%, even though they did not change their CSR profile at all. The results indicate that a change in a firm's CSR with respect to other firms could affect firm value, even if the firm did not alter its actual level of CSR.

D. Alternative Measures of Performance

As discussed previously, the inherent structure of CSR undermines the link between costs and financial returns. CSR benefits might accrue several periods after the initial outlay or only once investment reaches a critical mass. As such, one of the reasons we employed Tobin's Q as a dependent variable was to mitigate this issue. For model 11 of Table VII, the dependent variable is ROA. We must stress that the mechanism driving our peer dummies is dependent on the market's ability to perceive CSR relative to other firms in the market. Investors constructing portfolios are unlikely to impact a firm's ROA. It is likely that, if the relative level of CSR were to affect a firm's ROA, stakeholders would be the major mechanism. Similar to investors constructing their portfolio based on thresholds, stakeholders might also engage or shun firms based on acceptable levels of CSR, which are determined relatively (it is unlikely that an activist group would picket every firm that has environmental concerns; rather, the most

abhorrent offenders would be targeted). Turning to our results, we find that *concern* is highly negatively associated with ROA at the 1% significance level, similar to the expectation in the literature. Meanwhile, *peer dummy 5* for *strength* is negative and significant at the 5% level, indicating that high levels of responsible behavior could affect performance. It is conceivable that the costs of maintaining levels of responsible behavior at a sufficiently high level to be considered best in class would impose a significant financial burden on the firm. Finally, *peer dummy 3* for *concern* is significant and positive at the 5% level. The result would indicate that firms who engage in average levels of irresponsible behavior are able to extract the additional benefits associated with *concern* behavior, perhaps without incurring the costs associated with being considered worst in class. The results indicate that relative standing is important even when considering traditional performance measures, although not as pronounced.

E. Awareness

Servaes and Tamayo (2013) document that CSR's impact on value is dependent on the customer awareness of a firm. Firms with greater customer awareness extract the most benefit from engaging in CSR, while firms with low customer awareness receive no benefit or even incur penalties. Although we already control for advertising intensity throughout our study (and as a result for customer awareness[15]), we now attempt to explicitly examine whether conditioning firms over awareness affects our findings. We divide our sample in two over the median industry-adjusted advertising intensity for each year end *t*. We treat the firms falling below the median as low awareness firms (up to the 50th percentile) and those falling above the median (50th percentile and above) as high awareness firms. Just over 8,000 firm year observations include advertising expenditure. After dividing this sample in half and taking into account the lagged nature of our peer dummies and the construction of *sales growth*, each sub-sample includes

[15] Servaes and Tamayo (2013) show that a firm's public profile and media coverage is empirically linked to advertising expenditure. Advertising intensity is therefore an appropriate measure of customer awareness and we follow their proxy.

around 2,500 firm year observations.[16] Table VIII documents the results of customer awareness: model 1 presents the regression results for the sub-sample of firms classified as low awareness firms, while model 2 presents the results for firms classified as high awareness firms. Both models present the pooled OLS findings of equation (6) over each of the sub-samples. Again, Tobin's Q is the dependent variable and we include the vector of control variables, year and industry-fixed effects, and cluster standard errors at the firm level.

<PLEASE INSERT TABLE VIII NEAR HERE>

Model 1 indicates that firms with low levels of *strength* suffer a discount of firm value (*peer dummy 2)* if they have low customer awareness, while average to high levels of *concern (peer dummy 3* through *peer dummy 5*) are positive and significant. Conversely, firms with high levels of customer awareness (model 2) tend to have an associated increase in firm value if they have relatively high levels of *strength* (*peer dummy 4* and *peer dummy 5*), but they see no associated benefit with *concern* behavior. Our results in part reflect the findings of Servaes and Tamayo (2013) who find that the value of CSR is associated with high awareness firms; however, we fail to find evidence that irresponsible behavior is associated with a reduction of value for high awareness firms. This contrasts with their findings that high awareness firms are penalized more for *concern* behavior, when in fact our *concern* variable is positive and significant for high awareness firms. More interestingly, they document that low awareness firms experience little, if no negative association, with value when considering CSR. We have similar results for firms engaging in low levels of *strength*; however, our results indicate that moderate to heavy relative levels of *concern* behavior are positively associated with firm value for firms with low levels of customer awareness. We contend that responsible behavior is most affected by information asymmetry and search

[16] Due to the small samples and large number of controls in our models the power of a fixed effect model is reduced, we do not report the fixed effect regression results for parsimony. In short, for the low awareness sample the FE approach increases the significance of our findings, while the findings for the high awareness sample become insignificant.

costs. As a result, firms that spend the most resources on communicating their brand and their positive contribution to society will ultimately gain the most benefit from engaging in responsible behavior. Importantly, it seems that only firms that outclass their peers in *strength* activities reap the benefits associated with communicating their message in that CSR is only advantageous when a firm is perceived as "good" (having significantly higher levels of *strength* than its peers). Firms that do not communicate their CSR quality to the public risk financial penalties. Our results seem to suggest firms that engage in below average levels of responsible behavior, and have a low level of awareness, are penalized. Furthermore, our results suggest that obscure firms are able to extract benefits from irresponsible behavior.[17]

IV. Discussion and Conclusion

We show that responsible behavior and irresponsible behavior impacts firm value positively when considered in a relatively sense. Our results indicate that the relative CSR standing of firms may be integral to understanding CSR's impact on firm value. We find that above average to high levels of responsible behavior are associated with increased firm value, while average to low levels of responsible behavior are not significantly correlated with value. More importantly, we find that moderate to high levels of irresponsible behavior are associated with increased value. Irresponsible behavior could enhance firm value as firms unconstrained by restrictive CSR policies are not precluded from the advantages some irresponsible activities present. Alternatively, a significant shareholder presence of ethical investors (pension funds, etc.), could deter management from engaging in risky projects or exploit certain opportunities, if these activities are regarded as socially irresponsible. In either case, irresponsible behavior, although risky, would ultimately increase the volatility of discounted future cash flows and as a

[17] It is important to note that our sample is restricted and that the power of the models will be reduced.

result entice less risk-averse investors. As a result, some investors might construct portfolios to capture the increased volatility, driving part of the peer effect that we observe.

