2017

Corporate social responsibility performance and outsourcing: The case of the Bangladesh tragedy

Daniel Gyung Paik
University of Richmond, daniel.paik@richmond.edu

Brandon B. Lee

Kip R. Krumwiede

Corporate social responsibility performance and outsourcing: The case of the Bangladesh tragedy

Daniel Gyung Paik*
Robins School of Business
University of Richmond
1 Gateway Road, Richmond, VA 23173, USA
daniel.paik@richmond.edu
(804) 289-8573

Brandon B. Lee
School of Business and Economics
Indiana University Northwest
3400 Broadway, Gary, IN 46408, USA
byulee@iun.edu
(219) 980-6574

Kip Krumwiede
IMA® (Institute of Management Accountants)
10 Paragon Drive, Montvale, NJ 07645, USA
kkrumwiede@imanet.org
(201) 474-1732

*Corresponding author: Robins School of Business, 239 RSB, 28 Westhampton Way, University of Richmond, VA, 23173, USA. Office: (804) 289-8573, Fax: (804) 289-8878, e-mail: daniel.paik@richmond.edu.

ABSTRACT

Multinational firms frequently outsource the manufacturing of their products to factories in less-developed countries to take advantage of much lower labor costs. A tragic disaster occurred in Bangladesh in April 2013 when a clothing factory building collapsed, killing more than a thousand workers. Subsequently, textile companies in the U.S. and in Europe who outsource their manufacturing in Bangladesh had to decide whether to commit to better working conditions by signing one of two worker safety agreements (WSAs) born in the after-math of the tragedy. Although many firms signed one of these agreements, many more did not. This study explores the relationship between an actual corporate social responsibility (CSR) commitment and firm performance, using a sample of companies who signed one of the WSAs after the Bangladesh disaster and those who did not. The results suggest that the decision to sign is positively associated with social visibility, prior CSR performance, and impact in stock price after the tragedy. Regarding subsequent performance, investors favorably responded to the news of firms' signing on to the WSA agreement.

Keywords:
Corporate Social Responsibility, Worker Safety Agreement, Outsourcing, Bangladesh Tragedy

Introduction

In April 2013 more than one thousand workers died when a clothing factory building in Bangladesh collapsed. Two years later on June 1, 2015, Bangladeshi police filed homicide charges against 42 people in the 2013 factory collapse (Al-Mahmood, 2015). This and other disasters have had repercussions for clothing firms outsourcing production to Bangladeshi factories including liability costs, lower reputation and brand value, customer backlash, higher monitoring costs, lower stock price, and lower profitability, etc. Since this deadly industrial disaster, retailers in the U.S. and EU have pledged to improve working conditions in factories they use in Bangladesh. These sentiments led to two worker safety agreements (WSAs): (1) *European Accord on Fire and Building Safety* (EA), and (2) *North American Alliance for Bangladesh Worker Safety* (NAA). These agreements make outsourcing more expensive through higher labor costs and more regulatory and compliance costs, although the EA is much more stringent than the NAA. Firms who outsource their manufacturing in Bangladesh had to decide whether to commit to better working conditions (and thus higher labor and regulatory costs) for factory workers by signing on to one of these safety agreements. Some firms signed one of these agreements but many others did not.

Legitimacy theory, institutional theory, and instrumental stakeholder theory all suggest that firms outsourcing in Bangladesh would be motivated to sign one of the safety agreements. First, it is a signal of long-term commitment to these workers and desire to legitimize itself as a socially responsible firm. Second, the disaster led to increased pressure within the industry to make these commitments. Third, an increasing number of key stakeholders care as much or more about how products are produced as they are about the cost. Yet, in spite of these pressures, many firms did not sign either of the agreements, presumably due to expectations that the additional costs would not outweigh rewards.

Due to availability of corporate social responsibility (CSR) data, we focus on the decision to sign the NAA agreement. We start by testing factors proposed to have impacted the decision to sign the NAA, including social visibility, prior CSR performance and disclosures, pre-disaster financial performance, and impact on stock price after the disaster. Next, we examine the market reaction to the news that firms commit to sign the NAA. We propose that market reaction is affected by impact on stock price after the disaster and, further, that investors respond favorably overall to the signing news.

This study is unique in that we explore the relationship between an unexpected disaster, an actual CSR commitment, and market reaction. The stock market response to the news of Bangladesh disaster is likely to be very different from the market reactions to regular earnings announcements which are usually predicted by analysts and investors. Using a sample of companies who signed the NAA after the Bangladesh disaster and those who did not, the results of this study suggest that the decision to sign the NAA agreement is positively associated with social visibility, prior CSR performance, and impact on stock price after the disaster. However, pre-disaster financial performance did not significantly positively impact the decision to sign the NAA. Further, we find evidence that market reaction during the two-day NAA signing announcement window is favorable, and that the market reaction to the signing is inversely associated with drop in stock price after the disaster. This result suggests that if firms had lower than expected market returns around the disaster date, then their returns recovered after they signed the NAA. Additional analyses using available data for firms signing the EA sample provide consistent but weaker evidence than the analysis using only the NAA sample.

Prior literature review and hypotheses

Corporate Social Responsibility (CSR) is defined as "demands and expectations which people place on a firm regarding its production of goods and services of both a physical and social nature" (Zenisek, 1979). Prior research has studied the relationship between CSR performance in environmental issues and firm financial performance, and contrasting views have been offered (Aupperle, Carroll, & Hatfield 1985; Stanwick & Stanwick, 1998; Soloman & Hansen, 1985). Stakeholder theory suggests that CSR activities are a necessary part of being sustainable and enhances the satisfaction of more diverse stakeholders (Miles, 2012; Donaldson & Preston, 1995; Cornell & Shapiro, 1987).

In addition, a firm's increased CSR activities may improve its reputation, help firms recruit outstanding quality employees, improve its relationship with regulators, reduce cost by saving materials and by reducing disposal waste in both short-run and long-run (Fombrun & Shanley 1990; Montgomery & Ramus, 2003). Dowell, Hart, & Yeung (2000) find that multi-national enterprises (MNEs) that adopt more stringent global environmental standards have higher market values.

Prior research shows that actual CSR performance and disclosure of CSR performance are not the same and may impact CSR reputation differently. Brown, Guidry, & Patten (2009) and Toms (2002) provide evidence of *positive* associations between the extent of environmental disclosure and measures of corporate reputation. On the other hand, Cho & Patten (2007) find a *negative* relationship between environmental performance and environmental disclosure. Companies with poor environmental performance often face greater exposure to social and political pressures and thus have an incentive to use disclosure to enhance their environmental reputation (see also Hughes, Anderson, & Golden, 2001; Patten, 2002).

Flammer (2013) finds that companies reported to behave responsibly towards the environment experience a significant stock price increase, whereas firms that behave irresponsibly face a significant stock price decrease. And over time, the negative stock market reaction to eco-harmful behavior has increased, while the positive reaction to eco-friendly initiatives has decreased.

To measure firms' CSR performance, prior studies have typically used CSR ratings provided by the *Kinder, Lydenberg, Domini* (KLD) index of social performance, *BusinessWeek*, or *Wall Street Journal*. However, these ratings are affected not only by firms' actual CSR policy but also by many other items including the amount of CSR disclosure. In this study, we explore the relationship between an actual CSR commitment and firm performance, using a sample of companies who signed a WSA after the Bangladesh disaster and those who did not.

Worker safety

Quinlan & Sheldon (2011) discuss the history of enforcement of minimum labor standards and how the "neo-liberal" ideology[1] and rise of finance capital has eroded worker safety laws and enforcement over recent years. Declining unions and the growth of precarious employment (especially female and youth) have severely weakened occupational health and safety (OHS) systems in many countries. Enforcement of OHS laws in recent years has been largely reactive based on complaints. Intense competition, non-unionized workplaces, and under-resourced enforcement agencies have all spurred employers to avoid OHS standards and other worker entitlements. Although wealthier nations made reforms to its labor laws in the early to mid-20th century, a lack of such progress in poorer countries fueled the emergence of MNEs and the

[1] Neo-liberalism is the idea that competitive private markets provide optimal social outcomes and promotes free-trade, open markets, privatization, and deregulation.

growing influence of neo-liberal ideology. Poorer countries, led by China, became the factory locations for these MNEs because of lower labor costs. Financial assistance packages from the International Monetary Fund (IMF) and the World Bank to poor countries usually contain neo-liberal (and anti-labor) requirements attached. Now, debates over worker safety standards are conducted within governments' overall response to the current economic crisis. In the wake of high government debt driven largely by erosion of tax revenues, worker safety is often sacrificed or ignored in favor of cost cutting and reduced enforcement.

Because of these issues, worker safety standards in developing countries resemble those of industrialized countries in the early twentieth century. Quinlan & Sheldon (2011) compare worker-safety and labor standards in industrialized countries versus developing countries. Appendix A provides part of this comparison relevant to this study. As shown, although worker safety laws in industrialized countries have eroded somewhat over the years, the laws in developing countries are either non-existent or little enforced. There are also a high percentage of factory workers from vulnerable groups such as women, children, and immigrants.

The Bangladesh disaster

Bangladesh is the world's third largest exporter of apparel, exporting $21.5 billion worth of apparel in fiscal year 2012-2013 alone. The Bangladesh Garment Manufacturers and Exporters Association reports that in 2012 the garment export industry was responsible for 4 million jobs in 5,600 factories in Bangladesh. The apparel export industry is rapidly growing; throughout the past 20 years the number of garment factories in Bangladesh increased 264%, and the number of factory workers increased 400%. Bangladesh's primary export is Ready-Made Garments (RMGs), accounting for approximately 80% of the country's total exports. The traditional

markets for Bangladesh exports are the European Union, the United States, and Canada but include several other countries as well.

Although Bangladesh is relied on globally for their RMG exports, the country's history of safety issues and fatalities is compromising their position in the apparel manufacturing industry. The turning points for this industry were the Tazreen factory fire in November 2012 claiming the lives of over 100 people, and more recently the collapse of the Rana Plaza factory in April 2013 killing over 1,100 people. Preliminary investigative reports by the Bangladesh government found that the Rana Plaza factory was constructed without safety permits (Yardley, 2013). The factory itself was built on a filled-in pond, compromising the structural integrity of the building. Additionally, the investigation revealed large cracks in the building caused by generators on the upper floor, which further compromised the stability of the building and contributed to the collapse.

There were other factors and responsibilities that led to the collapse of the Rana Plaza factory as well. Safety audits conducted by an outside inspector were not designed to ensure the structural safety of factories, but rather check the safety on factory floors (Zain Al-Mahmood, Passariello & Rana 2013). According to Taplin (2014), other underlying factors contributing to the disaster included (1) "fast fashion," (i.e., the need for low cost labor and short lead times to enable low cost, high turnover "disposable fashion"); (2) concentration of the retail sector; (3) owners placing profitability over worker safety; (4) political leaders turning a blind eye to worker safety laws in order to fuel the economy; (5) western retailers detached from the actual production of garments and weak commitment to social responsibility, and (6) western consumers unwilling to pay more for clothing.

