



Terrorism and corporate social responsibility: Testing the impact of attacks on CSR behavior

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Abstract

This is the first study to empirically examine how terrorism affects corporate social responsibility (CSR). Their relationship is not intuitive. The theoretical literature on CSR suggests that societal vicissitudes increase CSR demand, but can also incentivize self-regarding behavior. Historical accounts of terrorist attacks and other disasters confirm that they have at times elicited altruism and selfishness from the private sector. To clarify this variation in the impact of terrorism on CSR, we propose and test a rationalist explanation of firm behavior on an original dataset collected from the United Nations Global Compact Initiative that covers the CSR investment of 12,851 companies from 103 countries between 2002 and 2014. Across model specifications, evidence abounds for our thesis that companies condition CSR giving on the apparent severity of the terrorism threat to their organizational survival. Companies evidently behave selfishly even with charity.

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If I am not for myself, who will be for me?
If I am not for others, what am I?
And if not now, when? – Hillel, 1:14

INTRODUCTION

There is substantial variation in the extent to which companies engage in corporate social responsibility (CSR). Numerous studies have tried to discern the determinants of CSR, but no consensus has emerged (Campbell, 2007; Carroll & Shabana, 2010; Dau, Moore, & Soto, 2016; Esrock & Leichty, 1998). Indeed, there has been a broader tendency of researchers to neglect the role of businesses in post-disaster community recovery (Chamlee-Wright & Storr, 2008). This research lacuna is particularly problematic because a common goal of terrorism is to destabilize the institutional structure of a country, leading to a loss of confidence in the government to protect its citizens and way of life (Crenshaw, 1983; Dau, Moore, & Abrahms, 2018). After a terrorist attack, CSR may provide a complement, or in some cases a substitute,



for government spending (El Ghouli, Guedhami & Kim, 2017; Smith, 2003). In offsetting the burden on the government, CSR is thus a potentially critical, underappreciated part of the counterterrorism solution (McWilliams & Siegel, 2001; Visser, 2008).

This paper presents the first empirical study on the impact of terrorism on CSR. Examining the relationship between terrorism and CSR is timely for several reasons. First, terrorism has been increasing around the world, unlike other types of violence (Barash & Webel, 2017; Frey, Luechinger, & Stutzer, 2007; Pinker, 2011; Sinai, 2016). According to one estimate, terrorist fatalities soared nine-fold between 2000 and 2015 (Global Terrorism Index, 2015). Although terrorism remains disproportionately concentrated in war-torn countries (e.g., Afghanistan, Iraq, Syria), the upward trend is a global phenomenon with lethal attacks becoming more geographically dispersed (ABC News, 2017; Hanrahan & Wang, 2017). Second, terrorism is a growing concern for businesses. The word “terrorism” is mentioned in most Fortune 500 annual reports (Czinkota, Knight, & Liesch, 2010). According to PricewaterhouseCoopers, 41% of the 1293 CEOs surveyed said they are “extremely concerned” about terrorism (Desk, 2018). Executives believe that business targets are attractive to terrorists and that financial risks will continue to rise (Karolyi & Martel, 2010). Spectacular terrorist attacks unquestionably risk crippling business functions. After the September 11, 2001 attacks, the Ford Motor Company temporarily closed five U.S. auto plants due to international supply chain interruptions (Siekman, 2003). Even smaller terrorist incidents are associated with reduced foreign direct investment and per-capita gross domestic product (Blomberg & Hess, 2006; Lutz & Lutz, 2006; Abadie & Gardeazabal, 2003). Third, a wide variety of industries regard CSR as an important business function (Jenkins & Yakovleva, 2006; Gray, Owen, & Adams, 1996). Samuelson noted as early as 1971, “A large corporation these days not only may engage in social responsibility, it had damn well better try to do so” (24). For this reason, over 80% of firms practice CSR in some capacity (Esrock & Leichty, 2000) and that percentage appears to be rising (Du, Bhattacharya, & Sen 2010).

Understanding the relationship between terrorism and CSR is not only important for both strategic management and societal resilience, but also theoretically interesting. The theoretical literature on CSR suggests that societal vicissitudes increase CSR demand while also incentivizing self-regarding behavior. Historical accounts of terrorist attacks and other disasters add to the confusion by

highlighting how they have at times elicited altruism or selfishness from the private sector. This study brings order to this understudied question of terrorism’s effect on CSR.

Our analysis proceeds in five main sections. The first section presents historical examples of companies responding to terrorism and other societal traumas with altruistic and selfish behaviors. This section highlights that the relationship between terrorism and CSR is not intuitive. The second section explores the theoretical literature on CSR. This body of work consistently conceives of companies as rational actors, but offers inconsistent predictions about the impact of terrorism on corporate giving. Together, these two sections underscore the need for a new framework to understand the effect of terrorism on CSR engagement. The third section posits a parsimonious explanation to account for variation in the effect of terrorism on CSR and then develops a set of hypotheses to test it. The fourth section describes our methodology for making this assessment and interprets the results. The main take-away is that companies condition CSR giving on the apparent severity of the terrorism threat to their organizational survival. Specifically, companies increase CSR when community and government targets are struck, but decrease CSR when other businesses are the target. Smaller companies, which are less capable of withstanding disasters, become particularly stingy when terrorists are perceived as targeting businesses. Companies thus behave selfishly even with charity. The fifth section explores the research and pragmatic contributions for strategic management, international security, and societal resilience.

FIRM-DISASTER RESPONSES: A NEED FOR CLARITY

Historical accounts of disasters paint a mixed picture of the private sector’s response. On one hand, anecdotal evidence abounds of disasters spurring altruism. Many businesses publicly responded to the September 11, 2001 terrorist attacks with an outpouring of CSR, particularly in the realm of philanthropy. The multinational automobile manufacturer Nissan released the following statement in the wake of the attacks: “All of us at Nissan are deeply affected by the tragic events of September 11, 2001...On behalf of Nissan employees, affiliates, and dealers around the world, Nissan has donated over \$1 million to the American Red Cross in Washington, DC, and the Twin Towers Fund” (Snider, Hill, & Martin, 2003: 184).



American Express also reacted charitably to the attacks, as the board highlighted: “Immediately following September 11, we created the American Express World Trade Center Disaster Relief Fund, which contributed \$5 million to help the community respond to the disaster and to assist those most affected by the tragedy. For downtown merchants, company staff went door-to-door offering help to get merchant systems up and operating following 9/11 and ran advertising campaigns encouraging patrons and visitors to come back downtown” (Kotler & Lee, 2008: 81). To help the city rebound, several banks offered short-term low-interest loans to businesses in lower Manhattan (Enders & Sandler, 2011: 297). In a survey of CEOs, 36% said their company became more conscious of CSR following the September 11 attacks (Jericho Communications, 2002).