Following Gormley and Matsa (2013), we argue that CSR activities are in part endogenously determined by a firm's environment, which differs across firms in observable and unobservable ways. We show that accounting for these firm-specific characteristics could bias the correlation between CSR and firm value. We find that our peer dummies are robust to the inclusion of firm fixed effects in contrast with the absolute level of CSR.

Our findings suggest that the industry-specific relationship between CSR and firm value should be considered carefully going forward. These relationships change significance levels and signs across industries for absolute CSR levels. Alternatively, our peer dummies provide results that are more consistent. The presence of consumers within an industry and the importance of marketing and projecting a reputation presented in previous studies are perhaps key to this discrepancy. We find that a firm's relative standing is particularly important when considering the impact of awareness on the relationship between CSR and value, as the benefits of CSR are only reaped if firms ensure that they outclass their peers and communicate their CSR profile in line with Servaes and Tamayo (2013). Finally, we advocate against the use of an aggregate absolute CSR measure. Our results underscore the understanding that "doing the right thing" and "doing the wrong thing" are not perfect opposites. We contend that the complexities of CSR necessitate caution.

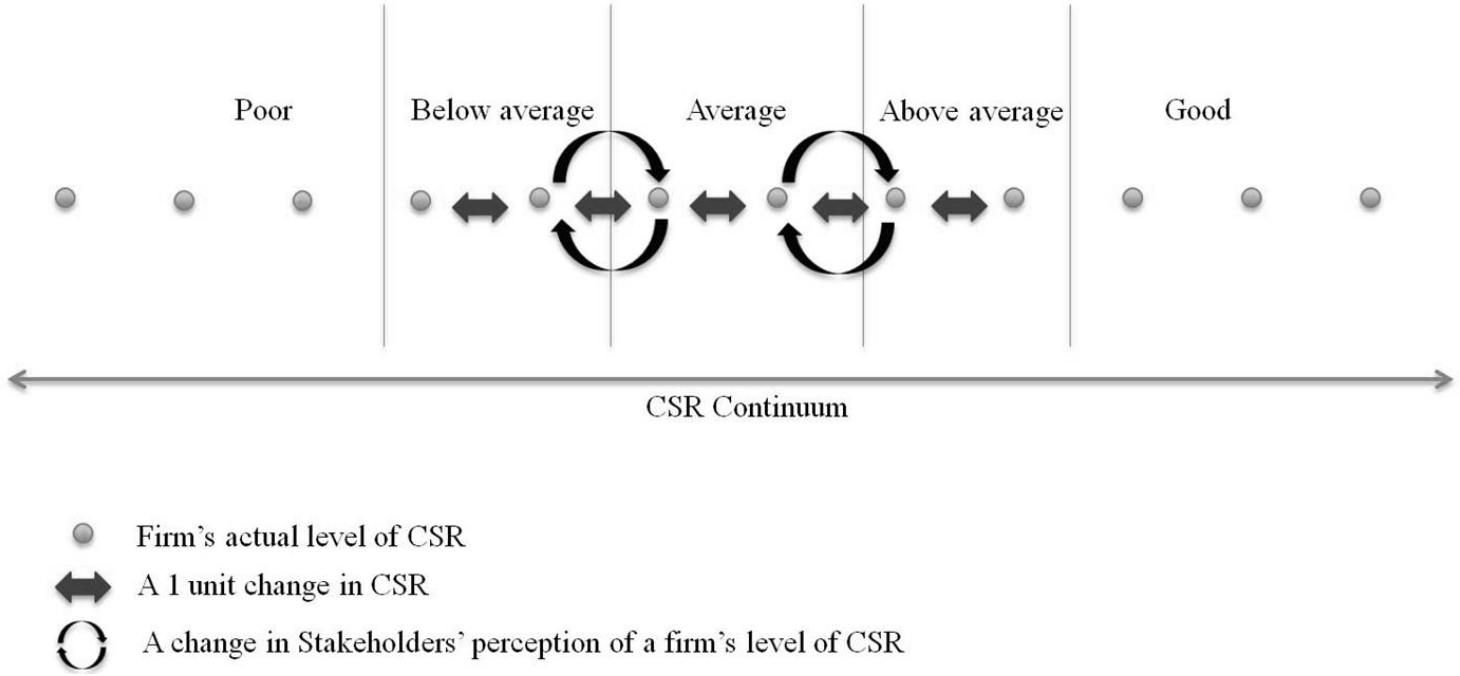

Figure 1. Market approximation of firms' level of CSR. The figure attempts to illustrate how investors and possibly stakeholders perceive CSR, the impact of which undermines the relationship between CSR and firm value. Market participants have difficulty perceiving a firm's actual CSR due to information asymmetry, opacity and costs associated with CSR information. We contend that instead they classify firms into groups with similar levels, based on their perception. Therefore, a change in a firm's actual level of CSR would only affect perception and, by extension, impact firm value, if the firm happens to move into a different grouping. Investors' and stakeholders' ability to perceive firm movement within groups is limited, reducing the incremental impact of CSR on firm value.

