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Corporate Social Responsibility and Firm Reputation Risk: Bettering Firm Reputational Risk through Socially Responsible Activities

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Abstract

Studies on the relationship between CSR and firm performance have primarily focused on the investment aspects and have produced mixed results. This study uses a Stakeholder theoretical lens, to examine the insurance like aspects of CSR as it relates to firm performance, in an attempt to fill both a conceptual and empirical gap in the literature on CSR. The analysis combines approaches from the strategy and finance traditions, incorporates two relatively new global data sets, and employs a non-traditional multilevel longitudinal model with CSR as the dependent variable. Socially responsible activities may provide insurance against reputational crises for firms, resulting is reduced losses. Specifically, this study finds a positive relationship between CSR and reputational risk demonstrating an additional reason why pursuing socially responsible activities makes fundamental sense for managers. The more reputational risk a firm has, the more its managers should implement CSR as part of firm strategy.

Key words: corporate social responsibility, reputational risk, ESG, stakeholder theory, multilevel models

Introduction

The idea of corporations having social responsibilities (i.e. responsibilities beyond those to stockholders) has been discussed in academic literature since at least the 1950s, if not before (de Bakker, Groenewegen, & den Hond, 2005). This concept is often referred to as Corporate Social Responsibility (CSR), although it is not distinct to organizations with a true corporate legal structure (e.g. C corp.), and can be described by the widely used McWilliams and Siegel (2001: 117) definition of CSR as "actions that appear to further some social good, beyond the interests of the firm and that which is required by law." More recently, firms have begun to include CSR initiatives not only in their operations but also in their business models (Ioannou & Serafeim, 2015). Much of the empirical research on the relationship between CSR and firm performance has produced conflicting evidence. For example, in multiple studies on the relationship between CSR and corporate financial performance (CFP), evidence has been found for a positive, negative, U shaped, and even an inverted U shaped relationship (Margolis, Elfenbein, and Walsh, 2007). According to a recent study by EY consulting, 80% of those surveyed believe that firms did not adequately disclose ESG (i.e. CSR) related risks in 2016 (Ashwell, 2017). This is an increase from 64% in 2015 (Ashwell, 2017). Of those surveyed, 92% agree or strongly agree that ESG issues have significant and quantifiable impacts on firm performance (Ashwell, 2017). For example, Richardson and Welcer (2001) found a negative relationship between disclosure and cost of capital with the assumption being that a lower cost of capital was due to financial stakeholders positively interpreting the CSR disclosure.

The conflicting results from research conducted on CSR and firm performance still leave much to be desired about understanding this relationship, and have implications for how managers should engage in CSR with respect to strategy, if they should do so at all. Stakeholder demand, as evidenced for example by recent surveys, also makes this an important issue that needs to be understood. More recent research has suggested the CSR - firm relationship might be understood as insurance like, with CSR activities preserving rather than creating corporate financial performance for a firm (e.g. Godfrey, Merrill, & Hansen, 2009). The rationale for this is that firms can engage in CSR activities to create a bank of goodwill, or 'moral capital', that they could in turn draw upon during a crisis, potentially reducing the firm's risk of exposure to an environmental or social crisis (Godfrey et al., 2009; Sharfman & Fernando, 2008).

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This line of inquiry into the CSR firm performance link avoids the traditional investigational forays into corporate social performance (CSP), a measure of CSR, resulting in efficiency enhancements (e.g. increased employee commitment, better community or governmental relations, etc.), and has been discussed and investigated much less in the literature (Koh, Qian, & Wang, 2014). An insurance like relationship between CSR, risk, and firm performance may have a profound impact on managerial strategy, though a more precise understanding of this "insurance" is currently underdeveloped in the literature.

This project aims to contribute to existing literature by examining more specifically if firm reputational risk influences CSR activity, and in the process I attempt to validate a possible additional data set for CSR research. Archival data on CSR will be sourced from KLD (now MSCI), which is a traditional source for research on CSR (as the measure CSP). However, this study will additionally use recent alternative measures of CSR, namely Bloomberg Environmental, Social, and Governmental (ESG) disclosure scores for companies. Archival financial data, for control variables, will be acquired from Compustat. While many studies on CSR measure risk as the volatility of stock returns including systematic and unsystematic risk (Luo & Bhattacharya, 2009), this study will focus on reputational risk and use a non-traditional source, namely the RepRisk database available in WRDS. RepRisk quantifies firm risk related to environmental, social, and governmental factors and assigns a composite score for companies. This will provide an interesting opportunity to analyze KLD data, (comprised of both internal and external reports), ESG data (comprised solely of company sourced data compiled by Bloomberg), and RepRisk data (comprised solely of information from third parties compiled by RepRisk). A multilevel mixed model will be used to examine the hypothesized relationship between variables using longitudinal panel data and factoring in possible effects for year and industry. Endogeneity has been a serious issue for scholars examining the link between CSR and firm performance and will be addressed in the model through various control variables. The paper is organized as follows. First, literature relevant to CSR, reputation, and risk is briefly reviewed. Second, theoretical framing and the specific hypothesis for this paper are offered. Third, the methods that will be used in the study will be explained, and, finally, results and contributions will be discussed.