Decision to sign worker-safety agreement

In response to the recent industrial tragedies in Bangladesh, retailers, governments, and organizations around the world have pledged to improve factory working conditions and safety in Bangladesh. Their commitment has come in the form of two safety agreements: The *European Accord on Fire and Building Safety* (EA) and the *North American Alliance for Bangladesh Worker Safety* (NAA). The EA was signed by over 100 retailers from 19 countries, two global trade unions, and multiple Bangladeshi unions (*Accord* 2013a). Currently 26 North American retailers and a variety of supporting organizations have signed the NAA. Both agreements have the same objective: to pledge time, money, and resources to improve safety standards and working conditions in Bangladesh, increasing the importance of corporate social responsibility versus economic responsibility.

The NAA shares many of the same goals as the EA and contains similar underlying safety provisions and responsibilities (*Alliance* 2013a, 2013b). Similar to the EA, the NAA establishes a Board of Directors with oversight and accountability responsibilities. The Board is responsible for monitoring the members and ensuring they are complying with the provisions of the agreement and meeting all self-imposed deadlines. Although the NAA clearly outlines regulations for fire inspections, safety training, and worker empowerment, it does not explicitly state the responsibility of signing companies for implementing these regulations. A significant difference between the EA and the NAA is the severity of remediation. The EA outlines harsher and more explicit consequences if a factory is not in compliance with the required safety standards, while the NAA is more collaborative and does not specify the consequences if a factory is not in compliance. Firms that sign the NAA are not legally bound to any of the outlined responsibilities. The lack of enforcement has been a source of much criticism for the

NAA, and many member firms have been accused of creating this plan as a way to evade greater responsibility in Bangladesh (*Inside US Trade*, 2013). However, a year after the agreements were established, they seem to be having some impact. Bangladesh's clothing and textile industry is struggling to meet safety requirements as factory inspections by NAA and EA officials increase (Anas 2014).

The NAA does require member firms to contribute annually to a worker/building safety fund to help pay for factory fire and building safety inspections, worker training, and support for workers who are temporarily unemployed while factory safety remediation takes place. The fund also provides affordable capital for building safety. Investors of firms that sign the NAA should be especially interested in the financial obligations of the agreement. By signing the safety agreement member firms are pledging money, time, and human resources that could otherwise be used to increase the firm's profits. This cash is coming directly out of the bottom line, and reduces the amount of cash that could be paid back to investors. Additionally, money that formerly would have been used for research and development or operations improvement is instead flowing to Bangladesh to support worker safety and sustainability initiatives.

Retailers' commitment to safety in Bangladesh exemplifies the triple bottom line approach to sustainability accounting, and balancing three different performance metrics. The triple bottom line approach, often referred to as ESG reporting, seeks to balance economic, social, and governance performance metrics. If firms were to pull out of Bangladesh completely in response to the poor working conditions, they may be subject to higher raw material or manufacturing costs in other countries, negatively affecting their cost structure and economic performance. By signing this agreement, they not only increase their social and governance performance, but also protect their long run economic viability. Signing companies will experience an initial outflow

of cash for factory improvements and other financial responsibilities under the agreement. However, financing factory improvements preserves the longevity of the RMG industry in Bangladesh, and ensures that buyers will continue receiving low cost RMGs from Bangladesh over the long term.

Firms who outsource their manufacturing in Bangladesh had to decide whether to commit to signing on to one of the two safety agreements. Although the financial obligation and amount of cash and other assets pledged by member firms is significant, there are at least three strong motivations in favor of signing. First, legitimacy theory holds that legitimacy is a necessary input for an organization's survival and communication strategies can be used as a tool. Legitimacy includes actions of an entity that are desirable and proper within a socially constructed system of norms (Cho et al. 2012). After the Bangladesh disaster, society expected firms outsourcing to factories in Bangladesh to take actions to improve worker safety. Firms who chose not to take action (e.g., sign on to a safety agreement), would lose legitimacy in society and suffer negative consequences. On the other hand, signing signals a long-term commitment for these workers and desire to legitimize itself as a socially responsible firm.

Second, institutional theory argues that in industries with higher institutional norms of CSR, stakeholders are more responsive to CSR efforts, which in turn may translate into higher returns from CSR initiatives and higher penalties for those who do not meet those norms (Flammer 2013). The Bangladesh disaster led to increased pressure within the industry to make commitments like signing a safety agreement. Companies that did not sign could face negative consequences like lower market price and customer backlash.

Third, instrumental stakeholder theory suggests that CSR efforts can be instrumental in obtaining necessary resources or stakeholder support (Flammer 2013; Jones 1995). An increasing

number of key stakeholders (especially consumers) care about how products are produced as well as the price. Companies that did not sign the agreement risked losing sales to CSR-minded consumers and potentially lower equity capital.

Prior corporate social responsibility (CSR) commitment

Yet, in spite of these pressures, many firms did not sign either of the Bangladesh safety agreements. One possible explanation relates to the firms' level of prior CSR commitment, as represented by their prior CSR performance. Firms with higher prior CSR commitment may have already been committed to the health and safety of their outsourcing factories' workers. It may have been part of their strategic plan and branding strategy to be aware of their outsourcing factories and already have strong OHS programs. After the Bangladesh disaster, they would have been expected by their stakeholders to continue "leading the way" by signing one of the agreements or risk losing their legitimacy. They would also not want to risk losing their CSR-minded customers and other stakeholders.

On the other hand, firms with lower prior CSR commitment are less aware about their outsourcing firms and the working conditions. It is not part of their strategy to be known for CSR reputation. In addition to the financial commitment of signing one of the agreements, they would have to invest more than the higher-CSR firms for monitoring costs to identify their outsourcing firms and investigate working conditions. These firms tend to choose economic benefits over social benefits and do not subscribe to the stakeholder theory idea that good CSR performance leads to better financial performance. Instead, they tend to follow the neo-liberal ideology that CSR financial commitments reduce profits and should instead be paid back to investors or used for research and development or operations improvement and not sent to Bangladesh to support worker safety and sustainability initiatives. Based on these differences, we predict that firms with

higher prior CSR commitment were more likely to sign the NAA than firms with lower prior CSR commitment.

H1a. Outsourcing firms with higher prior CSR commitment are more likely to sign the *North American Alliance for Bangladesh Worker Safety* (NAA) than those firms with lower prior CSR commitment.

Social visibility

Another possible explanation relates to the size, media visibility, and brand awareness of the firm. Sen & Cowley (2013) review the literature comparing and contrasting the commitment to CSR practices of small and medium enterprises (SMEs) versus larger MNEs and find that CSR is generally not as critical at SMEs as at MNEs. The dynamics between owners and stakeholders tends to be different at SMEs than at MNEs. For instance, when certain skills are in demand, employees with those skills become definitive stakeholders. Sen & Cowley (2013) assert that *social capital theory* is more appropriate than stakeholder theory for understanding CSR in SMEs. Social capital theory emphasizes social networks and relationships and their value within the business environment. According to Putnam (1993), social capital stems from the networks, norms, and trust that develop within a group and provides the motivation to pursue shared objectives of all members in that group. For SMEs, these networks provide access to resources and information needed to run the business and overcome their small size and lower economies of scale to be able to compete.

In their qualitative case study of Australian SMEs, Sen & Cowley (2013) find that leaders of SMEs must undertake many tasks concurrently and are not as aware of issues beyond the day-to-day operations of the business. In their study, most of the SMEs were not even familiar with the term "CSR" but used simpler and smaller-scale terms such as "giving back to the community"

and "operating the business ethically." Sen & Cowley (2013, p.423) conclude by stating "… social responsibility in SMEs is about building relationships and networking with a range of stakeholders, not judged by their stake in the business, but the social capital these connections create for the business."

For these reasons, the strong motivations for signing worker safety agreements cited above probably apply more to larger firms with high visibility and brand awareness than to smaller low-profile firms. Regarding the need to legitimize themselves as socially responsible, MNE firms operate in a larger global socially constructed system of norms. The larger society, which includes major media outlets, adds greatly to pressures to take actions to improve worker safety. They are under high scrutiny and publicity through major media outlets and workers' rights groups. After the Bangladesh disaster, they would have been expected by their stakeholders to continue "leading the way" by signing one of the agreements or risk losing their legitimacy. This increased media attention will have an effect on consumer demand for their products as well as their market price and ability to generate equity financing. Thus, they are more likely to suffer negative consequences by not signing than low profile firms who generally do not have these same global and media pressures.

Smaller firms will often have different instrumental stakeholders than larger firms. For example, if the firm is under pressure to achieve higher short-term profits to maintain favorable debt financing, the bank may be their key stakeholder. Other key stakeholders could include a key customer requiring very low prices or an agent supplier offering the lowest prices but not concerned about worker safety at its source factories. If they are highly dependent on these key stakeholders, CSR and worker safety will take a backseat. Further, surveys show consumers are generally more committed to lower prices for RMGs than to worker safety (Quelch & Rodriguez

2013; Taplin 2014). Thus, if their customers are not so concerned about worker safety, smaller firms will place a lower priority on worker safety in Bangladesh factories than large profile firms who do not want to risk losing their CSR-minded customers and other stakeholders. Unless smaller firms have an instrumental stakeholder with a high priority on CSR and/or worker safety, they will be more inclined to follow the neo-liberal ideology that CSR financial commitments reduce profits, and profits should instead be paid back to investors and not sent to Bangladesh to support worker safety and sustainability initiatives.

Based on these differences, we predict that larger, high-profile firms with strong brand awareness were more likely to sign one of the two safety agreements than smaller, low-profile firms. These predictions lead to our Hypothesis 1b:

H1b. Outsourcing firms with high social visibility due to firm size and brand awareness are more likely to sign the *North American Alliance for Bangladesh Worker Safety* (NAA) than firms with lower visibility.

Pre-disaster financial performance

Another possible reason why some firms did not sign the NAA is their weak financial performance before the disaster. Firms in a stronger financial position would feel better able to finance the safety agreements' fiscal responsibilities than firms in a weaker position. To test this idea, we investigate the pre-disaster financial performance of the firms that signed versus those that did not sign. Flammer (2013) found that over time, the negative stock market reaction to eco-harmful behavior has increased, while the positive reaction to eco-friendly initiatives has decreased. Thus, firms with higher financial performance may expect a greater negative market impact if they do not sign the NAA than firms with lower financial performance. Smaller firms will more likely choose the short-term economic benefits of not signing over the stakeholder

theory idea that good CSR performance leads to better financial performance. For these reasons, we expect firms who signed the NAA had a stronger financial position to be able to pledge resources to Bangladeshi factory workers than firms who did not sign, and also that the signing firms had higher motivation to do so. Thus, we test the following hypothesis:

H1c. Outsourcing firms with higher pre-disaster financial performance are more likely to sign the NAA than firms with lower prior financial performance.