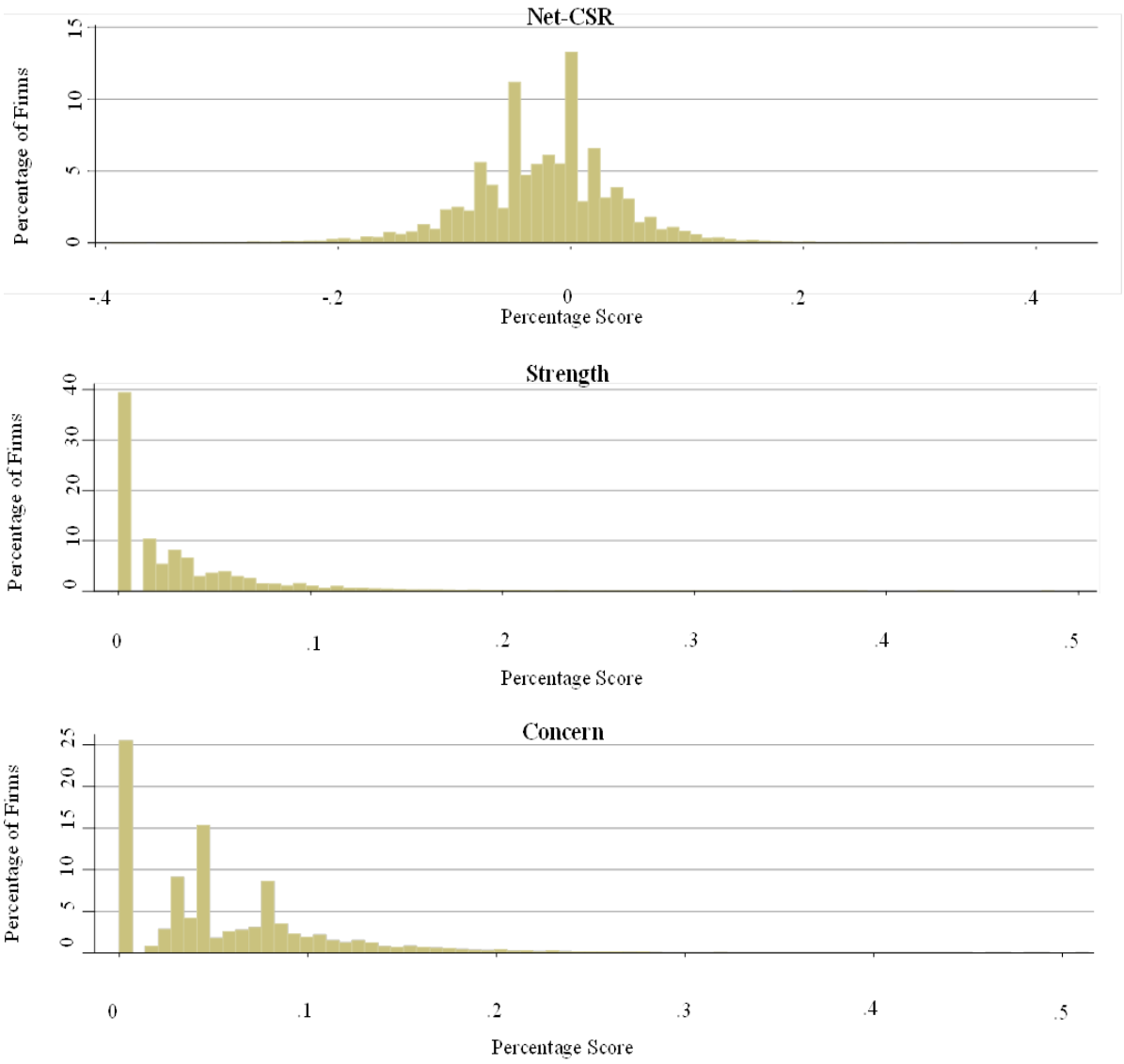

Figure 2. Distribution of CSR scores. These figures illustrate the distribution of percentage *Net-CSR*, *strength*, and *concern* scores over the pooled sample, spanning calendar years 1991 to 2009. The scores presented are transformed from binary points used by KLD and instead represent a percentage of possible points obtained. Formally, our aggregation takes the following form: $\boldsymbol{CSR_t^j} = \frac{\sum_{s=1}^{u_t^j} \boldsymbol{strength_s^j}}{u_t^j} - \frac{\sum_{r=1}^{k_t^j} \boldsymbol{concern_r^j}}{k_t^j}$, with an overall score of $\boldsymbol{CSR_t} = \sum_{j=1}^{7} \frac{\boldsymbol{CSR_t^j}}{7}$. Where $\boldsymbol{CSR_t^j}$ is the aggregated CSR score for category *j* in year *t*. Similarly, $\boldsymbol{strength_s^j}$ is equal to 1 if the firm meets *strength s* in category *j*, otherwise 0; $\boldsymbol{concern_r^j}$ is equal to 1 if the firm meets *concern r* in category *j*, otherwise 0.

