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Which CSR activities are more consequential? Evidence from the Great Recession

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ABSTRACT

We exploit the Great Recession of 2008 to study how firms view corporate social responsibility (CSR). When confronted with an adverse exogenous shock, firms are forced to prioritize. Our results show that, during the Great Recession, firms do not lessen their overall CSR investments, suggesting that they recognize the importance of CSR. However, further analysis shows that firms substantially reduce investments in five CSR activities (Community, Employee, Environment, Human Rights, and Product), while increasing investments in two CSR activities (Corporate Governance and Diversity). Firms appear to view some CSR activities as more essential to the strategic direction of the firm than others. Firms appear to view some CSR activities as more essential to the strategic direction of the firm than others.

1. Introduction

The Great Recession of 2008 was the most severe financial crisis since the Great Depression in the 1930s. While the literature has explored the effects of the crisis on various corporate policies and outcomes (Kahle and Stulz, 2013; Floyd et al., 2015; Bliss et al., 2015), much less attention has been given to the effects of the crisis on corporate social responsibility (CSR). In this study, we explore how firms viewed their CSR investments during the Great Recession. It should be noted, however, that CSR consists of various categories or activities and firms likely do not view all of the CSR categories the same way. A large exogenous economic shock introduced by the Great Recession allows us to study how firms view the various CSR activities. The CSR activities that are considered more consequential or more strategic to the firm are less likely to be cut back during the financial crisis. On the contrary, those CSR activities that are regarded as less important or not essential are more likely to be reduced. When resources are tight, firms are forced to prioritize.

Our study contributes to the debate on the effect of firm performance on CSR investments. Most empirical studies in this area are plagued by endogeneity. The direction of causality is ambiguous. While favorable firm performance leads to more CSR investments, more socially responsible firms also enjoy stronger goodwill and thus exhibit better performance. We exploit the Great Recession to alleviate endogeneity. The Great Recession represents a large economic shock imposed from outside the firm. Such an exogenous shock allows us to study how firms adjust their CSR investments during a stressful time.

We begin by showing that the Great Recession of 2008 leads to a severe decline in firm profitability. In particular, ROA and EBIT

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drop precipitously during the financial crisis. We then investigate how firms adjust their CSR investment when subject to such a serious negative shock. Our results show that firms do not reduce CSR investments during the crisis. Firms appear to recognize the importance of CSR as they continue to invest in CSR in spite of the crisis. However, there is a great deal of variation across the various CSR categories. Using the KLD data, we include seven categories of CSR in our analysis, i.e. Community, Corporate Governance, Diversity, Employee, Environment, Human Rights, and Product.

While firms raise investments in two CSR activities (Corporate Governance and Diversity) when facing an economic shock, they substantially reduce investments in the other five CSR activities (Community, Employee, Environment, Human Rights, and Product). Our results demonstrate that firms obviously do not view all the CSR activities the same way. When resources are scarce, firms reduce their investments in the five CSR activities that they probably consider less essential and that likely do not bring benefits to the firm, at least in the short run. On the contrary, firms appear to view Corporate Governance and Diversity as more crucial and strategic to the firm. That is why they continue to invest in these two CSR activities in spite of the crisis.

We apply firm-fixed-effects regressions in our analysis, thereby controlling for any unobservable characteristics that remain constant over time. To ensure that our results are robust, we execute several robustness checks, i.e. propensity score matching, dynamic panel data analysis, and random-effects regressions. Furthermore, using the approach invented by Oster (2017), we estimate how strong selection from the unobservables would have to be in order to explain away our results. We show that our conclusion is highly unlikely confounded by the omitted-variable bias. Finally, we explore the effects of earlier financial crises on CSR and find that companies' views on different CSR categories have somewhat evolved over time. For instance, firms appear to have valued employee-related activities much more during the early 2000s than they did during the Great Recession. By contrast, diversity-related activities appear to be much more important during the Great Recession than it was during the dot-com crisis of 2001.

Our study is the first to explore how firms prioritize CSR activities using the Great Recession as a large exogenous economic shock. We contribute to the literature in CSR by showing that firms view various CSR activities differently. Future researchers should exercise care and recognize that CSR consists of various aspects and firms likely do not view all CSR activities the same way.