Impact of Bangladesh disaster on stock price

Related to H1a, H1b, and H1c, we expect the likelihood of signing the NAA is significantly related to the impact on stock price after the Bangladesh disaster. Investors are usually considered the primary stakeholder group, at least among public companies, and therefore have great influence on CSR initiatives. After the Bangladesh disaster, society generally expected firms outsourcing to factories in Bangladesh to take actions to improve worker safety. If the stock market expected strong negative societal impact after the Bangladesh disaster for firms outsourcing in Bangladesh, then the market price would drop substantially. Based on institutional and instrumental stakeholder theories, the more the market reacted to the Bangladesh disaster, the more firms were motivated to sign the NAA to send a positive signal to the markets and help reverse the stock price impact. Conversely, we expect that when the market impact to the Bangladesh disaster was not as strong, firms will feel less motivated to satisfy the stakeholders through signing the NAA. For these reasons, we test the following hypothesis:

H1d. Outsourcing firms with more negative impact on stock price after the Bangladesh disaster were more likely to sign the NAA than firms with less impact on stock price.

Post tragedy performance

After the Bangladesh disaster, there were repercussions for clothing firms outsourcing production to Bangladeshi factories including liability costs, lower reputation and brand value, customer backlash, and higher monitoring costs. Prior studies have found significant market and financial performance consequences for both positive and negative environmental news. Dowell, Hart, & Yeung (2000) find that MNEs adopting a stringent global environmental standard have higher market values, suggesting these firms will generally experience higher firm value. Flammer (2013) found that companies making negative environmental news suffered a significant stock price decrease around the event date. Conversely, firms making positive environmental news experienced a significant stock price increase.

In this study, we examine the impact of adopting more stringent worker safety standards on firm financial and market performance. On one hand, committing to one of the safety agreements should enhance the firm's CSR reputation. According to the instrumental stakeholder theory, positive CSR efforts will help gain or keep key stakeholders such as CSR-minded customers and investors. These key stakeholders have a positive effect on financial and market performance due to increased sales, new resources, and higher demand for company stock. In addition, there may be a perception among key stakeholders that signing the NAA will result in fewer catastrophic factory disasters for these firms in the future. Conversely, signing one of the safety agreements will presumably lead to resources going to support Bangladeshi worker safety instead of R&D, short-term profits, and dividends. However, we expect the positive outcomes to outweigh the negative outcomes based on prior research showing that MNEs that adopt more stringent global environmental standards generally experience higher firm value than firms that do not (Dowell, Hart, & Yeung 2000).

We explore the relationship between an actual CSR worker safety commitment and firm value, using a sample of companies who signed the NAA after the Bangladesh disaster and those who did not sign. If acting responsibly toward environmental issues increases firms' perceived and actual CSR performance, and increased CSR performance leads to increased sales, resources, and perceived value, we expect investors to value firms higher for NAA signers than non-signers after the Bangladesh disaster. Therefore, we predict that the market will react positively to the NAA signing announcement and test the following hypothesis:

H2a. Investors respond favorably during the announcement window to the news that firms commit to sign the NAA.

We also expect that market reaction to signing the NAA is associated with the market reaction after the Bangladesh disaster. For firms with higher negative impact on market price after the Bangladesh disaster, the higher the rise needed to get back to "normal" returns after signing. Firms with lower negative market reaction after the Bangladesh disaster will see a smaller rise after signing because less is needed to get back to normal returns. Further, higher market reaction after the disaster also reflects the level of attention given to the firm, suggesting higher market reaction after the signing announcement. For these reasons, we test the following hypothesis:

H2b. Market reaction to the news of signing the NAA is associated with market reaction after the disaster.

Sample and methodology

Sample

Because of limited data availability for European signing firms, we must focus primarily on U.S. outsourcing firms signing or not signing the NAA. *Global Compustat* database does not provide advertising expense. Also, *KLD* database provides CSR scores only for the U.S. companies. Therefore, we were not able to incorporate these two variables in our analyses for the EA and the NAA and EA combined sample. The NAA sample consists of 16 U.S. companies that signed the NAA, with financial data available in *Compustat* and CSR data available in *KLD* database. In Appendix B we report the list of our 16 sample NAA signing firms, together with the list of 22 EA signing firms.[2]

Methodology

To test Hypotheses 1a, 1b, 1c, and 1d, we use multivariable logit model. The dependent variable in the logit model is an indicator (0,1) variable, $Commitment_{it}$, which takes the value of one if a firm signed the NAA agreement, otherwise zero. We examine the relations between commitment to sign the NAA agreement and (H1a) firms' prior CSR performance using firms' CSR score, (H1b) social visibility based on firms' market capitalization and advertising spending, and (H1c) pre-disaster financial performance based on income, and (H1d) market

[2] The NAA and the EA maintain their own websites. The list of NAA and EA signing firms can be obtained from their corresponding websites: http://www.bangladeshworkersafety.org and http://bangladeshaccord.org, respectively. We identified our NAA and EA sample firms from these websites during fall 2013. We hand-collected the signing dates of firms who signed the NAA and the EA by searching various sources of news media such as newswires, newspapers, and press conference. For example, a business news article posted by Reuters on July 10, 2013 confirms that 12 out of our 16 NAA sample firms signed the NAA on July 10, 2013. The Reuter article can be found at http://www.reuters.com/article/us-bangladesh-factories-northamerica-idUSBRE9690IR20130710. Other sources include The New York Times (May 15, 2013), ILRF (International Labor Rights Forum) press releases (July 12, 2013), NPR news (August, 21, 2013), and others.

reactions using buy-and-hold abnormal returns centered on the date of the disaster. We will do this by estimating the following logit model (1):

$$Commitment_{it} = \beta_0 + \beta_1 * CSR\text{-}Net_{it-1} + \beta_2 * CSR\text{-}Strength_{it-1} + \beta_3 * CSR\text{-}Concern_{it-1} + \beta_4 * Size_{it-1} + \beta_5 * Adv_{it-1} + \beta_6 * E_{it-1} + \beta_7 * Dividend_{it-1} + \beta_8 * Debt_{it-1} + \beta_9 * Disaster\text{-}Returns_{it} + \varepsilon_i \quad (1)$$

where:

- $Commitment_{it}$ = an indicator variable, that takes the value of 1 if a firm signed the NAA agreement in 2013, 0 if a firm did not;
- $CSR\text{-}Net_{it-1}$ = the CSR net (strengths minus concerns) scores obtained from KLD 2012 index;
- $CSR\text{-}Strength_{it-1}$ = the CSR strength scores at the various category levels obtained from the Kinder, Lydenberg, Domini (KLD) 2012 index;
- $CSR\text{-}Concern_{it-1}$ = the CSR concerns scores obtained from KLD 2012 index;
- $Size_{it-1}$ = the natural logarithm of firm *i*'s market capitalization, calculated as fiscal-year closing stock price multiplied by number of outstanding common shares for period *t-1*;
- Adv_{it-1} = firm *i*'s advertising intensity (advertising expense divided by sales) for year *t-1*;
- E_{it-1} = firm *i*'s income before extraordinary items, divided by sales for year *t-1*;
- Div_{it-1} = firm *i*'s dividend yield (dividend per share divided by price per share) for year *t-1*;
- $Debt_{it-1}$ = firm *i*'s debt to asset ratio (long-term debt divided by total assets) for year *t-1*;
- $Disaster\text{-}Returns_{it}$ = Firm's two-day (day 0 and day +1) buy-and-hold abnormal returns centered around the *Bangladesh Disaster* event date (April 24, 2013 when the Rama factory building collapsed in Bangladesh), when abnormal returns are measured by firm-returns minus equally-weighted market returns.

To test H1a, H1b, H1c, and H1d, our main focus is on the signs and the magnitude of the coefficients, β_1 through β_6, as well as β_9.

To test H2a and H2b empirically, we use an event study model modified from those suggested in prior studies, such as Easton & Harris (1991) and Khurana & Lippincott (2000). We use the following OLS regression model (2) to investigate the association between buy-and-hold abnormal returns and the signing of the North American Agreements (H2a) and market reaction after the disaster (H2b).

$$Signing\text{-}Returns_{it} = \beta_0 + \beta_1 * Commitment_{it} + \beta_2 * CSR\text{-}Net_{it-1} + \beta_3 * CSR\text{-}Strength_{it-1} + \beta_4 * CSR\text{-}Concern_{it-1} + \beta_5 * Size_{it-1} + \beta_6 * Adv_{i-1} + \beta_7 * E_{it-1} + \beta_8 * Div_{it-1} + \beta_9 * Debt_{it-1} + \beta_{10} * Disaster\text{-}Returns_{it} + \varepsilon_i \quad (2)$$

where:

- $Signing\text{-}Returns_{it}$ = Firm's two-day (day +1 and day +2) buy-and-hold abnormal returns centered around the *NAA Signing* event date, when abnormal returns are measured by firm-returns minus equally-weighted market returns;

$Commitment_{it}$ = an indicator variable, that takes the value of 1 if a firm signed the NAA agreement in 2013, 0 if a firm did not;

$CSR\text{-}Net_{it-1}$ = the CSR net (strengths minus concerns) scores obtained from KLD 2012 index;

$CSR\text{-}Strength_{it-1}$ = the CSR strength scores at the various category levels obtained from the Kinder, Lydenberg, Domini (KLD) 2012 index;

$CSR\text{-}Concern_{it-1}$ = the CSR concerns scores obtained from KLD 2012 index;

$Size_{it-1}$ = the natural logarithm of firm *i*'s market capitalization, calculated as fiscal-year closing stock price multiplied by number of outstanding common shares for period *t-1*;

Adv_{it-1} = firm *i*'s advertising intensity (advertising expense divided by sales) for year *t-1*;

E_{it-1} = firm *i*'s income before extraordinary items, divided by sales for year *t-1*;

Div_{it-1} = firm *i*'s dividend yield (dividend per share divided by price per share) for year *t-1*;

$Debt_{it-1}$ = firm *i*'s debt to asset ratio (long-term debt divided by total assets) for year *t-1*;

$Disaster\text{-}Returns_{it}$ = Firm's two-day (day 0 and day +1) buy-and-hold abnormal returns centered around the *Bangladesh Disaster* event date (April 24, 2013 when the Rama factory building collapsed in Bangladesh), when abnormal returns are measured by firm-returns minus equally-weighted market returns.

