J Bus Ethics (2013) 117:679–694
DOI 10.1007/s10551-013-1714-2

Corporate Social Responsibility and Credit Ratings

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Received: 29 May 2012 / Accepted: 5 April 2013 / Published online: 16 May 2013
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Abstract This study provides evidence on the relationship between corporate social responsibility (CSR) and firms' credit ratings. We find that credit rating agencies tend to award relatively high ratings to firms with good social performance. This pattern is robust to controlling for key firm characteristics as well as endogeneity between CSR and credit ratings. We also find that CSR strengths and concerns influence credit ratings and that the individual components of CSR that relate to primary stakeholder management (i.e., community relations, diversity, employee relations, environmental performance, and product characteristics) matter most in explaining firms' creditworthiness. Overall, our results suggest that CSR performance conveys important non-financial information that rating agencies are likely to use in their evaluation of firms' creditworthiness, and that CSR investments—particularly those that extend beyond compliance behavior to reflect what is desired by society—can lead to lower financing costs resulting from higher credit ratings.

Keywords Business ethics · Corporate social responsibility · Credit ratings

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Introduction

The importance of corporate social responsibility (CSR) is the subject of growing corporate and media attention both within and outside the USA. A 2008 survey by KPMG, for instance, reveals that 80 % of *Fortune* Global 250 firms release corporate responsibility information either in stand-alone reports or integrated into annual financial reports. Similarly, *Ethical Corporation* magazine's 2010 survey finds that 67 % of the 116 surveyed firms measure the social and/or economic impact of their businesses on the communities in which they operate, and both the *Wall Street Journal* and the *Financial Times* include CSR—along with finance, marketing, accounting, and operations—in their assessment of top business schools. Equally important, the Social Investing Forum reports that in the USA, social investing assets have risen to $3.07 trillion out of $25.1 trillion in assets under management as of year-end 2009.

Against the backdrop of increased corporate engagement in social activities, the question of whether CSR improves corporate financial performance (CFP) remains largely unanswered. While the meta-analytic findings of Orlitzky et al. (2003) suggest a positive correlation between CSR and financial performance, extant empirical research that uses accounting profitability as a measure of financial performance finds mixed evidence on the link between CSR and CFP. For instance, Margolis and Walsh (2003) show that 48 of 109 reviewed studies do not find a

distinguishable relationship between CSR and financial performance, whereas 54 (7) document a positive (negative) relationship. As a result, managers lack clear guidance regarding the desirability of investment in CSR (McWilliams and Siegel 2001), which has prompted further research on how financial markets perceive socially responsible firms.

An emerging line of research addresses these concerns by examining the impact of CSR on a firm's cost of financing. El Ghoul et al. (2011) document that CSR is associated with lower cost of equity capital. Menz (2010) reports a weak positive relationship between CSR and bond spreads in Europe. Chava (2011) shows that firms with environmental concerns pay a higher interest rate on their bank loans, and Goss and Roberts (2011) find that firms with below-average environmental and social performance are associated with a higher—yet modest—premium on their cost of private bank debt. Sharfman and Fernando (2008), in contrast, find that firms with good environmental performance bear higher bond yields (and have higher leverage).

The current study extends the above line of research by investigating the effects of CSR on firms' credit ratings. Our focus is motivated first by Weber et al. (2010), who find based on a survey of 40 German banks that firm social performance is relevant to its credit risk assessment, and by Weber (2012), who finds that all six Canadian commercial banks systematically examine environmental risks when assessing firms' credit, loans, and mortgages. Our focus is also motivated by the possibility that the lack of clear evidence on the financial benefits of CSR is due in part to prior studies' use of short-term accounting profitability to measure financial benefits. We argue that the benefits of CSR materialize mainly in the form of intangible assets such as reputation and relationships with stakeholders that are unlikely to have an immediate effect on short-term accounting profitability.[1] Further, firms engaging in CSR incur costs that may weaken the link between CSR and accounting profitability. These arguments are consistent with the strategic view of CSR (Orlitzky et al. 2011), which holds that voluntary CSR actions positively affect primary stakeholders' interests and enhance the firm's competitiveness and reputation. This definition of CSR reflects firm actions that go beyond mere business ethics (Matten and Moon 2005) to incorporate firms' discretionary responsibilities that "appear to further some social good, beyond the interests of the firm and that which is required by law" (McWilliams and Siegel 2001, p. 117).[2]

Our focus on the impact of CSR on firms' credit ratings is furthered by Menz's (2010) argument that credit market pressure for CSR is larger than that of equity market. Given that CSR activities affect a firm's financial as well as non-financial information such as the strength of its management and its long-term sustainability, we posit that credit rating agencies collect and process CSR-related information in assessing a firm's creditworthiness. This conjecture is consistent with Dallas (2004a), who suggests that credit rating agencies carefully consider firms' CSR ratings. Indeed, as we discuss in the next section, Standard & Poor's (S&P) corporate ratings criteria specifically incorporate CSR-related criteria into their ratings assessments.

To empirically examine the effects of CSR on firms' credit ratings, we use the CSR scores of MSCI ESG Research as our proxy for CSR performance and the long-term issuer credit ratings of S&P as our measure of credit ratings.[3] Based on a sample of 11,662 US firm-year observations representing 1,585 unique firms over the period 1991–2010, we find that investment in CSR is associated with higher credit ratings. Thus, while Goss and Roberts's (2011) evidence of modest interest rate premium on private bank loan associated with CSR suggests that banks do not regard CSR as significantly value enhancing or risk reducing, our evidence offers strong support to the view that firms should improve their CSR performance to enhance their credit ratings, which in turn leads to reduced financing costs.[4] This evidence has important implications for financial management. In particular, given that firms frequently raise external financing (debt and equity), firms can reduce their cost of capital and thereby improve their long-term competitiveness by improving their social

[1] To illustrate, consider a firm that invests in pollution control equipment (Waddock and Graves 1997a). Because capital investment is expensed over time, this socially responsible behavior can weaken or even negate the potentially positive effects of CSR on short-term profitability. However, because this investment will help protect the firm from violations of environmental regulations and litigation, it is likely to enhance the firm's credit standing by reducing the probability of financial distress arising from environmental failures and lawsuits. We therefore argue that firms' credit ratings are a better measure of the financial benefits of CSR.

[2] This is also in accord with Carroll's (1979, 1991) view of CSR. Carroll (1979) defines CSR using a four-layer pyramid, where each layer reflects one of the four interrelated aspects of CSR: economic, legal, ethical, and discretionary (or philanthropic) responsibilities. The first two layers (economic and legal responsibilities) are socially required, the third layer (ethical responsibilities) is socially expected, and the fourth layer (philanthropy) is socially desired (Carroll 1991; Windsor 2001).

[3] We consider firm-level credit ratings rather than specific debt issue ratings because the former reflect the overall default risk of the company, while the latter reflect the default risk associated with a single bond issue (Weber 2006) and thus are less likely to be influenced by CSR activities.