2. Sample and data description

Our sample is from Kinder, Lydenberg, and Domini's (KLD's) database. The KLD database is the most widely recognized and reliable database in the CSR literature referenced by over 40 peer reviewed articles. Financial and accounting variables are from COMPUSTAT. Our sample period is from 1995 to 2012. The final sample includes 25,688 firm-year observations. Our sample is one of the most comprehensive in the literature.

KLD includes strength ratings and concern ratings for 13 dimensions: 1) community, 2) diversity, 3) corporate governance, 4) employee relations, 5) environment, 6) human rights, 70 product, 8) alcohol, 9) gambling, 10) firearms, 11) military, 12) tobacco, and 13) nuclear power. KLD assigns strengths and concerns in the first seven dimensions, while the final six dimensions are just exclusionary screens and firms can only register concerns in those categories. For instance, a company can receive credit for a strong environment policy at the same time a concern is registered for its environmental record. We do not include the exclusionary screen as part of the total CSR score. The total of the strengths minus the concerns is the composite CSR score (Goss and Roberts, 2011; Jiraporn et al., 2014; Chatjuthamard et al., 2015; Withisuphakorn and Jiraporn, 2016; Chintrakarn et al., 2016; Chintrakarn et al., 2017). We create a binary variable equal to one for 2008 and 2009 and zero otherwise. We label this variable "Great Recession".

We include a large number of control variables that have been found related to CSR. In particular, we include firm size (log of total assets), profitability (EBIT/total assets), leverage (total debt/total debt), investments (capital expenditures/total assets), R&D (R&D expense/total assets), advertising (advertising expense/total assets), cash holdings (cash holdings/total assets), dividends (dividends/total assets), asset tangibility (fixed assets/total assets), liquidity (current assets/current liabilities), and taxes (effective tax rate). To account for any unobservable characteristics that may be omitted in the model, we also include firm fixed effects. Table 1 shows the descriptive statistics for the sample. We show the statistics for the CSR score and its various components as well as for firm-specific characteristics

3. Results

3.1. Regression analysis

We begin by investigating the effect of the Great Recession on firm performance. The regression results are shown in Table 2. We run a fixed-effects regression analysis to account for unobservable characteristics that remain constant over time. Our regressions capture only the variation within firms over time. The standard errors are clustered at the firm-level. In Model 1, the dependent variable is ROA, which is a common measure of firm profitability. The coefficient of Great Recession is negative and significant. As expected, ROA drops precipitously during the crisis.

In Model 2, we use as the dependent variable the ratio of EBIT to total assets. Again, Great Recession produces a significantly negative coefficient. The coefficient of Great Recession in Model 2 is −0.015, suggesting that the EBIT ratio drops by 1.5% on overage during the crisis. Given that the median EBIT ratio for the sample is 7.27%, a decline by 1.5% represents a drop in profitability by 20.63%. So, the Great Recession represents a severe adverse shock to firm performance.

Then, we examine how firms view CSR investments during the crisis. In Model 3, the dependent variable is the total CSR score.

Table 1
Descriptive statistics.

	N	Mean	Median	Std. Dev.	25th	75th
Corporate Social Responsibility (CSR)						
CSR score	25,688	−0.510	−1.000	2.279	−2.000	1.000
Community score	25,688	0.078	0.000	0.533	0.000	0.000
Corporate governance score	25,688	−0.275	0.000	0.731	−1.000	0.000
Diversity score	25,688	0.041	0.000	1.382	−1.000	1.000
Employee score	25,688	−0.123	0.000	0.839	−1.000	0.000
Environment score	25,688	−0.021	0.000	0.764	0.000	0.000
Human rights score	25,688	−0.046	0.000	0.248	0.000	0.000
Product score	25,688	−0.155	0.000	0.597	0.000	0.000
Firm characteristics						
Total assets (thousands)	25,688	10,902.20	1,453.09	71,627.47	436.74	4,748.66
Return on assets (ROA)	25,688	0.020	0.038	0.139	0.003	0.080
EBIT/total assets	25,688	0.061	0.073	0.200	0.026	0.126
Total debt/total assets	25,688	0.225	0.184	0.225	0.036	0.342
Capital expenditures/total assets	25,688	0.046	0.029	0.059	0.010	0.059
R&D/total assets	25,688	0.038	0.000	0.110	0.000	0.035
Advertising/total assets	25,688	0.011	0.000	0.040	0.000	0.004
Cash holdings/total assets	25,688	0.174	0.087	0.206	0.028	0.246
Dividend/total assets	25,688	0.012	0.002	0.021	0.000	0.016
Fixed assets/Total Assets	25,688	0.435	0.322	0.420	0.102	0.681
Current assets/Current Liabilities	25,688	2.229	1.630	2.901	0.841	2.727
Effective tax rate	25,688	0.234	0.318	0.351	0.115	0.374