Summary statistics

In Table 1, we report the summary statistics of our key variables for the sample of 16 NAA signing firms and of 40 non-signing firms. The 40 non-signing firms are from the same industries as signing firms, but these firms have not signed the NAA. Specifically, the 40 NAA non-signing firms are all the firms who belong to the same four-digit SIC industries as the signing firms.[3] The upper part of Table 1 presents the comparison results of raw variables. The signing firms have a statistically significantly higher ($p < .01$ or $p < .05$) level of total assets, income before extraordinary items, sales, price, market value, stockholder's equity, long-term debt, advertising expense, dividends, and operating cash flow, using paired 2-sided t-test for mean difference and

[3] We use a 1-to-1 matched pairs design for analyses using the EA sample. The EA analyses are presented in additional analyses section. For the NAA analyses, we use a 1-to-n matched pairs design because of the small NAA sample size (16 observations). To find the EA matched non-signing firms, we searched for firms that were closest in size (total assets) within the same 4-digit SIC industry, country, and year. A matched pairs design on these factors is appropriate to reduce heterogeneity issues for the analysis. For the NAA analysis, we included all non-signing firms in the same 4-digit industry as the signing firms within the same year. All of our NAA sample firms are U.S. firms. Because of the limited sample size of 16 NAA signing firms, we did not use a 1-to-1 matching for the analysis. Nonetheless, to validate the legitimacy of our NAA analysis, we repeated the tests using the non-signing firms that were closest in size (total assets) within the same 4-digit SIC industry and year. The results of the 1-to-1 matched pairs analysis for the NAA sample are qualitatively consistent with those from the analysis using 1-to-n matched pairs.

paired 2-sided Wilcoxon Z-test for median difference. Therefore, compared to the non-signing firms, the signing companies seem to be more socially visible and prominent firms.

[Insert Table 1 about here]

The lower part of Table 1 presents the results for the comparisons of scaled variables. The NAA signing firms have a statistically significantly higher level of *Size* (natural logarithm of market value of equity) and *Debt* (long-term debt divided by total assets), using paired 2-sided t-test for mean difference and Wilcoxon Z-test for median difference. The scaled variable comparison confirms that signing firms are more likely to be bigger and to have a higher level of debt than non-signing firms. In sum, the results reported in Table 1 for the comparisons of raw and scaled variables provide evidence that the NAA signing firms are likely to be bigger in terms of size (total assets, sales, market value of equity), and to have a higher level of advertising expenses spent, the amount of dividends paid, and long-term debt. These results suggest that to test our hypotheses, we must control for variation in these confounding firm characteristics between the signing and the non-signing firms.

In Table 1, we also report two-day (day 0 and day 1) buy-and-hold abnormal returns around the Bangladesh Rama factory disaster date and the signing date of NAA. The Bangladesh disaster event date is when the factory building collapsed on April 24, 2013 Wednesday at about 08:57 a.m. local Bangladesh time. The disaster was released through news media immediately to the world. The news reached U.S. investors after the closing of the New York Stock Exchange (NYSE) on Day -1 (April 23, 2013 Tuesday at around 10:57 p.m. Eastern Standard Time). We use several different methods to measure returns, such as buy-and-hold abnormal returns, cumulative abnormal returns (CAR), and simple sum of raw returns. For buy-and-hold abnormal returns and CAR, we adjust cumulative returns using equal-weighted market index or value-

weighted market index. For the brevity of presentation, we report only buy-and-hold abnormal returns using equal-weighted market index in Table 1, but the results using other return measures are qualitatively the same.

Buy-and-hold abnormal returns over the two day (day 0 and day +1) period around the disaster date suggest *lower* levels of returns for signing companies than those for non-signing firms (mean of 0.0170 versus 0.0185, respectively). Although not statistically significant due at least in part to low sample size, this result provides evidence of the severity of Bangladesh Rama factory disaster news to investors in the U.S.

Our thorough daily return analyses (for brevity the results are not all reported in Table 1) show that unlike the Bangladesh Rama factory disaster news, the signing NAA news disseminated to investors rather slowly during the next two trading days in the U.S. stock market. Therefore, we select day +1 and day +2 daily returns to construct our cumulative buy-and-hold abnormal returns measure after the NAA signing date. In Table 1, buy-and-hold abnormal returns over the two day (day +1 and day +2) period after the NAA signing date show *higher* levels of returns for signing companies than those for non-signing firms. This result suggests that investors may have favorably responded to the news of signing NAA. However, univariate tests fail to provide statistically significant evidence of differences between signing and non-signing firms in terms of market returns after the signing date.

In Table 2, we compare the pre-disaster CSR performance between our 16 sample signing and 40 non-signing firms, matched on industry. Kinder, Lydenberg, Domini (KLD) index presents seven CSR categories: *Community, Corporate Governance, Diversity, Employee Relations, Environment, Human Rights, and Product.* Appendix C presents the detailed KLD category descriptions. For each of the seven categories, we analyze (1) strengths, (2) concerns,

and (3) net (strengths minus concerns) scores. As reported in Table 2, sample firms have significantly stronger CSR performance overall and for four CSR categories of *Community, Diversity, Employee Relations,* and *Environment,* relative to non-signing firms (the difference is statistically significant at the 1% level; for *Environment*, the difference is statistically significant at the 10% level) in terms of net (strengths minus concerns) scores.[4]

Further, total strengths and net difference (strengths minus concerns) are both statistically significantly higher (p = .01) using the two-sided paired t-test for signing firms compared to non-signing firms. These results suggest that NAA signing firms, on average, are likely to be stronger prior CSR performers, relative to non-signing firms.

[Insert Table 2 about here]

Main results

Testing the decision to sign hypotheses (1a, 1b, 1c, and 1d)

In Table 3, we report the results of logistic regressions with the decision to sign or not to sign on to the NAA as the dependent variable in the model. We report the results of six model specifications with different combinations of CSR measures and other variables. In all six models, the dependent variable, *Commitment*, is an indicator variable, coded with value 1 if a firm signed on to the NAA agreement and 0 if a firm did not.

[Insert Table 3 about here]

In Models (1), (3), and (5), the coefficient estimate on *CSR-Net* is positive. In Model (1), the *CSR-Net* coefficient estimate (0.501) is statistically significantly positive with p-value of less than .01 (χ^2-value = 8.68). In Model (3), the *CSR-Net* coefficient estimate (0.554) is statistically

[4] The responses (scores) in the "human rights" category are too few to perform meaningful comparisons. In fact, in the 2012 KLD database, the mean values for "strengths" and "concerns" are zero for both the signing and the non-signing group firms, which make comparisons for this sub-category impossible.

significantly positive with p-value of less than .05 (χ^2-value = 3.92). In Model (5), the coefficient estimate, 0.549, is marginally significant with p-value of less than .10. In addition, in Model (2), the *CSR-Strength* coefficient estimate (0.741) is statistically significantly positive with p-value of less than .01 (χ^2-value = 10.35). Also, in Model (4), the *CSR-Strength* coefficient estimate, 0.607, is marginally significant with p-value of less than .10. This result indicates that the stronger prior CSR performance a firm had shown, the more likely it was to sign on to the North American Agreement. We have tested various additional model specifications (the results are not all reported in Table 3 for brevity) and find the sign on *CSR* variable is consistently positive throughout the models. Although not all are statistically significant at a p-value less than .05, such as Model (5), the results overall provide strong evidence that signing firms are likely to be more socially responsible firms. This result provides support for Hypothesis 1a.

The results also provide evidence that signing firms are likely to be more prominently large firms within the industry which supports Hypothesis 1b. The positive coefficient on *Size* is consistent throughout all four model specifications, Models (3), (4), (5), and (6) where the variable is operationalized ($p < .05$). This result provides evidence that the larger a firm is, the more likely it was to sign the NAA. The coefficient on *Adv* (advertising expense divided by sales) is not significant. Although total advertising expense is much greater for the larger signing firms, when scaled by sales there is little difference between the two groups.

In Models (3) through (6) in Table 3, we find some evidence that higher *E* (margin ratio: income before extraordinary items divided by sales) firms are less likely to sign on to the NAA agreement. The *E* variable is statistically marginally significant with p-values of less than .10. Thus, instead of being more likely to sign as we expected, firms with higher pre-disaster margins were *less* likely to sign the NAA when other factors are considered. This result *fails* to support

our Hypothesis 1c. One possible explanation is that older more established companies in ready-made-garment (RMG) industries have more competition and thus lower operating margins.

Lastly, in Models (3) through (6), the sign on the coefficient of *Disaster-Returns*, the variable operationalizing returns after the Bangladesh disaster (BD), is positive. *Disaster-Returns* is buy-and-hold abnormal returns of day 0 and day 1 after the building collapse disaster minus equally-weighted market returns. In all four models, the coefficient estimate is statistically significant ($p<.05$). Contrary to our Hypothesis 1d, this result suggests that firms with more positive stock returns after the disaster event date were more likely to sign on to the NAA. Presumably, investors expected the healthier and larger signing firms would respond to such disasters in a more socially responsible manner, so the stock market response to Bangladesh disaster is positive for these high profile firms. This result *fails* to support Hypothesis 1d.

Testing the market reaction hypotheses (2a and 2b)

In Table 4, we report the results of ordinary least squares (OLS) regressions with the two-day buy-and-hold abnormal returns after the NAA signing date as the dependent variable in the model. We use several different proxies to measure buy-and-hold abnormal returns, but report only the results of three different model specifications because the other results are consistent to the ones reported.

[Insert Table 4 about here]

In all three models, the variable of our interest, *Commitment*, has consistently positive signs. *Commitment* is an indicator variable, coded with value 1 if a firm signed on to the NAA Agreement and 0 if a firm did not. In Model (1) the coefficient of *Commitment* is positively associated with the two-day (day +1 and day +2) buy-and-hold abnormal returns after the signing date, with statistical significance at the $p < .05$ level. For Models (2) and (3), the positive coefficient estimate of *Commitment* is at the $p < .10$ level. This finding provides evidence that

the signing firms had higher abnormal returns after they sign the NAA, thus supporting Hypothesis 2a.

Lastly, in Models (1), (2), and (3), we find that the variable for buy-and-hold abnormal returns after the disaster event, *Disaster-Returns, is* negatively associated with the buy-and-hold abnormal returns around the signature date, *Signing-Returns*. In Model (1), the coefficient estimate of *Disaster-Returns* is -0.630 and highly statistically significant ($p < .001$). Additionally, in Models (2) and (3), the negative coefficient estimate of *Disaster-Returns* is also highly statistically significant ($p < .001$). This result indicates that if a firm had large negative stock returns around the disaster, they gain back abnormally high returns around the signature date. These results are robust in all three different models and support Hypothesis 2b.