The Paris attacks that killed 130 in a series of Islamic State-inspired shootings and bombings on November 13, 2015, also elicited altruism towards the local population. In the immediate aftermath, Verizon lifted service fees for those in the city; T-Mobile made calls from America to France free for customers; Sprint and its subsidiaries Boost and Virgin Mobile waived international long distance, SMS, and roaming charges to France; and Google Hangouts dropped their fees for phone calls to France (Monllos, 2015). The home-renting company, Airbnb, urged hosts to offer free housing for victims and anyone stranded by delays. “If you are able, we hope you will strongly consider helping those who are in need by making your listing available at little or no cost,” Airbnb wrote in an e-mail to users. The company also created a site for urgent Paris accommodations where people could request or offer lodging and enabled a feature for hosts to extend a user’s stay free of charge (Canal, 2015). Amazon displayed on its website the French flag with the word “Solidarité” reflecting a similar post-attack sentiment (Overmeyer, 2015).

Smaller terrorist attacks have also elicited business outreach to both its employees and the local community. In response to the August 17, 2017, Islamic State-inspired lone-wolf vehicular attack on La Rambla in Barcelona that killed 13 people, Google CEO Sundar Pichai Tweeted: “Specific to Barcelona, our security team has helped several Googlers on the ground get to safety, and everyone we’ve heard from so far is safe.” The executive also noted that the company activated an SOS alert for those in the city, with news, a map, and local updates from the police. Cabify, the on-demand

Madrid-based ride hailing service, offered free rides to passengers in Barcelona throughout Thursday. “If you’re in Barcelona and you need to move, Cabify will be free today using the promotional code UNIDOS1708,” the company tweeted (Henry, 2017). The May 22, 2017, suicide attack that killed 22 at the Manchester Arena also spurred socially responsible behavior, particularly from the American singer Ariana Grande performing at the concert. After the attack, Grande hosted a benefit concert in the city that raised \$13 million for the We Love Manchester Emergency Fund (BBC News, 2017). Even operationally unsuccessful terrorist attacks that failed to kill anyone have invoked socially responsible behavior. When a crude bucket-bomb exploded on a district line train at the Parsons Green Underground station in London on September 15, 2017, local businesses offered free tea and biscuits. The Chelsea and Fulham Dentist also advertised to locals access to “plug sockets if they need to charge their phone or make a call” (Molloy, 2017). Such reactions do not appear to be culturally contingent; an ice-cream parlor in Baghdad, for example, offered free scoops a week after an Islamic State terrorist planted a bomb outside the store in May 2017, killing 16 (Globe and Mail, 2017).

Yet anecdotal evidence also exists of terrorism and other disasters reducing CSR and even inducing predation. In an interview with *Forbes* online magazine, the founder of a consultancy company for entrepreneurs and executives said they “now are much more risk-averse relative to those I worked with pre-9/11” (Nelson, 2011). He elaborated on the 10-year anniversary: “I see neither idealism nor passion in these people, just a CYA (“cover your ass”) attitude (Nelson, 2011). He remarked: “Entrepreneurs were once noteworthy for their need to promote social change. Now many spend a lot more time with their estate-planning attorneys” (Nelson, 2011). After the June 3, 2017, London Bridge attack, Uber was likewise outed in the news for surging prices in what was described as “absolutely disgusting” corporate behavior (Bishop, 2017). The *Boston Globe* revealed that many insurance companies responded to the 2013 Marathon bombings by declining payments on claims related to business interruption and commercial property damage (Ross & Luna, 2014). Other companies hawked their products and services in Tweets that exploited the tragedy. The foodie website, Epicurious, Tweeted “Boston, our hearts are with you,” only to include a recipe for breakfast quinoa



(Overmeyer, 2015). Similarly, entrepreneurs profited from a new line of Charlie Hebdo-themed merchandise after the cartoon headquarters was attacked in January 2015. In an article entitled “Unethical Behavior: Making Money Around Terrorist Attacks,” the journalist writes: “Why are people trying to make profit off the event? Greed. There is only word to explain this and it’s greed” (Schwab, 2015). Although stories of post-attack altruism outnumber ones of exploitation, this discrepancy may be due to a selection issue in which the former are simply publicized more than the latter to honor the victims and help society rebound.

Indeed, there are countless cases of natural disasters exploited for corporate and personal gain. In August 2011, a New York City gas station increased its price from \$3.89 a gallon to \$4.79 days after Hurricane Irene hit (NBC-New York, 2012). A Mobil gas station in Queens received complaints for price-gouging when Hurricane Sandy struck the following year (CBS-New York, 2012). The technology retail chain, Best Buy, was caught exploiting Hurricane Harvey in August 2017. It issued an apology for price-gouging after photos were posted on social media showing one of their stores in Houston selling cases of water for \$42. The Attorney General said his office had received numerous complaints of hotels jacking up prices six to seven times their normal rate (Lanktree, 2017), and after Hurricane Maria swept through Puerto Rico in October 2017, the Montana-based energy company, Whitefish Energy, bilked the Puerto Rico Electric Power Authority out of millions of dollars by charging exorbitant prices for shoddy reconstruction jobs throughout the island (Cheney & McMillan, 1990; Morsing & Schultz, 2006). In sum, the historical record is replete with cases of both altruism and exploitation in the face of terrorism and other societal crises. The relationship between the societal trauma and response is clearly complex, demanding further investigation.

RATIONALIST THEORIES OF CSR: INDETERMINATE PREDICTIONS

The theoretical literature on CSR assumes that firms base their decisions on rational cost–benefit calculations, but yields indeterminate, even conflicting predictions about the response to terrorist attacks and other societal traumas. For starters, how much CSR helps firms remains a matter of dispute. It is widely assumed that companies engage in CSR for

the commercial benefits (Sachs, Maurer, Rühli, & Hoffmann, 2006), but empirical evidence is lacking that socially responsible behavior boosts financial performance (Ullmann, 1985; Wood & Jones, 1994). Prior studies have found no relationship (Van Fleet, McWilliams, & Siegel, 2000), a positive relationship (Waddock & Graves, 1997), even a negative relationship (Wright & Ferris, 1997).

Some scholarship implies that firms increase CSR due to heightened societal demands after an attack and the concomitant reputational benefits in assisting recovery (Barnard, 2019; Van Zanten & Van Tulder, 2018). A study in the *Journal of Business Ethics* defines CSR as “The obligation of the firm to use its resources in ways to benefit society” (Van der Wiele, Kok, McKenna, & Brown, 2001: 287). Wilson (2008) prescribes for firms to redouble CSR investment during crises to address societal needs. Dacy and Kunreuther explain that crises can encourage firms to become more charitable by creating “short-run structural changes in individual utility functions” toward more “community feeling” (1969: 65–66). Crises can elicit not only altruism in executives (Van der Wiele et al., 2001) but also CSR opportunities for them to exploit. De Alessi theorizes that by lowering the welfare of victims, disasters enable donors to obtain more utility from any given gift, reducing the cost of charity (De Alessi, 1967). Companies engage in CSR to differentiate themselves from competitors, so what better time than during crises when demand and thus reward for assistance is greater (Du et al., 2010; Morsing & Schultz, 2006)? Olson and Zeckhauser present an alliance hypothesis arguing that continuing societal function is a collective good. Thus, disasters confer incentives to even selfish benefactors by increasing the reciprocal benefits of actors in the alliance (Hirshleifer, 1967).