Table 2
The effects of the Great Recession on profitability and CSR.
TA represent total assets. The current ratio is current assets divided by current liabilities.

	(1) ROA	(2) EBIT/total assets	(3) CSR
Great recession	**−0.031***** **(−21.696)**	**−0.015***** **(−8.750)**	**0.127***** **(4.822)**
Ln (total assets)	0.008*** (5.419)	−0.003 (−1.604)	−0.239*** (−8.766)
EBIT/TA			−0.107 (−1.053)
Total debt/TA	−0.147*** (−25.910)	−0.070*** (−9.914)	0.105 (0.997)
Cap. exp./TA	0.100*** (5.327)	0.167*** (7.174)	0.031 (0.089)
R&D/TA	−0.455*** (−34.462)	−1.114*** (−68.080)	−0.634** (−2.348)
Adverting exp./TA	−0.050 (−1.550)	0.211*** (5.307)	−0.227 (−0.381)
Cash holdings/TA	0.031*** (3.905)	0.020** (1.999)	0.168 (1.135)
Dividend/TA	0.551*** (11.696)	0.676*** (11.588)	2.256** (2.575)
Fixed assets/TA	−0.073*** (−15.416)	−0.062*** (−10.691)	−0.406*** (−4.647)
Current ratio	0.001*** (2.708)	−0.000 (−0.002)	0.007 (1.012)
Effective tax rate	0.012*** (6.481)	0.012*** (5.176)	0.003 (0.078)
Constant	0.028** (2.351)	0.147*** (9.817)	1.329*** (5.922)
Firm fixed effects	Yes	Yes	Yes
Observations	25,688	25,688	25,688
R-squared	0.689	0.769	0.602

t-statistics in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3
The effect of the Great Recession on CSR activities.
TA represents total assets. The current ratio is current assets divided by current liabilities.