[4] Goss and Roberts' (2011) evidence is based on private debt extended by banks, which are considered pressure-sensitive institutions (Brickley et al. 1988). Credit rating agencies, in contrast, are less likely to depend on business relationships with the firms they rate and thus to serve as "gatekeepers" who protect investors' and other stakeholders' interests.

performance. The current study thus complements related research by identifying a specific channel (i.e., credit ratings) through which CSR affects firms' financing costs and corporate performance.

The rest of the article proceeds as follows. In the "CSR and Credit Ratings: Discussion and Hypothesis" section, we discuss credit rating agencies' incorporation of CSR information into their rating assessments and we develop our main hypothesis on the relation between CSR and credit ratings. In the "Data and Research Design" section, we describe our data and research design. We provide results in the "Empirical Evidence" section and conclude in the "Concluding Remarks" section.

CSR and Credit Ratings: Discussion and Hypothesis

In this section, we first discuss credit rating agencies' incorporation of CSR information into their rating assessments. We then build on extant literature to develop our main hypothesis on the relation between CSR and credit ratings.

Our primary source of credit ratings data is S&P. A review of the agency's 2008 corporate ratings criteria guidebook indicates that S&P considers two broad categories of risk, namely business risk and financial risk, in its rating decisions. While S&P does not explicitly use the term "corporate social responsibility," the criteria that affect business and financial risk include a broad set of CSR-related activities. For example, the guidebook states that "how management handles unions and employees can determine a company's fate in cases where a strike could be fatal to operations," and that "relations with regulators or government officials are important…" (p. 33). The guidebook also emphasizes that governance "covers a broad array of topics relating to how a company is managed; its relationship with shareholders, creditors, and others, and how its internal procedures, policies, and practices can create or mitigate risk" (p. 34). Moreover, according to Dallas' (2004b) handbook on corporate governance and risk, the agency considers the extent to which a company "maintains good public reporting on key areas of employee, community, and environmental activities that address concerns of non-financial stakeholders and maintain an active policy of engagement with diverse investor and stakeholder interests" (p. 82) when assessing the firm's relationships with key external stakeholders.

While S&P's ratings criteria include a broad set of CSR activities as described above, actual rating outcomes (i.e., credit ratings) may not be significantly associated with CSR activities if other traditionally important ratings criteria, such as profitability and existing debt level, dominate rating decisions. In this study, we use a multivariate regression framework to examine the impact of CSR activities on credit ratings after controlling for key financial ratios known to affect credit ratings. This regression approach allows us to test whether information on CSR activities, as distinct from other information considered by rating agencies, can help explain firms' rating assessments.

The key premise underlying our investigation is that CSR activities positively affect credit ratings. We argue that CSR activities can increase a firm's credit rating by reducing the firm's perceived risk of financial distress through at least three channels: (1) by improving relations with firm stakeholders and in turn increasing the firm's long-term sustainability, (2) by signaling the firm's efficient use of internal resources and sound financial performance, and (3) by reducing the firm's likelihood of incurring the costs associated with socially irresponsible behavior.

First, the good management hypothesis of Waddock and Graves (1997a) holds that CSR activities improve relationships with key stakeholder groups including consumers, employees, suppliers, and regulators. Similarly, Fombrun and Shanley (1990) suggest that a good CSR reputation can improve a firm's relationships with its stakeholders. Better relationships with a firm's different stakeholder groups can lead to the creation of valuable intangible assets (e.g., increased customer loyalty, increased ability to attract and retain high-quality employees; Turban and Greening 1997; Greening and Turban 2000) that are essential to a firm's long-term sustainability. Better relationships with firm stakeholders can also enhance a firm's sustainability by improving its competitive position and in turn financial performance (Legnick-Hall 1996; Whitehouse 2006). Building on these arguments, we expect improved relationships with firm stakeholders to result in a more efficient use of firm resources and a reduction in uncertainty. We therefore posit that credit analysts view CSR activities favorably in their rating decisions because the resulting improvements in long-term sustainability reduce the probability of default.

Second, Waddock and Graves (1997a) argue that firms invest strategically in CSR by using internal financial resources to meet stakeholder expectations and enhance firm competitiveness and reputation. This argument is consistent with the resource-based view of the efficient use of valuable internal resources (Barney 1991) to finance CSR investments (e.g., product innovation, employee relations) that are less likely to be financed by external funds (Surroca et al. 2010). Building on these arguments, we expect that firms can reduce their perceived risk of financial distress by signaling the availability and efficient allocation of internal resources through their CSR initiatives. We thus posit that credit analysts view CSR activities favorably in their rating decisions to the extent that CSR

activities are perceived to be associated with the efficient use of internal resources.

Third, Shane and Spicer (1983) argue that disclosure of socially-oriented information affects the public perception of the firm's level of compliance and, thus, the probability distributions of its future cash flows. This may in turn increase the idiosyncratic risk of firms with a poor CSR record (El Ghoul et al. 2011), which would lead to a reduction in a firm's credit rating. Consistent with this view, Lee and Faff (2009) and Boutin-Dufresne and Savaria (2004) document that low CSR firms exhibit significantly higher idiosyncratic risk. Similarly, Frederick (1995), King (1995), Starks (2009), and El Ghoul et al. (2011) show that investors perceive socially irresponsible firms as having a higher level of risk than other firms. Chatterji et al. (2009) further show that firms with poor social performance are associated with significantly more pollution and regulatory compliance violations than other firms. Hong and Kacperczyk (2009) argue that "sin" firms (e.g., tobacco, alcohol, and gaming firms) face higher litigation risk than other firms, and Feldman et al. (1997, p. 89) show that firms that adopt an "environmentally proactive posture" significantly reduce their perceived risk. Based on this evidence, we posit that credit analysts view investment in CSR as insurance against the dramatic costs that can arise as a result of socially irresponsible behavior (Herremans and Akathaporn, 1993).

Taken together, the arguments above suggest that CSR reduces the perceived risk of financial distress and thus has a positive effect on firm credit ratings.