Additional analyses

European Accord on Fire and Building Safety (EA)

Although not all the same information is available, we performed additional analysis for firms who sign the *European Accord on Fire and Building Safety* (EA). As shown in Appendix B, the 22 sample EA signing companies are from 10 different countries, including the UK, Germany, France, Sweden, and Australia. In Panel A of Table 5, we report the summary statistics of key variables for the EA sample and their non-signing firms, matched by country, industry, and year.[5]

All variables in Table 5 are measured in U.S. dollars. The results in Table 1 show that the NAA signing firms are statistically significantly larger in total assets, have more long-term debt,

[5] Specifically, the matched control firm we chose for each EA signatory company is the firm with the most similar size of total assets (the next smallest or largest) within a specific 4-digit SIC industry in the same country and year. All matched control firms did not sign the EA agreement.

and have a higher level of sales, stockholders' equity, and dividends than the non-signing firms. However, in Panel A of Table 5, we do not find any significant differences in any of these variables between the EA signing firms and non-signing firms, matched by country, industry, and year. The only variable that is significantly different is market value of equity ($p < .01$ for mean difference, and $p < .05$ for median difference). In addition, the results for the comparisons between scaled variables provide some evidence that the EA signing firms have statistically significantly higher levels of *Size* (log of market value of equity). The mean (median) difference is statistically significant at the 10% (5%) level using the two-sided paired t-test (Wilcoxon non-parametric test).

[Insert Table 5 about here]

In Panel B of Table 5, we report the summary statistics of key variables for the combined NAA and EA sample and their industry-matched non-signing firms. Our combined sample includes 16 NAA and 22 EA signing firms. The combined non-signing group includes 40 NAA non-signing firms, matched by industry and year, and 22 EA non-signing firms, matched by country, industry, and year. The results provide evidence that the NAA and EA signing firms have a statistically significantly higher level of total assets, sales, market value of equity, stockholders' equity, long-term debt, and dividends, using paired two-sided t-tests for mean difference and paired two-sided Wilcoxon Z-tests for median difference.

The lower part of Panel B of Table 5 presents the results for the comparisons of scaled variables. The NAA and EA signing firms have a statistically significantly higher level of *Size* (natural logarithm of market value of equity) and *Debt* (long-term debt divided by total assets), using paired 2-sided t-test for mean difference and Wilcoxon Z-test for median difference (p-value < .01). In sum, the univariate comparisons using the combined NAA and EA sample

confirm our prediction that compared to the non-signing firms, the NAA and EA signing companies are likely to be prominent firms in terms of their size and are more socially visible.

In Table 6, we report the results of logistic regressions with the decision to sign on to the agreement as the dependent variable in the model. The dependent variable *Commitment* is an indicator variable, coded with value 1 if a firm signed on to either the NAA or the EA agreement and 0 if a firm did not. As mentioned previously, data for the two key variables, *CSR* and *Adv*, in the model are not available for the EA signing firms because *Global Compustat* does not provide advertising expense, and *KLD* provides CSR scores only for U.S. companies. Therefore, we are not able to incorporate these two variables in the regressions when using the combined NAA and EA sample.

[Insert Table 6 about here]

The results in Table 6 provide evidence that *Size* is positively related to *Commitment* (p-values < .01), indicating that larger firms are more likely to sign either the NAA or the EA than smaller firms. The results using the EA sample only (unreported) are consistent with those of the combined sample. Therefore, the results using the combined NAA and EA sample provide consistent evidence that signing firms are likely to be more prominent within the industry. This result is consistent with our Hypothesis 1b.

In Models (1), (2) and (4), we find evidence that the coefficient of *E* is negative, which means that higher *E* (margin ratio: income before extraordinary items divided by sales) firms are less likely to sign on to either the NAA or the EA agreement. In Models (1) and (2), the coefficient of *E* is statistically significant with p-values of less than .05. This result is not consistent with our Hypothesis 1c. Again, a possible explanation is that more established companies have more competition and thus lower operating margins.

Lastly, in Models (2) and (4), the sign on the coefficient of *Disaster-Returns*, the variable operationalizing returns after the Bangladesh disaster (BD), is negative, but is not statistically significant. The results using the EA sample only (unreported) are consistent and thus do not support Hypothesis 1d.

In Table 7, we report the results of OLS regressions with the two-day buy-and-hold abnormal returns after the NAA and the EA signing date as the dependent variable in the model. The variable of interest, *Commitment*, is an indicator variable, coded with value 1 if a firm signed on to the NAA or the EA and 0 if a firm did not. In all three models, the coefficient of *Commitment* has a positive sign but is not statistically significant, thus failing to support Hypothesis 2a.

Regarding the association between market reaction to signing news being associated with market reaction after the disaster (Hypothesis 2d), models (1), (2), and (3) in Table 7 all show the variable for buy-and-hold abnormal returns after the disaster event, *Disaster-Returns*, is negatively associated with the buy-and-hold abnormal returns around the signature date, *Signing-Returns*. In Model (1), the coefficient is -0.248 with the p-value of less than 0.01 ($p < .05$ for models (2) and (3)). This result indicates that if a firm had large negative stock returns around the disaster, they will gain back abnormally high returns around the signature date. These results support our Hypothesis 2b and are consistent with the analysis using the NAA sample alone.

[Insert Table 7 about here]

Table 7 includes a binary (0,1) variable equal to one for a U.S. firm (otherwise zero). As reported, this variable is negatively associated with the buy-and-hold abnormal returns around the signature date. This result suggests that U.S. firms experienced lower abnormal stock returns around the signature date than non-U.S. firms. This result may tie back to the more stringent

requirements of the EA compared to the NAA or that signing the EA was more important to non-U.S. investors than signing the NAA was to U.S. investors.

Conclusions

This study is unique and contributes to prior CSR accounting literature. We explore the relationship between an actual CSR commitment and market reaction using a sample of companies who signed the NAA after the Bangladesh disaster and those who did not. The announcement of this type of action is different from market reactions to other types of CSR actions that are usually combined with earnings announcements. The Bangladesh disaster was a totally unexpected surprise to the market and signing one of the worker safety agreements was a unique CSR action separate from other news items about the company.

It is the first study to examine *directly* stock market reactions to the Bangladesh disaster and what types of firms decided to commit to one of the stringent worker safety agreements in its wake. We also believe it to be the first study that directly examines the market response to news events that are solely associated with CSR that do not also include news components about company financial results.

The stock market response to the news of Bangladesh disaster is likely to be very different from the market reactions to regular earnings announcements. Earnings announcements are usually very much predicted by analysts and investors. The Bangladesh disaster was a totally unexpected surprise to the market. The important subsequent events (reactions from labor unions, multinational companies, and governments, etc.) continued to occur many days after the disaster.

The results of the univariate comparison between the signing and the non-signing firms using the CSR scores obtained from the KLD index provide evidence that the signing firms had

significantly higher prior CSR performance than the non-signing firms. Furthermore, from our logistic regression results, we find that firms with higher prior CSR performance and social visibility measured by firm size were more likely to commit to a major Bangladesh worker safety agreement (the NAA) than those with lower stature.

Our results are consistent with the suggestions by Sen & Cowley (2013). CSR is generally not as critical at small and medium-sized companies because of the value they place on social networks and relationships, providing the resources and information needed to compete. Larger multinational companies, however, are under more pressure from media outlets and workers' rights groups. They must legitimize themselves as socially responsible; otherwise they will suffer negative consequences of not signing, such as negative publicity, decreased consumer demand, and lower market price. Because their instrumental stakeholders are different from the smaller and medium-sized companies, they feel the need to follow the industry norms for worker safety. Further, they are also more likely to have already invested in worker safety programs at their outsourcing firms, making it easier for them to commit to a more stringent agreement than for firms who have not previously worried about worker safety.

We expected that committing to a stringent worker safety program to be *positively* associated with strong pre-disaster financial performance as measured by the margin ratio. However, we found that pre-disaster financial performance is *negatively* associated with the commitment of signing on to the NAA when size is controlled in the multi-variate regressions. We also hypothesized a *negative* association between the impact of the disaster on stock price and commitment to sign. Instead, firms with more *positive* stock returns after the Bangladesh disaster were more likely to sign the agreement. These results suggest that signing firms tended

to be larger and more mature companies, with high social visibility and CSR effort that were perhaps considered better able to "weather the storm" than smaller firms in the growth stage.

Based on the customer survey results reported in Quelch & Rodriguez (2013), many consumers have responded that they do not consider the Bangladesh factory disaster as an important event (factor) that will alter their buying behavior patterns. However, our results show that our sample NAA signing firms experienced statistically higher market reactions around the signing date than the non-signing-group firms. This result provides evidence that investors reacted positively to the news even though many consumers did not consider this news to be important for their buying behavior. This finding re-confirms the importance of CSR to the stock market.

Regarding post-tragedy performance, we do not find that size, margin ratio, dividends, or advertising spending affect two-day market reactions to the CSR commitment. However, as hypothesized, the market responded favorably during the announcement window to the news that firms committed to sign the NAA. Furthermore, the market reaction to the signing event is negatively related to the market reaction after the original disaster. One explanation is that the bigger the drop in price after the disaster, the higher the increase in price needed after the commitment to the safety agreement to return to "normal" returns.

Our additional analyses including firms signing the *European Accord* (EA) provide mostly consistent but weaker evidence than when using the NAA sample only. However, we were not able to test the CSR variable because that data is not available for non-U.S. firms. We did find a significant difference between market reactions for U.S. firms around the signature date than for non-U.S. firms.

The findings of this study must be considered in light of its limitations. The long-term market reaction to the signing of a major worker safety agreement cannot be measured within 1-2 day announcement window. Important subsequent events will continue to occur and may alter the market's initial reaction. Also, it is difficult to attribute market impact to any one given factor, such as announcing a commitment to sign a worker safety agreement in a country far away from U.S. markets. Probably the most serious limitation of this study is the relatively small sample size, which is due to the lack of data available for many companies and the relatively small number of U.S. firms signing the safety agreement.

In spite of these limitations, we believe this study sheds light on how companies respond to worker safety disasters, decide to take challenging CSR actions, and how the market responds to these actions. Future research can investigate whether similar phenomenon occur with other types of specific CSR actions, such as hazardous waste disasters, diversity-related initiatives, charitable giving, volunteer programs, investment practices, plant closings, political support, etc. We hope this study contributes to the growing research on the long-term benefits and costs of CSR practices and will help promote good global corporate social and ethical conduct.

References

Accord of Fire and Building Safety in Bangladesh (2013a). Retrieved August 12, 2013, from http://www.bangladeshaccord.org/.

Accord on Fire and Building Safety in Bangladesh (Publication, May 13, 2013) (2013b). Retrieved August 12, 2013, from International Labor Rights Forum website: http://www.laborrights.org/sites/default/files/publications-and-resources/Accord_on_Fire_and_Building_Safety_in_Bangladesh_2013-05-13.pdf.