Theoretical Background And Hypothesis

The type of risk being identified in the risk mitigation view (i.e. insurance like) of CSR, is quite reputational in nature. CSR is instrumental in the creation of firm reputation (Fombrun, 2005). This risk is comprised of the perceptions of external stakeholders regarding a firm's image. A nascent stream of research referred to as Reputation Risk Management (RRM) (Bebbington, Larrinaga, &Moneva, 2008) is very relevant to this discussion. Fombrun (1996, p. 57) characterizes firm reputation as strategic resources that "produce tangible benefits: premium prices for products, lower costs for capital and labor, improved loyalty from employees, greater latitude in decision making, and a cushion of goodwill when crises hit". He goes on to argue that the reputation of a firm is at risk during interactions with stakeholders. This appears very similar to the idea of reputational goodwill as 'moral capital' (Godfrey et al., 2009) in the risk mitigation view. Reputation is something like an intangible asset that is capable of creating value for the firm (Roberts & Dowling, 2002). It is also something that is at risk of losing value. Stakeholder engagement (through CSR activities) can create intangible assets like customer relationships (Donaldson, 2012). It is possible, then, that stakeholder engagement could create or maintain the intangible asset of a reputation. Further, it is logical that firms would seek to protect and or enhance their reputations through engaging in activities related to CSR. The identification, or specification, of reputational risk by firms is related to firm efforts to manage those risks (Jan Bebbington et al., 2008).

Evidence that firms try to manage their reputations and reduce reputation risks can be found in CSR reports (Jan Bebbington et al., 2008). CSR reporting would include the measurement, disclosure, and assurance of company information pertaining to CSR related activities. It is for these aforementioned reasons that this study investigates reputational risk as a driver of the insurance like aspect of CSR, excluding other forms of risk that may be related to CSR in general.

We can surmise from this burgeoning area of research that CSR may be linked to firm performance not only through the traditionally hypothesized investment like mechanisms, but additionally through insurance-like mechanisms. This linkage is specifically relevant to the issue of reputational risk. The theoretical relationship used in this study predicts that CSR is linked to firm performance by preserving firm profits and, therefore, contributes to overall value creation for the firm. Specifically, this relationship predicts that damage to the firm reputation could result in a reduction of firm value and potential future value creation. Koh et al. (2014) find that CSR activities, in the areas of environment, social, and governance (ESG) decrease future litigation risk. This decrease in future litigation risk will likely result in a preservation of future profits. If a firm has a higher risk of experiencing negative events with litigation, then that firm would have a higher potential need for CSR as insurance (Koh et al., 2014) to preserve future profits. They examined firms in a litigious industry (i.e. higher litigation risk).

To investigate the risk mitigation view of CSR in a similar fashion, I will examine firms with high reputational risk. Extending their logic to reputational risk, firms with a higher risk for negative events related to reputation will have a greater need to engage in CSR activities for insurance purposes.

Hypothesis: Reputational Risk has a positive relationship with Corporate Social Responsibility.

There is evidence in the literature linking CSR to reputation (see above). Specifically, CSR related activities can create a better reputation. Additionally, reputation is linked to reputational risk. Specifically, the better the firm reputation (that creates value for a firm), the larger the potential loss if that reputation is damaged (i.e. reputational risk). Thus, if CSR is linked to reputation and reputation is linked to reputational risk, then CSR is linked to reputational risk. This relationship as stated implies that CSR predicts reputational risk and as such most studies examine CSR as an independent variable. In an examination of the CSR literature from 1972 – 2002, Margaolis and Walsh (2003) found only 15% of studies examined CSR as a dependent variable. I was only able to find one recent study by Borghesi et al. (2014) that examined CSR as a dependent variable. In this study, I will reverse the traditional relationship by using CSR as the dependent variable. I argue that CSR is not a predictor of reputational risk, but rather an outcome of reputational risk (and that reputational risk is not necessarily an outcome of CSR). In other words, managers of firms are motivated to engage in insurance like CSR activities because of the existence of reputational risk. This underlying motivation for mangers would be to preserve future profits.

Methods

Data and Sample

Constructing my sample first starts with obtaining data on reputational risk, sourced from the RepRisk database, as this data is used in both of my approaches analyzing CSR. After eliminating duplicate entries or entries with missing data, the corresponding RepRisk sample consists of 210,897 observations for 23,433 distinct firms spanning 2007 – 2015. Answering the call for multiple sources of data on CSR (e.g. Delmas et al., 2013), archival data on CSR is obtained from two databases: Bloomberg and KLD (now MSCI). Data from KLD corresponding to the firms and years from RRI includes 7 years (2007 – 2013) and 16,905 observations for 4,901 distinct firms. Bloomberg ESG data, an alternative measure of CSR that focuses specifically on ESG dimensions, corresponding to the RRI data, spans six years (2010 – 2015) and includes 34,411 observations for 6,609 distinct firms. Matching financial data for firm and year are acquired from Compustat for the control variables of firm size (Assets n=15,259), market to book ratio (Q n=14,974), free cash flow (FCF n=15,182), and advertising expense (AE2 n=7,184). The data on advertising expense is very sparse compared to the other control variables. In an effort to deal with this lack of data while still examining the relationship with advertising expense, I will use two different approaches in my models based on prior literature (e.g.Borghesi et al., 2014). My first approach will be to assign a zero to firms that do not report advertising expenses in the Compustat data (AE2 n=41,662). My second approach will be to limit the sample to only firms that explicitly report advertising expense.

Variable Definitions and Measures

The broad nature of CSR activities, and the subjectivity of just what exactly social responsibility means, has led to a difficulty in measuring CSR. The construct of corporate social performance (CSP) has been advanced as a more exact way to conceptualize CSR for measurement. CSP is a multidimensional, quantifiable measure of corporate social responsibility. A widely accepted operational definition of CSP is the tripartite description put forth by Wood (1991). She defines CSP as "a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships" (Wood, 1991: 693). There are specific measures of CSP, like treatment of the environment and employees, and charitable donations. Traditionally, data from KLD has been used to measure CSP (i.e. CSR).