Table I

Sample Size by Year

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

Year	Number of Firms
1991	546
1992	556
1993	548
1994	546
1995	554
1996	561
1997	563
1998	565
1999	573
2000	561
2001	991
2002	1,002
2003	2,728
2004	2,802
2005	2,783
2006	2,732
2007	2,702
2008	2,597
2009	2,655

Table II

KLD's ESG Descriptive Statistics

The table presents the descriptive statistics of the *Net-CSR*, *strength*, and *concern* scores for each of KLD's ESG categories as well as the overall score. The scores presented are transformed from binary points used by KLD and instead represent a percentage of possible points obtained. The statistics are calculated on the pooled sample, spanning calendar years 1991 to 2009.

Variable	Obs.	Mean	Std. Dev.	Min	Max
			Pooled		
Net	26,565	-0.02	0.06	-0.40	0.34
Strength	26,565	0.03	0.05	0.00	0.49
Concern	26,565	0.06	0.06	0.00	0.51
			Community		
Net	26,565	0.01	0.11	-0.61	1.00
Strength	26,565	0.03	0.09	0.00	1.00
Concern	26,565	0.02	0.07	0.00	0.75
			Corporate Governance		
Net	26,565	-0.05	0.17	-1.00	0.75
Strength	26,565	0.04	0.09	0.00	0.75
Concern	26,565	0.08	0.14	0.00	1.00
			Diversity		
Net	26,565	-0.04	0.22	-0.67	0.88
Strength	26,565	0.07	0.12	0.00	0.88
Concern	26,565	0.11	0.16	0.00	0.67
			Employment		
Net	26,565	-0.03	0.16	-0.80	0.83
Strength	26,565	0.05	0.11	0.00	0.83
Concern	26,565	0.08	0.12	0.00	0.80
			Environmental		
Net	26,565	-0.01	0.10	-0.83	0.60
Strength	26,565	0.02	0.07	0.00	0.80
Concern	26,565	0.03	0.10	0.00	1.00
			Humanity		
Net	24,915	-0.01	0.07	-0.75	1.00
Strength	24,915	0.00	0.04	0.00	1.00
Concern	26,565	0.02	0.08	0.00	1.00
			Product		
Net	26,565	-0.03	0.15	-1.00	0.75
Strength	26,565	0.02	0.07	0.00	0.75
Concern	26,565	0.05	0.13	0.00	1.00

Table III

Financial Descriptive Statistics

The table reports the descriptive statistics for the pooled sample spanning calendar years 1991 to 2009. (‘000) indicate figures presented in thousands and (%) indicate figures in a percentage or ratio. EBIT is earnings before interest and tax, ln(Total Assets) is the natural logarithm of total assets, ln(Turnover) is the natural logarithm of volume to shares outstanding, leverage is total liabilities over total assets.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Adjusted Price	26,562	$28.66	$58.06	$1	$3,561
Adjusted Shares (’000)	26,562	204,401	588,845	372	22,900,000
Average Monthly Volume (’000)	26,562	1,317,066	5,372,910	189	484,000,000
Market Capitalization (’000)	26,562	$5,925,838	$19,900,000	$5,831	$602,000,000
Tobin’s Q	26,160	2.00	1.80	0.34	56.98
ln(Total Assets)	26,166	7.43	1.72	3.89	12.14
ln(Turnover)	26,562	1.65	1.09	-4.43	7.74
Book to Market (%)	25,503	55.45	43.63	4.41	275.77
EBIT to Assets (%)	26,149	6.80	11.91	-50.20	35.64
Cash to Total Assets (%)	26,162	16.03	20.01	0.00	99.95
Leverage (%)	26,098	57.46	27.83	0.21	771.17
R&D over Sales (%)	26,057	8.99	39.25	0.00	331.75
CAPEX over Total Assets (%)	26,166	4.49	5.35	0.00	29.38
Advertising over Sales (%)	8,694	3.35	7.05	0.00	332.23
Sales Growth (%)	25713	49.35	264.45	-98.85	2153.13

Table IV

Shift in CSR Scores Over Time

The table reports the yearly average CSR score of *Net-CSR*, *strength*, and *concern* for calendar years 1991 to 2009. Panel A reports the yearly averages for 1991 to 2000, as well as the average for that decade. Panel B reports the yearly averages for 2001 to 2009, as well as the average for that nine-year period.

Year	Net	Strength	Concern
		Panel A: 1991–2000	
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
		Panel B: 2001–2009	
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 V

