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**Social Capital, Trust, and Corporate Performance:
How CSR Helped Companies During the Financial Crisis (and Why It Can Keep
Helping Them)***

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* This paper summarizes the findings of, and draws heavily on, the following two articles: Karl V. Lins, Henri Servaes, and Ane Tamayo, 2017, Social Capital, Trust, and Firm Performance: The Value of Corporate Social Responsibility During the Financial Crisis, *Journal of Finance* 72, 1785-1824, and Henri Servaes and Ane Tamayo, 2017, The Role of Social Capital in Corporations: A Review, *Oxford Review of Economic Policy* 33, 201-220. We are grateful to the editor, Don Chew, for many helpful comments and suggestions.

Over the last few decades, Corporate Social Responsibility has moved from the periphery of corporate decision-making to the main stage. While exact numbers are hard to come by, anecdotal evidence and surveys suggest that companies spend substantial amounts of money on CSR “investments.” For example, a global study of CSR by EPG Economic and Strategy Consulting estimated (based on surveys and interviews with corporations) that companies in the 2013 Fortune Global 500 spent a combined \$19.9 billion per year on CSR activities over the period 2011–13. Of this amount, \$10.25 billion was spent by 132 U.S. companies and \$2.65 billion by 26 U.K. companies. The U.S. company with the highest spending was Oracle, with average annual CSR expenditures of approximately \$2.3 billion, on programs and initiatives such as in-kind donations of its software suite, curriculum, and teacher training. AstraZeneca ranked highest among U.K. companies, with average expenditures of around \$1.2 billion, mainly in the form of in-kind donations of medicines and initiatives that make medicines available at reduced prices. To put these numbers in perspective, average R&D spending over the years 2011–13 for Oracle was \$4.8 billion, while its average capital investment was \$626 million. Astra Zeneca’s R&D spending averaged \$5.2 billion, while capital spending averaged \$751 million.

But do CSR investments earn an adequate return for shareholders, or do they aim mainly to create benefits for other corporate stakeholders, including society at large, *at the expense of* shareholder returns? And if the latter is correct, are CSR investments intended to entrench top management? While many studies have documented a positive relation between financial performance and CSR investments,¹ it is generally not clear whether the effect is *causal*. That is, do the CSR investments actually lead to an increase in stock returns and operating performance? Or is it the case that companies that perform well financially can simply afford more CSR investments, thereby sharing some of the shareholder spoils with other stakeholders? Moreover, one study that focuses on just one form of CSR—corporate donations—finds that the principal motive for such donations is to benefit the senior executives of such companies, and not their shareholders.²

¹ See, for example, Margolis, Joshua, Hillary Anger Elfenbein, and James P. Walsh, 2009, “Does it Pay to Be Good ... and Does it Matter? A Meta-Analysis of the Relationship Between Corporate Social and Financial Performance,” Working paper, Harvard University, Washington University in St. Louis, and University of Michigan.

² See Masulis, Ronald W., and Syed W. Reza, 2015, “Agency Problems of Corporate Philanthropy,” *Review of Financial Studies* 28, 592-636.

In this article, we describe the methods and findings of a recent study, in which we provide evidence of a causal relation between corporate CSR programs and the “social capital” they create, and the value that the stock market assigns to companies. The premise of our research is that the benefits of CSR are not constant over time, but depend on the overall level of trust in corporations and financial markets and that such benefits tend to be greatest when trust is at its lowest.

The importance of trust for well-functioning capital markets and financial stability was highlighted during the financial crisis. Nobel-Prize-winning economist Joseph Stiglitz commented in 2008 that “the present financial crisis springs from a catastrophic collapse in confidence ... Financial markets hinge on trust, and that trust has eroded.” But, of course, discussions of the role in economic life of trust and, more generally, “social capital” are by no means new. In 1972, Kenneth Arrow, another Nobel laureate, argued that “virtually every commercial transaction has within itself an element of trust,” and he went on to suggest that much of the economic backwardness in the world might be due to the lack of mutual confidence.³ Consistent with this view, the political scientist Robert Putnam has shown that nations with greater social capital, and hence a higher level of trust, have generally achieved higher levels of economic development.⁴ In this research, social capital tends to be broadly defined. Putnam views social capital as “the propensity of people in a society to cooperate to produce socially efficient outcomes” and highlights “the norms of reciprocity and trustworthiness” that arise from connections among individuals.⁵ The two elements that stand out in this discussion are those of reciprocity—the idea that “I will be good to you because I believe you will be good to me at some point in the future or because you have been good to me already”—and cooperation.

More recently, scholars have introduced the concept of *organizational* social capital,⁶ and used it to identify and even quantify social capital at the corporate level. One widely used proxy for social capital is the extent of a company’s CSR activities.⁷ The belief that CSR activities can help build social capital and trust is also widespread among corporate managers and other practitioners. For example, in

³ See Arrow, Kenneth J, 1972, “Gifts and Exchanges,” *Philosophy and Public Affairs* 1, 343-362.

⁴ See Putnam, Robert D., 1993, *Making Democracy Work: Civic Traditions in Modern Italy*, (Princeton University Press, Princeton, NJ).

⁵ See Putnam, Robert D., 2000, *Bowling Alone: The Collapse and Revival of American Community* (Simon and Schuster, New York, NY).

⁶ See Leana, Carrie R. and Harry J. Van Buren, III, 1999, “Organizational Social Capital and Employment Practices,” *Academy of Management Review* 24, 538-555.

⁷ See Sacconi Lorenzo, and Giacomo Degli Antoni, 2011, *Social Capital, Corporate Responsibility, Economic Behaviour and Performance*, (Palgrave MacMillan, New York, NY).

two CEO surveys conducted by PricewaterhouseCoopers, CEOs indicated they planned to increase their companies' engagement in CSR activities to restore stakeholder trust that had been lost during the crisis.⁸

To be sure, the view that CSR can help build trust had a significant following among practitioners well before the onset of the financial crisis.⁹ One can think of this organizational social capital as broadly encompassing the quality of the relationships that a company has built with a variety of stakeholders, including employees and local communities as well as customers. Without it, a firm's return on investments in other forms of capital may well be substantially diminished. In sum, companies with greater social capital tend to create a level of trust and cooperation from stakeholders that ends up increasing profitability and firm value.

In our work, we began by conjecturing that a company's investments in social capital yield returns that are not constant over time, but increase notably during periods in which being identified as trustworthy is clearly more valuable. The 2008-2009 financial crisis provides exactly such a setting. From a shareholder perspective, if high-social-capital companies are perceived as more trustworthy, investors are likely to place a valuation premium on such firms when overall trust in companies is low. From a stakeholder perspective, the reciprocity concept discussed earlier suggests that a company's employees, customers, suppliers, and the community at large—including regulators and politicians—are all more likely to help high-social-capital firms weather a shock, given their greater attentiveness to, and cooperation with, stakeholders in the past.