Data and Research Design

Sample Selection

To investigate the relationship between CSR and firm credit ratings, we merge data from the following sources: *Compustat*, which provides credit ratings and financial statement data; the Center for Research in Security Prices (*CRSP*), which provides stock return data; Thompson's Institutional Brokers Estimate System (*I/B/E/S*), which provides analyst forecast data; *MSCI ESG STATS* (formerly known as *KLD STATS*), which provides CSR data. To construct firm-specific controls for our regressions, we require firms to have total assets, earnings before interest and taxes, interest expense, operating income, net sales, long-term debt, property, plant, and equipment (*PPE*) and net income before extraordinary items in *Compustat* and stock returns during the fiscal year in *CRSP*. These screens yield an unbalanced panel of 11,662 US firm-year observations representing 1,585 unique firms over the period

Table 1 Sample breakdown by industry

Industry	*N*	%
Agriculture	41	0.35
Aircraft	142	1.22
Almost nothing	106	0.91
Apparel	134	1.15
Automobiles and trucks	210	1.80
Banking	168	1.44
Beer and liquor	93	0.80
Business services	557	4.78
Business supplies	347	2.98
Candy and soda	41	0.35
Chemicals	468	4.01
Coal	61	0.52
Communication	588	5.04
Computers	292	2.50
Construction	178	1.53
Construction materials	230	1.97
Consumer goods	269	2.31
Defense	48	0.41
Electrical equipment	168	1.44
Electronic equipment	417	3.58
Entertainment	191	1.64
Fabricated products	16	0.14
Food products	297	2.55
Healthcare	193	1.65
Insurance	633	5.43
Machinery	438	3.76
Measuring and control equipment	159	1.36
Medical equipment	183	1.57
Non-metallic and industrial metal mining	71	0.61
Personal services	114	0.98
Petroleum and natural gas	709	6.08
Pharmaceutical products	411	3.52
Precious metals	68	0.58
Printing and publishing	188	1.61
Real estate	29	0.25
Recreation	86	0.74
Restaurants, hotels, motels	183	1.57
Retail	745	6.39
Rubber and plastic products	49	0.42
Shipbuilding, railroad equipment	35	0.30
Shipping containers	94	0.81
Steel works	253	2.17
Textiles	50	0.43
Tobacco products	30	0.26
Trading	269	2.31
Transportation	396	3.40
Utilities	862	7.39

Table 1 continued

Industry	*N*	%
Wholesale	352	3.02
Total	11,662	100

This table presents the sample distribution by industry based on Fama and French's (1997) industry classification. The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period

1991–2010. Table 1 presents the sample breakdown by industry using Fama and French's (1997) industry classification.

Firm Credit Ratings

Following related studies (Blume et al. 1998; Bhojraj and Sengupta 2003; Mansi et al. 2004; Ashbaugh-Skaife et al. 2006, among others), we specify our measure of firm credit ratings (*RATING*) by transforming the long-term issuer credit ratings compiled by S&P and reported in *Compustat* to an ordinal scale. Accordingly, we assign a value of 8 if the firm has an S&P rating of AAA, 7 if AA, 6 if A, 5 if BBB, 4 if BB, 3 if B, 2 if CCC, and 1 if CC. The sample breakdown by S&P credit rating and year, reported in Table 2, suggests that the A, BBB, and BB ratings show a pronounced increasing pattern over time, in contrast to the AAA and AA ratings.

Corporate Social Responsibility

Our original sample is drawn from *MSCI ESG STATS*, a database compiled by *MSCI ESG Research*. *MSCI ESG* and its predecessor, *KLD Research & Analytics Inc.*,[5] have been providing analysis on companies' environmental, social, and governance practices to investors interested in integrating social responsibility features in their investment decisions since 1988. *KLD* data are widely used in CSR studies (e.g., Hillman and Keim 2001; Waddock 2003; Chatterji et al. 2009). Surroca et al. (2010, p. 465), for example, describe *KLD* data as a multidimensional and stakeholder-defined assessment of CSR "gathered externally by an independent social research firm, and based on a variety of internal and external sources of information, using consistent criteria from year to year."*MSCI ESG,* which builds on *KLD*'s legacy, evaluates each firm along CSR strengths or concerns in 7 qualitative issue areas using surveys, financial statements, media reports, government documents, regulatory filings, proxy statements, and peer-reviewed legal journals. These qualitative issue areas include the community, corporate governance, diversity, employee relations, the environment, human rights, and product characteristics. For each qualitative issue area, *MSCI ESG* assigns a binary (0/1) rating to a set of concerns and strengths, as illustrated in "Appendix A." We calculate a score for each qualitative issue area equal to the number of strengths minus the number of concerns. We then sum the qualitative issue areas' scores to obtain an overall CSR score (*CSR_S*). In estimating *CSR_S*, we follow El Ghoul et al. (2011) and exclude corporate governance because our definition of CSR does not include conflicts of interest between insiders and shareholders. Nonetheless, our inferences remain similar if we include corporate governance. More detailed variable definitions are provided in "Appendix B."

Table 3 presents descriptive statistics for the CSR scores over the sample period. The CSR scores exhibit non-negligible variation over time, ranging from a minimum of −9 to a maximum of 15. The overall median is zero, however, suggesting a relatively balanced distribution of firms with negative and positive CSR scores.

[5] In 2009, KLD was acquired by RiskMetrics, which in turn was acquired by MSCI in 2010.

Table 2 Sample breakdown by S&P Credit rating and year

Years	*RATING*								Total
	1	2	3	4	5	6	7	8	
1991	1	4	9	27	62	107	52	10	272
1992	1	0	12	25	73	105	51	11	278
1993	0	0	11	21	74	114	51	9	280
1994	0	0	10	21	77	111	51	11	281
1995	0	0	8	26	76	118	49	11	288
1996	0	0	9	23	85	126	48	11	302
1997	0	0	8	21	98	142	42	9	320
1998	0	1	7	25	107	147	42	10	339
1999	1	1	6	32	125	147	36	11	359
2000	2	0	9	39	128	147	32	11	368
2001	2	3	34	105	198	162	29	11	544
2002	1	0	33	130	212	161	24	9	570
2003	1	7	142	288	263	172	22	9	904
2004	1	8	167	291	283	163	20	8	941
2005	0	3	159	288	278	169	19	7	923
2006	0	5	167	299	283	154	21	7	936
2007	0	3	181	300	280	156	22	7	949
2008	1	13	179	281	281	145	23	6	929
2009	3	23	200	252	289	134	21	6	928
2010	0	16	216	250	311	135	19	4	951
Total	14	87	1,567	2,744	3,583	2,815	674	178	11,662

This table presents the number of issuer ratings by year. Standard & Poor's long-term issuer credit ratings are converted to an ordinal scale according to the following schedule: 8 (AAA), 7 (AA), 6 (A), 5 (BBB), 4 (BB), 3 (B), 2 (CCC), 1 (CC). The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period

Table 3 Descriptive statistics for the CSR score by year

Years	Mean	Min	Q1	Median	Q3	Max	SD
1991	0.09	−6	−1	0	1	5	2.11
1992	0.00	−7	−1	0	2	7	2.33
1993	−0.02	−7	−2	0	2	7	2.60
1994	0.22	−7	−1	0	2	6	2.69
1995	0.81	−7	−1	1	2	10	2.74
1996	0.76	−8	−1	0	2	9	2.56
1997	0.76	−7	−1	0.5	3	10	2.68
1998	0.79	−7	−1	1	3	9	2.70
1999	0.66	−7	−1	1	3	11	2.83
2000	0.66	−8	−1	1	2	11	2.83
2001	0.13	−9	−1	0	1	9	2.53
2002	0.08	−9	−1	0	1	9	2.57
2003	−0.26	−9	−1	0	1	10	2.20
2004	−0.45	−8	−2	−1	1	11	2.26
2005	−0.45	−8	−2	−1	1	11	2.47
2006	−0.41	−8	−2	−1	1	15	2.67
2007	−0.38	−8	−2	−1	1	14	2.79
2008	−0.35	−9	−2	−1	1	13	2.85
2009	−0.41	−9	−2	−1	1	13	2.87
2010	0.35	−7	−2	0	2	14	3.39
Total	−0.05	−9	−2	0	1	15	2.71