For the KLD based measure, following previous research, I calculate a CSR net score for each firm in the sample and do not use any weighting for the categories (e.g. Hillman &Keim, 2001). The KLD database uses proprietary techniques to evaluate approximately 3,000 firms, with data going back to 2001, across seven primary categories (community, diversity, employees, environment, humanitarian, product, and governance) by rating the firms in terms of 'strengths' or 'concerns' (weaknesses). Consistent with literature in strategic management I will use the five primary categories of community, diversity, employee, environment, and product (Hillman &Keim, 2001). Additionally, and relevant to this study, these five categories map well on to the primary stakeholder groups of employees, customers, community, suppliers, and the environment (Waddock& Graves, 1997; Hillman &Keim, 2001). The use of these five primary categories fits both conceptually and empirically as this study employs a stakeholder theoretical lens.

Each primary category may have additional subcategories for which a firm may be assigned a strength or weakness. If a firm has a strength or weakness in a subcategory a 1 is assigned, otherwise the category is assigned a 0. The KLD data comes from a combination of company disclosures and third-party sources. The weaknesses are normally subtracted from the strengths to calculate a net score on each CSR primary category (Hillman &Keim, 2001). This calculation can be described by the following equation:

$$CSR(Xi) = \Sigma CSR(Xi)S,Y - \Sigma CSR(Xi)W,Y \quad (1)$$

where Xi is a primary KLD category for a firm i, with S and W denoting strengths or weaknesses within each KLD subcategory Y. This produces a net figure for each of the five primary categories. I then calculate a CSR net score for each firm by summing up the net figures for each of the five categories using the following equation:

$$CSRscore(Firmi) = \Sigma CSR(Xi) \quad (2)$$

Firm CSR activities are sometimes measured through disclosures or other voluntary self-reports by firms, and recently many third-party organizations have begun creating CSR ratings or scores to measure and evaluate firm activities (Ioannou&Serafeim, 2015). Much, if not all, of the information comprising these ratings is being compiled from company disclosures. These ratings, or scores, include the dimensions of environmental, social, and corporate governance activities which are commonly referred to by the acronym ESG. However, dozens of different rating methodologies have sprouted up recently and academic researchers have disproportionately used ratings solely provided by KLD Research and Analytics, rather than ratings from multiple sources (Delmas, Etzion, &Nairn-Birch, 2013). One relatively new ratings source that has investigative potential, and only a handful of scholars have yet to investigate it, is Bloomberg Analytics' ESG index ("Bloomberg for Environmental, Social & Governance Analysis," 2015). I will use data from Bloomberg in this study in an attempt to both support my hypothesis and to investigate whether or not Bloomberg data is similar to traditional sources of CSR data. If it is similar, this may be a new source for potential future academic studies.

Bloomberg collects data going back to 2009 (but first reported in 2010) on over 20,000 companies from a variety of firm based sources (which can all be traced back to specific source documents) to calculate an ESG score for environmental, social, and governance issues as well as an overall composite score. The scores range from 0 to 100, with 100 being the highest possible score (better ESG). Bloomberg (2015) describes ESG data as indicators of valuation risk that come from firms' operations, governance, and HR policies, practices, and structures. Furthermore, they argue that ESG information may impact firm reputation, value, and performance. Therefore, it seems logical that this data could be used to evaluate reputational risk. All Bloomberg ESG data comes from firm sourced disclosures (e.g. annual reports, surveys, etc.), and nothing is estimated or derived. Bloomberg ESG data, specifically the overall composite score, is used in this study as an additional and alternative measure of CSR.

The independent variable for reputational risk will be measured by the RepRisk Index (RRI) (www.reprisk.com; RepRisk, 2016). RepRisk gathers data on over 75,000 companies from all around the world stretching back to 2007. RepRisk collects data from various stakeholders and sources external (i.e. public) to the firms being rated. This use of third party data is important in evaluating whether or not firm intentions (e.g. policies, operations, etc.) translate into real actions (RepRisk, 2016). This makes it difficult for firms to be able to manipulate the data in their favor, as they might be able to do with firm sourced data (e.g. firm disclosures).

In analyzing risk, RepRisk focuses on 28 key issues related to ESG. They argue that their analysis is issues driven rather than firm driven and, therefore, does not necessarily focus on a set list of firms. This is an attempt to impart some impartiality to the data. Each risk incident related to a firm is evaluated in terms of Severity, Reach, and Novelty. It is important to note that RepRisk does not verify or validate the incident. At first glance, this may seem problematic and similar to the spreading of 'fake news'. However, an incident covered in the media will affect firm reputation whether or not the source data is accurate. The anchoring bias, a concept from the field of organizational behavior, shows that people rely more on the information that they first receive about something. Once the damage to reputation is done it is difficult to overcome the negative perception. That being said, this aspect of the collection may put the impartiality of the data at risk for manipulation by firm adversaries (e.g. competitors, hostile government and non-governmental organizations) as they may be able to easily spread false rumors. RepRisk argues that the RRI is not actually a measure of reputation, but rather an indicator of firm reputational risk related to ESG issues. This quantification, they argue, facilitates better assessment of firm ESG related reputational risk issues for individuals, firms, or governments considering doing business with a particular firm. It also allows for firm evaluation relative to peers and tracking of ESG related reputational risk over time.