By contrast, other theoretical work on CSR also suggests that terrorism and other financial risks may reduce corporate charity. Some scholars emphasize that firms have no obligations to the community even when demand for assistance rises. Milton Friedman famously claimed that the sole responsibility of a firm is to legally pursue profits for its shareholders. As he put it, “There is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud” (Friedman, 1970: 17). The use of organizational



resources for the greater good risks compounding societal problems by compelling firms to reduce the workforce, pay it less, and limit the quality of products and services to the community (Pinkston & Carroll, 1996). Beyond the risks to society under adversity, CSR is arguably irrational or at least ill-advised for firms to pursue when their own financial future is uncertain. As such, firms are expected to “become more conservative” and “choose not to engage in CSR projects” in times of financial crises and perceived threat (Cheney & McMillan, 1990). These firms face an inherent dilemma as terrorist attacks increase societal need while also decreasing the incentive for firms to invest in CSR projects. Karaibrahimoglu notes, “The dilemma is that while the financial crisis demands more CSR projects, organizations are less willing to engage in such projects in these times” (2010: 98). Njoroge likewise predicts that financial risks will result in postponing or even canceling CSR projects (2009). Other research implies a more complex, curvilinear relationship between terrorism and CSR. Hirshleifer, for example, posits that crises will elicit CSR behavior, but the incentive declines as prospects rise of society becoming overpowered by the disaster, resulting in more narrowly self-interested corporate behavior (Hirshleifer, 1967).

In sum, historical accounts of disasters and theoretical work on CSR are inconclusive with respect to how businesses respond to terrorism. Below, we propose and then test a rationalist explanation to elucidate the relationship between terrorism and firm-level CSR engagement.

HOW DOES TERRORISM AFFECT CSR BEHAVIOR?

In accordance with the theoretical literature on CSR, we assume that executives act rationally in response to terrorist attacks. Executives are pulled in opposite directions in the face of terrorism based on reasonable expectations about the costs and benefits to the firm.

On one hand, executives generally want to help society rebound for a combination of moral and pragmatic incentives. As mentioned, crises create not only empathy (Dacy & Kunreuther, 1969; Van der Wiele et al., 2001), but also opportunities for even narrowly selfish executives (Hirshleifer, 1967) by reducing the cost of charity (De Alessi, 1967) and enabling companies to differentiate themselves from competitors (Du et al., 2010). On the other

hand, numerous theoretical works also presume that executives will prioritize the preservation of their company when confronted with adversity (Abadie & Gardeazabal, 2003; Collier, 1999; Enders & Sandler, 2011).

Combining these twin impulses into a single framework, we test whether executives condition CSR on the perceived threat of terrorism to the firm. Our findings reveal that executives are inclined towards CSR engagement after an attack but become stingier as the apparent terrorism risk to the firm’s survival mounts. This causal story is rooted not only in prior theoretical explorations of CSR giving, but in fundamental insights on rationality from decision-making theory in economics, which anticipates executives maximizing firm prospects based on available information (Simon, 1955). Below, we offer a set of testable hypotheses to empirically examine this causal story.

Intensity of Attacks and CSR

Despite the popular image of companies extending themselves after a terrorist attack to help society rebound, they have strong incentives to act conservatively when confronted with financial risk. As Friedman and others suggest, firms are under no obligation to engage in CSR, particularly when doing so threatens profits (Friedman, 1970: 17). Unsurprisingly, then, studies have found that Fortune 500 countries tend to reduce the number of CSR projects and investments in times of financial adversity (Karaibrahimoglu, 2010: 382).

Research on terrorism demonstrates that the financial risk depends on the rate of attacks. Terrorist attack frequency is an important risk factor for businesses based in the target country because the national economy is more likely to suffer when violence is protracted (Abadie & Gardeazabal, 2003; Collier, 1999; Enders & Sandler, 2011). The greater the number of attacks, the harder it is for companies in that country to prosper and even survive (Collier, 2003). As terrorist attack intensity increases, so too does risk and thus fear from the firm perspective. As such, we expect CSR engagement to decrease as the number of attacks in the country increases, leading to our first hypothesis:

Hypothesis 1: CSR engagement is negatively related to the number of terrorist attacks in a country.

The Influence of Target Type on CSR

Not all attacks present equal risk to companies, however. Terrorist groups exhibit wide variation in their targeting decisions (Abrahms, 2006; Abrahms & Potter, 2015; Brandt & Sandler, 2010). Some attacks directly target businesses. For instance, an al-Qaeda affiliated group struck three hotels in Amman, Jordan, on November 9, 2005 that had catered to foreigners, battering the tourism industry (Fattah & Slackman, 2005). By contrast, other attacks are directed against government targets, such as when a Hezbollah suicide operative drove his van packed with explosives into a U.S. Marine barracks in Beirut on October 23, 1983, and sometimes terrorists attack community targets that are neither business nor government, such as public schools, intersections, and beaches.

Post-attack testimonies of executives affirm that they are particularly concerned with businesses getting struck compared to other types of targets (Burke, 2016). Such attacks are not only a direct threat to the economy, but communicate future pain to businesses. The conflict literature emphasizes that terrorism is a communication strategy (Abrahms, 2013; Weimann, 1983). When businesses are targeted by terrorism, it signals that other ones are also at risk of getting struck. As a result, increased attacks against business targets heighten the sense of risk and fear for firms, incentivizing self-preservation over social responsibility.

By contrast, attacks on government and community targets are less threatening to the direct survival of the firm and may therefore invite more post-attack socially responsible behavior. Indeed, attacks against government and community targets present opportunities for businesses to reap the benefits of CSR with limited costs. When businesses are not the target, firms may exploit the societal trauma after an attack to provide charity at a lower cost (De Alessi, 1967) and differentiate themselves from rivals (Du et al., 2010), while helping to guarantee the collective good of a viable society. Such logic accords with Douty's intuition that crises are mitigated in society by "informal (primary) insurance networks" (Douty, 1972: 586). During a crisis, people are initially preoccupied with their own safety and that of their kinship group, which is comprised of family members, friends, and close associates. For firms, this equates to financial and organizational safety. Once safety is ensured, individuals (or in this case firms)

become more concerned about the larger community and distribute remaining stock of "necessity goods" to help victims survive (Douty, 1972). When businesses are not the direct targets, they may therefore offer the most institutional support for policy-makers, communities, and governments. We would thus expect the target of the terrorist act to impact CSR engagement, leading to the next three hypotheses:

Hypothesis 2: CSR engagement is negatively related to the number of terrorist attacks against businesses in a country.

Hypothesis 3: CSR engagement is positively related to the number of terrorist attacks against community targets in a country.

Hypothesis 4: CSR engagement is positively related to the number of terrorist attacks against government targets in a country.