This table provides the mean, minimum, first quartile, median, third quartile, maximum, and standard deviation of the CSR score by year. The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period

Control Variables

To isolate the effects of the CSR variables—our key test variables—we control for a set of variables routinely used in studies of firm credit ratings (e.g., Blume et al. 1998; Bhojraj and Sengupta 2003; Mansi et al. 2004; Ashbaugh-Skaife et al. 2006): *SIZE,* the natural logarithm of total assets in millions of US dollars; *COVERAGE*, the ratio of earnings before interest and taxes plus interest expense divided by interest expense; *MARGIN*, the ratio of operating income to sales; *LEVERAGE,* the ratio of long-term debt to total assets; *CAPINT*, the ratio of *PPE* to total assets; *BETA,* the stock return beta measured over the fiscal year estimated using Dimson's (1979) model with one lag and one lead of the CRSP value-weighted index; and *LOSS*, an indicator variable set to 1 if net income before extraordinary items is negative in the current and previous year, and 0 otherwise. In addition, in all model specifications, we include industry fixed effects using Fama and French's (1997) industry classification because default risk may vary across industries. Again, more detailed variable definitions are provided in "Appendix B."

Table 4 Descriptive statistics for regression variables

Variables	Mean	Q1	Median	Q3	SD
RATING	4.87	4.00	5.00	6.00	1.21
CSR_S	−0.05	−2.00	0.00	1.00	2.71
SIZE	8.43	7.49	8.28	9.31	1.36
COVERAGE	10.16	3.20	5.56	10.68	14.95
MARGIN	0.19	0.10	0.16	0.25	0.15
LEVERAGE	0.27	0.14	0.25	0.35	0.17
CAPINT	0.33	0.13	0.28	0.52	0.25
BETA	1.12	0.70	1.02	1.44	0.63
LOSS	0.16	0.00	0.00	0.00	0.36

This table provides the mean, first quartile, median, third quartile, and standard deviation of the regression variables. The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period. "Appendix B" provides definitions and data sources for all variables

Table 4 presents descriptive statistics for our key explanatory variables, and Table 5 reports the pairwise correlations between these variables. In line with our expectations, the correlation coefficient between *CSR_S* and *RATING* is positive, though low, plausibly reflecting variability in the impact of *CSR_S* on *RATING*. More generally, we report low pairwise correlation coefficients among the control variables, mitigating concerns that multicollinearity could be affecting our multivariate regression results.

Empirical Evidence

Regression Analysis

In this section, we empirically analyze the effect of CSR on credit ratings. Given the ordinal (discrete) nature of our dependent variable (*RATING*), we follow prior research (e.g., Blume et al. 1998; Bhojraj and Sengupta 2003) and use an ordered probit model instead of the standard linear regression model (OLS) as proposed by Greene (2000).[6] The results are presented in Table 6.

We start by running a baseline model in which we include control variables commonly used in studies of firm credit ratings. The results, reported in model 1, are consistent with prior research (e.g., Blume et al. 1998; Bhojraj and Sengupta 2003; Ashbaugh-Skaife et al. 2006). For instance, the estimated coefficient on *SIZE* is positive and significant at the 1 % level, indicating that large firms are less likely to default. Next, in line with the findings of Blume et al. (1998) and Bhojraj and Sengupta (2003), *BETA* has a negative and significant coefficient at the 1 % level, suggesting an adverse

[6] All results remain unchanged when we use an ordered logit framework.

Table 5 Correlation matrix

	RATING	*CSR_S*	*SIZE*	*COVERAGE*	*MARGIN*	*LEVERAGE*	*CAPINT*	*BETA*	*LOSS*
RATING	1.00								
CSR_S	**0.25**	1.00							
SIZE	**0.49**	**0.13**	1.00						
COVERAGE	**0.28**	**0.16**	**0.06**	1.00					
MARGIN	**0.15**	**0.03**	**0.17**	**0.10**	1.00				
LEVERAGE	**−0.44**	**−0.13**	**−0.22**	**−0.42**	**0.13**	1.00			
CAPINT	**−0.02**	**−0.14**	**−0.03**	**−0.18**	**0.22**	**0.24**	1.00		
BETA	**−0.41**	**−0.10**	**−0.14**	**−0.06**	**−0.12**	**0.11**	**−0.07**	1.00	
LOSS	**−0.36**	**−0.07**	**−0.12**	**−0.22**	**−0.23**	**0.25**	**0.03**	**0.28**	1.00

This table presents pairwise correlation coefficients between the regression variables. Coefficients in bold are significant at the 5 % level. The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period. "Appendix B" provides definitions and data sources for all variables

Table 6 Ordered probit results on the effect of CSR on credit ratings

	(1)	(2)	(3)	(4)	(5)
CSR_S		0.064***			
		(6.082)			
CSR_STR_R			0.065***		0.069***
			(4.942)		(5.280)
CSR_CON_R				−0.047***	−0.055***
				(−2.867)	(−3.391)
SIZE	0.492***	0.485***	0.430***	0.531***	0.473***
	(18.551)	(18.252)	(14.661)	(18.382)	(15.176)
COVERAGE	0.015***	0.014***	0.014***	0.015***	0.014***
	(7.514)	(6.910)	(7.042)	(7.402)	(6.895)
MARGIN	0.897***	0.838***	0.964***	0.805***	0.861***
	(3.534)	(3.325)	(3.861)	(3.157)	(3.426)
LEVERAGE	−2.312***	−2.285***	−2.288***	−2.309***	−2.284***
	(−12.360)	(−12.401)	(−12.435)	(−12.327)	(−12.405)
CAPINT	0.404**	0.403**	0.373**	0.425**	0.397**
	(2.386)	(2.392)	(2.225)	(2.508)	(2.357)
BETA	−0.558***	−0.551***	−0.542***	−0.565***	−0.548***
	(−16.829)	(−16.725)	(−16.336)	(−17.107)	(−16.623)
LOSS	−0.647***	−0.654***	−0.650***	−0.650***	−0.654***
	(−13.322)	(−13.500)	(−13.457)	(−13.357)	(−13.502)
Industry effects	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes
N	11,662	11,662	11,662	11,662	11,662
Pseudo-R^2	0.311	0.317	0.315	0.312	0.317

This table presents results of ordered probit regressions of firms' credit ratings (*RATING*) on CSR scores and a number of controls. Standard & Poor's long-term issuer credit ratings are converted to an ordinal scale according to the following schedule: 8 (AAA), 7 (AA), 6 (A), 5 (BBB), 4 (BB), 3 (B), 2 (CCC), 1 (CC). *z*-statistics based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 % levels, respectively. The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period. "Appendix B" provides definitions and data sources for all variables

effect of increased equity risk on firm creditworthiness. In addition, the estimated coefficients on *LEVERAGE* and *LOSS* are negative and significant at the 1 % level, suggesting that non-market risk reduces firm credit ratings. In contrast, *COVERAGE* and *MARGIN* are positively and significantly related to firm credit ratings, suggesting that greater interest coverage and a higher operating margin reduce default risk and in turn enhance firm credit ratings.