Relationship between CSR and Firm Value

The table reports the regression coefficients for the relationship between firm value and CSR from calendar year 1991 to 2009. Models 1, 3, and 5 present the pooled OLS results, while models 2, 4, and 6 present the panel fixed effect results. Models 3 and 4 include peer dummies to account for any potential market trenches or clientele effects. Models 5 and 6 interact each of the industry dummies, defined by two-digit SIC codes, with strength and concern. Industries are defined as manufacturing (SIC codes 20–39), transportation (SIC codes 40–49), finance (SIC codes 60–67), and services (SIC codes 70–89). Peer dummies 2 to 5 indicate a firm's peer group. Peer groups for both strength and concern are calculated at the end of each year *t-1* for each industry *j* and take the value of 1 if a firm falls within that peer group in that year or 0 otherwise. Peer dummy 1 represents firms with a score of zero (dropped as it is the most prevalent), peer dummy 2 represents firms in the 40th percentile and below, peer dummy 3 represents the 40th through 60th percentiles, peer dummy 4 represents the 60th through 80th percentiles, and peer dummy 5 represents the 80th and above percentiles. Size = natural logarithm of total assets; Leverage = total liabilities over total assets; Turnover = natural logarithm of average monthly volume over shares outstanding at the end of each year t; return on assets (ROA) = earnings before interest and tax (EBIT) to total assets; Advertising = advertising expense over sales; research and development (R&D) = R&D expenditure over sales; capital expenditure (CAPEX) = CAPEX over total assets; and Sales Growth = change in sales at time *t* with respect to *t*–1 We control for year fixed effects, industry fixed effects, and cluster standard errors at the firm level, the results are not reported. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Variable	1	2	3	4	5	6
Strength	2.487***	-1.911***	1.702***	-1.991***	2.378***	-1.958**
	(0.390)	(0.630)	(0.434)	(0.660)	(0.486)	(0.817)
Concern	0.488	0.240	0.0470	-0.0560	0.736	0.0366
	(0.305)	(0.349)	(0.316)	(0.323)	(0.453)	(0.511)
Size	-0.151***	-0.824***	-0.140***	-0.803***	-0.150***	-0.822***
	(0.0226)	(0.0757)	(0.0236)	(0.0750)	(0.0224)	(0.0752)
R&D	1.596***	0.475***	1.708***	0.325*	1.594***	0.473***
	(0.142)	(0.161)	(0.150)	(0.169)	(0.141)	(0.161)
Leverage	0.00902	-0.0848	0.0280	-0.0831	0.0261	-0.0559
	(0.187)	(0.153)	(0.197)	(0.140)	(0.186)	(0.153)
Turnover	0.0663***	0.262***	0.0558***	0.240***	0.0634***	0.262***
	(0.0197)	(0.0261)	(0.0203)	(0.0266)	(0.0197)	(0.0263)
CAPEX	0.463	0.436	0.462	0.248	0.523	0.466
	(0.463)	(0.495)	(0.470)	(0.472)	(0.463)	(0.491)
Advertising	3.438***	0.791	3.281***	1.063	3.369***	0.613
	(0.882)	(1.183)	(0.865)	(1.124)	(0.873)	(1.201)
Sales Growth	0.440***	0.215***	0.413***	0.190***	0.439***	0.212***
	(0.0589)	(0.0433)	(0.0599)	(0.0409)	(0.0585)	(0.0429)
ROA	6.176***	3.340***	6.619***	3.758***	6.128***	3.344***
	(0.468)	(0.420)	(0.468)	(0.363)	(0.466)	(0.419)

(Continued)

Table V-*Continued*

Variable	1	2	3	4	5	6
Peer dummy 2 (strength)			-0.0373	-0.0337		
			(0.0647)	(0.0533)		
Peer dummy 3 (strength)			0.0574	0.0170		
			(0.0438)	(0.0363)		
Peer dummy 4 (strength)			0.135***	0.0946**		
			(0.0437)	(0.0442)		
Peer dummy 5 (strength)			0.130***	0.0604		
			(0.0498)	(0.0493)		
Peer dummy 2 (concern)			0.00887	-0.0145		
			(0.0422)	(0.0350)		
Peer dummy 3 (concern)			0.153***	0.0889**		
			(0.0505)	(0.0380)		
Peer dummy 4 (concern)			0.136***	0.0910***		
			(0.0447)	(0.0351)		
Peer dummy 5 (concern)			0.120**	0.126***		
			(0.0481)	(0.0434)		
Strength * Transport industry dummy					-2.140***	1.919*
					(0.804)	(1.126)
Strength * Financial industry dummy					-1.151**	1.354
					(0.575)	(1.003)
Strength * Services industry dummy					5.021***	-4.996
					(1.826)	(4.053)
Concern * Transport industry dummy					1.031**	2.143***
					(0.524)	(0.698)
Concern * Financial industry dummy					-0.130	-0.142
					(0.486)	(0.621)
Concern * Services industry dummy					-2.816**	-1.838
					(1.138)	(1.294)
Intercept	2.357***	7.570***	1.802***	7.409***	2.341***	7.555***
	(0.148)	(0.626)	(0.150)	(0.614)	(0.148)	(0.626)
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm effects	No	Yes	No	Yes	No	Yes
Adj. R^2	0.35	0.24	0.36	0.25	0.35	0.24
N	13643	13643	13317	13317	13643	13643