Alliance for Bangladesh Worker Safety (2013a). Retrieved August 12, 2014, from: *http://www.bangladeshworkersafety.org/*

Alliance for Bangladesh Worker Safety (Publication) (2013b). Retrieved August 12, 2013, from Alliance for Bangladesh Worker Safety website: http://www.bangladeshworkersafety.org/files/Alliance-Member-Agreement-FINAL.pdf

Al-Mahmood S. Z. (2015). Bangladeshi police charge 42 with homicide for 2013 garment factory collapse. *The Wall Street Journal* (June 1, 2015). Accessed from: http://www.wsj.com/articles/bangladeshi-police-charge-42-with-homicide-for-2013-garment-factory-collapse-1433181270.

Anas, A. (2014**).** Factory safety and auditing: The key challenges: Factory safety: Bangladesh battles to meet requirements. *just - style (May 2, 2014).* Accessed from: http://www.just-style.com/management-briefing/bangladesh-battles-to-meet-requirements_id121568.aspx.

Aupperle, K. E., Carroll, A. B., & Hatfield, J. D. (1985). An empirical examination fo the relationship between corporate social responsibility and profitability. *Academy of Management Journal*, 28(2), 446-463.

Brown, D. L., Guidry, R. P., & Patten, D. M. (2009). Sustainability reporting and perceptions of corporate reputation: An analysis using fortune. *Advances in Environmental Accounting & Management*, 4, 83-104.

Cho, C. H., Guidry, R.P., Hageman, A. M., & Patten, D. M. (2012). Do actions speak louder than words? An empirical investigation of corporate environmental reputation. *Accounting, Organizations and Society*, 37, 14-25.

Cho, C. H., & Patten, D. M. (2007). The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society*, 32(7), 639-647.

Cornell, B., & Shapiro, A. C. (1987). Corporate stakeholders and corporate finance. *Financial Management*, 16(1), 5-14.

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65-91.

Dowell, G., Hart, S., & Yeung, B. (2000). Do corporate global environmental standards create or destroy market value? *Management Science*, 46(8), 1059-1074.

Easton, P. D., & Harris, T. S. (1991). Earnings as an explanatory variable for returns. *Journal of Accounting Research*, 29(1), 19-36.

Flammer, C. (2013). Corporate social responsibility and shareholder reaction: The environmental awareness of investors. *Academy of Management Journal*, 56(3), 758-781.

Fombrun, C., & Shanley, M. (1990). What's in a name? Reputation building and corporate strategy. *Academy of Management Journal*, 33(2), 233-258.

Green Rankings 2012: Global Companies. (2012). *Newsweek*. (October 22, 2012). Retrieved Fall, 2013, from http://www.newsweek.com/2012/10/22/newsweek-green-rankings-2012-global-500-list.html

Hughes, S. B., Anderson, A., & Golden, S. (2001). Corporate environmental disclosures: are they useful in determining environmental performance?. *Journal of Accounting and Public Policy*, 20(3), 217-240.

Implementation Team Report (Rep.) (2013). Retrieved Fall, 2013, from Industrial global union website: http://www.industriall-union.org/sites/default/files/uploads/documents/reportimplteam-final-en.pdf#overlay-context=users/tom (July 7, 2013).

Inside US Trade **(**2013). Unions, lawmakers blast new action plan on Bangladesh worker safety 31.28 (July 12, 2013).

Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review*, 20, 404-437.

Khurana, I. K., & Lippincott, B. (2000). Restructuring and firm value: the effects of profitability and restructuring purpose. *Journal of Business Finance & Accounting*, 27(9-10), 1085-1106.

Miles, S. (2012). Stakeholder: Essentially contested or just confused?. *Journal of Business Ethics*, 108(3), 285-298.

Montgomery, D. B., & Ramus, C. A. (2003). Corporate social responsibility reputation effects on MBA job choice. *Graduate School of Business, Stanford University*.

Patten, D. M. (2002). The relation between environmental performance and environmental disclosure: a research note. *Accounting, Organizations and Society*, 27(8), 763-773.

Putnam, R. D. (1993). The prosperous community: Social capital and public life. In E. Ostrom and T. Ahn (editors), *Foundation of Social Capital*, pp. 529-536. Cheltenham: Elgar.

Quelch, J. A., & Rodriguez, M. L. (2013). Rana Plaza: Bangladesh Garment Tragedy (A). *Harvard Business School*, case no. N2-514-034 (October 2013).

Quinlan, M., & Sheldon, P. (2011). The enforcement of minimum labor standards in an era of neo-liberal globalization: An overview. *The Economic and Labour Relations Review*, 22(2), 5-32.

Sen, S., & Cowley, J. (2013). The relevance of stakeholder theory and social capital theory in the contest of CSR in SMEs: An Australian perspective. *Journal of Business Ethics*, 118(2), 413-427.

Soloman, R., & Hansen, K. (1985). *It's good business*. New York: Atheneum.

Stanwick, P.A., & Stanwick, S. D. (1998). The relationship between corporate social performance and organizational size, financial performance, and environmental performance: An empirical examination. *Journal of Business Ethics*, 17, 195-204.

Taplin, I. M. (2014). Who is to blame? A re-examination of fast fashion after the 2013 factory disaster in Bangladesh. *Critical Perspectives On International Business*, 10(1/2), 72-83.

Toms, J. S. (2002). Firm resources, quality signals and the determinants of corporate environmental reputation: some UK evidence. *The British Accounting Review*, 34(3), 257-282.

Trail: From Bangladesh to a Mall Near You (2013). *The Wall Street Journal*. Retrieved Fall, 2013, from http://online.wsj.com/news/articles/SB10001424127887324766604578460833869722240

Yardley, J. (2013). Justice still elusive in factory disasters in Bangladesh. *The New York Times, (June 29, 2013).* Retrieved Fall, 2013, from http://www.nytimes.com/2013/06/30/world/asia/justice-elusive-in-a-bangladesh-factory-disaster.html?pagewanted=all&_r=0

Zain Al-Mahmood, S., Passariello, C., & Rana, P. (2013). The global garment trail: From Bangladesh to a mall near you. *The Wall Street Journal (May 3, 2013)*. Retrieved Fall, 2013, from http://www.wsj.com/news/articles/SB10001424127887324766604578460833869722240

Zenisek, T. J. (1979). Corporate social responsibility: A conceptualization based on organizational literature. *Academy of Management Review*, 4(3), 359-368.

APPENDIX A
Comparison of Worker-Safety and Labor Standards

Type of Standard	Industrialized Countries	Developing Countries
Minimum labor standards and union recognition /bargaining laws (wages and hours)	Minimum wage and hours laws with some erosion	No or ineffective minimum wage and hours laws, little collective regulation
Extent of vulnerable groups of workers	Vulnerable groups expand (women, home-workers, immigrants, old and young child labor re-emerges)	Highly exploited vulnerable groups (children, women, immigrants, homeless, indentured labor)
Extent of occupational health and safety laws	Expanded OHS law but under indirect threat	Little OHS law and little enforced (only formal sector)

Source: Quinlan and Sheldon (2011)

APPENDIX B
List of Sample Signing Firms for Bangladesh Worker Safety Agreement

North American Alliance (NAA)			
Company Name	**Country**	**Currency Code**	**SIC**
CARTER'S	USA	US Dollar	2300
PVH	USA	US Dollar	2300
VF	USA	US Dollar	2320
JONES GROUP	USA	US Dollar	2330
KOHL'S	USA	US Dollar	5311
MACY'S	USA	US Dollar	5311
PENNEY (J C)	USA	US Dollar	5311
SEARS HOLDINGS	USA	US Dollar	5311
TARGET	USA	US Dollar	5331
WAL-MART STORES	USA	US Dollar	5331
COSTCO WHOLESALE	USA	US Dollar	5399
AMERN EAGLE OUTFITTERS	USA	US Dollar	5600
CHILDRENS PLACE	USA	US Dollar	5600
ABERCROMBIE & FITCH	USA	US Dollar	5651
GAP	USA	US Dollar	5651
NORDSTROM	USA	US Dollar	5651
European Accord on Fire and Building Safety (EA)			
DEBENHAMS	Great Britain	British Pound	5311
MARKS & SPENCER GROUP	Great Britain	British Pound	5311
TESCO	Great Britain	British Pound	5399
JOHN LEWIS PARTNERSHIP	Great Britain	British Pound	5411
SAINSBURY	Great Britain	British Pound	5411
MOTHERCARE	Great Britain	British Pound	5600
NEXT	Great Britain	British Pound	5651
N BROWN GROUP	Great Britain	British Pound	5961
ADIDAS	Germany	Euro	3021
PUMA	Germany	Euro	3021
CARREFOUR SUPERMARCHE	France	Euro	5399
CASINO GUICHARD-PERRACHON	France	Euro	5411
STOCKMANN	Finland	Euro	5311
PACIFIC BRANDS	Australia	Australian Dollar	2300
WOOLWORTHS	Australia	Australian Dollar	5411
SPECIALTY FASHION GROUP	Australia	Australian Dollar	5621
HENNES & MAURITZ	Sweden	Swedish Krona	5621
KAPPAHL	Sweden	Swedish Krona	5651
IC GROUP	Denmark	Danish Krone	2300
LPP	Poland	Polish Zloty	2300

CHARLES VOGELE HLDG	Switzerland	Swiss Franc	5651
FAST RETAILING CO	Japan	Japanese Yen	5600

Industry Code (from www.SICCODE.COM):
2300: Apparel and other Finished Products Made from Fabrics and Similar Materials
2320: Men's and Boys' Furnishings, Work Clothing, and Allied Garments
2330: Women's, Misses', and Juniors' Outerwear
3021: Rubber and Plastics Footwear
5311: Department stores
5331: Variety Stores
5399: Miscellaneous general merchandise stores
5411: Grocery Stores
5600: Apparel and Accessory Stores
5621: Women's clothing stores
5651: Family clothing stores
5961: Catalog and Mail-Order Houses

APPENDIX C
List of Corporate Social Responsibility (CSR) Categories in Kinder, Lydenberg, Domini (KLD) Index

1. Community
Strengths: Charitable Giving; Innovative Giving; Non-US Charitable Giving; Support for Housing; Support for Education; Indigenous People Relations; Volunteer Programs; Other Strength.
Concerns: Investment Controversies; Negative Economic Impact; Indigenous People Relations; Tax Disputes; Other Concern.

2. Corporate Governance
Strengths: Limited Compensation; Ownership Strength; Transparency Strength; Political Accountability Strength; Other Strength.
Concerns: High Compensation; Ownership Concern; Accounting Concern; Transparency Concern; Political Accountability Concern; Other Concern.

3. Diversity
Strengths: CEO; Promotion; Board of Directors; Work/Life Benefits; Women & Minority Contracting; Employment of the Disabled; Gay & Lesbian Policies; Other Strength.
Concerns: Controversies; Non-Representation; Other Concern.

4. Employee Relations
Strengths: Union Relations; No-Layoff Policy; Cash Profit Sharing; Employee Involvement; Retirement Benefits Strength; Health and Safety Strength; Other Strength.
Concerns: Union Relations; Health and Safety Concern; Workforce Reductions; Retirement Benefits Concern; Other Concern.