The Impact of Firm Size

Whereas the conflict literature in political science emphasizes the variation in terrorist target selection (Abrahms & Conrad, 2017), organizational ecologists within sociology underscore how the properties of firms themselves affect their resilience to exogenous shocks (Wesley, Dau, & Roth, 2019). Certain types of firms are more vulnerable to collapse than others. As the adage goes, there is power in numbers. The so-called "liability of smallness" is based on the well-established empirical finding across industries that smaller firms have higher death rates (Freeman, Carroll, & Hannan, 1983; Singh & Lumsden, 1990; Aldrich, 1999; Hutchinson, Hutchinson, & Newcomer, 1938; Reynolds & White, 1997). Smaller firms lack resilience because they have less material and human resources. For this reason, smaller firms may be more likely to prioritize their own organizational survival over civic aims that do not directly benefit them in the short term (Hager, Pollak, & Rooney, 2001; Hochban, 1981). Conversely, larger firms are presumably better positioned to provide critical support and aid to communities struck by terrorism, easing the post-attack burden on governments. Due to the liability of smallness, we expect the impact of attacks on CSR to be mediated by the number of employees in a company, yielding four conditional hypotheses:

H5: CSR engagement is negatively related to the number of terrorist attacks in a country, but the effect is significantly smaller in larger companies.



H6: CSR engagement is negatively related to the number of terrorist attacks against businesses in a country, but the effect is significantly smaller in larger companies.

H7: CSR engagement is positively related to the number of terrorist attacks against community targets in a country and the effect is significantly greater in larger companies.

H8: CSR engagement is positively related to the number of terrorist attacks against government targets in a country and the effect is significantly greater in larger companies.

These theory-informed hypotheses spring from our priors that executives tend to have competing impulses in the face of terrorism. Although most executives presumably want to help society recover for expedient reasons if not moral ones, they must also attend to the preservation of their own company as apparent risks to it mount (Cheney & McMillan, 1990; Dacy & Kunreuther, 1969; Morsing & Schultz, 2006; Du et al., 2010). By making this incentive structure explicit, we can begin evaluating whether executives indeed act strategically by conditioning CSR investment on reasonable cost–benefit analysis. Only through an understanding of the factors that motivate firm-level CSR investment decisions can policy-makers construct more efficient strategies aimed at bolstering post-attack resilience. The next section describes our research design and then interprets the results.

METHODOLOGY: TESTING THE IMPACT OF TERRORISM ON CSR

Data Sample and Sources

Measuring corporate social responsibility has been hampered by the lack of agreement over the definition of the term. Jackson and Hawker conclude in their meta-analysis of CSR at the Communication Directors Forum, “We have looked for a definition and basically there isn’t one” (2001). As Dahlsrud points out, however, “This is not quite true; the problem is rather that there is an abundance of definitions” (2008: 1). McWilliams and Siegel, for example, define CSR as “actions that appear to further some social good beyond the interests of the firm and that which is required by law” (2001: 117–127). For Karaibrahimoglu, CSR refers to “Any action taken for society as a whole or for a particular party within society” (2010: 382). In a seminal explication of CSR, Carroll (1999)

identified four components: economic, legal, ethical, and discretionary. Economically, businesses have a responsibility to try to make a profit. Legally, businesses have a duty to follow the rule of law. Ethically, businesses must respect the rights of others. The discretionary component of CSR focuses on philanthropic activities (Carroll, 1999). When it comes to CSR, philanthropic activities are interpreted broadly. Hennigfeld, Pohl, and Tolhurst (2006) say that companies are obliged to try to improve the quality of life for employees, local communities, and society in general. Snider, Hill, and Martin (2003) identify slightly different philanthropic constituencies – the local community, nation states in which firms operate, and the world more broadly. At the local level, organizations participate in community-based activities that support the places where employees work and live. With regard to particular countries, companies support national interests from culture to sports to disaster relief. Worldwide concerns are more universal and address social welfare as advocated by the United Nations (UN).

To test our hypotheses, we construct a unique time-series panel dataset to investigate the impact of terrorism on CSR. Our measurement of CSR is based on standards prescribed in the United Nations Global Compact Initiative (UNGCI). The UNGCI is the world’s largest CSR initiative with detailed information on the corporate behavior for thousands of firms around the globe in terms of their corruption; environmental and labor practices locally, nationally, internationally; and human rights adherence more generally (UNGCI, 2014). We then paired this CSR data with the universe of known terrorist attacks from the Global Terrorism Database (GTD). With over 170,000 terrorist observations from the advent of modern international terrorism in 1970 until 2016, GTD is the most comprehensive terrorism events dataset in the world (LaFree, 2010). Maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism at the University of Maryland, this dataset supplies information on the frequency of attacks, their location, and the target among other variables. The data show that 103 countries have experienced at least one terrorist attack since 1970. We include all 103 countries in our sample to ensure the most comprehensive sample. We supplement these measures with a suite of country-level control variables from the World Bank Development (WBDI) and Governance Indicators (WBGI) datasets. By combining these



datasets, we perform the first rigorous assessment of how terrorism affects CSR as defined by the United Nations. Our final sample includes 125,706 firm-level observations across 12,851 firms from 11 industries and 103 countries over 12 years.

Dependent Variable

We extracted from hundreds of UNGCI reports two measures of CSR engagement for our dependent variable: CSR signaling. The first measure, used in the main analyses, is *Global Compact Member*, a dichotomous variable that indicates whether a firm is as a member of the UNGCI in good standing in a given year. The second measure, used in the robustness analyses, is *Global Compact Level*, which captures the degree of CSR commitment that a firm upholds each year on a four-tiered rating scale according to membership requirements. The UNGCI criteria are multifaceted; firms are evaluated yearly on their adherence to human rights, quality of environmental and labor practices, avoidance of corruption, and community investment (UNCG, 2014). Both measures also indicate whether a company was expelled from the initiative in a given year due to non-compliance with CSR expectations, as well as whether the firm rejoined the initiative in a later year. Over 5000 firms in the dataset were expelled for at least a 1-year period.

Independent Variables

We employ four independent variables collected from the GTD. The first is *terrorist attack intensity* which records the total number of terrorist incidents in a country in a given year. Although the intensity of attacks has an impact on the business environment, the target of the attack is another important proxy for capturing terrorism risk. The conflict literature emphasizes that terrorism is a communication strategy (Weimann, 1983). Executives attest that they are especially concerned with attacks against businesses because such violence signals to them that their own businesses are more likely to be attacked (Burke, 2016). To capture the perceived risk from the vantage of the executive, the second measure is the number of attacks on *business targets* in particular. These include terrorist acts against businesses, such as corporate offices, employees, or private citizens patronizing businesses at a restaurant, gas station, music store, bar, or café. The third measure is the number of attacks against *community targets* such as markets, commercial streets, pedestrian malls, as well as ceremonial

events like weddings or funerals. The fourth measure is the number of *government targets*, which includes attacks on officials, former officials, government buildings and vehicles, and government-sponsored institutions where the incident is expressly carried out to harm the government. To elucidate the differential effects of target type, we use continuous measures of attacks by target type highlighted within the GTD as our second, third, and fourth independent variables.

Moderating Variable

As noted, the “liability of smallness” suggests that smaller firms are less likely to survive (Freeman et al., 1983; Singh & Lumsden, 1990; Aldrich, 1999; Hutchinson et al., 1938; Reynolds & White, 1997) external shocks such as terrorism and thus to prioritize civic aims during financial uncertainty (Hager et al., 2001; Hochban, 1981). Thus, we use the moderating variable, *firm size*, since priors indicate that the size of a firm is likely to represent a third variable that influences the strength of the relationship between terrorism (both intensity and by type) and CSR signaling. To evaluate the continuous moderating effect of *firm size* on CSR, we use the number of employees per year according to the UNGCI reports.