To test whether social capital pays off during a crisis of trust, we conducted a study that examined the performance of a sample of 1,673 non-financial U.S. companies with CSR data available on the MSCI ESG Stats database over the August 2008-March 2009 financial crisis. In regressions that control for a wide variety of factors and corporate characteristics (including governance and transparency), we found that companies that entered the crisis period with high CSR ratings had significantly higher (between four and seven percentage points) crisis-period stock returns than those that entered with low CSR ratings. Moreover, the economic importance of social capital in explaining stock returns was at least

⁸ See PricewaterhouseCoopers, 2013, 16th CEO Survey, <http://www.pwc.com/gx/en/ceo-survey/2013/> and PricewaterhouseCoopers, 2014, 17th CEO Survey, <http://www.pwc.com/gx/en/ceo-survey/2014/>.

⁹ See Fitzgerald, Niall, 2003, *CSR: Rebuilding Trust in Business. A Perspective on Corporate Social Responsibility in the 21st Century*, (Unilever and London Business School, London, UK).

half as large as the effect of cash holdings and leverage, financial variables that have been shown by other studies to have affected crisis period returns.¹⁰ Our findings suggest that it is important to expand the focus beyond financial capital when attempting to understand the drivers of firm-level performance during a crisis of trust.

Our study also identified some of the “mechanisms” behind the outperformance of high-CSR companies by examining the profitability and productivity, as well as the capital-raising, of such companies during the crisis. We found that high-CSR firms had higher profitability and gross margins, and experienced higher sales growth, than low-CSR firms during the crisis. They also had higher sales per employee and were able to raise more debt. These results are consistent with a stakeholder and investor commitment to help companies deemed to be more trustworthy during the crisis. Some of these effects also carried over to the post-crisis period.

Our study enabled us to address the problem of establishing causality mentioned earlier because it is highly unlikely that firms decided on their pre-crisis CSR policies in anticipation of the crisis. When the crisis hit, CSR levels were fixed, at least in the short term. Those companies that invested substantially in CSR *before* the crisis benefited, others did not. Moreover, the ability of these companies to maintain higher margins, sales growth, and sales per employee throughout the crisis period, relative to low CSR companies, attests to higher levels of customer and employee loyalty.

Collectively, our results show that investors assigned a premium to high-CSR companies during a crisis of trust, and that real effects took place at the firm level during this time, providing evidence that greater social capital maps into higher returns at the microeconomic level. From a company’s perspective, our findings indicate that the benefits that accrue to firms that build their social capital through CSR activities outweigh the costs of these activities, especially when trust declines unexpectedly. In this sense, the building of social capital can be thought of as an insurance policy that pays off when

¹⁰ See Duchin, Ran, Oguzhan Ozbas, and Berk A. Sensoy, 2010, “Costly External Finance, Corporate Investment, and the Subprime Mortgage Credit Crisis,” *Journal of Financial Economics* 97, 418-435; Almeida, Heitor, Murillo Campello, Bruno Laranjeira, and Scott Weisbenner, 2012, “Corporate Debt Maturity and the Real Effects of the 2007 Credit Crisis,” *Critical Finance Review* 1, 3-58.

investors and the economy at large face a severe crisis of confidence and when the reward for being identifiably trustworthy markedly increases.

In what follows, we summarize the main findings of this study. We start with a description of our analysis of stock returns, followed by an investigation of operating performance.

Sample and Summary Statistics

To construct our sample, we gathered information on companies' CSR ratings from the MSCI ESG Stats Database, which contains environmental, social, and governance ratings of large, publicly traded companies. This database consists of yearly ratings on roughly the 3,000 largest U.S. companies and has been used in a large number of studies examining the effect of CSR on firm performance. ESG Stats classifies environmental, social, and governance performance in 13 different categories: community, diversity, employment, environment, human rights, product, alcohol, gaming, firearms, military, nuclear, tobacco, and corporate governance.

Our study focused on the first five of these categories. We did not examine the product category because it contains a number of elements that we considered outside the scope of CSR, such as product quality and innovation. Similarly, we did not consider in our tests the ESG Stats categories that penalize corporate participation in the six industries that are considered controversial, since there is little that companies can do to change a ranking score short of changing industries. Finally, we did not examine the ESG Stats corporate governance category in our main tests because governance is generally not part of a firm's CSR remit. However, it is possible that elements of governance are seen by investors as measures correlated with the trustworthiness of a firm; hence, we examined this category separately.

For each of the five categories we considered—community, diversity, employment, environment, and human rights—ESG Stats compiles data on both strengths and concerns. Since we were interested in capturing both elements, we constructed a net CSR measure that adds strengths and subtracts concerns. For each category, however, the maximum number of strengths and concerns varies across time; for example, the total maximum of strengths for the category “community” was seven in 2005, but only four in 2010. To obtain numerically consistent measures over time, we scaled the strengths (or concerns) for each category by dividing the number of strengths (or concerns) for each firm-year by the maximum

number of strengths (or concerns) that were possible for that category for that year. From this exercise, we obtained strength and concern indices that ranged from 0 to 1 for each category-year. Our measure of net CSR involvement in each category-year was then obtained by subtracting the concerns index from the strengths index; thus, the net CSR index per category ranged from -1 to +1. Finally, to obtain our primary explanatory variable, a company's total net CSR index (CSR hereafter), we combined the net CSR indices for the categories of community, diversity, employment, environment, and human rights. This provided us with a net measure across our set of stakeholder-oriented categories, ranging from -5 to +5. There was substantial variation in this measure across companies and industries. For example, in 2006 in the apparel retail industry, GAP received a score of 0.40, while Limited Brands came in at -0.53; and in the chemicals industry, Air Products and Chemicals' score was 0.16, while Celanese's was -1.36.

We obtained stock return data from the Center for Research in Securities Prices and accounting data from Compustat. We removed financial firms from our sample due to the extensive amount of government support given to such firms during the crisis. We also removed micro-cap stocks (those with a market capitalization below \$250 million as of year-end 2007) because these stocks tend to have low liquidity and high bid-ask spreads, and are subject to more price pressure effects of trading, all of which would likely be more severe during the financial crisis.

We defined the financial crisis as the period from August 2008 to March 2009. August of 2008 preceded the September 2008 Lehman Brothers bankruptcy, while March of 2009 was the month in which the S&P 500 hit its lowest point of the crisis. This period also corresponds to the period of decline in trust identified by Paola Sapienza and Luigi Zingales.¹¹ The decline in trust later in 2008 was also corroborated by the Trust Barometer developed by Edelman, a large independent public relations firm, which conducts global surveys of trust in business, government, NGOs, and the media. Edelman reported that trust in business in the U.S. declined from 58% in early 2008 to 38% in early 2009.¹²

The main stock return measures for each firm were the Raw Crisis Period Return, which is the firm's raw buy-and-hold return from August 2008 through March 2009, and the Abnormal Crisis Period

¹¹ See Sapienza, Paola, and Luigi Zingales, 2012, "A Trust Crisis," *International Review of Finance* 12:2, 123-131.