To test the predicted relation between CSR and credit ratings, we augment the baseline model by introducing the firm CSR score (*CSR_S*). The estimated coefficient on *CSR_S*, reported in model 2 of Table 6, loads positively and significantly (at the 1 % level) on firm credit ratings. This result supports the view that CSR is a non-trivial input in credit analysts' assessments of firms' creditworthiness. To shed further light on this finding, we investigate the impact of CSR strengths and concerns on firm credit ratings. The results are reported in models 3 and 4, respectively. Interestingly, the estimated coefficient on CSR strengths (*CSR_STR_S*) is positive and statistically significant (model 3). In contrast, CSR concerns (*CSR_CON_S*) load negatively and significantly on firm credit ratings (model 4).

We next examine whether, in its assessment of firms' creditworthiness, S&P gives different weights to negative and positive information about CSR performance. To do so, in model 5 of Table 6, we control for CSR strengths and concerns at the same time.[7] We find that their impacts on credit ratings remain essentially unchanged. The findings in models 3, 4, and 5 are consistent with the evidence in Attig (2011) that CSR strengths are proactive in nature, involving more efficient use of firm resources and reflecting better management quality. Consistent with this view, Figge et al. (2002) suggest that CSR concerns may reflect a firm's mere compliance with industry standards or minimum social performance levels, and thus are less likely to lead to any competitive advantage. Hart (1995) further argues that implementing CSR strengths is more costly but more beneficial than avoiding CSR concerns.

Overall, the results in Table 6 suggest that CSR information is an important part of credit analysts' assessment of a firms' creditworthiness, as evidenced by the impact of CSR scores on firm credit ratings beyond the firm-level risk characteristics.

To extend our analysis, and in line with the argument of Galema et al. (2008) that aggregating various dimensions of CSR may hide confounding effects among the individual dimensions of social responsibility, in the next section, we examine the association between firm credit ratings and individual components of the social performance score.

Components of CSR Scores

Table 7 displays results on the association between firm credit ratings and the individual components of CSR. Specifically, we look at the following six attributes: community relations (*CSR_COM_S*), diversity (*CSR_DIV_S*), employee relations (*CSR_EMP_S*), environmental performance (*CSR_ENV_S*), human rights (*CSR_HUM_S*), and product characteristics (*CSR_PRO_S*). For each attribute, we compute a yearly score similar to the aggregate CSR score (i.e., the number of strengths minus the number of concerns). This test sheds light on the whether certain attributes are more relevant than others in affecting a firm's credit rating. The results suggest that five out of the six attributes are relevant. More specifically, models 1–6 of Table 7 indicate that community relations (*CSR_COM_S*), diversity (*CSR_DIV_S*), employee relations (*CSR_EMP_S*), environmental performance (*CSR_ENV_S*), and product characteristics (*CSR_PRO_S*) matter in credit analysts' assessment of firm creditworthiness, as their estimated coefficients load positively and significantly on firm credit ratings. Human rights (*CSR_HUM_S*), in contrast, do not appear to affect a firm's credit rating, as its estimated coefficient is not statistically significant. These results are reinforced by principal component analysis in which we incorporate the principal component of the five qualitative issue area scores that are directly related to primary stakeholder management (*PFACTOR5*) as suggested by Hillman and Keim (2001) (i.e., employee relations, diversity issues, product issues, community relations, and environmental issues) and the human rights score (*CSR_HUM_S*). Results of the principal component analysis (available from the authors on request) suggest that the principal factor (*PFACTOR5*) loads positively and significantly on firms' credit ratings, while *CSR_HUM_S* remains statistically insignificant.

The results in Table 7 based on the individual components of CSR lend additional support to the view that CSR information is important to credit analysts' rating decisions, and are consistent with the criteria used by credit rating agencies outlined in the Section "CSR and Credit Ratings: Discussion and Hypothesis". Further, the results in Table 7 highlight the importance of analyzing the individual components of CSR. In particular, the results support the finding of Hillman and Keim (2001) that credit ratings are affected by the CSR dimensions directly related to firms' primary stakeholders (employee relations, diversity issues, product issues, community relations, and environmental issues), as opposed to those dimensions related to social issues not directly related to the firms' primary stakeholders (e.g., human rights). Similarly, the evidence in Table 7 is in line with Waddock and Graves (1997b), who find that except for the community relations dimension, which is only marginally significant, CSR stakeholder dimensions (e.g., employee relations and product–customer relations) are positively and significantly related to management quality.

The evidence in Table 7 is also consistent with the argument that credit ratings are affected to a greater extent by those CSR dimensions associated with discretionary

[7] One might expect credit rating agencies to give more weight to negative information because they are inherently conservative.

Table 7 Ordered probit results on the effect of CSR qualitative issue areas on credit ratings

	CSR_COM_S (1)	*CSR_DIV_S* (2)	*CSR_EMP_S* (3)	*CSR_ENV_S* (4)	*CSR_HUM_S* (5)	*CSR_PRO_S* (6)
CSR	0.092***	0.090***	0.089***	0.117***	−0.035	0.098***
	(2.591)	(4.338)	(4.124)	(4.898)	(−0.473)	(2.954)
SIZE	0.484***	0.452***	0.493***	0.508***	0.500***	0.511***
	(18.167)	(15.637)	(18.441)	(19.429)	(17.825)	(18.753)
COVERAGE	0.015***	0.015***	0.014***	0.015***	0.015***	0.015***
	(7.432)	(7.270)	(7.229)	(7.391)	(7.704)	(7.422)
MARGIN	0.902***	0.952***	0.844***	0.839***	0.847***	0.862***
	(3.567)	(3.794)	(3.332)	(3.257)	(3.308)	(3.401)
LEVERAGE	−2.309***	−2.285***	−2.307***	−2.303***	−2.143***	−2.311***
	(−12.434)	(−12.379)	(−12.327)	(−12.249)	(−11.221)	(−12.439)
CAPINT	0.411**	0.406**	0.388**	0.416**	0.401**	0.404**
	(2.420)	(2.418)	(2.291)	(2.484)	(2.356)	(2.385)
BETA	−0.555***	−0.545***	−0.559***	−0.556***	−0.588***	−0.566***
	(−16.812)	(−16.497)	(−16.886)	(−16.694)	(−17.367)	(−17.080)
LOSS	−0.645***	−0.652***	−0.649***	−0.651***	−0.609***	−0.647***
	(−13.370)	(−13.506)	(−13.288)	(−13.363)	(−12.253)	(−13.308)
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
N	11,662	11,662	11,662	11,662	10,551	11,662
Pseudo-R^2	0.312	0.314	0.313	0.314	0.309	0.312