	(1) Community	(2) Corporate governance	(3) Diversity	(4) Employee	(5) Environment	(6) Human rights	(7) Product
Great Recession	**−0.078***** **(−12.678)**	**0.049***** **(4.905)**	**0.424***** **(31.870)**	**−0.116***** **(−10.993)**	**−0.093***** **(−9.699)**	**−0.011***** **(−3.416)**	**−0.069***** **(−10.426)**
Ln (total assets)	0.035*** (5.403)	−0.299*** (−29.066)	−0.019 (−1.367)	−0.003 (−0.283)	0.183*** (18.348)	−0.006* (−1.653)	−0.080*** (−11.622)
EBIT/TA	−0.027 (−1.127)	0.024 (0.636)	−0.166*** (−3.221)	0.071* (1.751)	−0.048 (−1.294)	−0.012 (−0.952)	0.035 (1.354)
Total debt/TA	0.034 (1.370)	0.030 (0.746)	0.132** (2.461)	−0.049 (−1.155)	−0.003 (−0.070)	−0.001 (−0.107)	−0.026 (−0.959)
Cap. exp./TA	−0.153* (−1.871)	−0.009 (−0.066)	0.145 (0.820)	0.358** (2.557)	−0.790*** (−6.172)	−0.069 (−1.604)	0.292*** (3.304)
R&D/TA	−0.017 (−0.260)	−0.440*** (−4.321)	−0.328** (−2.395)	0.053 (0.489)	0.192* (1.936)	0.001 (0.032)	−0.032 (−0.468)
Adverting exp./TA	0.179 (1.277)	0.208 (0.925)	0.062 (0.207)	−0.341 (−1.426)	−0.029 (−0.131)	−0.138* (−1.880)	−0.370** (−2.454)
Cash holdings/TA	0.039 (1.136)	−0.034 (−0.610)	0.329*** (4.389)	−0.430*** (−7.262)	0.391*** (7.206)	0.012 (0.668)	−0.062* (−1.655)
Dividend/TA	1.075*** (5.218)	−0.523 (−1.582)	−0.683 (−1.538)	1.114*** (3.173)	1.624*** (5.056)	0.331*** (3.072)	−0.138 (−0.623)
Fixed assets/TA	0.138*** (6.693)	−0.346*** (−10.476)	−0.440*** (−9.933)	0.074** (2.107)	0.181*** (5.654)	0.026** (2.398)	−0.012 (−0.548)
Current ratio	−0.001 (−0.434)	0.005* (1.947)	−0.002 (−0.572)	0.005* (1.768)	−0.002 (−0.884)	−0.000 (−0.179)	0.002 (1.098)
Effective tax rate	−0.023*** (−2.982)	0.024* (1.880)	−0.019 (−1.111)	0.048*** (3.566)	−0.048*** (−3.937)	−0.004 (−1.006)	0.012 (1.435)
Constant	−0.232*** (−4.407)	2.059*** (24.322)	0.231** (2.030)	−0.078 (−0.868)	−1.464*** (−17.797)	−0.013 (−0.464)	0.453*** (7.982)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	25,688	25,688	25,688	25,688	25,688	25,688	25,688
R-squared	0.598	0.451	0.722	0.529	0.525	0.493	0.629

t-statistics in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The coefficient of Great Recession is positive and significant. Even during such a stressful time, firms do not reduce their CSR investments, implying that firms view CSR investments as crucial. It is important to note, however, that CSR consists of several CSR categories or activities. Firms probably do not view all the CSR categories as equally necessary, particular when confronted with such a serious crisis. As a result, we investigate how firms prioritize their CSR activities in the presence of a severe decline in firm performance.

Table 3 shows the regression results. We compute the score for each CSR category and use each of them as the dependent variable. The score for each category is the number of strength minus the number of concerns in that particular category. The coefficients of Great Recession are negative and significant in five CSR activities and positive and significant in two CSR categories. Out of the seven categories, firms reduce their investments in five of them (Community, Employee, Environment, Human Rights, and Product). This is not unexpected, given the severity of the financial crisis. The results imply that firms view these CSR categories as less crucial to the firm. By contrast, firms raise their investments in two CSR categories (Corporate Governance and Diversity), suggesting that they view these two categories as more critical to the firms. They prioritize the two categories ahead of the other five categories.

Fig. 1 shows how firms adjust their investments in the various CSR activities during the financial crisis, using the coefficients in Table 3. CSR investments decline modestly in five CSR categories. However, the decline is more than offset by a sharp increase in Diversity. Our results shed light on the effect of firm performance on CSR investments. During normal times, it is difficult to study the causal effect of firm performance on CSR, due to the presence of endogeneity. However, the Great Recession constitutes an exogenous shock that influences firm performance, allowing us to study how firms adjust their CSR investments in response to such a serious negative shock.

3.2. Robustness checks

To ensure that our results are robust, we execute several robustness checks. First, it is conceivable that firm characteristics in the crisis period are different from those outside the crisis. To alleviate this concern, we implement propensity score matching. For each