¹² The Global Competitiveness Index developed by the World Economic Forum also contains a component measuring trust in financial markets and is released in September of each year (it is partially based on survey evidence). This trust measure shows a decline from 5.65 in September 2008 to 5.06 in September 2009. The Financial Trust Index (financialtrustindex.org) developed by Paolo Sapienza and Luigi Zingales is another measure of public trust, but because this index started after the onset of the crisis we cannot employ it to corroborate the extent to which trust changed as a result of the crisis.

Return, which is the raw return minus the expected return. To compute expected returns, we estimated a regression model of firm returns as a function of stock market returns over the 60-month period ending in July 2008. This regression provided us with the firm's beta coefficient, i.e. the extent to which the firm's stock price moves with the stock market. We used this beta coefficient to compute expected returns and subtracted the expected return from the raw return to compute the abnormal return. To avoid problems with outliers, we capped returns at their 99th percentile and set a lower bound at the 1st percentile. We related these return measures to our CSR measure at year-end 2006 to guard against the possibility that by the end of 2007 companies may have already changed their CSR policies to the extent they anticipated a potential crisis ahead.

After combining firms with sufficient data coverage on the CRSP and Compustat databases and firms covered by the ESG Stats database, we were left with a sample of 1,673 non-financial companies for which all explanatory variables were available for the crisis period.

Key Variables and Descriptive statistics

Table 1 provides summary statistics for our main variables. The first row of Table 1 shows that our primary variable of interest, CSR, was slightly negative, with a mean value of -0.165 and a median value of -0.200. Thus, both the average and the median companies had more CSR concerns than strengths. The next row shows that the Raw Crisis Period Return was substantially negative, with a mean of -39.1%, a median of -40.3%, and a 25th percentile value of -59.5%, indicating that investors and stakeholders were likely quite concerned about the survival prospects of many of the firms they held in their portfolios, worked for, or interacted with in business transactions. The median abnormal return was close to zero at 1.3%, while the mean was 11.6%.

Table 1 also provides definitions and descriptive statistics for firm characteristics that we used as control variables in our models. Size, leverage, cash holdings, and firm profitability were all likely to influence the performance of a company during the crisis and we wanted to ensure that the effect of CSR was not driven by these other factors. For example, we expected companies with high pre-crisis levels of cash and low pre-crisis debt to suffer less during the crisis. If these same companies also happened to have consistently high CSR expenditures, our findings could be caused by cash holdings and leverage, and not

by CSR. Similarly, we controlled for a number of other factors that could be related to stock returns: the book-to-market ratio, an indicator if the book-to-market ratio is negative, returns over the prior year (August 2007–July 2008) to capture return momentum, share price volatility, and four factor loadings.¹³ We also controlled for industry to take account of the fact that some industries suffered more than others during the crisis.

Crisis Period Returns

We estimated various regression models of stock returns during the crisis period as a function of companies' pre-crisis CSR ratings and the control variables discussed above. To make it easier to interpret and explain our findings, we split the entire sample of companies into four quartiles based on their 2006 CSR measures. We then compared returns over the crisis period for firms in quartiles 2 through 4 (the higher levels of CSR) to the returns of firms in quartile 1 (the lowest level of CSR).

As can be seen in Figure 1, there is a clear pattern in performance. Whether we employ raw returns or abnormal returns as a performance metric, the companies in quartiles two through four outperform the companies in quartile one, and the extent of excess performance increases as we move to higher CSR quartiles. For example, the companies in quartile two outperform those in quartile one by 3% during the crisis when we use raw returns and by close to 5% when we use abnormal returns. The companies in quartile four—or the highest-CSR firms—outperform the lowest-CSR firms by approximately 4.5% when using raw returns and by over 7% when using abnormal returns.

As expected, we also found that companies that entered the crisis in better financial health—as indicated by higher cash holdings and profitability and lower debt—had higher crisis-period stock returns, while firms with higher return volatility had lower returns. We also compared how important the economic magnitude of the control variables was relative to the CSR effect; the CSR effect during

¹³ The four factor loadings capture the relation between the return on an individual stock and the return on four portfolios. These include three portfolios proposed by Fama, Eugene and Kenneth French, 1992, "The Cross-Section of Expected Stock Returns," *Journal of Finance* 47, 427-466: the market portfolio, a portfolio that goes long in small stocks and short in large stocks, and a portfolio that goes long in high book-to-market stocks and short in low book-to-market stocks. The fourth portfolio was proposed by Carhart, Mark, 1997, "On Persistence in Mutual Fund Performance," *Journal of Finance* 52, 57-82, and is a portfolio that goes long in recent stock market winners and short in recent stock market losers.

the crisis was more than four fifths of the impact of leverage and more than half of the impact of cash holdings and volatility, indicating that social capital is indeed important in explaining crisis period returns.

We also ensured that our findings persisted after we controlled for measures of corporate governance. There is evidence that better-governed firms performed relatively well in the financial crisis.¹⁴ If governance is correlated with our CSR measure, then it is possible that CSR was simply proxying for effective governance. To address this concern, we controlled for a variety of governance measures as of year-end 2006. First, we used our prior method to construct a governance measure from the ESG Stats database: for each firm, the number of governance concerns was divided by its possible maximum and subtracted from the number of strengths divided by its possible maximum, yielding a governance index that ranges from -1 to +1. Second, we also measured governance using the firm's E-index (the entrenchment index featuring six governance provisions),¹⁵ board independence (the fraction of the board consisting of outside directors), board size, a dummy if the CEO is not the Chairman, and board ownership (the fraction of outstanding shares owned by the board members), obtained from the MSCI Governance Metrics and Directors databases.

Our results did not change materially after controlling for governance. The governance characteristics themselves were largely unrelated to stock return performance during the crisis, except for the E-index, which was negatively related to stock returns, indicating that poorly governed firms with more entrenched managers performed worse during the crisis.

To get a sense of the extent of the costs associated with companies' CSR activities, we estimated a regression model of the logarithm of Selling, General, and Administrative (SG&A) expenses measured in 2006 as a function of our CSR measure and a number of control variables (log assets, equity book-to-market, cash holdings to assets, total interest-bearing debt to assets, dividend payments to assets, income before extraordinary items to assets).¹⁶ What we found is that SG&A expenses tended to increase with

¹⁴ See Lins, Karl V., Paolo Volpin, and Hannes Wagner, 2013, "Does Family Control Matter? International Evidence from the 2008-2009 Financial Crisis," *Review of Financial Studies* 26, 2583-2619.

¹⁵ The E-index consists of the following six governance provisions that indicate entrenchment: a staggered board, limits to amend the charter, limits to amend bylaws, supermajority voting requirements, golden parachutes for executives, and the ability to adopt a poison pill (see Bebchuk, Lucian, Alma Cohen, and Allen Ferrell, 2009, "What Matters in Corporate Governance?," *Review of Financial Studies* 22, 783-827).

¹⁶ We follow Di Giuli, Alberta, and Leonard Kostovetsky, 2014, "Are Red or Blue Companies More Likely to Go Green? Politics and Corporate Social Responsibility," *Journal of Financial Economics* 111, 158-180.

a company's CSR measure. More specifically, increasing CSR from its 25th percentile to its 75th percentile was associated with SG&A expenses that were \$44.9 million higher for the median firm in our sample and \$203.5 million for the average firm. These cost estimates are substantial indeed.