Control Variables

To isolate the effects of these independent variables, we include an array of control variables identified in the theoretical literature on CSR as potential determinants. Specifically, we control for *industry*, using the 11-category Standard Industrial Classification, as some industries are presumed to approach CSR differently (Caves, 1980); we control for *economic development* with gross domestic product (GDP) per capita and *business cycle* with GDP growth because the national economy is likely to impact a firm’s decision to allocate funds to CSR signaling (Martin & Parker 1995); we control for *regulatory quality* using the measure developed by the World Bank because the strength of the formal institutional framework in a given country has been shown to impact its strategic choices through pressures to uphold and demonstrate social responsibility (McWilliams & Siegel, 2001). Additionally, we control for the *year* of analysis to account for temporal changes that are likely to impact the pressures firms experience related to CSR (Cameron & Trivedi, 2005) and for the *country* because different national contexts apply varying levels of normative and regulatory pressures relevant to CSR

**Table 1** Variables and measures

Variable name	Measure	Value	Source
Firm	Unique indicator of the firm	1 to 12,851	WBDI
Country	Categorical indicator of the country	1 to 103	WBDI
Region	Categorical indicator of the geographic region	1 to 7	WBDI
Year	Categorical indicator of the year of analysis	2002 to 2014	WBDI
Industry	Categorical indicator of the industry of a firm using the primary SIC classification code	1 to 11	UNGCI and SIC Classification Codes
CSR signaling	Dummy indicator for whether or not the firm is a member of the Global Compact Initiative	0 or 1	UNCGI
Terrorist attack intensity	Total number of successful terrorist attacks in a country per year	Continuous	GTD
Business targets	Total number of successful terrorist attacks targeting businesses in a country per year	Continuous	GTD
Community targets	Total number of successful terrorist attacks targeting community infrastructure or figures in a country per year	Continuous	GTD
Government targets	Total number of successful terrorist attacks targeting government infrastructure or figures in a country per year	Continuous	GTD
Firm size (moderating variable)	Indicator of the firm's number of employees	Continuous	UNGCI and SIC Classification Codes
Economic development	Gross domestic product in thousands of U.S. dollars divided by the total population	Positive	WBDI
Business cycle	Difference in gross domestic product for the year and the previous year divided by gross domestic product in the previous year	Continuous	WBDI
Regulatory quality	Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Estimate gives the country's score on the aggregate indicator	Continuous	WBGI
Fatalities (robustness measure)	Total number of individual deaths as a result of terrorist activities in a country per year	Continuous	GTD
Wounded (robustness measure)	Total number of individuals wounded as a result of terrorist activities in a country per year	Continuous	GTD
Global compact level (robustness measure)	Categorical indicator of the level of membership of a firm within the Global Compact Initiative	0 to 4	UNGCI and SIC Classification Codes
GNI per capita (robustness measure)	Gross national income per capita in thousands of U.S. dollars divided by the total population	Continuous	WBDI
GNI growth (robustness measure)	Difference in gross national income for the year and the previous year divided by gross national income in the previous year	Continuous	WBDI

strategy and behavior (McWilliams & Siegel, 2001). Table 1 provides a summary of the variables used in the main analyses and Table 2 presents the descriptive statistics.

Research Design

Our main models employ time-series logistic regression due to the dichotomous nature of the dependent variable (Baum, 2006; Zeger, Liang, & Albert, 1988). Given the panel structure of the data, this approach is also suited to account for unobserved heterogeneity between the independent variables

(Wooldridge, 2002). Following Frazier, Tix, and Barron (2004), we standardize the continuous independent variables and lag them by a year to reduce the potential influence of multicollinearity and endogeneity as well as to facilitate interpretation. Per convention, we use a 1-year lag period to account for potential reverse causality and to adequately examine the effect of the independent variables on the dependent variables over time. Standardizing the independent variables is appropriate for models that include interaction terms and independent variables that are potentially

**Table 2** Descriptive statistics and correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. CSR signaling	0.27	0.45								
2. Terrorist attack intensity	53.15	177.10	0.04							
3. Business targets	7.31	16.04	0.00	0.89						
4. Community targets	14.74	64.67	0.03	0.80	0.68					
5. Government targets	43.02	67.69	0.03	0.76	0.62	0.81				
6. Firm size	5,159.59	32038.26	0.10	-0.02	-0.03	-0.01	-0.03			
7. Economic development	22051.67	17526.09	0.08	-0.22	-0.21	-0.18	-0.14	0.05		
8. Business cycle	3.12	3.83	-0.10	0.18	0.17	0.18	0.14	0.00	-0.49	
9. Regulatory quality	0.67	0.81	-0.03	-0.30	-0.21	-0.28	-0.19	0.05	0.84	-0.48

Mean values and correlations are based on their respective unit measurements, as opposed to standardized values.

Correlations with an absolute value greater than or equal to 0.01 are significant at 0.05 level (two-tailed).

Descriptives for the 103 countries, seven regions, 11 sectors, and 12 years are not included for the sake of parsimony.

$n = 125,706$.

correlated (Frazier et al., 2004). Additionally, we constructed sequential models to ensure consistency in our findings and orthogonalized the independent variables to further reduce correlations and to avoid obtaining false positives or negatives (Wooldridge, 2002).¹

Test Results

On average, firms in our sample have 5160 employees, 7.3 firms are targeted per country per year, and the country's *economic development* (GDP per capita) is US\$22,051.67 per year. As noted, all 103 countries in our sample have experienced at least one terrorist attack. The average number of attacks per country per year is 53. The standard deviation is 177, confirming that the range of terrorist attacks across countries is highly varied. Outliers are addressed in the robustness tests. Other variables, such as firm size and economic development, also unsurprisingly yield high standard deviation values. Firm size has a high standard deviation since the United Nations' Global Compact Initiative includes firms of all sizes (e.g., small and medium-size enterprises to large Fortune 500 companies). The variance in economic development is due to the international coverage of our dataset. Economic development has a high standard deviation as our sample includes countries ranging from highly developed countries to lesser developed countries. Thus, there is a high level of variance in our sample across several variables related to both the firms and target countries. Such variation adds generalizability to our findings. The correlations between the variables are generally low except for the relationship between *economic development*, *business cycle*, and *regulatory quality*. Although these correlations are expected, we orthogonalize the variables

in our main models. Moreover, we test for multicollinearity using variance inflation factor (VIF) tests. The average VIF is 3.73, well below the recommended cutoff of 10 (Kutner, Nachtsheim, Neter, & Li, 2004). This indicates that multicollinearity is not an important issue impacting the results.