RepRisk believes their approach allows them to verify whether or not a firm's intended practices related to ESG activities are actually occurring. This seems to be a bit of a perplexing claim as the data outputs are the result of possible risk damaging incidents. It is difficult to imagine any firm would intend to have a risk damaging incident.

Furthermore, the numerical or quantitative aspect of the RRI does not seem to account for incidents that are out of the control of a firm (e.g. a natural disaster). RepRisk categorizes the RRI scores ranging from 0 (lowest) to 100 (highest) as low risk (0-25), medium risk (26-50), high risk (51-75), and very high risk (76-100). RepRisk states that most multi-national corporations (MNCs) will fall in the medium risk range because of their visibility among stakeholders and media. The current RRI is essentially a quantification of a firm's reputational risk exposure, to media and stakeholders, related to ESG issues. The index is more sensitive to new exposure. What this means is that with a new risk incident, scores for firms with little or no previous exposure will change more significantly than scores for firms with a lot of past exposure. The RRI score can decay over time, if there are no new risk incidents, and will reach zero in a maximum of two years. The RepRisk methodology does not change if the incident is an E (environmental), S (social), or G (governance) issue and there is no weighting of issues. However, RepRisk does provide the percentage of risk from E, S, and or G issues for firm scores. For the purposes of this study, I use the current RRI score, converting it from monthly to annually, to correspond with the other data being used.

Endogeneity has been a serious issue for scholars examining the link between CSR and firm performance, so some control variables must be included in the analysis. It is plausible that only certain types of firms engage in CSR activities. For example, CSR may possibly be a luxury good where only companies with large amounts of resources (assets, cash, etc.) engage in CSR activities (Eccles et al., 2014). One of the most common control variables is company size, which is an effort to control for the possibility that CSR is a luxury good. Many studies use the statistical technique of taking the natural log of a company's assets (standardizing) before including this variable into a regression equation and I standardize company assets as well. I also include Tobin's Q as a control variable (Q) because firms with higher CSR ratings tend to have higher market to book ratios (Goss & Roberts, 2011). I calculate Tobin's Q from Compustat data using the following equation:

$$q = (prcc_f * csho - ceq + at) / at \quad (3)$$

where prcc_f is stock price end of year, csho is common shares outstanding, ceq is common equity, and at is total assets. Free cash flow is also used as a control variable that is linked to CSR (e.g.Borghesi et al., 2014) with the argument being that firms with more cash may be able to invest in more socially responsible activities. I use free cash flow ($000,000) as a control variable in the analysis (FCF), and calculate free cash flow ($000,000) by summing operating and investing cash flows. Advertising expense ($000,000) is also included as a control variable (AE) as evidence has been found of a correlation with CSR (e.g.Borghesi et al., 2014). The argument here is that firms with more concern about reputation may spend more money on advertising, and conversely advertising could serve as a substitute for actual engagement in CSR activities. I use the abbreviation AE1 for my sample that treats unreported advertising expense as zero, and AE2 for my sample of only explicitly reported advertising expense.

Model Development

Conceptualizing CSR as incorporating multiple levels is not necessarily a new idea. It can be traced back to Wood's (1991) definition of CSP operating at three distinct but related levels. According to a recent review by Aguinis&Glavas (2012), the majority of articles published on CSR since 2005 have focused only on one level of analysis. They argue this is also one of the reasons why CSR research is fragmented. There is a need for research to incorporate the different theoretical lenses of these levels, for example, including stakeholder theory and the resource based view of the firm (Aguinis&Glavas, 2012). Additionally, multilevel studies on CSR could not only look at data nested in hierarchies, but also across time because CSR initiatives do take place over time (Aguinis&Glavas, 2012). These are gaps in the literature that this study aims to fill. In the model developed below, measurement (and modeling) at the base/first level is the firm level and the second/hierarchical level is the industry level.

Multilevel analysis is a powerful method for examining effects that vary by groups (or individuals). It is also able to estimate group level averages. The data used in this study is "nested" where repeated observations on CSR over time are nested within specific firms and those firms are nested within specific industries. Multilevel analysis relaxes the independence assumption and random errors can be clustered. If yij were to represent a dependent/outcome variable, CSR in this case, where i denotes firm and j industry (yij = yfirm,industry) the model in its simplest form, with no predictors and at level 1 (firm level), for firm i nested in industry j would be:

$$y_{ij} = \beta_{0j} + e_{ij} \quad (4)$$

where $\beta 0j$ is the fixed part of the model. This intercept is also sometimes called μ or the grand mean, and below will encompass the independent variables. The random part of the model is eij, which is also sometimes called the residuals. Each of the random effects in a multilevel analysis are assumed to have normal distributions. An equation/model like this one, with both fixed and random effects, is referred to as a mixed model. Therefore, the final model will be a multilevel mixed model.