Overall, these findings indicate that more socially responsible companies experienced a smaller decline in value during the crisis, and that this effect was not due to differences in financial strength or corporate governance. These results are consistent with the view that a company's investments in social capital provided investors with a greater sense of trust in the firm as the crisis was unfolding, leading to relative stock price outperformance.

Excess Returns and CSR during the Enron-Worldcom Scandals

The findings summarized thus far show a positive relation between CSR and excess returns during the 2008-2009 crisis period, when the overall level of trust in corporations suffered a severe shock. But was this a unique event, or have there been other periods in U.S. corporate history in which trust in corporations was severely challenged?

One "shock" that comes close to a crisis of trust was the one arising from the ripple effects of the frauds and subsequent bankruptcies of Enron, Worldcom, and several other large companies at the start of the century. Enron filed for bankruptcy in December of 2001, after admitting to accounting violations in October 2001. Of course, fraud committed by one company alone does not necessarily speak to overall trust in firms. However, soon after Enron's accounting violations were revealed, other cases came into the spotlight. In the last quarter of 2001 and the first half of 2002 alone, Adelphia, Bristol-Myers Squibb, Global Crossing, Homestore.com, ImClone Systems, Kmart, Qwest, Tyco, and Worldcom were all in the news because of accounting irregularities or outright fraud. Global Crossing, Adelphia, and Worldcom filed for bankruptcy in January, June, and July of 2002, respectively.

These bankruptcies and scandals likely caused a general decline in trust in corporations. Several newspaper articles published at the time support this belief. For example, on July 14, 2002, Associated Press Newswires published an article entitled: "How much will the loss of trust in U.S. businesses hurt the economy?" and on July 17, 2002, *The Wall Street Journal* reported on a warning from Alan

Greenspan, the Federal Reserve Chairman at the time, that breakdowns in corporate governance could undermine the trust necessary for efficient markets. On December 31, 2002, the *Financial Times*, when discussing the accuracy of forecasts that were made for 2002, stated that: "...even fewer divined that a loss of trust in company statements would be the trigger for another growl of the bear market."

To determine whether our findings also hold around the Enron crisis, we followed the same procedure as the one we used for the 2008-2009 financial crisis. Specifically, we cumulated returns over the period from October 2001, when the Enron accounting violations were first revealed, through March 2003, the month prior to the beginning of the stock market rally that persisted until the start of the 2008 crisis. We then related these returns to our measure of CSR computed as of the end of 2000, and used the same control variables as employed previously. Small firms (market values below \$250 million in 2007 dollars) were again excluded, but this time we included financial firms since they were not directly supported by the government during this period. Unfortunately, ESG Stats coverage during this period was much smaller, yielding a sample of only 412 companies. We divided the sample into two groups: those with a CSR score above zero, whose CSR strengths dominate their weaknesses, and those with a CSR score below zero. What we found was that companies with positive CSR scores had 7.3 percentage points higher raw returns (9.5 percentage points higher abnormal returns) than firms with negative CSR scores during the period October 2001–March 2003. This finding suggests that during the crisis of confidence surrounding the accounting scandals revealed in 2001/2002, high-CSR firms again earned higher excess returns than low-CSR companies.

These results support our earlier findings that the social capital created through CSR activities matters more when investor confidence in corporations has been damaged.

Excess Returns and CSR During a Shock to the Supply of Credit

We also investigated whether our 2008-2009 results could be attributed to a shock to the supply of credit rather than to a market-wide loss of trust. Starting in July of 2007, the weakening solvency of the banking sector led to a substantial increase in LIBOR rates, which had a strong negative impact on

the ability of firms to borrow.¹⁷ This shock to the supply of credit persisted until at least March 2009, which was the end of the crisis period in our prior tests. If high-CSR firms earned excess returns during the crisis because investors believed that these firms were better able to weather the credit crunch, our tests could be picking up this effect instead of the ability to weather a shock to trust. To investigate this possibility, we tested the extent to which CSR was related to returns in the period of July 2007 through July 2008, when the shock to credit supply already happened but the shock to trust had not yet occurred—as indicated, for one thing, by the Edelman Trust Barometer, which showed no decline from early 2007 to early 2008.

We repeated our prior exercise and divided our sample companies into four groups based on our CSR measure at the end of 2006. We then analyzed whether the pattern in returns we observed for the period August 2008–March 2009 was also present during the credit crunch period of July 2007 through July 2008. We found no evidence that high CSR firms had higher returns during the credit crunch period, indicating that the benefits to increased trust manifested themselves only during the crisis of trust starting in August of 2008.

Comparing Returns Inside and Outside the Crisis Period

The evidence summarized up to this point indicates that CSR affected stock returns during two different periods when overall trust in corporations, institutions, and financial markets declined. At the same time, we found that CSR appeared to have no effect on returns during the credit crunch leading up to the crisis. But what about the effects of CSR during other, more “normal” periods?

To address this question, we studied monthly returns for all companies over the period 2007–2013 to see whether the “CSR effect” was different during the crisis period, August 2008–March 2009, than in the period before and after the crisis. To do so, we estimated regression models of monthly raw and abnormal returns over the 2007–2013 period as a function of the same control variables discussed earlier, and as a function of pre-crisis CSR, measured at the end of 2006. We also adjusted returns each

¹⁷ See Duchin, Ran, Oguzhan Ozbas, and Berk A. Sensoy, 2010, “Costly External Finance, Corporate Investment, and the Subprime Mortgage Credit Crisis,” *Journal of Financial Economics* 97, 418-435; Ivashina, Victoria, and David Scharfstein, 2010, “Bank Lending During the Financial Crisis of 2008,” *Journal of Financial Economics* 97, 319-338.

month for the overall level of stock price performance during that month, and adjusted the returns for each firm for their average performance over the entire period.¹⁸ Therefore, any crisis effect is net of the market returns during the crisis. The control variables were updated annually as new data became available, except for the factor-loadings, which were updated monthly. We then allowed the effect of CSR to vary during the crisis as well as during the post-crisis period.

The main finding of this analysis is illustrated in Figure 2, where we show the extra return earned by firms in the 75th percentile CSR rank versus firms in the 25th percentile CSR rank for both the crisis and the post-crisis periods. The results are striking. In the post-crisis period from April 2009 onwards, there was virtually no extra return earned by high-CSR firms. But during the crisis period, high-CSR firms earned 0.70% per month higher raw returns and 0.53% higher abnormal returns than low-CSR firms. Cumulated over the eight crisis months, this implies an extra 5.75% raw return, or a 4.35% abnormal return. Note that this effect holds after controlling for all of the firm's financial characteristics.

Interestingly, there was no reversal in abnormal returns after the crisis. In other words, the boost in returns led to a permanent upward revaluation of high-CSR firms after the crisis. This absence of a reversal in returns for high-CSR firms after the crisis may appear surprising. Why does the price of high-CSR firms remain high once trust is restored?