Tables 3 and 4 present the effects of terrorism on being a *Global Compact Member*, that is, on whether a firm is positively or negatively assessed as in good CSR standing according to the aforementioned UNGCI criteria. Model 1 presents the results of the control variables, highlighting the positive relationship of *firm size* on CSR engagement in accordance with the organizational ecology literature. As Table 3 reveals, this relationship is highly statistically significant across all models ($p < 0.001$), presumably because larger firms are more resilient. Results of the main independent variables indicate that terrorism significantly affects CSR. Overall, there is an inverse relationship between terrorism and CSR support. That is, terrorism tends to lower CSR for firms located in the target country. Model 2 provides empirical support for H1; *terrorist attack intensity* significantly reduces CSR behavior and the effect is substantial. For each additional terrorist attack in a given country, local firms reduce CSR by about 16.9%. This result contrasts with public relations campaigns staged by companies after terrorist attacks to appear altruistic, while according with our contention that companies condition CSR behavior on the apparent terrorism threat to themselves. This thesis is buttressed by the results of the target-specific variables. As anticipated in H2, Model 3 shows that attacks on *business targets* are significantly more likely to suppress CSR. That is, firms are even less likely to



Table 3 Results of the time series logistic regression models using main dependent variable

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	- 4.25 *** (1.12)	- 2.94 ** (1.30)	- 4.98 *** (1.13)	- 4.04 *** (1.12)	- 5.02 *** (1.14)	- 5.06 *** (1.15)
Economic development	- 0.18 *** (0.04)	0.19 *** (0.06)	- 0.12 ** (0.04)	- 0.09 * (0.04)	- 0.08 * (0.04)	0.10 * (0.05)
Business cycle	- 0.07 *** (0.01)	- 0.10 *** (0.01)	- 0.06 *** (0.01)	- 0.07 *** (0.01)	- 0.09 *** (0.01)	- 0.08 *** (0.01)
Regulatory quality	0.12 *** (0.02)	0.23 *** (0.02)	0.01 (0.02)	0.16 *** (0.02)	0.18 *** (0.02)	0.13 *** (0.02)
Country control	Included	Included	Included	Included	Included	Included
Year control	Included	Included	Included	Included	Included	Included
Industry control	Included	Included	Included	Included	Included	Included
Firm size	0.34 *** (0.02)	0.36 *** (0.02)	0.34 *** (0.02)	0.34 *** (0.02)	0.32 *** (0.01)	0.35 *** (0.02)
Terrorist attack intensity		- 0.17 *** (0.02)				
Business targets			- 0.19 *** (0.01)			- 0.18 *** (0.01)
Community targets				0.08 *** (0.01)		0.11 *** (0.01)
Government targets					0.18 *** (0.01)	0.12 *** (0.01)
Wald Chi-square	15064.85***	15082.25***	15242.63***	15180.08***	15157.70***	15221.19***
Log likelihood	- 61356.41	- 61316.64	- 61208.11	- 61333.03	- 61253.06	- 61116.16
Firms	12,851	12,851	12,851	12,851	12,851	12,851
Observations (n)	125,706	125,706	125,706	125,706	125,706	125,706

Indicators for each country (103), industry (11), and year (12) are included in the models, but their coefficients are not reported for the sake of brevity. *p < 0.05; **p < 0.01; ***p < 0.001.

engage in CSR after other businesses have been struck. When countries experience one standard deviation unit increase in terrorist strikes against businesses in a year, firms from that country are on average 19% less likely to engage in CSR in the following year. By contrast, attacks against non-business targets have the opposite CSR effect. Models 4 and 5 offer support for H3 and H4 that attacks on community and government targets, respectively, significantly boost CSR engagement presumably because they do not convey a commensurate threat to the firm. On average, terrorists target communities 14.7 times in a country in a given year and governments 43.02 times (see Table 2). The odds of a positive CSR assessment rise by 8% when countries experience an additional terrorist attack aimed at a *community target* and by 18% for a *government target*. Model 6 reveals that these results remain essentially unchanged when the various targeting variables are included in the same regression. Together, these results strongly suggest that firms deploy CSR strategically. Firms become more socially responsible after an attack but only when their survival as an organization seems less threatened based on the targets of the violence.

Table 4 bolsters our thesis by revealing the moderating effects of *firm size* on CSR. The coefficients of the interaction terms are consistently positive and highly statistically significant, indicating that the negative impact of terrorist attack intensity and target selection is lower in larger companies. Model 7 offers support for H5; *terrorist attack intensity* is negatively related to CSR-engagement and the impact is significantly smaller in larger companies. Because larger firms are more resilient to terrorism, they are less likely to turn inward following such attacks. Model 8 supports H6; terrorist attacks against *business targets* are negatively related to CSR engagement and the impact is significantly smaller in larger companies. Models 9 and 10 support H7 and H8; unlike with *business targets*, terrorist attacks against *community* and *government targets* are positively related to CSR and the impact is significantly greater in larger companies. Model 11, which includes in the same regression all of the targeting variables and their interactions with *firm size*, bolsters the evidence that companies condition CSR on the perceived terrorism threat to themselves. Larger, more resilient companies are again significantly less likely to curb CSR when attacks are either protracted or against other business targets, while significantly more likely to act



Table 4 Results of the time series logistic regression models using main dependent variables

Variables	Model 7			Model 8			Model 9			Model 10			Model 11		
Intercept	- 2.50	*	(1.13)	- 4.95	***	(1.13)	- 4.01	***	(1.12)	- 5.10	***	(1.15)	- 5.10	***	(1.12)
Economic development	0.34	***	(0.06)	- 0.12	***	(0.01)	- 0.11	**	(0.04)	- 0.09	*	(0.04)	0.09	*	(0.05)
Business cycle	- 0.12	***	(0.01)	- 0.05	***	(0.01)	- 0.07	***	(0.01)	- 0.09	***	(0.01)	- 0.08	***	(0.01)
Regulatory quality	0.31	***	(0.02)	0.01		(0.02)	0.15	***	(0.02)	0.18	***	(0.02)	0.12	***	(0.02)
Country control	Included			Included			Included			Included			Included		
Year control	Included			Included			Included			Included			Included		
Industry control	Included			Included			Included			Included			Included		
Firm size	0.47	***	(0.02)	0.35	***	(0.02)	0.34	***	(0.01)	0.35	***	(0.01)	0.38	***	(0.02)
Terrorist attack intensity	- 0.27	***	(0.02)												
Business targets				- 0.19	***	(0.11)							- 0.19	***	(0.01)
Community targets							0.09	***	(0.01)				0.12	***	(0.01)
Government targets										0.18	***	(0.01)	0.12	***	(0.01)
Terrorist attack Intensity × firm size	0.54	***	(0.04)												
Business targets × firm size				0.05	**	(0.01)							0.05	**	(0.02)
Community targets × firm size							0.15	***	(0.04)				0.03		(0.03)
Government targets × firm size										0.05	**	(0.02)	0.06	***	(0.02)
Wald Chi-square	15077.28***			15169.87***			15070.77***			15157.15***			15210.04***		
Log likelihood	- 61207.05			- 61203.93			- 61322.99			- 61248.83			- 61104.75		
Firms	12,851			12,851			12,851			12,851			12,851		
Observations (n)	125,706			125,706			125,706			125,706			125,706		

Indicators for each country (103), industry (11), and year (12) are included in the models, but their coefficients are not reported for the sake of brevity. **p* < 0.05; ***p* < 0.01; ****p* < 0.001.

socially responsibly after government targets are struck.² The practical effect of *firm size* is non-negligible; when firm size increases by one standard deviation, the average firm is 54% less likely to reduce their CSR signaling.