In this study and with this data there may be an effect common to all firms within an industry, so it is necessary to add an industry level error term. There is much evidence in the CSR literature for industry effects. Stakeholders are more likely to share resources with firms that have established legitimacy (Lounsbury and Glynn, 2001). Firms that do not adhere to norms and standards can fail or be punished by not being allowed to procure relationship dependent resources (Aguilera, Rupp, Williams, et al., 2007). This failure to achieve legitimacy and establish relationships could certainly occur at the industry level. Consistent with prior literature I group firms by industry using the Fama French 49 industry classifications, and refer to this variable as FFind. An effect at the industry level necessitates a level two equation that is substituted for $\beta 0j$ in the original equation:

$$\beta 0j = \gamma 00 + u0j \quad (5)$$

This results in the following equation, which is the null model for the study, where $\gamma 00$ is in the fixed part of the model and u0j as well as eij are in the random part:

$$yij = \gamma 00 + u0j + eij \quad (6)$$

Because of the longitudinal nature of my data, I need to incorporate time into the model. Using dummy variables for each year I add in n-1 terms for time. The time variables are added in the fixed part of the equation resulting in:

$$yij = \gamma 00 + \beta 1(year1)ij + \beta 2(year2)ij \ldots \beta n\text{-}1(yearn\text{-}1)ij + u0j. + eij \quad (7)$$

I finally incorporate my independent variables in the fixed part of the model. For the sake of space, I leave out the year dummy variables in this equation. This results in a model where I estimate CSR as:

$$yij = \gamma 00 + \beta 1RRIij + \beta 2Assetsij + \beta 3Qij + \beta 4FCFij + \beta 7AEij + u0j + eij \quad (8)$$

Results

Descriptive statistics are presented in table one and RRI scores range from a low of zero to a high of 74.5 with a mean score of 10.6. According to RepRisk this mean falls into the low risk category (0–25) and is somewhat inconsistent with their claim that most MNCs will fall into the medium risk range (26 –50). This may be due to the fact that my sample is not comprised solely of MNCs or due to the longitudinal nature of the data used in this study, as there is a decay over time of RRI scores. The entire RRI (current) index from 2007 to 2017 (June) has an average of 6.2 according to RepRisk which is lower than the mean of the RRI data used in this study. The difference could simply be a result of the differing time periods, as the data in this study only goes through 2015, excluding 1.5 years of data included in the average reported by RepRisk. However, it could also indicate that the data used in this study has a higher than average reputational risk for some unknown reason, necessitating the need for a robustness check. I will address this issue further, post estimation. The CSR scores calculated using KLD data range from -9 to 17 with a slightly positive mean of 0.084 (n=16,905). This data is a little different than other KLD sets (e.g.Borghesi et al.) as the number of years included is not as large because the corresponding RRI data only goes back to 2007. ESG scores, as the second measure of CSR, range from a low of 0.826 to a high of 86.776 with a mean of 22.78 (n=34,411). Descriptive statistics for the control variables are qualitatively similar to other studies on the subject (e.g.Borghesi et al., 2014). The mean for LnAssets is 7.417 (n=30,303), Tobin's Q has a mean of 3.732 (n=27,992), and free cash flow has a mean of $279.314 million (n=26,427). The full sample for advertising expense (AE1) has a mean of $39.488 million (n=41,662). For Tobin's Q there are a small number of observations that appear to have extremely high values relative to the mean, so I investigated winsorizing this variable to mitigate possible outlier effects. However, since the raw data mean is very consistent with prior research (e.g.Borghesi et al., 2014) and I found very little difference running the analysis with the winsorized variable, I have left in the original data for my analyses.

Table 1 Descriptive Statistics

All observations					
Variable	Observations	Mean	Std. Dev.	Min	Max
KLD	16,905	0.084	2.517	-9	17
ESG	34,411	22.638	14.624	0.826	86.776
RRI	210,893	10.288	13.433	0	74.583
Assets	30,313	7.417	2.218	0.034	16.323
Q	27,992	3.732	89.934	0.002	12,253.44
FCF	26,427	279.314	7655.487	-133,807	564,694
AE1	41,662	39.488	290.066	0	9,729
AE2	7,184	225.355	667.762	0	9,729
FFind	22,175			1	49

A correlation matrix is presented in table two. These preliminary results are consistent with prior literature as CSR measured by the KLD data is positively correlated with firm size (Assets), market to book ratio (Q), free cash flow (FCF), and advertising expense (AE1). For CSR measured by the Bloomberg ESG data again the preliminary results are consistent with prior literature showing a positive correlation for size, market to book ratio, free cash flow, and advertising expense. Furthermore, both of these measures of CSR are positively correlated with reputational risk (as measured by RRI) providing preliminary evidence to support the hypothesized positive relationship between reputational risk and CSR. The reputational risk variable is positively correlated with firm size, free cash flow, and advertising expense, but negatively correlated with market to book ratio. This is true for the larger samples used in the multilevel analyses with both KLD and ESG data, but in the restricted samples (using AE2) Tobin's Q has a positive correlation.

Table 2 Correlations

All variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	n=3,308
KLD (1)	1.000							
ESG (2) 0.218	1.000							
RRI (3) 0.353	0.186	1.000						
Assets (4)	0.507	0.241	0.574	1.000				
Q (5)	0.040	0.002	-0.044	-0.239	1.000			
FCF (6) 0.093	0.023	0.131	0.123	0.024	1.000			
AE1 (7) 0.324	0.066	0.324	0.299	0.044	0.126	1.000		

Table three reports the estimates, standard errors, and p-values for the multilevel models estimating CSR using the KLD data for measurement of CSR. The Maximum likelihood (ML) method was used for estimation with both the KLD and ESG data sets. All models converged after one iteration. Year dummy variables are again omitted from the results, but all years were statistically significant and negative for the KLD data except for two years in the restricted sample model. First the null model is presented to show a statically significant difference for a mixed model as compared to a fixed effects only model. The test result (see chibar2 on tables 3 & 4) has a p-value of 0.000 showing that indeed the mixed model is an improvement over the fixed effects only model and this finding holds true across all measures of the dependent variable CSR. The null model is also presented to give a baseline in assessing subsequent model fits using deviance, calculated by the formula -2 * log likelihood, and Akaike's Information Criterion (AIC).