A reversal rests on the assumption that overall trust in firms and markets has fully recovered, but this does not appear to have been the case. Trust has instead remained relatively low since the crisis. For example, according to the Financial Trust Index, 11% of respondents trusted the stock market and 12% trusted large corporations in December 2009. These figures increased to 13% and 16%, respectively, by December 2012, but they are still suggestive of a low level of trust in the wake of the crisis. This would be consistent with the lack of return reversals. We also note that high-trust firms should not earn further positive abnormal returns either if prices had already adjusted to the overall decline in trust during the crisis. That is, any benefits of being trustworthy when overall trust is low should now be reflected in the share price.

As an additional analysis, we also constructed a hedge portfolio that goes long in companies in the highest quartile of CSR firms and short in companies in the lowest quartile, updating the portfolio

¹⁸ Technically, our model is estimated with time and firm fixed effects.

composition on an annual basis as new CSR information became available. This portfolio earned excess returns (adjusted for four factor loadings) of 74 basis points per month during the crisis period, while the excess returns were insignificant in the four years both prior to and after the crisis, again suggesting that high-CSR firms only outperform when trust is low.

Regional Trust and the Relation between CSR and Returns

Our interpretation of the excess crisis period returns for high-CSR companies is that such firms build social capital through their CSR activities, which pays off when there is a shock to overall trust. Both casual observation and formal studies suggest that trust in corporations and financial institutions varies significantly across the United States. We accordingly attempted to provide more evidence for this interpretation by linking the crisis-period returns earned by high-CSR firms to regional variation in trust across the U.S.

We obtained data on regional variation in trust from the 2006 General Social Survey (GSS) conducted by the National Opinion Research Center (NORC) at the University of Chicago. This survey asked a random sample of Americans a large number of questions related to various aspects of society, including: “Can people be trusted?” In 2006, the survey covered 3,929 responses to this question; after removing 192 respondents who said “Depends,” 34% of the respondents replied that people can be trusted while the remainder said that people cannot be trusted. There is substantial variation in trust across the nine regions in which respondents are classified: for example, only 26% of the respondents in the West South Central region expressed trust in people, as compared to 43% in New England and the Mountain region.

We used this variation to explore whether and how regional differences in trust affected the returns earned by high-CSR firms by matching the regional trust averages with the regions in which the firms are headquartered. Our primary hypothesis follows the work of Robert Putnam, who argues that an agent’s social capital is more valuable in a society where overall social capital is higher.¹⁹ Framing this argument in our context, in regions where people have a lower propensity to trust, CSR activities are

¹⁹ See Putnam, Robert D., 2000, “*Bowling Alone: The Collapse and Revival of American Community*,” (Simon and Schuster, New York, NY).

less likely to be viewed by investors and other stakeholders as trust-enhancing activities; instead they may be perceived as window-dressing and less genuine activities. As such, they are less likely to pay off. If more stakeholders are based in the region where the firm is headquartered, we can use this regional variation in trust to directly test whether trust matters more where it should—in more trusting regions. Employees, customers, and other stakeholders in more trusting regions are more likely to reward trustworthy firms, for example, by working harder and maintaining strong buying relationships, leading to higher crisis-period returns. Additionally, if investors are more likely to own the stocks of local companies and stock prices are thus influenced by local investors—propositions that have both received empirical support^{20, 21}—more trustworthy companies may also be able to raise more capital and achieve higher valuations during the crisis.

Figure 3 illustrates our findings. We performed the same analyses as before, but split the sample into firms headquartered in high- and low-trust regions. The left-hand side of the graph shows the results during the crisis period, and the right-hand side shows results for the post-crisis period. During the crisis, we find that moving from the 25th to the 75th percentile of the CSR distribution has a significant effect on returns for firms headquartered in both high- and low-trust regions, but the effect was more pronounced in high-trust regions. In high-trust regions, the monthly excess raw return approached 1% during the crisis, whereas it was only half of 1% in low-trust regions. Using abnormal returns, the same pattern emerged, albeit less pronounced. In the post-crisis period, on the other hand, the returns from being more CSR-intensive are small, and they do not appear to depend on trust.

Two caveats are in order, however. First, an individual's inclination to trust people may be different from her ability to trust companies; hence, our findings should be interpreted with this limitation in mind. Second, our test assumes that the survey response reflects an individual's propensity to trust people (and other agents) and, as such, her propensity to respond to a firm's CSR efforts. This propensity, if it is an inherent personal characteristic, should not vary (much) through time, which is indeed the case: it has declined very gradually—for example, from 38% in 2000 to 34% in 2014—but it did not shift

²⁰ See Coval, Joshua D., and Tobias J. Moskowitz, 1999, "Home Bias at Home: Local Equity Preference in Domestic Portfolios," *Journal of Finance* 54, 2045-2073.

²¹ See Hong, Harrison G., Jeffrey D. Kubik, and Jeremy C. Stein, 2008, "The Only Game in Town: Stock-Price Consequences of Local Bias," *Journal of Financial Economics* 90, 20-37.

dramatically around the crisis. We also found a similar stability in trust when splitting the sample into high- and low-trust regions.

Overall, this evidence indicates that the impact of CSR on returns during the crisis period was related to the general level of trust in the area where the company is located, and supports the view that the link between returns and CSR during the crisis operates through the trust channel.

Elements of CSR and Returns

We further examined whether it is a company's CSR in aggregate or a specific component of CSR that is important for crisis-period returns. At the outset of this article, we argued that a firm can build social capital through a variety of activities and that such activities can enhance the trust of all the firm's stakeholders. For example, customers may reward companies for treating their employees better, while employees may work harder because the company cares more about its community or the environment. It is possible, however, that some aspects of CSR are considered more important in building trust than others, which could affect the strength of their relation with returns.

To test this conjecture we disaggregated CSR into two components: those that speak mainly to internal stakeholders (Employees and Diversity) and those that speak mainly to external stakeholders (Community, Human Rights, and Environment). We then repeated our analysis for both components of CSR. When we did so, we found that both components of CSR were significant in explaining crisis period raw and abnormal stock returns, which suggests that a focus on both internal and external stakeholders was seen by investors as being valuable during the 2008-2009 financial crisis.

Further Robustness Tests

We also conducted a number of additional tests to verify that our main findings are robust. We first focused on measuring CSR performance at different points in time. In our baseline models reported in prior figures, we measured CSR performance at the end of 2006, more than one year before the onset of the shock to trust and several months before LIBOR rates started rising. It is possible that some

corporate managers were anticipating a potential slowdown, given the heady returns for asset prices in general in 2006, and that they started increasing their CSR activities in 2006 in anticipation of a potential crisis. If these firms happened to be the ones that were better able to cope with the crisis regardless of their CSR activities, our inference that the crisis performance is attributable to CSR would be incorrect. While we controlled for many factors that could potentially affect crisis-period returns, if CSR at the end of 2006 was correlated with some hard-to-measure ability to withstand a shock to trust, then the results we report may not be attributable to social capital and CSR, but to some other factor.