Robustness Test Section

To challenge the valence of our findings, we subjected them to numerous robustness checks. The theory is re-tested not only with an alternate dependent variable, but also with alternate methods, independent variables, and controls.³

Alternate Dependent Variable

Tables 5 and 6 present the effect of the terrorism threat on our alternate dependent variable.⁴ Unlike the dichotomous measure of *Global Compact*

Member, Global Compact Level captures the extent of CSR commitment on a four-tiered rating scale. Since this is an ordinal variable that indicates the level of adherence to the UNCOP requirements (i.e., 0 = Non-member, 1 = GC General Member, 2 = GC Learner, 3 = GC Active, 4 = GC Advanced), we use time series ordinal logistic regressions for these analyses. These tests supply additional evidence that companies condition CSR engagement on the apparent threat to themselves. With this alternate measure as well, CSR decreases as terrorist attacks in that country increase, especially when directed against other business targets. And as our framework predicts, CSR is higher in comparatively resilient firms with more employees especially when the target is not business. Across model



Table 5 Robustness test results of the time series ordinal logistic regression (alternate dependent variable)

Variables	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17
Intercept	6.64 *** (1.05)	3.66 *** (1.37)	4.74 *** (1.37)	3.92 *** (1.37)	4.74 *** (1.38)	5.13 *** (1.39)
Economic development	0.59 *** (0.04)	0.17 *** (0.06)	0.09 *** (0.06)	0.22 *** (0.06)	0.19 *** (0.06)	0.05 (0.06)
Business cycle	0.01 (0.01)	- 0.12 *** (0.02)	- 0.11 *** (0.02)	- 0.12 *** (0.02)	- 0.14 *** (0.02)	- 0.11 *** (0.02)
Regulatory quality	0.28 *** (0.05)	0.49 *** (0.06)	0.57 *** (0.06)	0.47 *** (0.06)	0.50 *** (0.06)	0.61 *** (0.06)
Country control	Included	Included	Included	Included	Included	Included
Year control	Included	Included	Included	Included	Included	Included
Industry control	Included	Included	Included	Included	Included	Included
Firm size	0.48 *** (0.02)	0.46 *** (0.02)	0.46 *** (0.02)	0.46 *** (0.02)	0.46 *** (0.02)	0.47 *** (0.02)
Terrorist attack intensity	- 0.09 *** (0.01)					
Business targets			- 0.19 *** (0.01)			- 0.21 *** (0.01)
Community targets				0.07 *** (0.01)		0.11 *** (0.01)
Government targets						0.06 *** (0.01)
Wald Chi-square	28525.04***	19626.84***	19785.85***	19611.87***	19663.66***	19859.97***
Log likelihood	- 128754.08	- 94151.76	- 9400.91	- 94159.89	- 94115.82	- 93913.87
Firms	13,006	13,006	13,006	13,006	13,006	13,006
Observations (n)	125,910	125,910	125,910	125,910	125,910	125,910

Indicators for each country (103), industry (11), and year (12) are included in the models, but their coefficients are not reported for the sake of brevity. *p < 0.05; **p < 0.01; ***p < 0.001.

specifications, evidence thus abounds of companies behaving strategically with respect to CSR activities.

Alternate Independent Variable

We also re-ran the models using an alternate measure for *terrorist attack intensity*. To probe our thesis of whether firms condition CSR on the severity of the terrorism threat to themselves, we substituted from the GTD database attack frequency for *terrorist attack casualties*. In accordance with our argument, we find that there are 3.6% fewer firms that engage in CSR when a country has suffered an additional terrorist victim in the previous year.

Alternate Controls

To test the effect of alternate control variables, we substitute GNI per capita for GDP per capita and GNI growth for GDP growth from the World Bank's Development Indicators dataset. For all of these tests, the average variance inflation factor (VIF) tests is 3.7, well below the recommended cutoff of 10 (Kutner, Nachtsheim, Neter, & Li, 2004), indicating that multicollinearity is not driving the results.

Alternate Methods

We also supplemented the time-series logistic regression models with two alternate methods: time-series probit models and mixed-effects logit regressions. The results of these tests provide consistent support for the hypotheses. In order to account for the potential of selection bias, we also employ a two-stage Heckman selection model (see Table 7). Within this model, we utilize *regulatory quality, business cycle, economic development, country, and year* as determinants of terrorist attacks. All of the initial findings were corroborated. Moreover, given the high potential for zeroes in the observations of the dependent variable due to its dichotomous nature, we also employed a count model. Specifically, we ran a time-series negative binomial regression, which is appropriate given the dichotomous nature of the primary dependent variable. Our initial results are upheld. We also ran additional lag structures to determine whether the effects were short term or continual. Specifically, we ran the analyses using two additional lag structures: 2-year lag and 3-year lag (see Table 7). The results of both additional lag structures remain consistent with the initial findings. Interestingly, this finding suggests that the effects are long term,



not just an immediate response to terrorist activity. As noted, some countries suffer substantially more terrorism than others. To account for these outliers, we identify the top four outlier countries (which account for roughly 25% of attacks) for each target type and for overall terrorist intensity and run each of the models without these respective four countries. The models yield consistent results, providing further support for our arguments.

Finally, we employed a mixed-methods research strategy by investigating whether media reports of in-sample firms responded to terrorism in accordance with our causal story. Combining quantitative and qualitative assessments in this way bolsters confidence in the findings (King, Keohane, & Verba, 1994). The reports provide fine-grained evidence in support of the large-analysis. For instance, the media reported that the CEO of Unilever, Paul Polman, nearly died in the November 2008 Mumbai attacks. He survived the shooting rampage only by hiding behind a door and then escaping through a window. According to Bloomberg news, “the event transformed him.” He declared that Unilever will become a “force for good.” Among the many post-attack changes, he directed employees to fan out across India and Africa to install toilets and implemented environmentally-friendly practices that reduced energy use per metric ton of production by almost a quarter (Buckley & Campbell, 2017). After attacks, other companies in our sample such as Bristol Myers-Squibb also supplied matching funds to aid recovery and medication to alleviate relief workers and victims (Evaluate, 2001). This apparent impulse to fill the post-attack demand for societal assistance was mitigated, however, when companies felt directly threatened by the violence. Take CEMEX, the Mexican multinational building materials company, which maintained substantial operations in Africa and the Middle East during the so-called Arab Spring. In response to the heightened political violence especially in Egypt, CEMEX warned it will have to raise prices and even pull out of the most desperate areas because “CEMEX’s operations in Egypt have not been immune from disruptions resulting from the turbulence” and “there can be no assurance that political turbulence in Egypt and other countries in Africa and the Middle East will abate in the near future,” which risks inflicting “a

material adverse effect on our operations” (CEMEX, 2010). Similarly, KLM airlines admitted that “additional terrorist attacks, even...the fear of such attacks” would hurt the airline business and force the company to raise prices and reduce services in order to recoup the costs (KLM Royal Dutch, 2003). Such customer-unfriendly measures are consistent with the post-attack reduction in CSR engagement as the apparent threat to the viability of the company grows.