This table presents results of ordered probit regressions of firms' credit ratings (*RATING*) on CSR scores of qualitative issue areas and a number of controls. Standard & Poor's long-term issuer credit ratings are converted to an ordinal scale according to the following schedule: 8 (AAA), 7 (AA), 6 (A), 5 (BBB), 4 (BB), 3 (B), 2 (CCC), 1 (CC). *z*-statistics based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 % levels, respectively. The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period. "Appendix B" provides definitions and data sources for all variables

social responsibilities that go beyond a firm's "direct economic or technical interest" (Davis 1960, p. 70). Indeed, a closer look at the strengths of the community relations, diversity issues, employee relations, product issues, and environmental issues dimensions suggest that they are related to voluntary commitment to social responsibility that extends beyond mere compliance to reflect what is desired—if not required—by society. Also, our results lend weight to Barnett's (2007, p. 801) view that CSR is the "discretionary allocation of corporate resources toward improving social welfare that serves as means of enhancing relationships with key stakeholders."

Overall, our analysis of the individual components of CSR suggests that the CSR investments that matter most for firm credit ratings are those that are socially desired, going beyond a firm's direct economic benefits but directly related to the firm's primary stakeholders. These investments usually reflect discretionary (not altruistic) behavior of a firm that seeks to enhance its competitive advantage through efficient management of scarce resources to address stakeholders' interests. As suggested by Brown and Forster (2013, p. 303), these CSR investments are "*coercively motivated projects … undertaken to provide social benefit, but with the goal of minimizing costs and with the hope of reputational effects*."[8]

In the next subsection, we examine the robustness of our main finding that CSR improves firms' credit ratings.

Robustness Checks

In this section, we report results of additional analyses that assess the robustness of our results to alternative sample periods, to additional controls as well as to potential endogeneity between CSR and firms' credit ratings. The results of these additional tests support our earlier evidence on the link between CSR and firms' credit ratings.

Alternative Sample Periods

We first examine the robustness of our main results across different subsample periods. This test allows us to examine the extent to which changes in firm level and macroeconomic risk factors affect the relation between CSR and

[8] Brown and Forster (2013, p. 303) add that "*Altruistic CSR projects are pursued without regard to economic benefits*."

Table 8 Ordered probit results on the effect of CSR on credit ratings across different sample periods

	1991–2000 (1)	2001–2010 (2)	1991–1995 (3)	1996–2000 (4)	2001–2005 (5)	2006–2010 (6)
CSR_S	0.084***	0.056***	0.094***	0.079***	0.074***	0.046***
	(4.325)	(5.000)	(3.946)	(3.687)	(4.725)	(4.146)
SIZE	0.491***	0.505***	0.521***	0.499***	0.505***	0.517***
	(9.859)	(17.052)	(9.166)	(8.492)	(15.065)	(15.897)
COVERAGE	0.010**	0.015***	0.015**	0.009*	0.014***	0.015***
	(2.198)	(7.075)	(2.317)	(1.849)	(5.531)	(6.317)
MARGIN	2.298***	0.636**	2.354***	2.375***	0.847**	0.599**
	(3.578)	(2.572)	(2.813)	(3.541)	(2.361)	(2.438)
LEVERAGE	−4.240***	−1.949***	−4.814***	−3.920***	−2.172***	−1.820***
	(−11.002)	(−10.020)	(−8.471)	(−8.543)	(−8.614)	(−8.474)
CAPINT	0.571*	0.365**	0.168	0.867**	0.533**	0.193
	(1.700)	(2.092)	(0.406)	(2.264)	(2.179)	(1.094)
BETA	−0.532***	−0.642***	−0.466***	−0.573***	−0.667***	−0.648***
	(−7.595)	(−18.225)	(−5.415)	(−5.795)	(−13.411)	(−13.832)
LOSS	−0.614***	−0.612***	−0.634***	−0.588***	−0.686***	−0.591***
	(−6.885)	(−11.436)	(−4.916)	(−4.884)	(−9.095)	(−8.889)
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
N	3,087	8,575	1,399	1,688	3,882	4,693
Pseudo-R^2	0.279	0.304	0.310	0.272	0.303	0.309

This table presents results of ordered probit regressions of firms' credit ratings (*RATING*) on a CSR score (*CSR_S*) and a number of controls across different sample periods. Standard & Poor's long-term issuer credit ratings are converted to an ordinal scale according to the following schedule: 8 (AAA), 7 (AA), 6 (A), 5 (BBB), 4 (BB), 3 (B), 2 (CCC), 1 (CC). *z*-statistics based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 % levels, respectively. The total sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period. "Appendix B" provides definitions and data sources for all variables

credit ratings over time. Table 8 presents the results. Consistent with our earlier findings, the estimated coefficient on the CSR score (*CSR_S*) loads positively and significantly on firms' credit ratings across the different subsample periods considered. Untabulated results of yearly regressions provide further support to our main conclusion that CSR affects firms' creditworthiness, as we find consistent evidence of a positive and significant (at conventional levels) coefficient on *CSR_S*.

Additional Controls

One concern with the evidence in Table 6 is that it may suffer from omitted variable bias. Although our regressions above include an extensive set of control variables motivated by prior research, in Table 9, we examine the sensitivity of our results to sequentially including additional controls that might be correlated with credit ratings and CSR activities.[9] In model 1, we control for the number of institutional investors holding a firm's shares (*NIO*), as Foster and Viswanathan (1996) and Back et al. (2000) argue that information about a firm is revealed on a more timely basis when the number of institutional investors is large. We find that the impact of CSR on firms' credit ratings remains positive and statistically significant.

In model 2, we control for the number of public pension funds holding a firm's shares (*NPPFO*) that are members of the Council of Institutional Investors. These funds are expected to be independent (Chen et al. 2007) and hence to exert more efficient monitoring, which in turn should lead to a more significant impact on firms' credit ratings. The results show that CSR continues to have an important role in the assessments of firms' creditworthiness after controlling for *NPPFO*.

As a third additional control, we include Gompers et al.'s (2003) index of antitakeover provisions, as it also captures a firm's non-financial information and thus could influence the observed effect of CSR on firm credit ratings. Model 3 of Table 9 shows that the positive and significant

[9] Fixed effects models represent another approach to address omitted variable bias. However, Zhou (2001) stresses that if there is small within-firm variation in the explanatory variable (in our case, CSR performance proxies), fixed effects become inappropriate and reduce the power to find an effect, if any. In our data, we find that the autocorrelation coefficient on the CSR score is 0.875, implying that the CSR score is highly persistent.