To address this possibility, we investigated whether firm CSR scores measured in 2005 were positively related to crisis-period stock returns since 2005 clearly precedes any fears of a financial crisis. We found results similar to the ones reported above.

It is also possible that high-CSR companies performed well during the crisis because prior CSR activities were actually value-destroying projects, and companies were compelled to cut these activities during the crisis. If CSR is just one element of excess investment, then the level of CSR could also proxy for the extent of overinvestment in the firm as whole. Thus, it could be that firms that engaged more in non-value maximizing behavior pre-crisis performed better during the crisis simply because they had more excesses that could be trimmed.

One straightforward way of checking this conjecture is to see whether our results still hold when CSR is measured at year-end 2008 when these excesses would arguably have already been cut. Our findings persist: high CSR levels measured in the depth of the crisis were still associated with higher crisis period returns.

As a second robustness test, we assessed whether the decision to remove micro-cap firms (those with an equity market capitalization below \$250 million) from our sample affected our results. We excluded these firms because they typically display very low stock market liquidity, and this factor could outweigh other factors during the crisis. However, our findings were essentially the same when such firms were included in our sample.

Third, we confirmed that our findings were not attributable to our decision to include the month of March 2009 as part of the crisis period. Stock markets started recovering globally during the middle of that month, and we wanted to ensure that our results were not due to this recovery. We found that the

effect of CSR on returns remained positive and significant in specifications that excluded March 2009 from the crisis-return window.

The Effect of CSR Investments on Operating Performance and Capital Raising

In our study, we also looked at the operating performance and capital-raising activities of companies during the crisis and surrounding periods to explore in more detail the possible sources of the excess returns earned by high-CSR firms during the crisis. In particular, we studied operating performance and capital-raising activities at the quarterly level over the period 2007-2013 to assess whether during the crisis they were related to the firm's CSR activities measured in the pre-crisis period. Our approach was similar to the one we followed for stock returns in that we adjusted our metrics for the overall performance and capital-raising levels of all companies in the economy in a given quarter and for the firm's average performance and capital raising over the entire seven-year period. CSR was again measured at the end of 2006. Since our data are quarterly, we defined the 4th quarter of 2008 and the first quarter of 2009 as the crisis quarters. In all models, we controlled for firm size, measured as the logarithm of the book value of assets. When studying capital raising, we also controlled for cash holdings to assets, debt to assets, and operating income to assets, all measured in the prior quarter.

Our findings are reported in Table 2, which shows the effect of changing pre-crisis CSR from its 25th percentile (low CSR companies) to its 75th percentile (high CSR companies) on the variable of interest. We also display the overall mean and the crisis-period mean of the variable of interest to provide perspective on the magnitude of the effect.

Our first performance measure is Operating Return on Assets (ROA), computed as operating income divided by assets. During the crisis, high CSR companies had 0.28% higher ROA than low CSR firms, which is substantial relative to average quarterly profitability of 3.1% over the estimation period and 2.2% during the crisis. Also note that the increase in profitability for high-CSR firms persisted in the post-crisis period as well, albeit at a somewhat lower level. As argued previously, given that trust in corporations has remained low since the end of the crisis, observing some excess operating performance for high-CSR firms during this time is not surprising.

We also analyzed changes in gross margin (defined as $(\text{sales} - \text{cost of goods sold}) / \text{sales}$), to see whether high-CSR firms were able to sell their products at higher mark-ups than their low-CSR counterparts during the crisis. Of course, higher mark-ups could be due to higher prices or lower costs; the gross margin just illustrates the net effect. As shown in the second row of Table 2, the gross margins of high-CSR firms were 55 basis points higher than those of low-CSR firms during the crisis. Though this effect appears small relative to average gross margins of 40.1% during the estimation period and 38.3% during the crisis, the results on profitability reported in the first row suggest that much of this increase flows through to the bottom line. Also note that gross margins have remained relatively higher for high-CSR firms since the end of the crisis, though the difference in margins is lower than during the crisis itself.

One concern is that the higher margins reported in row 2 might have been associated with lower sales growth. We examined this possibility by comparing the percentage growth in sales over the previous quarter for high- and low-CSR firms. As illustrated in row 3, high-CSR companies experienced higher sales growth during the crisis than other firms; increasing CSR from its 25th to its 75th percentile was associated with a 2.33 percentage-point increase in sales growth. This is a considerable effect, given mean quarterly sales growth of 3.24% over the sample period, and a mean decline in sales of 6.91% during the two crisis quarters. The combined findings in rows 2 and 3 indicate that during the crisis high-CSR firms experienced lower declines in sales than other firms, despite charging higher mark-ups. This suggests that the customers of these firms were more willing to “stick” with the company during this period. Note from row 3 that the higher level of sales growth for high-CSR firms also persisted after the crisis, although the magnitude of the effect was substantially lower than during the crisis.

To examine the customer channel in greater depth, we studied changes in accounts receivable as a fraction of (quarterly) sales around the crisis. The results reported in row 4 show no significant effect. Thus, there is no evidence that the stronger sales growth of high-CSR firms was due to increased credit sales. Customers of high-CSR firms were not paying their invoices any faster during the crisis either.

In sum, the operating performance results described up to this point suggest that one of the channels through which high-CSR firms earned excess returns during the crisis period was the willingness of customers to continue supporting these firms, as reflected in higher sales growth and an acceptance of higher mark-ups.

We then turned to the employee channel and studied whether high-CSR firms achieved higher sales per employee in the crisis period. As illustrated in row 5 of Table 2, there was a positive association between CSR and employee productivity during the crisis. Moving from the 25th to the 75th percentile of the CSR distribution was associated with an increase in sales per employee of over \$13,000 during the crisis. The mean firm over the estimation period had sales per employee of \$131,484, suggesting that the impact of CSR on employee productivity is considerable. Note that this effect also persisted after the crisis, but at half the crisis level.

One possible explanation for the higher sales per employee could be employee layoffs. To ascertain whether this is the case we examined whether the growth in the number of employees during and after the crisis was related to CSR, but did not find any supporting evidence. In fact, when we removed from our sample all companies that either doubled or lost half their employees in a year, we found some evidence that high-CSR firms experienced more employee growth in 2008 and 2009 than low-CSR firms (not reported in the table).

Finally, we focused on the investor channel and examined capital-raising during and surrounding the crisis. We divided both long-term debt and equity issues in a given quarter by total assets, and related these debt or equity issue measures to CSR activities. As illustrated in row 6, high-CSR companies raised more debt during the crisis, albeit the economic effect was modest: increasing CSR from its 25th to its 75th percentile increases debt issuances relative to assets by 17 basis points while average debt issuance is 2.61% over the sample period and 2.26% during the crisis. Equity issuances, as reported in row 7, were not related to CSR around the crisis period.

Overall, the evidence reported in this section broadly suggests that part of the superior returns to high-CSR firms accrue through the customer and employee channels. There is also modest evidence in support of increased debt capital raising.