Table VI

Industry-Specific Examination

The table examines the intra-industry relationship between CSR and firm value. For parsimony we repeat models 3 and 4 from Table V across the four industries we examine. Industries are defined as manufacturing (SIC codes 20–39), transportation (SIC codes 40–49), finance (SIC codes 60–67), and services (SIC codes 70–89). All models include the set of control variables used in the study, but for parsimony we have excluded them here. We control for year fixed effects, industry fixed effects, and cluster standard errors at the firm level, the results are not reported. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Variable	Manufacturing		Transportation		Financial		Services	
	1	2	3	4	5	6	7	8
Strength	1.990***	-1.500*	0.241	-0.830	-0.0020	-0.510	5.378**	-7.320*
	(0.551)	(0.792)	(0.681)	(0.511)	(0.274)	(0.450)	(2.494)	(3.897)
Concern	0.0700	0.149	1.056**	0.171	0.134	-0.436**	-0.948	-1.032
	(0.477)	(0.484)	(0.413)	(0.244)	(0.194)	(0.199)	(1.094)	(1.027)
Peer dummy 2 (strength)	-0.168	-0.0929	0.0672	0.0197	0.0317	0.0149	0.0422	0.342
	(0.114)	(0.0879)	(0.0608)	(0.0447)	(0.0325)	(0.0255)	(0.661)	(0.506)
Peer dummy 3 (strength)	0.0458	-0.0274	-0.0019	0.0300	0.0354	0.00716	0.0179	0.0510
	(0.0638)	(0.0604)	(0.0632)	(0.0292)	(0.0293)	(0.0219)	(0.170)	(0.109)
Peer dummy 4 (strength)	0.156**	0.0649	0.0737	0.0521	0.0405	0.0221	0.0998	0.191
	(0.0759)	(0.0749)	(0.0714)	(0.0334)	(0.0372)	(0.0274)	(0.124)	(0.119)
Peer dummy 5 (strength)	0.0480	-0.0219	0.0486	0.0342	0.0200	0.0361	0.312	0.317*
	(0.0766)	(0.0714)	(0.0757)	(0.0355)	(0.0339)	(0.0328)	(0.192)	(0.184)
Peer dummy 2 (concern)	0.0548	-0.0105	0.0444	0.0187	-0.0225	-0.0104	0.0650	0.120
	(0.0733)	(0.0520)	(0.0491)	(0.0298)	(0.0348)	(0.0225)	(0.143)	(0.153)
Peer dummy 3 (concern)	0.193**	0.109*	0.150**	0.0117	0.00706	0.00961	0.200	0.0683
	(0.0864)	(0.0590)	(0.0589)	(0.0387)	(0.0334)	(0.0259)	(0.149)	(0.162)
Peer dummy 4 (concern)	0.186**	0.0845	0.107*	0.0249	-0.0521*	-0.0118	0.353**	0.223*
	(0.0740)	(0.0561)	(0.0570)	(0.0336)	(0.0291)	(0.0153)	(0.157)	(0.132)
Peer dummy 5 (concern)	0.233***	0.165**	0.0280	0.0438	-0.0243	-0.00985	0.241	0.134
	(0.0888)	(0.0710)	(0.0745)	(0.0492)	(0.0389)	(0.0261)	(0.147)	(0.129)
Intercept	2.262***	8.134***	1.666***	2.528***	1.645***	3.073***	2.432***	11.39***
	(0.244)	(0.755)	(0.260)	(0.394)	(0.129)	(0.561)	(0.447)	(1.509)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Effects	No	Yes	No	Yes	No	Yes	No	Yes
N	6460	6460	1531	1531	3289	3289	2037	2037
adj. R^2	0.29	0.28	0.27	0.29	0.52	0.23	0.40	0.35

Table VII

Additional Specifications for Robustness

The table reports additional specifications to increase robustness. Models 1 through 4 incorporate quadratic terms to account for any curvilinear relationship between firm value and CSR. Strenght^2 is the square of the firm's strength score while concern^2 is the square of a firm's concern score. Models 5 through 8 incorporate lagged terms of a firm's strength and concern scores. The *t*-1 lagged strength score of a firm is *L1.strength* and the *t*-1 lagged concern score of a firm is *L1.concern*. Models 9 and 10 present the first differenced estimator results, where a change in our dependant variable, ΔTobin's Q, is modelled as a function of a change in our control variables and various CSR measures. We restrict the sample in model 10 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*. Pos.Δstrength is a dummy variable taking the value of one if a firm experiences a lift in peer groups for strength. Neg.Δstrength is a dummy variable taking the value of one if a firm experiences a drop in peer groups for strength. Pos.Δconcern is a dummy variable taking the value of one if a firm experiences a lift in peer groups for concern (more concern relative to other firms). Neg.Δconcern is a dummy variable taking the value of one if a firm experiences a drop in peer groups for concern (less concern relative to other firms). All models include the set of control variables used in the study, but for parsimony we have excluded them here. We control for year fixed effects, industry fixed effects, and cluster standard errors at the firm level for all models, the results are not reported. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Variable	Curvilinear				Lags				First difference (Δ)		ROA
	1	2	3	4	5	6	7	8	9	10	11
Strength	4.292***	-0.698	3.282***	-1.132	2.049***	-1.324**	2.272***	-1.030**	-0.202		0.3648
	(0.729)	(0.905)	(0.853)	(0.894)	(0.425)	(0.530)	(0.437)	(0.518)	(0.399)		(3.226)
Concern	1.417**	0.503	0.228	-0.0411	-0.425	-0.105	-0.169	0.0534	-0.567***		-10.130***
	(0.575)	(0.537)	(0.548)	(0.496)	(0.330)	(0.283)	(0.338)	(0.283)	(0.214)		(2.845)
Strength^2	-8.086***	-5.083	-5.690**	-3.423							
	(2.468)	(3.109)	(2.425)	(2.819)							
Concern^2	-3.236*	-0.785	-0.401	0.132							
	(1.719)	(1.939)	(1.454)	(1.910)							
L1.Strength					0.332	-0.837*	-0.890	-1.949**			
					(0.436)	(0.484)	(0.634)	(0.776)			
L1.Concern					1.015***	0.675**	0.516	-0.118			
					(0.311)	(0.294)	(0.470)	(0.496)			
Peer dummy 2 (strength)			-0.0548	-0.0386			-0.0364	-0.0125	0.0138		-0.9806
			(0.0653)	(0.0530)			(0.0647)	(0.0545)	(0.0303)		(0.7117)
Peer dummy 3 (strength)			0.0285	0.00776			0.0668	0.0574	-0.0337		-0.1699
			(0.0460)	(0.0347)			(0.0460)	(0.0432)	(0.0254)		(0.2932)
Peer dummy 4 (strength)			0.0879**	0.0796**			0.152***	0.159***	0.0212		-0.3030
			(0.0404)	(0.0406)			(0.0487)	(0.0580)	(0.0277)		(0.3153)
Peer dummy 5 (strength)			0.0611	0.0398			0.166**	0.176**	0.00809		-0.768**
			(0.0541)	(0.0447)			(0.0648)	(0.0776)	(0.0398)		(0.3882)