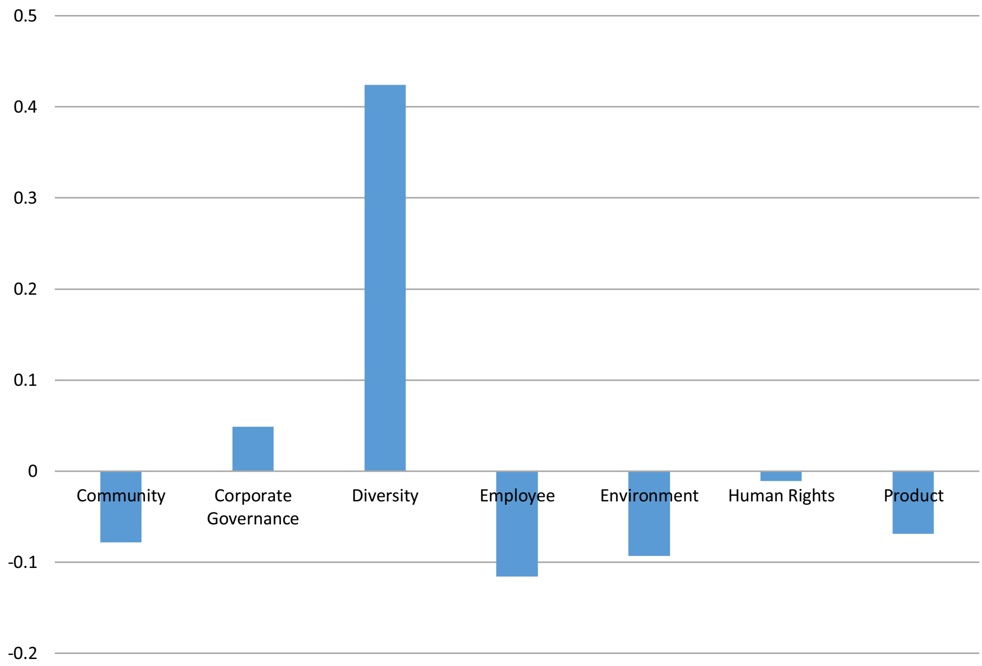

Fig. 1. The effect of the Great Recession on the CSR categories.

observation from the crisis period, we find an observation outside the crisis period that is most similar in term of eleven firm characteristics (the eleven control variables in the regressions). So, our control group (from outside the crisis) is nearly identical to the treatment group (from inside the crisis). So, without the effect of the crisis, these two groups of firms should behave similarly because they are nearly identical.

Table 4 shows the results. For illustration, we show the results only for two CSR categories, i.e. Community and Diversity. Model 1 and Model 2 are based on the propensity-score-matched sample. The coefficient of Great Recession is significantly negative in Model 1 and significantly positive in Model 2. So, even when using propensity score matching, the results are consistent. We also run similar analysis on the other CSR categories and obtain results consistent with those in prior tables (results not shown due to space limitation but available upon request).

To further confirm the results, we explore the effect of the financial crisis on CSR using a dynamic GMM panel estimator. This approach exploits the dynamic relationships inherent in the explanatory variables. The variables are first-differenced to eliminate any potential bias that may arise from time-invariant unobserved heterogeneity. After first-differencing, we estimate the effect of the crisis on CSR via GMM using lagged values of the explanatory variables as instruments for the current explanatory variables. This approach is substantially less vulnerable to the omitted-variable bias. The results are shown in Model 3 and Model 4. Great Recession produces a significant negative coefficient in Model 3 and a significant positive coefficient in Model 4, again corroborating the results obtained earlier. We also employ GMM to investigate the other CSR categories and obtain consistent results. Finally, for further robustness, we execute a random-effects regression analysis in Model 5 and Model 6. Again, the results are similar.

Moreover, to ensure that our results are not driven by the omitted-variable bias, we follow Oster (2017) and estimate the coefficient stability of our analysis. In particular, Oster (2017) derives a method to estimate how strong selection from the unobservables would have to be to explain away selection from the observables. The weaker selection from the unobsevables, the stronger the stability of the estimated coefficients, as the coefficients are less likely to be spurious due to the omitted-variable bias. Using Oster's (2017) approach on our regressions in Table 3, we find that selection from the unobservables would have to be between 1.6 and 20.23 times stronger than selection from observables to render our results invalid. Therefore, it is extremely unlikely that our results are driven by the omitted-variable bias. Finally, we run placebo tests where we randomly designate certain years as the crisis years. For instance, we define 2005 as our placebo crisis year. We find no significant results when using these placebo crisis years.

3.3. Additional evidence from earlier financial crises

There are two additional economic shocks that can be considered, i.e. the Asian financial crisis from 1997 to 1998 and the dot-com crisis in 2001. Investigating these two additional crises can shed light on how firms' view on CSR may have evolved over time.