I add in the independent variable RRI in Model (1) to examine only the relationship between reputational risk and CSR. A statistically significant positive relationship is found for RRI with a coefficient of 0.089 and a p-value of 0.000. Additionally, the AIC is reduced by 938.36 indicating a better model fit than the null model. In model (2) the control variables linked to CSR in the literature are added as well as dummy variables for year. Consistent with prior literature, positive and statistically significant ($p<.05$) relationships are found for CSR and firm size, market to book ratio, and advertising expense. However, inconsistent with prior literature no relationship was found for free cash flow. This insignificant relationship indicates potential removal of this variable from the model, but doing so actually increases the AIC by 5.98 so I leave it in. Overall model (2) results in the AIC decreasing by 3,860.05 indicating a better model fit including the control variables as well as reputational risk. A positive and statistically significant relationship for reputational risk is found with a coefficient of 0.009 and a p-value of 0.001.

Model (3) uses explicitly reported advertising expenses and, therefore, has a reduction in the number of observations by over half. The statistical significance and direction of relationships do not change for any of the variables. Although the AIC value is much lower for this model, due to the significant decrease in sample size it is not appropriate to compare models (2) and (3) with the AIC. All three models testing RRI and using KLD net scores on five categories support the hypothesis of a positive relationship between reputational risk and CSR.

Table 3Multilevel mixed models estimating CSR 2008 – 2013 (KLD net scores on 5 categories)

Model		null			(1)				(2)				(3)		
DV: KLD (net score)		Est.	SE	p-Value	Est.	SE	p-Value		Est.	SE	p-Value	Est.	SE	p-Value	
Intercept	0.195	0.153	0.204	-0.537	0.179	0.003		-4.204	0.254	0.000	-5.230	0.404	0.000		
RRI					0.089	0.002	0.000		0.009	0.003	0.010		0.028	0.006	0.000
Assets									0.594	0.023	0.000		0.662	0.040	0.000
Q									0.199	0.025	0.000	0.235	0.039	0.000	
FCF									0.000	0.000	0.561		0.000	0.000	0.220
AE1									0.001	0.000	0.000				
AE2													0.000	0.000	0.000
FFind intercept		1.046	0.238		1.438	0.317			1.041	0.234			1.688	0.419	
Residuals		7.548	0.120		6.689	0.106			5.842	0.096			6.414	0.161	
Observations		7,946			7,946				7,339				3,187		
Industry Groups		49			49				49				43		
ICC/rho	0.121	0.024		0.176	0.032			0.151	0.028			0.203	0.040		
Deviance		38,746.82			37,806.46				33,926.42				15,079.758		
AIC		38,752.83			37,814.47				33,954.42				15,107.76		
Chibar2		0.000			0.000				0.000				0.000		

Table four shows the estimates, standard errors, and p-values for the models estimating CSR using the Bloomberg ESG data for the measurement of CSR. First the null model is presented and it too is significantly different from a fixed effects only model (p=0.000). Following the pattern I used in examining the KLD data, Model (1) examines only the relationship between reputational risk (RRI) and CSR (ESG). A statistically significant relationship is found for RRI with a coefficient of 0.214 and a p-value of 0.000. The AIC is reduced by 284.1, indicating that model (1) is a better fit than the null.

In model (2) I again add in the rest of the independent variables including year dummies. The AIC is reduced a further 5,989.66 indicating a better fit than model (1). A positive and significant relationship for reputational risk is found with an estimate of 0.053 and a p-value of 0.001. Consistent with prior literature on CSR, positive and significant relationships are found for size and market to book ratio. However, no significant relationships are found for free cash flow and advertising expense suggesting their possible exclusion from the model. Removing both variables from the model actually increases the AIC to 54143.4. Taking out only FCF increases the AIC to 54141.95, and taking out only AE1 increases the AIC to 54092.06. Based on this and the connection to CSR in the literature I leave both variables in the model.

In model (3) I again test a severely restricted sample size and use only advertising expenses that were explicitly reported. The results are qualitatively the same as model (2) with no relationships changed in terms of statistical significance (p<.05) or direction. The AIC is reduced, but again it is not appropriate to use this number for a comparison to model (2) due to the sample size being reduced by about 60%. All three of the models testing reputational risk by using Bloomberg ESG data show support for the hypothesis of a positive relationship between reputational risk and CSR.

Interestingly, in the ESG data none of the models have significant relationships for the year dummy variables suggesting that they should be left out of the models. However, adding in the dummy variables for year to the null model, as shown in the difference between equation (6) and equation (7), decreases the AIC by 18.93 indicating a better fit with the model that contains dummy variables for year. Additionally, when the year dummies are left out of model (2), as shown in equation (8), the AIC only decreases by 1.07. Due to this better fit and support in the literature for time variations with respect to CSR, I leave the year dummy variables in the model.