(Continued)

Table VII -*Continued*

Variable	Curvilinear				Lags				First difference (Δ)		ROA
	1	2	3	4	5	6	7	8	9	10	11
Peer dummy 2 (concern)			0.00812	-0.0136			0.000236	-0.0117	-0.00298		0.1687
			(0.0416)	(0.0346)			(0.0438)	(0.0379)	(0.0275)		(0.3367)
Peer dummy 3 (concern)			0.150***	0.0887**			0.137**	0.0902**	0.0572**		0.5591**
			(0.0492)	(0.0382)			(0.0554)	(0.0433)	(0.0279)		(0.2838)
Peer dummy 4 (concern)			0.133***	0.0903***			0.113**	0.0950**	0.0587**		-0.2770
			(0.0409)	(0.0336)			(0.0523)	(0.0477)	(0.0266)		(0.3007)
Peer dummy 5 (concern)			0.113**	0.125***			0.0761	0.135*	0.0653*		-0.3126
			(0.0456)	(0.0424)			(0.0691)	(0.0714)	(0.0350)		(0.3558)
Pos.Δstrength										0.0325	
										(0.0325)	
Neg.Δstrength										-0.00427	
										(0.0342)	
Pos.Δconcern										-0.00783	
										(0.0255)	
Neg.ΔConcern										-0.0799**	
										(0.0404)	
Intercept	2.287***	7.554***	1.779***	7.408***	1.916***	7.456***	1.816***	7.425***	0.0241***	0.0308	3.6272
	(0.151)	(0.627)	(0.153)	(0.615)	(0.145)	(0.613)	(0.153)	(0.614)	(0.00738)	(0.0209)	(4.4258)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm effects	No	Yes	No	Yes	No	Yes	No	Yes	No	No	Yes
N	13643	13643	13317	13317	13375	13375	13317	13317	10771	4303	15901
adj. R^2	0.35	0.24	0.36	0.25	0.36	0.24	0.36	0.25	0.14	0.13	0.25

Table VIII

Awareness and CSR

The table documents the differences between firms considered as high awareness firms against those with low awareness, as proxied by advertising expenditure. We divide our sample in half over the median industry-adjusted advertising expense for each year end *t*. Model 1 present the results for firms with industry adjusted advertising expenses below the median, while model 2 reports the results for firms above the median. All models include the set of control variables used in the study, but for parsimony we have excluded them here. Tobin's Q is the dependant variable in both models and we control for year fixed effects, industry fixed effects, and cluster standard errors at the firm level for all models, the results are not reported. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Variables	Low awareness	High awareness
	1	2
Strength	1.3161	2.2569*
	(1.0476)	(1.1861)
Concern	0.0259	1.9201**
	(0.8028)	(0.8822)
Peer dummy 2 (strength)	-0.4011**	-0.1736
	(0.1975)	(0.1927)
Peer dummy 3 (strength)	0.0452	0.0159
	(0.1188)	(0.1053)
Peer dummy 4 (strength)	0.0852	0.2347**
	(0.0847)	(0.1154)
Peer dummy 5 (strength)	0.1181	0.3060**
	(0.1202)	(0.1315)
Peer dummy 2 (concern)	-0.0222	0.0174
	(0.0952)	(0.1295)
Peer dummy 3 (concern)	0.2577**	0.1142
	(0.1274)	(0.1362)
Peer dummy 4 (concern)	0.2777**	0.1409
	(0.1223)	(0.1375)
Peer dummy 5 (concern)	0.1963*	-0.0359
	(0.1163)	(0.1443)
Intercept	1.7557***	2.2855***
	(0.3486)	(0.3719)
Industry effects	Yes	Yes
Year effects	Yes	Yes
Firm effects	No	No
N	2672	2323
adj. R^2	0.302	0.338

References

Adams, Renée B., and Daniel Ferreira, 2009, Women in the boardroom and their impact on governance and performance, *Journal of Financial Economics* 94, 291–309.

Almeida, Heitor, Murillo Campello, and Antonio F. Galvao, 2010, Measurement errors in investment equations, *Review of Financial Studies* 23, 3279–3328.

Arora, Punit, and Ravi Dharwadkar, 2011, Corporate governance and corporate social responsibility (csr): The moderating roles of attainment discrepancy and organization slack, *Corporate Governance: An International Review* 19, 136–152.

Barnett, Michael L., and Robert M. Salomon, 2006, Beyond dichotomy: The curvilinear relationship between social responsibility and financial performance, *Strategic Management Journal* 27, 1101–1122.

Bassen, Alexander, Katrin Meyer, and Joachim Schlange, 2006, The influence of corporate responsibility on the cost of capital, *Working Paper*.

Bebchuk, Lucian A., and Alma Cohen, 2005, The costs of entrenched boards, *Journal of Financial Economics* 78, 409–433.

Bénabou, Roland, and Jean Tirole, 2006, Incentives and prosocial behavior, *American Economic Review* 96, 1652–1678.

Bénabou, Roland, and Jean Tirole, 2010, Individual and corporate social responsibility, *Economica* 77, 1–19.

Bollen, Nicolas P. B., 2007, Mutual fund attributes and investor behavior, *Journal of Financial and Quantitative Analysis* 42, 683–708.