5. Environment
Strengths: Beneficial Products and Services; Pollution Prevention; Recycling; Clean Energy; Communications; Property, Plant, and Equipment; Other Strength.
Concerns: Hazardous Waste; Regulatory Problems; Ozone Depleting Chemicals; Substantial Emissions; Agricultural Chemicals; Other Concern.

6. Human Rights
Strengths: Positive Record in South Africa; Indigenous People Relations Strength; Labor Rights Strength; Other Strength.
Concerns: South Africa; Northern Ireland; Burma Concern; Mexico; Labor Rights Concern Indigenous People Relations Concern; Other Concern.

7. Product
Strengths: Quality; R&D/Innovation; Benefits to Economically Disadvantaged; Other Strength.
Concerns: Product Safety; Marketing/Contracting Concern; Antitrust; Other Concern.

TABLE 1
Summary Statistics for North American Alliance (NAA)

	Signing Firms		Non-Signing Firms		Difference	Difference (p-value)	
Raw Variables ($mil):	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**t-test**	**Wilcoxon test**
Total Assets	24,080.7	*8,861.0*	1,778.6	*957.0*	22,302.1***	0.006	<0.001
Income before Ext. Items	1,635.8	*584.4*	205.3	*65.3*	1,430.5**	0.035	0.016
Sales	50,013.0	*12,566.5*	3,371.9	*1,664.6*	46,641.1**	0.012	<0.001
Common Shares Outstand.	412.6	*194.8*	90.1	*47.9*	322.5**	0.014	0.001
Price close - Fiscal	57.9	*49.9*	35.3	*30.0*	22.6**	0.023	0.011
Market Value	25,787.0	*9,471.7*	3,710.9	*1,200.3*	22,076.1**	0.017	<0.001
Stockholders' Equity	8,882.7	*3,032.5*	932.7	*448.1*	7,950.0***	0.008	<0.001
Long-term Debt	5,187.7	*1,752.5*	233.0	*29.1*	4,954.7***	0.003	<0.001
Advertising Expense	649.3	*467.9*	54.5	*22.6*	594.8***	<0.001	0.002
Dividends-Common Stock	536.9	*230.0*	43.3	*3.4*	493.6**	0.020	0.002
Operating Cash flow	2,739.5	*897.1*	296.3	*87.2*	2,443.2**	0.016	0.002
Scaled Variables:							
Size	9.096	*9.152*	7.174	*7.089*	1.922***	<0.001	<0.001
E	0.038	*0.050*	0.049	*0.049*	-0.011	0.419	0.751
Div	0.019	*0.016*	0.021	*0.005*	-0.002	0.852	0.120
Debt	0.194	*0.185*	0.094	*0.023*	0.100**	0.013	0.008
Adv	0.028	*0.024*	0.024	*0.018*	0.004	0.570	0.479
Ocf	0.118	*0.123*	0.109	*0.098*	0.009	0.636	0.140
Market Returns Variables:							
Disaster-Returns	0.0170	*0.0099*	0.0185	*0.0148*	-0.0015	0.825	0.751
Signing-Returns	-0.0054	*-0.0056*	-0.0118	*-0.0102*	0.0064	0.288	0.130

This table reports the summary statistics for the variables in our sample. The signing sample consists of 16 firms who signed the *North American Alliance for Bangladesh Worker Safety* (NAA). The 40 non-signing firms are from the same industries as signing firms. The test statistics are based on the two-sided t-tests for mean difference (or Wilcoxon nonparametric tests for median difference). The *italicized* numbers represent median values.

Variable Definitions:

Size = Natural logarithm of Market value of equity, US $mil
E = Income before extraordinary items divided by Sales
Div = Dividends divided by Market value of equity
Debt = Long-term debt divided by Total assets
Adv = Advertising expense divided by Sales
Ocf = Operating cash flow divided by Market value of equity
Disaster-returns = Firm's two-day (day 0 and day +1) buy-and-hold abnormal returns centered around the *Bangladesh Disaster* event date, when abnormal returns are measured by firm-returns minus equally-weighted market returns.
Signing-returns = Firm's two-day (day +1 and day +2) buy-and-hold abnormal returns centered around the *NAA Signing* event date, when abnormal returns are measured by firm-returns minus equally-weighted market returns.

TABLE 2: Prior Corporate Social Responsibility (CSR) Performance

Corporate Social Responsibility Category	NAA Signing Firms	NAA Non-Signing Firms	Difference	t-value
(1)	(2)	(3)	(4) = (2) –(3)	
Total All Categories:				
Strengths	4.25	0.65	3.60	5.97***
Concerns	1.75	0.50	1.25	2.18**
Net Score (Strengths – Concerns)	2.50	0.15	2.35	4.00***
Community:				
Strengths	0.5625	0.025	0.5375	6.02***
Concerns	0.0625	0.00	0.0625	1.60
Net Score (Strengths – Concerns)	0.50	0.025	0.475	5.29***
Corporate Governance:				
Strengths	0.00	0.00	0.00	NA
Concerns	0.125	0.05	0.075	0.98
Net Score (Strengths – Concerns)	-0.125	-0.05	0.075	0.98
Diversity:				
Strengths	0.9375	0.175	0.7625	3.54***
Concerns	0.1875	0.30	-0.1125	-0.78
Net Score (Strengths – Concerns)	0.75	-0.125	0.875	3.46***
Employee Relations:				
Strengths	2.0625	0.40	1.6625	4.99***
Concerns	0.6875	0.15	0.5375	2.42**
Net Score (Strengths – Concerns)	1.375	0.25	1.125	4.07***
Environment:				
Strengths	0.50	0.025	0.475	4.47***
Concerns	0.3125	0.00	0.3125	3.33***
Net Score (Strengths – Concerns)	0.1875	0.025	0.1625	1.74*
Human Rights:				
Strengths	0.00	0.00	0.00	NA
Concerns	0.00	0.00	0.00	NA
Net Score (Strengths – Concerns)	0.00	0.00	0.00	NA
Product:				
Strengths	0.1875	0.025	0.1625	2.19**
Concerns	0.375	0.00	0.375	2.35**
Net Score (Strengths – Concerns)	-0.1875	0.025	-0.2125	-1.14

This table reports the CSR strengths, concerns, and net (strengths minus concerns) scores for our sample signing and non-signing firms at the various category levels obtained from the Kinder, Lydenberg, Domini (KLD) 2012 index. For the "human rights" category in the 2012 KLD database, the mean values for "strengths" and "concerns" are zero for both the signing and the non-signing group firms. The signing sample consists of 16 firms who signed the *North American Alliance for Bangladesh Worker Safety* (NAA). The non-signing group consists of 40 firms from the same industries who did not sign the NAA. The KLD category descriptions are presented in Appendix C. *, **, *** indicate statistical significance at 10 percent, five percent, and one percent, respectively using two-sided paired t-tests for mean difference.

TABLE 3
Signing Decision Logistic Regressions: North American Alliance (NAA)

$$Commitment_{it} = \beta_0 + \beta_1 * CSR\text{-}Net_{it-1} + \beta_2 * CSR\text{-}Strength_{it-1} + \beta_3 * CSR\text{-}Concern_{it-1} + \beta_4 * Size_{it-1} + \beta_5 * Adv_{it-1} + \beta_6 * E_{it-1} + \beta_7 * Dividend_{it-1} + \beta_8 * Debt_{it-1} + \beta_9 * Disaster\text{-}Returns_{it} + \varepsilon_i \quad (1)$$

	Model (1) (χ^2-value)	Model (2) (χ^2-value)	Model (3) (χ^2-value)	Model (4) (χ^2-value)	Model (5) (χ^2-value)	Model (6) (χ^2-value)
CSR-Net	0.501*** (8.68)		0.554** (3.92)		0.549* (2.92)	
CSR-Strength		0.741*** (10.35)		0.607* (3.40)		0.623 (2.67)
CSR-Concern		0.149 (0.12)		-0.428 (0.69)		-0.338 (0.29)
Size			2.164*** (9.98)	2.023** (6.53)	2.609*** (8.12)	2.472** (6.40)
Adv			-2.847 (0.01)	-2.588 (0.01)	0.763 (0.00)	0.783 (0.00)
E			-34.39* (3.75)	-31.78* (2.72)	-41.594* (3.44)	-39.372* (2.80)
Dividend					23.449* (2.82)	23.769* (2.82)
Debt					1.380 (0.07)	1.311 (0.07)
Disaster-Returns			73.412** (4.37)	73.664** (4.51)	87.077** (4.48)	88.292** (4.58)
Intercept	-0.940 (2.32)	-2.280*** (6.65)	-19.490*** (10.15)	-18.662*** (8.22)	-24.193*** (7.93)	-23.493*** (7.05)
Industry Fixed Effect	controlled	controlled	controlled	controlled	controlled	controlled
Observation	56	56	56	56	56	56
Likelihood Ratio χ^2 (p-value)	13.79*** (0.003)	23.85*** (< 0.001)	39.66*** (< 0.001)	39.77*** (< 0.001)	42.05*** (< 0.001)	42.22*** (< 0.001)
Max-rescaled R^2	0.32	0.50	0.73	0.73	0.76	0.76

This table reports the results of logistic regressions with the decision to sign or not to sign on to the North American Alliance (NAA) as the dependent variable in the model. The regression uses 56 firms of which 16 signed the *North American Alliance for Bangladesh Worker Safety* (NAA) and 40 that did not sign in the same industries. In all six models, the dependent variable, *Commitment*, is an indicator variable, coded with value 1 if a firm signed on to the NAA and 0 if a firm did not. *, **, *** indicate statistical significance at 10 percent, five percent, and one percent, respectively, using two-sided t-tests.

CSR-Strength = the CSR strength scores at the various category levels obtained from the Kinder, Lydenberg, Domini (KLD) 2012 index; *CSR-Concern* = the CSR concerns scores obtained from KLD 2012 index; *CSR-Net* = the CSR net (strengths minus concerns) scores obtained from KLD 2012 index. See Table 1 for other variable definitions and Appendix C for more information about the KLD index.