Managerial Implications and Lessons for the Future

The evidence summarized in these pages indicates that high-CSR companies enjoyed stock returns that were 5-7 percentage points higher than their low-CSR counterparts during the 2008-2009

financial crisis, and even higher excess returns during the Enron crisis of 2001-2003. These results are consistent with our conjecture that a company's social capital built through its CSR activities can limit the negative effects of the decline of trust in corporations, markets, and institutions. We also show that the stock market boost experienced by companies during the crisis had not dissipated by the end of 2013, and that high-CSR firms enjoyed better operating performance, higher growth, higher employee productivity, and better access to debt markets during the crisis. Many of these operational improvements continued to be present in the post-crisis period, albeit at more modest levels.

These results indicate that the payoffs to CSR investments may well vary over time, such that it is difficult to ascertain at any given moment whether the investments pay off. While the financial crisis was likely a once-in-a-generation event, trust in business does not appear to have been fully restored, suggesting that the payoffs to CSR investments may be more substantial now than in the past.

More broadly, our analysis supports the view that CSR activities serve to protect firms from downside risk. Other recent research points in the same direction. One study by Rui Albuquerque, Yrjö Koskinen, and Chendi Zhang finds that CSR investments reduce a company's systematic risk (e.g., its beta) and so increase firm value, particularly in cases where companies have high advertising expenditures.²² In another study, Harrison Hong and Inessa Liskovich document that high-CSR firms receive more lenient settlements for Foreign Corrupt Practices Act Violations, even though they find no evidence that high-CSR firms engage in less harmful bribery. High-CSR firms also earn higher stock returns than low-CSR firms following the announcements of the settlements.^{23, 24} In yet another study, Dylan Minor and John Morgan echo the view that CSR can be used to insure the firm's reputation in the future.²⁵ Our results indicate that the insurance benefit of CSR extends beyond the notion that it lowers systematic risk or protects against firm-specific risk, since CSR also provides protection against overall loss of trust.

²² See Albuquerque, Rui, Yrjö Koskinen, and Chendi Zhang, 2019, "Corporate Social Responsibility and Firm Risk: Theory and Empirical Evidence," *Management Science*, forthcoming.

²³ See Hong, Harrison, and Inessa Liskovich, 2016, "Crime, Punishment and the Value of Corporate Social Responsibility," Working paper Princeton University and University of Texas at Austin.

²⁴ While this result suggests that firms may actually engage in CSR in order to curry favors with the authorities when it comes to punishing illegal behavior in the future, it does support the risk-reduction view.

²⁵ See Minor, Dylan, and John Morgan, 2011, "CSR as Reputation Insurance: Primum Non Nocere," *California Management Review* 53, 40-59.

Our work further suggests that CSR investments should be considered in their totality and that CSR influences performance through a variety of channels. This implies that the immediate beneficiary of the CSR activity is not the only one rewarding the firm. For example, companies that care about their employees are rewarded not only by their employees, but also by their customers; firms that care about the environment are also rewarded by their employees, etc. And for this reason, activities that are aimed at internal stakeholders—at, say, promoting employee well-being and diversity, are as important as activities aimed at third parties such as the community or the environment.

Overall, our work illustrates that the building of firm-specific social capital can be thought of as an insurance policy that pays off when investors and the overall economy face a severe crisis of confidence. Our work also indicates that social capital and CSR, when used to complement effective financial capital management, can be an important determinant of a company's financial performance and long-run value.

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Figure 1

Excess Return Earned During the Crisis Period for Firms in Quartiles 2 through 4 of CSR Relative to Firms in Quartile 1

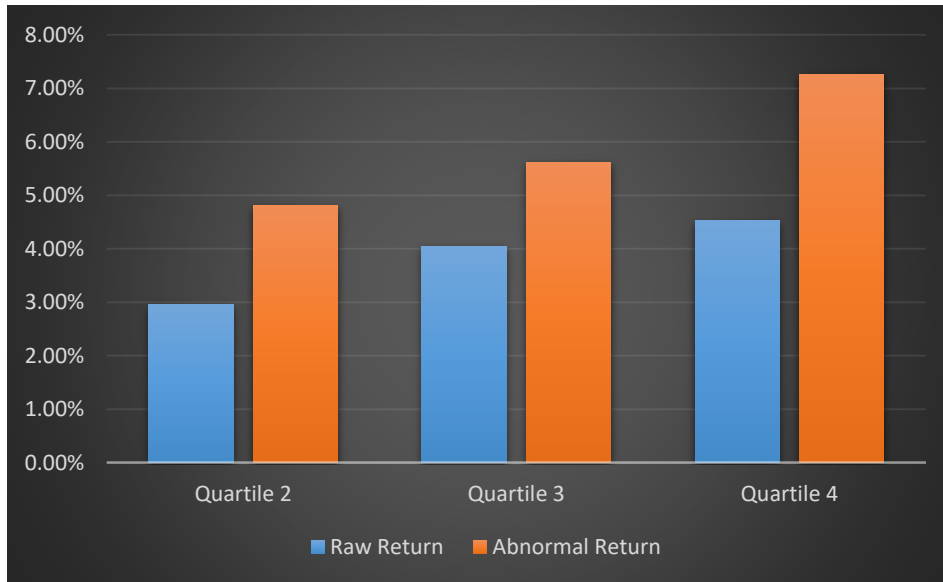


Figure 2

Excess Return Earned on a Monthly Basis over the Crisis and Post-Crisis Periods when Moving CSR from its 25th to its 75th Percentile

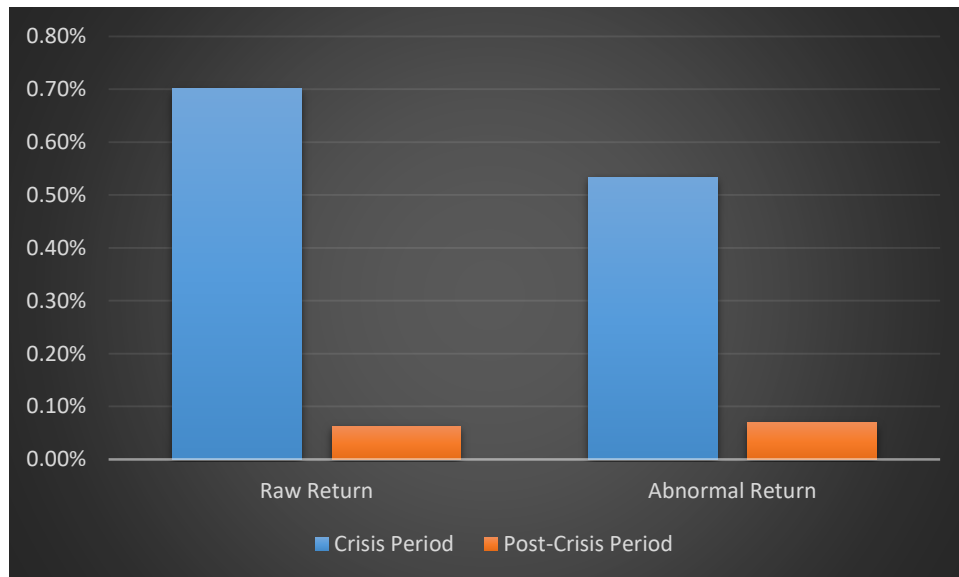


Figure 3

Excess Return Earned on a Monthly Basis over the Crisis and Post-Crisis Periods when Moving CSR from its 25th to its 75th Percentile, Displayed by the Level of Trust in the Region in which the Firm is Headquartered