Table 9 Additional controls for corporate governance, transparency, and information environment

	NIO (1)	*NPPFO* (2)	*GINDEX* (3)	*STKMIX* (4)	*BIG4* (5)	*ACOV* (6)
CSR_S	0.044***	0.063***	0.063***	0.072***	0.064***	0.057***
	(3.732)	(5.785)	(5.511)	(5.140)	(6.045)	(5.280)
SIZE	0.172***	0.367***	0.482***	0.499***	0.486***	0.446***
	(4.417)	(11.505)	(15.832)	(15.105)	(18.199)	(14.664)
COVERAGE	0.008***	0.013***	0.014***	0.012***	0.014***	0.013***
	(3.497)	(6.504)	(6.177)	(4.496)	(6.912)	(6.277)
MARGIN	0.808***	0.885***	0.850***	1.259***	0.838***	0.858***
	(3.055)	(3.391)	(2.698)	(3.013)	(3.324)	(3.297)
LEVERAGE	−2.219***	−2.161***	−2.403***	−2.961***	−2.288***	−2.293***
	(−11.917)	(−11.158)	(−10.549)	(−11.168)	(−12.416)	(−12.245)
CAPINT	0.392**	0.425**	0.508**	0.633**	0.404**	0.377**
	(2.291)	(2.455)	(2.499)	(2.496)	(2.389)	(2.182)
BETA	−0.522***	−0.562***	−0.595***	−0.551***	−0.553***	−0.604***
	(−15.199)	(−16.226)	(−15.410)	(−11.577)	(−16.912)	(−18.139)
LOSS	−0.558***	−0.605***	−0.668***	−0.653***	−0.650***	−0.627***
	(−11.351)	(−12.112)	(−11.657)	(−9.986)	(−13.498)	(−12.938)
ADD_VAR	0.003***	0.085***	−0.004	−0.059**	0.001	0.015***
	(10.120)	(7.116)	(−0.344)	(−2.233)	(0.005)	(3.237)
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,316	11,316	9,592	6,053	11,650	11,287
Pseudo-R^2	0.345	0.328	0.299	0.297	0.317	0.322

This table presents results of ordered probit regressions of firms' credit ratings (*RATING*) on a CSR score (*CSR_S*), proxies for firms' corporate governance, transparency and information environment as well as a number of controls. Standard & Poor's long-term issuer credit ratings are converted to an ordinal scale according to the following schedule: 8 (AAA), 7 (AA), 6 (A), 5 (BBB), 4 (BB), 3 (B), 2 (CCC), 1 (CC). *z*-statistics based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 % levels, respectively. The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period. "Appendix B" provides definitions and data sources for all variables

association between *CSR_S* and firm credit ratings continues to go through.

In the remaining models of Table 9, we control for variables that reflect a firm's information and governance quality. Specifically, in model 4, we control for the ratio of executives' stock-based compensation to total compensation (*STKMIX*), in model 5, we control for the presence of a Big 4 auditor (*BIG 4*), and in model 6, we control for the number of analysts providing one-year-ahead forecasts of earnings per share. We find that after controlling for the potential impact of each of these variables, CSR continues to load positively and significantly on firms' credit ratings.

Endogeneity

In our last set of robustness tests, we verify the stability of our evidence to potential endogeneity bias stemming from reverse causality. One might argue that companies that perform well, and hence obtain better ratings, can support more CSR investment. Chih et al. (2010), for instance, show that firms with better financial performance are more inclined to invest in CSR. We control for this potential bias in two ways. First, we repeat the Table 6 regressions using lagged values of the three CSR scores (*CSR_S*, *CSR_STR_S,* and *CSR_CON_S*). The untabulated results reinforce those in Table 6 as we find that lagged *CSR_S* and *CSR_STR_S* (*CSR_CON_S*) load positively (negatively) and significantly on firms' credit ratings, suggesting that at least to some extent, endogeneity is not unduly influencing our main findings.

Second, we use an instrumental variable (IV) regression to examine whether our results are driven by endogeneity between CSR and firms' credit ratings. Since IV ordered probit models have not yet been introduced (Beck et al. 2006), we employ a simple IV probit model instead. For this purpose, we define a new dependent variable, $D(RATING \geq Median)$, that is set to 1 if *RATING* is higher than the median, and 0 otherwise. We follow El Ghoul et al. (2011) in using the industry-year average of *CSR_S* (*IND_AVG_CSR_S*) as an instrument. We also use the

firm-level initial value of *CSR_S* (*INITIAL_CSR_S*) as an instrument. These two instruments are likely to be exogenous to the contemporaneous CSR score. We report the results of the first-stage (model 1) and second-stage (model 2) regressions of the IV probit model in Table 10. The first-stage regression results show that larger firms and firms with greater interest coverage and operating margins have higher CSR scores. In contrast, capital intensive and risky firms have lower CSR scores. Interestingly, our two instruments, the industry-year average of *CSR_S* (*IND_AVG_CSR_S*) and the firm-level initial value of *CSR_S* (*INITIAL_CSR_S*) positively and significantly affect *CSR_S*. Of more relevance to the focus of our study, in the second-stage regression, we find that the effect of CSR on firms' credit ratings remains significantly positive, indicating that endogeneity does not drive our main results.

Table 10 Instrumental probit results on the effect of CSR on credit ratings

Dependent variables	First stage *CSR_S* (1)	Second stage *D*(*RATING* ≥ *Median*) (2)
CSR_S		0.096***
		(3.739)
SIZE	0.173***	0.459***
	(3.503)	(12.258)
COVERAGE	0.011***	0.012***
	(2.655)	(5.059)
MARGIN	0.676**	1.020***
	(2.067)	(2.894)
LEVERAGE	−0.543**	−3.104***
	(−2.142)	(−8.945)
CAPINT	0.121	0.697**
	(0.454)	(2.349)
BETA	−0.133***	−0.450***
	(−2.723)	(−7.880)
LOSS	0.026	−0.601***
	(0.349)	(−7.540)
INTITAL_CSR_S	0.707***	
	(21.582)	
IND_AVG_CSR_S	0.769***	
	(15.897)	
Constant	−1.133*	−5.090***
	(−1.872)	(−7.698)
Industry effects	Yes	Yes
Year effects	Yes	Yes
Observations	11,662	11,662

This table presents results of an instrumental variable probit regression of firms' credit ratings (*RATING*) on a CSR score (*CSR_S*) and a number of controls. Standard & Poor's long-term issuer credit ratings are converted to an ordinal scale according to the following schedule: 8 (AAA), 7 (AA), 6 (A), 5 (BBB), 4 (BB), 3 (B), 2 (CCC), 1 (CC). *z*-statistics based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***, **, and * denote statistical significance at the 1, 5, and 10 % levels, respectively. The sample comprises 11,662 US firm-year observations representing 1,585 unique firms over the 1991–2010 period. "Appendix B" provides definitions and data sources for all variables

Concluding Remarks

To say that a corporation exists solely for the profit and benefit of its shareholders is to say that it cannot act for the profit and benefit of others without neglecting its shareholders. However, if a corporation contributes to the community at large, is a good steward of the environment, or supports certain charities, the benefits to others are likely to help the firm cope in the event of an economic downturn, which should in turn benefit shareholders. In this paper, we test this prediction by investigating the impact of CSR on firms' credit ratings.