Carroll, Archie B., and Kareem M. Shabana, 2010, The business case for corporate social responsibility: A review of concepts, research and practice, *International Journal of Management Reviews* 12, 85–105.

Chatterji, Aaron K., David I. Levine, and Michael W. Toffel, 2009, How well do social ratings actually measure corporate social responsibility?, *Journal of Economics & Management Strategy* 18, 125–169.

Chi, Jianxin, 2005, Understanding the endogeneity between firm value and shareholder rights, *Financial Management* 34, 65–76.

Cho, Seong Y., Cheol Lee, and Ray J. Pfeiffer Jr., 2013, Corporate social responsibility performance and information asymmetry, *Journal of Accounting and Public Policy* 32, 71–83.

Dhaliwal, Dan S., Suresh Radhakrishnan, Albert Tsang, and Yong George Yang, 2012, Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure, *The Accounting Review* 87, 723–759.

Di Giuli, Alberta, and Leonard Kostovetsky, 2014, Are red or blue companies more likely to go green? Politics and corporate social responsibility, *Journal of Financial Economics* 111, 158-180.

El Ghoul, Sadok, Omrane Guedhami, Chuck C. Y. Kwok, and Dev R. Mishra, 2011, Does corporate social responsibility affect the cost of capital?, *Journal of Banking & Finance* 35, 2388–2406.

Erickson, Timothy, and Toni M. Whited, 2000, Measurement error and the relationship between investment and q, *Journal of Political Economy* 108, 1027.

Erickson, Timothy, and Toni M. Whited, 2012, Treating measurement error in tobin's q, *The Review of Financial Studies* 25, 1286–1329.

Fernández-Kranz, Daniel, and Juan Santaló, 2010, When necessity becomes a virtue: The effect of product market competition on corporate social responsibility, *Journal of Economics & Management Strategy* 19, 453–487.

Flammer, Caroline, 2012, Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach, *Working Paper*.

Galema, Rients, Auke Plantinga, and Bert Scholtens, 2008, The stocks at stake: Return and risk in socially responsible investment, *Journal of Banking & Finance* 32, 2646–2654.

Glazer, Amihai, and Kai A. Konrad, 1996, A signaling explanation for charity, *The American Economic Review* 86, 1019–1028.

Goetzmann, William N., and Alok Kumar, 2008, Equity portfolio diversification, *Review of Finance* 12, 433–463.

Gormley, Todd A., and David A. Matsa, 2013, Common errors: How to (and not to) control for unobserved heterogeneity, *The Review of Financial Studies*.

Greene, William H., 2007. *Econometric analysis* (Pearson/Prentice Hall, Upper Saddle River, N.J.).

Heinkel, Robert, Alan Kraus, and Josef Zechner, 2001, The effect of green investment on corporate behavior, *Journal of Financial and Quantitative Analysis* 36, 431–449.

Himmelberg, Charles P., R. Glenn Hubbard, and Darius Palia, 1999, Understanding the determinants of managerial ownership and the link between ownership and performance, *Journal of Financial Economics* 53, 353–384.

Jiao, Yawen, 2010, Stakeholder welfare and firm value, *Journal of Banking & Finance* 34, 2549–2561.

Jiraporn, Pornsit, Napatsorn Jiraporn, Adisak Boeprasert, and Kiyoung Chang, 2013, Does corporate social responsibility (csr) improve credit ratings? Evidence from geographic identification, *Financial Management* n/a-n/a.

Kempf, Alexander, and Peer Osthoff, 2007, The effect of socially responsible investing on portfolio performance, *European Financial Management* 13, 908–922.

Lee, Darren D., and Robert W. Faff, 2009, Corporate sustainability performance and idiosyncratic risk: A global perspective, *Financial Review* 44, 213–237.

Margolis, Joshua, Hillary Anger Elfenbein, and James Walsh, 2009, Does it pay to be good... And does it matter? A meta-analysis of the relationship between corporate social responsibility and financial performance, *Working Paper*.

McWilliams, Abagail, and Donald Siegel, 2001, Corporate social responsibility: A theory of the firm perspective, *Academy of Management Review* 26, 117–127.

Merton, Robert C., 1987, A simple model of capital market equilibrium with incomplete information, *Journal of Finance* 42, 483–510.

Orlitzky, Mark, Frank Schmidt, and Sara Rynes, 2003, Corporate social and financial performance: A meta-analysis, *Organization Studies* 24, 403–441.

Ramchander, Sanjay, Robert G. Schwebach, and K. I. M. Staking, 2012, The informational relevance of corporate social responsibility: Evidence from ds400 index reconstitutions, *Strategic Management Journal* 33, 303–314.

Renneboog, Luc, Jenke Ter Horst, and Chendi Zhang, 2008a, Socially responsible investments: Institutional aspects, performance, and investor behavior, *Journal of Banking & Finance* 32, 1723–1742.

Renneboog, Luc, Jenke Ter Horst, and Chendi Zhang, 2008b, The price of ethics and stakeholder governance: The performance of socially responsible mutual funds, *Journal of Corporate Finance* 14, 302–322.

Servaes, Henri, and Ane Tamayo, 2013, The impact of corporate social responsibility on firm value: The role of customer awareness, *Management Science* 59, 1045–1061.

Statman, Meir, 2000, Socially responsible mutual funds, *Financial Analysts Journal* 56, 30–39.

Statman, Meir, and Denys Glushkov, 2009, The wages of social responsibility, *Financial Analysts Journal* 65, 33–46.