Table 4
Robustness checks: propensity score matching, dynamic panel data, and random-effects regressions
TA represents total assets. The current ratio is current assets divided by current liabilities.

	Propensity score matching		Dynamic panel data analysis		Random-effects	
	(1) Community	(2) Diversity	(3) Community	(4) Diversity	(5) Community	(6) Diversity
Great Recession	**−0.078*****	**0.405*****	**−0.110*****	**0.635*****	**−0.078*****	**0.375*****
	(−10.033)	**(24.737)**	**(−14.214)**	**(44.733)**	**(−12.811)**	**(28.477)**
Ln (total assets)	0.009	−0.065***	−0.020	0.002	0.047***	0.223***
	(0.833)	(−2.753)	(−1.487)	(0.073)	(15.683)	(27.535)
EBIT/TA	0.001	−0.189**	−0.017	0.007	−0.020	−0.026
	(0.039)	(−2.573)	(−0.480)	(0.116)	(−1.009)	(−0.560)
Total debt/TA	−0.027	−0.033	0.033	−0.112*	−0.051***	−0.016
	(−0.676)	(−0.388)	(0.883)	(−1.670)	(−2.821)	(−0.352)
Cap. exp./TA	−0.247*	0.055	−0.129	0.168	−0.129*	0.314**
	(−1.950)	(0.205)	(−1.236)	(0.902)	(−1.920)	(2.019)
R&D/TA	−0.006	−0.272	−0.024	0.019	0.091**	0.089
	(−0.076)	(−1.566)	(−0.307)	(0.138)	(2.258)	(0.906)
Adverting exp./TA	0.619*	−0.382	0.191	−0.074	0.596***	1.388***
	(1.833)	(−0.536)	(0.754)	(−0.165)	(6.014)	(5.657)
Cash holdings/TA	−0.031	0.373***	−0.012	−0.116	0.067***	0.511***
	(−0.557)	(3.186)	(−0.243)	(−1.346)	(2.662)	(8.416)
Dividend/TA	1.480***	−1.050	0.054	−0.329	1.008***	0.398
	(4.000)	(−1.345)	(0.196)	(−0.667)	(5.909)	(0.996)
Fixed assets/TA	0.100***	−0.260***	0.056*	−0.158***	0.025**	−0.052*
	(3.212)	(−3.951)	(1.848)	(−2.915)	(2.098)	(−1.715)
Current ratio	0.000	−0.011*	0.000	−0.003	−0.000	−0.003
	(0.061)	(−1.788)	(0.172)	(−0.586)	(−0.266)	(−1.007)
Effective tax rate	−0.025**	−0.031	0.001	0.022	−0.018**	0.002
	(−2.189)	(−1.268)	(0.147)	(1.442)	(−2.376)	(0.128)
Community score ($t-1$)			0.698***			
			(57.167)			
Diversity score ($t-1$)				0.324***		
				(22.721)		
Constant	−0.029	0.417**	0.176*	0.007	−0.289***	−1.928***
	(−0.327)	(2.235)	(1.649)	(0.039)	(−11.506)	(−28.885)
Firm fixed effects	Yes	Yes	No	No	No	No
Observations	10,330	10,330	17,254	17,254	25,688	25,688
R-squared	0.711	0.831				

t-statistics in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

We did not include these two crises in our previous analysis because they were substantially less severe than the financial crisis of 2008.[1]

First, we investigate how these crises affected firm profitability. We create a binary variable equal to one for each crisis period and zero otherwise. The regression results are shown in Table 5. The dependent variables in Model 1 and Model 2 are ROA and the EBIT ratio respectively. The results show that the dot-com crisis of 2001 and the financial crisis of 2008 reduced firm profitability significantly. On the contrary, the Asian financial crisis did not reduce profitability. This is not surprising because the Asian financial crisis primarily affected the Asian countries and had only a limited impact on U.S. firms.