We document a significant positive impact of CSR on firm credit ratings in terms of both an aggregate CSR score and the scores on the individual components of CSR. These results suggest that by increasing a firm's credit rating, investment in CSR activities is likely to decrease the firm's financing costs, which all else equal should enhance firm value and hence shareholders' value. However, not all of the individual components of CSR are relevant to firms' credit ratings. In particular, we find that employee relations, diversity issues, product issues, community relations, and environmental issues positively affect firms' credit ratings, while the human rights dimension does not have a significant effect on firms' credit ratings. These results suggest that the CSR investments that matter most for firms' credit ratings are those that are socially desired and that are directly related to a firm's primary stakeholders. Our evidence is robust to several sensitivity checks, including alternative sample periods, additional controls, and endogeneity.

Taken together, our findings support the view that CSR, particularly the CSR dimensions that reflect a firm's discretionary responsibilities and are directly related to the management of stakeholder interests, matters in the assessments of firms' creditworthiness. The findings of this paper complement those of Weber et al. (2010) and Weber (2012) on the relevance of environmental risks in the assessments of firms' credit risk by bank loan officers. More broadly, our findings complement El Ghoul et al. (2011), Goss and Roberts (2011), Chava (2011) and Menz (2010), among others, who provide evidence on the information content (beyond accounting measures of performance) of CSR ratings.

Given that credit ratings reflect the quality of firms' information disclosure (e.g., Sengupta 1998) and thus play a key role in corporate financing and investment decisions

(e.g., Blume et al. 1998), our findings should improve investors' decision making by helping them better understand how CSR performance affects firms' financing costs. Our findings further suggest that regulators can support shareholder value by providing more incentives for investments in CSR, as such investments lead to benefits that can help corporations cope in the face of an economic downtown. Finally, our findings suggest that managers can enhance shareholder value by promoting CSR investments that are socially desired and that are directly related to a firm's primary stakeholders.

Appendix A: Qualitative Issue Areas

We consider six qualitative issue areas: community, diversity, employee relations, environment, human rights, and product characteristics. Each area has a set of strengths and concerns as detailed below. We calculate a score for each area equal to the number of strengths minus the number of concerns. We also calculate an overall CSR score equal to the sum of all areas' scores.

Concerns	Strengths
Community	
Investment controversies	Charitable giving
Negative economic impact	Innovative giving
Indigenous peoples relations	Non-US charitable giving
Tax disputes	Support for housing
Other concern	Support for education
	Indigenous peoples relations
	Volunteer programs
	Other strength
Diversity	
Controversies	CEO
Non-representation	Promotion
Other concern	Board of directors
	Work/life benefits
	Women and minority contracting
	Employment of the disabled
	Gay and lesbian policies
	Other strength
Employee relations	
Union relations	Union relations
Health and safety concern	No-layoff policy
Workforce reductions	Cash profit sharing
Retirement benefits concern	Employee involvement
Other concern	Retirement benefits strength
	Health and safety strength
	Other strength
Environment	
Hazardous waste	Beneficial products and services
Regulatory problems	Pollution prevention
Ozone-depleting chemicals	Recycling
Substantial emissions	Clean energy
Agricultural chemicals	Communications
Climate change	Property, plant, and equipment
Other concern	Other strength
Human rights	
South Africa	Positive record in South Africa
Northern Ireland	Indigenous peoples relations strength
Burma concern	Labor rights strength
Mexico	Other strength
Labor rights concern	
Indigenous peoples relations concern	
Other concern	
Product characteristics	
Product safety	Quality
Marketing/contracting concern	R&D/innovation
Antitrust	Benefits to economically disadvantaged
Other concern	Other strength

Appendix B: Variable Definitions and Data Sources

Variables	Definition	Source
Dependent variable		
RATING	Standard & Poor's long-term issuer credit ratings converted to an ordinal scale according to the following schedule: 8 (AAA), 7 (AA), 6 (A), 5 (BBB), 4 (BB), 3 (B), 2 (CCC), 1 (CC)	Authors' calculations based on *Compustat* data
CSR variables		
CSR_COM_S	The community score equals the number of strengths minus the number of concerns in the community qualitative issue area	*MSCI ESG STATS*
CSR_DIV_S	The diversity score equals the number of strengths minus the number of concerns in the diversity qualitative issue area	As above

Variables	Definition	Source
CSR_EMP_S	The employee relations score equals to the number of strengths minus the number of concerns in the employee relations qualitative issue area	As above
CSR_ENV_S	The environment score equals the number of strengths minus the number of concerns in the environment qualitative issue area	As above
CSR_HUM_S	The human rights score equals the number of strengths minus the number of concerns in the human rights qualitative issue area	As above
CSR_PRO_S	The product score equals the number of strengths minus the number of concerns in the product qualitative issue area	As above
CSR_STR_S	The CSR strengths score equals the number of strengths in the community, diversity, employee, environment, human rights, and product characteristics qualitative issue areas	As above
CSR_CON_S	The CSR concerns score equals the numbers of concerns in the community, diversity, employee, environment, human rights, and product characteristics qualitative issue areas	As above
CSR_S	The CSR score equals the sum of the community, diversity, employee, environment, human rights, and product characteristics qualitative issue areas scores	As above
Control variables		
SIZE	Natural logarithm of total assets in $ million	Authors' calculations based on *Compustat* data
COVERAGE	Earnings before interest and taxes plus interest expense divided by interest expense	As above
MARGIN	Ratio of operating income to sales	As above
LEVERAGE	Ratio of long-term debt to total assets	As above
CAPINT	Ratio of property, plant, and equipment to total assets	As above
BETA	Market beta estimated over the fiscal year using Dimson's (1979) model with one lag and one lead of the CRSP value-weighted index	Authors' calculations based on CRSP data
LOSS	Indicator variable set to 1 if net income before extraordinary items is negative in the current and previous year, and 0 otherwise	Authors' calculations based on *Compustat* data.
NIO	Number of institutional investors holding the firm's shares	Authors' calculations based on Thomson 13-F data
NPPFO	Number of public pension funds holding the firm's shares	As above
GINDEX	Gompers et al. (2003) index of 24 antitakeover provisions	Authors' calculations based on RiskMetrics data
STKMIX	Ratio of executives stock-based compensation to total compensation	Authors' calculations based on ExecuComp data
BIG4	Indicator variable set to 1 if the firm hires a Big 4 auditor, and 0 otherwise	Authors' calculations based on *Compustat* data
ACOV	Number of analysts providing a one-year-ahead forecast of the firm's earnings per share	I/B/E/S

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