TABLE 4
Market Returns OLS Regressions: Signing North American Alliance

$$Signing\text{-}Returns_{it} = \beta_0 + \beta_1 * Commitment_{it} + \beta_2 * CSR\text{-}Net_{it-1} + \beta_3 * CSR\text{-}Strength_{it-1} + \beta_4 * CSR\text{-}Concern_{it-1} + \beta_5 * Size_{it-1} + \beta_6 * Adv_{i-1} + \beta_7 * E_{it-1} + \beta_8 * Div_{it-1} + \beta_9 * Debt_{it-1} + \beta_{10} * Disaster\text{-}Returns_{it} + \varepsilon_i \quad (2)$$

	Model (1)	**Model (2)**	**Model (3)**
Independent Variables:	(p-value)		
Commitment	0.016** (0.023)	0.014* (0.064)	0.014* (0.074)
CSR-Net		0.001 (0.491)	
CSR-Strength			0.001 (0.511)
CSR-Concern			-0.001 (0.633)
Size	-0.003 (0.266)	-0.002 (0.301)	-0.003 (0.329)
Adv	-0.069 (0.478)	-0.087 (0.390)	-0.087 (0.397)
E	-0.076 (0.340)	-0.086 (0.293)	-0.082 (0.334)
Div	0.052 (0.409)	0.053 (0.396)	0.053 (0.407)
Debt	-0.030 (0.127)	-0.035* (0.099)	-0.035 (0.101)
Disaster-Returns	-0.630*** (<0.001)	-0.614*** (<0.001)	-0.610*** (<0.001)
Intercept	-0.015 (0.397)	-0.015 (0.405)	-0.017 (0.410)
Industry Fixed Effect	Controlled	Controlled	Controlled
Observation	56	56	56
Adjusted R^2	0.36	0.35	0.34

This table reports the results of ordinary least squares (OLS) regressions with the two-day buy-and-hold abnormal returns after the NAA signing date as the dependent variable in the model. *, **, *** indicate statistical significance at 10 percent, five percent, and one percent, respectively, using two-sided t-tests. *Commitment*, is an indicator variable, coded with value 1 if a firm signed on to the NAA and 0 if a firm did not sign the NAA. See Table 1 for other variable definitions.

TABLE 5

Panel A: Summary Statistics for European Accord (EA) on Fire and Building Safety

	Signing Firms		Non-Signing Firms		Difference	Difference (p-value)	
Raw Variables (US$ mil):	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**t-test**	**Wilcoxon test**
Total Assets	13,826.8	*3,327.0*	11,757.1	*1,057.1*	2,069.7	0.77	0.12
Income before Ext. Items	579.1	*199.6*	504.1	*79.9*	75.0	0.85	0.31
Sales	20,377.0	*4,980.8*	17,959.3	*2,862.4*	2,417.8	0.83	0.14
Common Shares Outstand.	845.2	*200.7*	427.2	*81.7*	418.0	0.30	0.25
Price close - Fiscal	110.0	*17.3*	23.9	*9.2*	86.0	0.21	0.43
Market Value	11,018.4	*3,581.8*	2,060.2	*701.6*	8,958.2***	0.007	0.047
Stockholders' Equity	4,303.3	*1,636.0*	2,707.4	*400.5*	1,595.9	0.40	0.103
Long-term Debt	2,544.4	*387.6*	2,401.4	*71.3*	143.1	0.92	0.16
Dividends-Common Stock	353.9	*49.5*	123.5	*20.7*	230.4	0.15	0.66
Operating Cash flow	1,143.1	*660.3*	1,149.1	*107.5*	-6.0	0.99	0.14
Scaled Variables:							
Size	7.809	*8.152*	6.602	*6.548*	1.207*	0.055	0.047
E	0.017	*0.025*	0.035	*0.023*	-0.018	0.41	0.00
Div	0.024	*0.017*	0.044	*0.037*	-0.020	0.13	0.12
Debt	0.162	*0.195*	0.113	*0.107*	0.050	1.40	0.16
Ocf	0.585	*0.122*	0.628	*0.113*	-0.043	0.94	0.66
Market Returns Variables:							
Disaster-Returns	-0.0100	*-0.0089*	-0.0047	*-0.0113*	-0.0053	0.50	0.66
Signing-Returns	0.0031	*0.0084*	0.0080	*0.0040*	-0.0049	0.47	0.96

This table reports the summary statistics for the variables in our sample. The signing sample consists of 22 firms who signed the *European Accord on Fire and Building Safety* (EA). The 22 non-signing firms are matched by country, industry, and year. Specifically, the matched control firm we chose for each EA signatory company is the firm with the most similar size of total assets (the next smallest or largest) within a specific 4-digit SIC industry in the same country and year. All matched control firms did not sign the EA agreement. All variables are measured in U.S. dollars. *, **, *** indicate statistical significance at 10 percent, five percent, and one percent, respectively using two-sided t-tests for mean difference (or Wilcoxon nonparametric tests for median difference). The *italicized* numbers represent median values. See Table 1 for variable definitions.

TABLE 5 (continued)

Panel B: Summary Statistics for Combined NAA and EA

	Signing Firms		Non-Signing Firms		Difference	Difference (p-value)	
Raw Variables (US$ mil):	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**t-test**	**Wilcoxon test**
Total Assets	18,144.2	*7,690.2*	5319.4	*957.0*	12,824.9**	0.014	<0.001
Income before Ext. Items	1,024.0	*252.3*	311.3	*65.3*	712.7*	0.07	0.013
Sales	32,855.3	*11,369.1*	8,548.0	*1,895.1*	24,307.3**	0.03	<0.001
Common Shares Outstand.	663.1	*194.8*	209.7	*49.8*	453.4**	0.02	0.001
Price close - Fiscal	88.0	*32.5*	31.3	*19.2*	56.7*	0.07	0.12
Market Value	17,236.8	*6,821.8*	3,125.2	*976.5*	14,111.6***	0.005	<0.001
Stockholders' Equity	6,231.4	*2,824.5*	1,562.5	*448.1*	4,669.0***	0.009	<0.001
Long-term Debt	3,657.4	*1,072.9*	1,002.4	*40.0*	2,655.0**	0.017	<0.001
Dividends-Common Stock	431.0	*57.8*	71.8	*12.8*	359.2***	0.006	0.008
Operating Cash flow	1,815.3	*842.6*	598.9	*97.5*	1,216.4*	0.051	<0.001
Scaled Variables:							
Size	8.351	*8.790*	6.971	*6.871*	1.380**	0.0003	<0.001
E	0.026	*0.036*	0.044	*0.039*	-0.018	0.14	0.63
Div	0.022	*0.016*	0.029	*0.015*	-0.007	0.38	0.94
Debt	0.176	*0.195*	0.101	*0.060*	0.075***	0.002	<0.001
Ocf	0.403	*0.123*	0.299	*0.099*	0.104	0.69	0.39
Market Returns Variables:							
Disaster-Returns	0.0014	*0.0042*	0.0103	*0.0085*	-0.0089	0.115	0.10
Signing-Returns	-0.0005	*0.0002*	-0.0047	*-0.0045*	0.0043	0.36	0.09

This table reports the summary statistics for the variables in our sample. The signing sample consists of 16 firms who signed the *North American Alliance for Bangladesh Worker Safety* (NAA) and 22 firms who signed the *European Accord on Fire and Building Safety* (EA). For non-signing NAA sample, we use the entire non-signing 40 firms in the same industries of which NAA signing firms belong to. For non-signing EA sample, we use 22 non-signing firms who are matched by country, industry, and year. All variables are measured in U.S. dollars. *, **, *** indicate statistical significance at 10 percent, five percent, and one percent, respectively using two-sided t-tests for mean difference (or Wilcoxon nonparametric tests for median difference). The *italicized* numbers represent median values. See Table 1 for variable definitions.

TABLE 6
Signing Decision Logistic Regressions: Combined NAA and EA

$$Commitment_{it} = \beta_0 + \beta_1 * Size_{it-1} + \beta_2 * E_{it-1} + \beta_3 * Dividend_{it-1} + \beta_4 * Debt_{it-1} + \beta_5 * Disaster\text{-}Returns_{it} + \varepsilon_i \quad (1)$$

	Model (1) (χ^2-value)	Model (2) (χ^2-value)	Model (3) (χ^2-value)	Model (4) (χ^2-value)
Size	0.635*** (13.88)	0.649*** (14.84)	0.579*** (11.44)	0.590*** (14.02)
E	-13.876*** (4.92)	-14.765** (5.23)	-9.541 (2.62)	-10.151* (2.92)
Dividend			-8.285 (1.20)	-9.140 (1.37)
Debt			3.535 (2.65)	4.115* (3.27)
Disaster-Returns		-13.981 (1.53)		-16.264 (2.38)
Intercept	-4.574*** (13.10)	-4.672*** (14.12)	-4.587*** (12.47)	-4.740*** (14.2)
Industry Fixed Effect	controlled	controlled	controlled	controlled
Observation	100	100	100	100
Likelihood Ratio χ^2 (p-value)	26.51*** (<0.001)	28.08*** (<0.001)	30.50*** (<0.001)	32.87*** (<0.001)
Max-rescaled R^2	0.32	0.33	0.36	0.38

This table reports the results of logistic regressions with the decision to sign or not to sign the North American Alliance (NAA) or European Accord on Fire and Building Safety (EA) as the dependent variable in the model. In all three models, the dependent variable, *Commitment*, is an indicator variable, coded with value 1 if a firm signed on to the NAA or the EA agreement and 0 if a firm did not. All variables are measured in U.S. dollars. *, **, *** indicate statistical significance at 10 percent, five percent, and one percent, respectively, using two-sided t-tests. See Table 1 for variable definitions.

TABLE 7
Market Returns OLS Regressions: Signing either NAA or EA

$$Signing\text{-}Returns_{it} = \beta_0 + \beta_1 * Commitment_{it} + \beta_2 * Size_{it-1} + \beta_3 * E_{it-1} + \beta_4 * Div_{it-1} + \beta_5 * Debt_{it-1} + \beta_6 * Disaster\text{-}Returns_{it} + \beta_7 * USFirm_{it} + \varepsilon_i \quad (2)$$

	Model (1)	**Model (2)**	**Model (3)**
Independent Variables:	(p-value)		
Commitment	0.001 (0.845)	0.004 (0.441)	0.004 (0.442)
Size		-0.001 (0.496)	-0.001 (0.543)
E		0.119*** (0.004)	0.114*** (0.008)
Div			-0.017 (0.752)
Debt			-0.008 (0.696)
Disaster-Return	-0.248*** (0.006)	-0.211** (0.016)	-0.208** (0.019)
US Firm	-0.016** (0.011)	-0.015** (0.017)	-0.015** (0.021)
Intercept	0.003 (0.393)	0.006 (0.533)	0.007 (0.473)
Industry Fixed Effect	Controlled	Controlled	Controlled
Observation	100	100	100
Adjusted R^2	0.15	0.22	0.20

This table reports the results of ordinary least squares (OLS) regressions with the two-day buy-and-hold abnormal returns after the NAA or the EA signing date as the dependent variable in the model. All variables are measured in U.S. dollars. *, **, *** indicate statistical significance at 10 percent, five percent, and one percent, respectively, using two-sided t-tests. *Commitment*, is an indicator variable, coded with value 1 if a firm signed on to the NAA or the EA agreement and 0 if a firm did not. *US Firm* is an indicator variable that takes the value of 1 if a firm is a U.S. firm, 0 if a firm is not. See Table 1 for other variable definitions.