Table 4Multilevel mixed models estimating CSR 2010 – 2015 (ESG scores

Model DV: ESG	null Est.	SE	p-Value	(1) Est.	SE	p-Value	(2) Est.	SE	p-Value	(3) Est.	SE	p-Value
Intercept	20.489	0.638	0.000	18.267	0.620	0.000	4.514	1.137	0.000	1.580	1.835	0.389
RRI				0.214	0.012	0.000	0.053	0.016	0.001	0.056	0.025	0.026
Assets							1.853	0.114	0.000	2.127	0.181	0.000
Q							0.407	0.108	0.000	0.504	0.155	0.001
FCF							0.000	0.000	0.095	0.000	0.000	0.490
AE1							0.000	0.000	0.058			
AE2										0.000	0.000	0.094
FFind intercept	17.531	4.227		15.688	3.835		16.932	4.093		46.131	12.648	
Residuals	165.838	2.624		159.760	2.604		152.973	2.623		126.786	3.447	
Observations	7,578			7,578			6,856			2,761		
Industry Groups	49			49			49			43		
ICC/rho	0.095	0.020		0.089	0.019		0.099	0.021		0.266	0.054	
Deviance	60,358.22			60,072.12			54,064.46			21,321.78		
AIC	60,364.22			60,080.12			54,090.46			21,347.79		
Chibar2	0.000			0.000			0.000			0.000		

Upon cursory examination of the two distributions of CSR (from best to worst) by industry (KLD vs. ESG), they appear to be very similar to each other. For example, the Fama French industry categories beer and liquor, computer hardware, and printing and publishing have some of the highest scores, while the categories ship building, railroad equipment and coal industries have some of the lowest scores. There are, however, a couple of major exceptions. Coal is clearly the lowest rated industry in the KLD data while in the ESG data it is ranked as forth best. Overall the mean of the ESG data is 22.638 and the coal industry mean is 28.54. This difference between the KLD and Bloomberg data with respect to coal could be a result of the differing time periods. Specifically, KLD data ends in 2013 and so perhaps does not capture some of the major changes that have occurred in this industry particularly in the United States. Another interesting exception is the industry Recreation, which is ranked as third best in the KLD data while it is ranked second to last in the ESG data. Again here, perhaps this is due to some time period differences. Overall the distributions provide evidence for similarities in the two measures of CSR and provide support for using ESG as a measure of CSR. Additionally, these distributions show evidence that there is variation in CSR between industries.

The possibility exists that by using data only on firms with CSR ratings could cause biased results as not all firms engage in CSR activities. Indeed, as mentioned previously, the RRI data used in this study has a higher mean at 10.288 than the historical average RRI (current) reported by RepRisk as 6.2. However, when restricting the sample to the firms used in model 2, for the KLD data, the means are actually much closer. The mean RRI corresponding to the KLD data is 7.202 (n=7,339). However, when restricting the sample for the ESG data the mean for my sample in model (2) remains very close to the overall mean at 10.208 for RRI (n=6,856).

Additionally, to test for the counterfactual possibility that using only RRI data for firms with corresponding CSR data is biased, I employ the use of a difference-in-differences (DID) analysis using firm data from RepRisk (RRI), comparing firms in the RepRisk sample with corresponding data on CSR from KLD or Blomberg ESG (treated firms), to firms with no corresponding data on CSR (control firms). The DID analysis (n=234,330) does show that a statistically significant (p=0.000) difference exists for RRI scores between firms with CSR data and without CSR data. However, the difference-in-differences estimate is only 1.173 (r-square =0.03) on a 100 point scale, so the actual difference in the data is minimal.

Discussion

This study reexamines the concept of CSR as insurance, through a Stakeholder theoretical lens, and incorporates some supplementary non-traditional data sources. Additionally, most studies have examined CSR as an independent variable, however, this one follows a very recent trend in research and reverses that relationship by using CSR as the dependent variable. Furthermore, the study takes a more novel approach in analyzing CSR, namely utilizing a multilevel approach. Confirmatory evidence is found for both the hypothesis of this study and the methods employed. Statistically significant evidence is found for an insurance like benefit from CSR activities. This is an additional reason why pursuing CSR activities may make fundamental sense for firms, namely, insuring against potential profit losses due to a negative reputational event. The implication for managers is that they should also view CSR as insurance like for firm reputational risk, and not just investment like. Indirectly, this evidence should cause managers also to consider the firm's broad value creation for stakeholders, and not just (narrow) profits for shareholders.

The fact that the majority of models tested in this study support the hypothesis has conceptual and empirical implications for future research. First, conceptually, this study provides additional evidence for CSR as an insurance like mechanism. This study also provides support for viewing CSR activities through a Stakeholder, rather than Shareholder, lens. However, even though evidence is found for a positive relationship between reputational risk and CSR, the true relationship may be more complicated than a direct (or linear) positive relationship (e.g. between the two operationalized variables used in this study). The literature on this topic is relatively young, at less than 10 years old and is discussed in a number of journals in different disciplines. This fragmentation of the literature may be slowing the theoretical development of this relationship. The link between reputational risk and CSR as currently conceptualized may be incomplete. For example, there may be other or different mechanisms linking them, or there may be intervening variables that possibly mediate or moderate the relationship. Further study is needed into the complete nature of the relationship between reputational risk and CSR.

Additionally, this study finds support for conceptualizing CSR as a multilevel construct and analyzing it empirically with a multilevel mixed model. In their review of the literature on CSR, Aguinis and Glavas (2012) note an incongruence between the CSR construct and most methodological approaches examining it which rely primarily on cross-sectional data and single levels of analysis. In fact, they only found 5% of CSR studies used a multilevel analysis.

The methods in this study answer their call for more multilevel studies on CSR using longitudinal data. The results in this paper show that such an analysis can be done both empirically and conceptually. Empirically, this study shows the appropriateness of employing a currently under-utilized data source for examining CSR, namely Bloomberg ESG data. The hypothesis in this study, that CSR and reputational risk are positively correlated, is found by using both KLD data and Bloomberg ESG data to measure CSR, and RepRisk data to measure reputational risk. A statistically significant positive relationship ($p<.05$) is found in all three models using KLD data and three out of three models using ESG data. This suggests that Bloomberg ESG data is suitable for studies examining CSR by way of comparison to KLD data based on five categories.