Our purpose is to investigate how a negative economic shock influences CSR investments. In Model 3, the dependent variable is the CSR score. The regression result shows that the coefficients of the dot-com crisis and the Asian financial crisis are not significant. This is consistent with the notion that the crisis of 2008 was far more devastating and had a much stronger effect on corporate policies and outcomes. Notably, however, while the coefficient of the dot-com crisis is not significant at the conventional levels of at least 10%, it is significant at the 11% level. So, it is almost significant. On the contrary, the coefficient of the Asian financial crisis is far from being significant.

Given the results above, we concentrate only on the dot-com crisis and the financial crisis of 2008 (because the Asian financial crisis did not have a significant impact on profitability or CSR). We run a fixed –effects regression for each category of CSR to assess how firms view the various CSR categories during the crisis periods. The results are shown in Table 6. The focus is on the coefficients of the dot-com crisis and the financial crisis of 2008. The signs of the dot-com crisis and the financial crisis of 2008 are the same in

[1] To put this in perspective, during the Great Recession, the U.S. GDP declined by 5.1%, while, during the Dot-com crisis, the GDP dropped by a mere 0.3%. Similarly, the peak unemployment rate during the Great Recession was 10%, whereas it was only 6.3% for the Dot-com crisis.

Table 5
The effects of the crises on firm profitability and CSR.
TA represent total assets. The current ratio is current assets divided by current liabilities.

	(1) ROA	(2) EBIT/total assets	(3) CSR
Asian financial crisis (1997–1998)	0.008**	0.012***	0.016
	(2.144)	(2.655)	(0.246)
Dot-com crisis (2001)	−0.026***	−0.030***	0.097
	(−7.796)	(−7.328)	(1.571)
Great Recession (2008–2009)	−0.031***	−0.016***	0.129***
	(−21.989)	(−9.008)	(4.893)
Ln (total assets)	0.007***	−0.003*	−0.234***
	(4.937)	(−1.841)	(−8.417)
EBIT/TA			−0.099
			(−0.976)
Total debt/TA	−0.146***	−0.068***	0.100
	(−25.675)	(−9.682)	(0.947)
Cap. exp./TA	0.104***	0.171***	−0.001
	(5.539)	(7.328)	(−0.002)
R&D/TA	−0.455***	−1.114***	−0.622**
	(−34.507)	(−68.151)	(−2.304)
Adverting exp./TA	−0.050	0.212***	−0.222
	(−1.546)	(5.330)	(−0.372)
Cash holdings/TA	0.031***	0.020**	0.175
	(3.873)	(2.012)	(1.182)
Dividend/TA	0.534***	0.656***	2.308***
	(11.340)	(11.245)	(2.632)
Fixed assets/TA	−0.074***	−0.064***	−0.400***
	(−15.736)	(−10.983)	(−4.566)
Current ratio	0.001***	0.000	0.007
	(2.959)	(0.223)	(0.951)
Effective tax rate	0.012***	0.012***	0.001
	(6.610)	(5.277)	(0.030)
Constant	0.033***	0.151***	1.286***
	(2.719)	(9.941)	(5.627)
Observations	25,688	25,688	25,688
R-squared	0.690	0.770	0.602

t-statistics in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

four categories of CSR, i.e. Community, Corporate Governance, Environment, and Human Rights. For Diversity and Product, the dot-com crisis had no significant impact, whereas, during the crisis of 2008, firms raised investments in Diversity and reduced investments in Product. Over time, it appears that firms value diversity-enhancing activities much more, but value product improvement much less.

The sharpest contrast, however, lies in the Employee category. During the dot-com crisis, companies increased their investments in employee-related CSR activities, whereas, during the crisis of 2008, companies significantly reduced their investments in this category. This stark contrast indicates that the way companies view their employees evolved over time. Employees seem to have been valued much more in the early 2000s than during the crisis of 2008.

3.4. Conclusion

In spite of a large volume of research on CSR, little research has been done on how firms prioritize their CSR activities. One complication that makes such research challenging is the presence of endogeneity. We fill this gap in the literature by exploiting the Great Recession as an exogenous shock on firm performance and study how firms prioritize their CSR activities in the presence of such a severe shock. Our approach is less vulnerable to endogeneity as the crisis is imposed from outside the firm. Our results show that firms do not reduce their overall CSR investments even in such a stressful time, highlighting the importance of CSR.