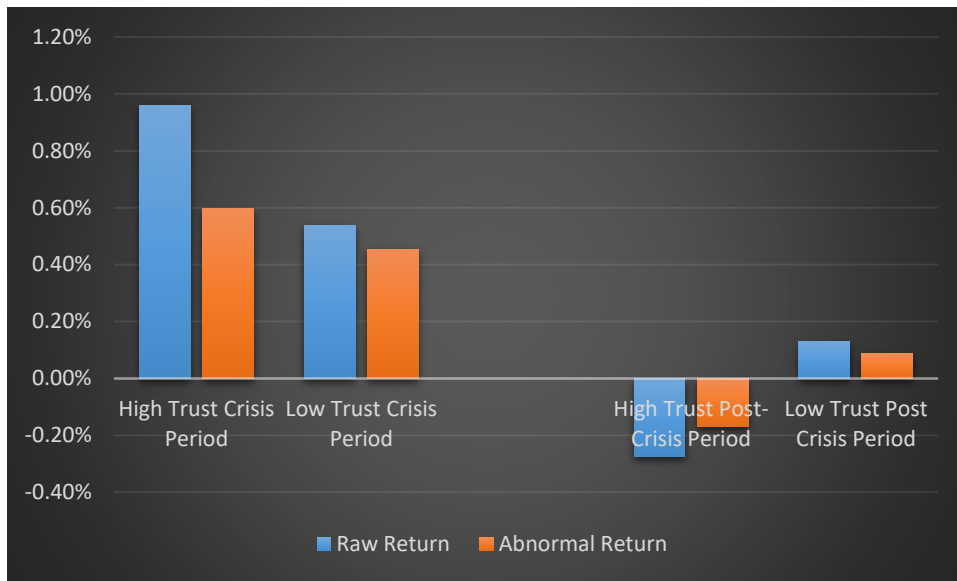


Table 1
Descriptive Statistics

The sample consists of 1,673 firms with CSR data available from the MSCI ESG STATS database as of year-end 2006 and returns available during the period August 2008 – March 2009. *CSR* is the total net (strengths minus concerns) CSR score computed using five stakeholder-oriented categories (environment, employees, human rights, community and diversity). To compute the total net CSR measure, we first compute the net CSR index within each of the categories. The net CSR index for each category is computed by taking the number of strengths identified for a given firm and dividing this by the maximum possible strengths in that category, and subtracting the number of concerns identified for the firm divided by the maximum possible concerns; the net CSR score for each category ranges from -1 to +1. The total net CSR measure, *CSR*, is then computed as the sum of the net CSR indices for the five categories; it ranges from -5 to +5. CSR ratings are measured at the end of 2006. *Crisis period raw return* is the raw return computed over the period August 2008 – March 2009. *Crisis period abnormal return* is the market model adjusted return over the period August 2008 – March 2009, with market model parameters computed over the five-year period ending in July 2008 using the CRSP value-weighted index as the market proxy. Accounting data are based on the last quarter ending at or before the end of 2007. *Market capitalization* is in millions of dollars. *Long-term debt* is computed as long-term debt divided by assets. *Short-term debt* is computed as debt in current liabilities divided by assets. *Cash holdings* is computed as cash and marketable securities divided by assets. *Profitability* is computed as operating income divided by assets. *Book-to-market* is computed as book value of equity divided by market value of equity. *Negative B/M* is a dummy variable set equal to 1 when the book-to-market ratio is negative and zero otherwise. *Momentum* is the raw return over the period August 2007 to July 2008. *Idiosyncratic risk* is computed as the residual variance from the market model estimated over the five-year period ending in July 2008, using monthly data. Financial firms and micro-cap firms, which we define as firms with a market capitalization below \$250 million as of year-end 2007, are removed from the sample. The control variables are winsorized at the 1st and 99th percentiles, as are the returns.

	Mean	Standard deviation	25 th percentile	Median	75 th percentile
<i>CSR</i>	-0.165	0.381	-0.343	-0.200	0.006
<i>Crisis period raw return</i>	-0.391	0.284	-0.595	-0.403	-0.211
<i>Crisis period abnormal return</i>	0.116	0.592	-0.275	0.013	0.383
<i>Market capitalization</i>	6922	23941	598	1327	4010
<i>Long-term debt</i>	0.198	0.193	0.011	0.170	0.307
<i>Short-term debt</i>	0.029	0.055	0	0.0055	0.031
<i>Cash holdings</i>	0.172	0.199	0.026	0.088	0.247
<i>Profitability</i>	0.033	0.034	0.021	0.034	0.049
<i>Book-to-market</i>	0.430	0.295	0.231	0.377	0.576
<i>Negative B/M</i>	0	0.155	0	0	0
<i>Momentum</i>	-0.082	0.370	-0.322	-0.110	0.116
<i>Idiosyncratic risk</i>	0.011	0.010	0.005	0.009	0.015

Table 2
The Effect of Changing Pre-crisis CSR from its 25th to its 75th Percentile on Performance and Capital Raising During and After the Crisis

The performance measures are: *Operating Return on Assets*, measured as operating income to assets, *Gross Margin*, measured as (sales – cost of goods sold) / sales, *Sales Growth*, measured as the percentage change in sales from the previous quarter, *Accounts Receivable divided by Sales* (quarterly), and *Sales per Employee*. Measures of capital raising are: long-term debt issuance divided by assets and equity issuance divided by assets. All data items are from quarterly Compustat, except number of employees, which is from the annual Compustat database. In the analysis of performance, we control for the log of total assets. In the analysis of security issuance, we control for the log of total assets, the ratio of cash holdings to assets lagged one quarter, the ratio of total debt to assets lagged one quarter and the ratio of operating income to assets.

	Mean 2007-2013	Crisis mean	CSR effect in the crisis	CSR effect in the post-crisis
(1) <i>Operating Return on Assets</i>	3.10%	2.20%	+0.28%	+0.10%
(2) <i>Gross Margin</i>	40.10%	38.30%	+0.55%	+0.44%
(3) <i>Sales Growth</i>	3.24%	-6.91%	+2.33%	+0.45%
(4) <i>Accounts Receivable / Sales</i>	58.57%	59.16%	-0.17%	+0.22%
(5) <i>Sales per Employee</i>	\$131,484	\$116,990	+\$13,413	+\$6,836
(6) <i>Debt Issuance / Assets</i>	2.61%	2.26%	+0.17%	+0.10%
(7) <i>Equity Issuance / Assets</i>	0.34%	0.17%	-0.02%	-0.01%