The ESG data from Bloomberg exhibits some of the relationships found in traditional KLD data including correlations with firm size (Assets), market to book ratio (Q), free cash flow (FCF), and advertising expense (AE). In particular, firm size, as measured by LnAssets, has a very strong positive correlation with the DV measured by ESG data. Prior literature on CSR, using traditional measures like the KLD data, has firmly established positive relationships between CSR and these control variables. The sample data in this study has also shown positive relationships ($p<.05$) between the control variables and the KLD data. The ESG data in this study has demonstrated the characteristics of traditional CSR data with respect to the control variables providing support that the Bloomberg ESG data can be a measure of CSR. Using Bloomberg ESG data, which is solely firm based as compared to KLD data that is firm and third party sourced, may yield interesting results for academic research. Furthermore, this data may be more relevant to future academic research than KLD data. One of the most obvious reasons is that KLD data stops in 2013 while Bloomberg ESG data is ongoing. In order to examine current and relevant issues related to CSR it may be necessary to supplant and replace KLD data with a current source like Bloomberg ESG. Furthermore, the concept of CSR, in both practice and academia, appears to be shifting to more of an ESG definition. If this trend continues, this will contribute to the appropriateness of using Bloomberg ESG data as it is intentionally focused on the three Environmental, Social and Governmental dimensions (and KLD data was not originally focused on these three dimensions).

The results of this study also suggest that RepRisk data is a suitable source for measuring reputational risk. With respect to measurement, RRI is presented as a suitable measure for reputational risk, with evidence found for a relationship between RRI and CSR in several different models. Interestingly, the relationships were found between the solely firm sourced ESG data and solely third party sourced RepRisk data, which may provide evidence for RepRisk's goal of evaluating firm intentions vis-à-vis firm actions relating to ESG. Relationships were also found with the KLD data, which uses a combination of firm and third-party sources. Future research is needed to make explicit the implications and nuances of using firm sourced, third party sourced, or combination data on CSR activities.

In summation, this study provides evidence that both Bloomberg ESG data as a measure of CSR and RepRisk's RRI as a measure of reputational risk, are two underutilized alternative data sources that should be explored further. I reiterate the call of prior research to incorporate additional data sets into the study of CSR for measurement. Use of Bloomberg ESG data and RepRisk's RRI measure of reputational risk can help broaden our empirical understanding of the complex real-world phenomena of CSR. Additionally, using data sets that are traditional in other fields (e.g. Bloomberg terminal data is often used in the Finance literature) can help overcome some of the fragmentation of current CSR research.

A number of factors could be affecting the relationships under investigation in this study, making detection difficult. One factor is the time period. After a longer time period a more salient relationship may be found, but there is conflicting evidence in this study as the models with the shortest time period (2011 – 2015) are the ones with higher estimated coefficients for RRI. However, this could be due to the nature of the ESG data. It is reasonable that Bloomberg ESG data has more of a correlation with the RepRisk data than KLD data, because both Bloomberg and RepRisk data explicitly focus on the environmental, social, and governmental dimensions and KLD only implicitly addresses these dimensions. Control variables could raise another limitation to this study, as additional variables linked to CSR are present in literature and perhaps one or more that are missing in this study are relevant for examining the relationship between CSR and reputational risk. Furthermore, there could be unforeseen implications of the statistical model used to analyze the relationships in this study. Although the models used in this study adhere to methods consistent with some prior literature on CSR, these methods may not be sufficient for examining the relationship between CSR and reputational risk. As mentioned previously, multilevel models examining CSR have not been widely used. Further investigation is needed.

Measuring firm CSR through disclosures, as in both the KLD data and Bloomberg data, may lead to potential endogeneity issues as it could be likely that firms with higher levels of CSR or more reputational issues would be more likely to report (or not report). Dhaliwal et al. (2011) argue that firms with greater CSR performance are more likely to disclose their CSR activities. It would be logical for managers of a firm to promote activities that are viewed positively by stakeholders. Gelb and Strawser (2001), using regression and analyzing 233 firms over four years, found a positive relationship between CSR, measured by third party ratings, and (higher) levels of disclosure which were also measured by third party rankings. However, this could still be a case of more (or only) socially responsible firms reporting and making up the sample. Even though in this study I find no major differences between firms reporting CSR and not reporting CSR (conducting a DID analysis using the RepRisk sample), further investigation is warranted.

There is also the issue that CSR data, even if self-reported, may not be accurate. Again, this study found no major differences in RRI scores using the RepRisk sample as a base for companies that have CSR data and companies that do not have CSR data. While the RepRisk data relies only on external third-party sources, independent audits of CSR reports are needed just as with traditional financial disclosures. As previously mentioned, RepRisk does not authenticate the accuracy of ESG risk related incidents. While in the short term this may be irrelevant for the effect on reputation risk (i.e. rumors can cause reputational damage regardless of accuracy), it is relevant for long term firm issues related to CSR. Currently, CSR reporting alongside traditional financial/accounting disclosures is not required in the US, but it is required in the European Union. Perhaps this will continue to be the trend. Furthermore, external assurance, or rather auditing, of CSR disclosures is not mandatory in the US nor in most countries around the world. However, according to a KPMG study many large multi-national corporations do in fact use some sort of external assurance (Huang & Watson, 2015). This too is an area ripe for further investigation.

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