However, during the Great Recession, firms do not view all CSR activities as equally necessary. Further analysis shows that firms substantially reduce their investments in five CSR activities (Community, Employee, Environment, Human Rights, and Product), while increasing investments in two CSR activities (Corporate Governance and Diversity). Therefore, firms appear to view Corporate Governance and Diversity as more essential to the strategic direction of the firm. As a result, they do not reduce their investments in these two categories, even during such a stressful time. The other five CSR categories, however, appear to be considered less

Table 6
The effects of the crises on CSR activities.
TA represents total assets. The current ratio is current assets divided by current liabilities.

	(1) Community	(2) Corporate governance	(3) Diversity	(4) Employee	(5) Environment	(6) Human rights	(7) Product
Dot-com crisis (2001)	−0.061***	0.132***	−0.027	0.186***	−0.166***	−0.016**	0.023
	(−4.236)	(5.680)	(−0.873)	(7.569)	(−7.346)	(−2.177)	(1.478)
Great Recession (2008–2009)	−0.079***	0.051***	0.427***	−0.113***	−0.096***	−0.011***	−0.069***
	(−12.808)	(5.118)	(32.044)	(−10.796)	(−9.956)	(−3.455)	(−10.452)
Ln (total assets)	0.032***	−0.293***	−0.020	0.005	0.176***	−0.006*	−0.079***
	(4.993)	(−28.427)	(−1.409)	(0.416)	(17.607)	(−1.842)	(−11.445)
EBIT/TA	0.040	0.020	0.145***	−0.065	0.010	0.000	−0.029
	(1.593)	(0.512)	(2.711)	(−1.535)	(0.267)	(0.031)	(−1.102)
Total debt/TA	−0.142*	−0.039	0.124	0.322**	−0.755***	−0.067	0.291***
	(−1.734)	(−0.293)	(0.703)	(2.301)	(−5.910)	(−1.551)	(3.303)
Cap. exp./TA	0.012	−0.464***	−0.143	−0.023	0.242***	0.014	−0.070
	(0.212)	(−5.028)	(−1.154)	(−0.231)	(2.696)	(0.464)	(−1.134)
R&D/TA	0.171	0.218	0.026	−0.318	−0.045	−0.141*	−0.362**
	(1.220)	(0.972)	(0.087)	(−1.334)	(−0.208)	(−1.925)	(−2.401)
Adverting exp./TA	0.036	−0.027	0.324***	−0.419***	0.381***	0.011	−0.060
	(1.028)	(−0.478)	(4.325)	(−7.081)	(7.036)	(0.608)	(−1.604)
Cash holdings/TA	1.019***	−0.426	−0.812*	1.277***	1.490***	0.313***	−0.100
	(4.960)	(−1.292)	(−1.832)	(3.648)	(4.654)	(2.910)	(−0.455)
Dividend/TA	0.136***	−0.339***	−0.432***	0.081**	0.174***	0.026**	−0.013
	(6.609)	(−10.306)	(−9.752)	(2.309)	(5.452)	(2.379)	(−0.584)
Fixed assets/TA	−0.000	0.005*	−0.002	0.004	−0.002	−0.000	0.002
	(−0.281)	(1.741)	(−0.539)	(1.495)	(−0.619)	(−0.100)	(1.043)
Current ratio	−0.023***	0.022*	−0.020	0.046***	−0.046***	−0.004	0.012
	(−2.922)	(1.769)	(−1.203)	(3.452)	(−3.813)	(−0.987)	(1.447)
Effective tax rate	−0.215***	2.017***	0.216*	−0.132	−1.413***	−0.009	0.450***
	(−4.071)	(23.785)	(1.894)	(−1.471)	(−17.164)	(−0.319)	(7.913)
Observations	25,688	25,688	25,688	25,688	25,688	25,688	25,688
R-squared	0.598	0.452	0.722	0.530	0.526	0.493	0.629

t-statistics in parentheses.
*** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

consequential. We confirm the results using a number of robustness checks. Finally, we explore the effects of earlier financial crises and document that companies' view on CSR categories has evolved over time. Our study is the first to investigate how firms prioritize their CSR activities using an exogenous shock introduced by a financial crisis.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.frl.2018.02.003.

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