CONTRIBUTIONS AND LIMITATIONS

To date, there has been no other systematic analysis of terrorism’s impact on CSR. This lacuna is unfortunate given the importance of both terrorism and CSR for business and public policy. Prior research has not only ignored this relationship, but invited confusion with competing implications. Historical accounts of terrorist attacks and other disasters feature sundry examples of both altruism and selfishness from the private sector, while the theoretical literature on CSR suggests that societal vicissitudes increase CSR demand while also incentivizing self-regarding behavior. This study brings order to this timely, understudied question of terrorism’s effect on CSR. Although preliminary, this paper supplies five main research contributions.

First, we hand-collected an original panel dataset of CSR engagement from hundreds of UNGCI reports and paired it with terrorist events data in the GTD to perform the first empirical assessment of the relationship between CSR and terrorism. Second, we advance a novel explanation to explain post-attack variation that accords with standard assumptions in the CSR, decision theory, and organizational ecology literatures. Third, we find robust evidence that executives are inclined to help society rebound from terrorism, but limit CSR engagement as the perceived risk to firm survival mounts. The practical implication is that companies will increase CSR after community and government targets are struck, especially when the firm is large and thus resilient. But companies will act more selfishly as the perceived risk to them grows. So, companies – particularly smaller ones – will reduce CSR when the violence is protracted and against businesses. Fourth, this paper adds to the

**Table 6** Robustness test results of the time series ordinal logistic regression (alternate dependent variable)

Variables	Model 18			Model 19			Model 20			Model 21			Model 22		
Intercept	3.63	***	(1.37)	6.66	***	(1.37)	5.61	***	(1.36)	6.70	***	(1.37)	6.70	***	(1.37)
Economic development	0.40	***	(0.06)	- 0.16	***	(0.04)	- 0.16	***	(0.04)	- 0.19	***	(0.04)	- 0.01		(0.04)
Business cycle	- 0.12	***	(0.01)	- 0.06	***	(0.01)	- 0.07	***	(0.01)	- 0.08	***	(0.01)	- 0.07	***	(0.01)
Regulatory quality	0.32	***	(0.02)	- 0.01		(0.02)	0.15	***	(0.02)	0.15	***	(0.02)	0.06	**	(0.02)
Country control	Included			Included			Included			Included			Included		
Year control	Included			Included			Included			Included			Included		
Industry control	Included			Included			Included			Included			Included		
Firm size	0.58	***	(0.02)	0.50	***	(0.02)	0.49	***	(0.02)	0.50	***	(0.01)	0.54	***	(0.02)
Terrorist attack intensity	- 0.30	***	(0.01)												
Business targets				- 0.19	***	(0.01)							- 0.21	***	(0.01)
Community targets							0.09	***	(0.01)				0.13	***	(0.01)
Government targets										0.13	***	(0.01)	0.04	**	(0.01)
Terrorist attack intensity × firm size	0.29	***	(0.03)												
Business targets × firm size				0.03	*	(0.01)							0.01		(0.02)
Community targets × firm size							0.09	***	(0.02)				0.06	*	(0.03)
Government targets × firm size										0.05	**	(0.02)	0.08	***	(0.02)
Wald Chi-square	19658.41***			19740.92***			19576.62***			19614.25***			19824.15***		
Log likelihood	- 94044.7			- 94034.52			- 94163.98			- 94131.19			- 93948.99		
Firms	13,006			13,006			13,006			13,006			13,006		
Observations (<i>n</i>)	125,910			125,910			125,910			125,910			125,910		

Indicators for each country (103), industry (11), and year (12) are included in the models, but their coefficients are not reported for the sake of brevity. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

literature on the effects of terrorism. Political scientists have extensively tested the effects of terrorism on militant group lifespans (Acosta, 2016; Phillips, 2014), government policies (Abrahms, 2012, 2018), public opinion (Getmansky & Zeitzoff, 2014; Hetherington & Nelson, 2003), and electoral outcomes (Berrebi & Klor 2008; Kibris, 2011). Now, there is a study on the CSR consequences as well. Finally, the analysis contributes to the growing research landscape around the subject

of resilience (Aldrich, 2012). Although governments may provide the first line of defense against terrorism, the private sector plays an underappreciated role in helping society to recover, particularly when executives are less preoccupied with the survival of their firm. This paper has practical implications for managers and policy-makers. For managers, the arguments and findings provide a deeper understanding of how CSR efforts are affected by the nature of the terrorism threat –

Table 7 Robustness test results of the Heckman analyses and 2- and 3-year lag structures

Variables	Heckman analysis			Two and 3-year lag structures		
	Heckman stage 2 results: terrorism intensity	Heckman stage 2 results: terrorism by target	Two-year lag: terrorism intensity	Two-year lag: terrorism by target	Three-year lag: terrorism intensity	Three-year lag: terrorism by target
Intercept	31.56 *** (1.94)	27.90 *** (1.98)	- 0.29 (1.30)	- 2.38 (1.30)	1.26 (1.38)	- 0.73 (1.37)
Economic development	1.32 *** (0.02)	1.11 *** (0.01)	0.86 *** (0.06)	0.56 *** (0.05)	1.14 *** (0.06)	0.68 *** (0.06)
Business cycle	0.17 *** (0.02)	0.09 *** (0.01)	- 0.06 *** (0.01)	- 0.02 (0.01)	- 0.05 *** (0.01)	0.01 (0.01)
Regulatory quality	- 0.13 *** (0.03)	- 0.25 *** (0.02)	0.29 *** (0.02)	0.16 *** (0.02)	0.24 *** (0.02)	0.06 * (0.02)
Country control	Included	Included	Included	Included	Included	Included
Year control	Included	Included	Included	Included	Included	Included
Industry control	Included	Included	Included	Included	Included	Included
Firm size	0.45 *** (0.02)	0.38 *** (0.02)	0.50 *** (0.02)	0.41 *** (0.02)	0.50 *** (0.02)	0.44 *** (0.02)
Terrorist attack intensity	- 0.23 *** (0.02)	- 0.15 *** (0.01)	- 0.33 *** (0.02)	- 0.08 *** (0.01)	- 0.39 *** (0.03)	- 0.09 *** (0.01)
Business targets		0.11 *** (0.01)		0.16 *** (0.01)		0.02 *** (0.02)
Community targets		0.12 *** (0.02)		0.16 *** (0.02)		0.09 *** (0.02)
Government targets						
Terrorist attack intensity × firm size	0.47 *** (0.04)		0.53 *** (0.06)		0.32 *** (0.06)	
Business targets × firm size		0.06 *** (0.02)		0.04 * (0.02)		0.06 *** (0.02)
Community targets × firm size		0.02 (0.03)		0.09 * (0.05)		0.11 * (0.06)
Government targets × firm size		0.055 ** (0.02)		0.09 *** (0.02)		0.08 *** (0.02)
Inverse Mills (Heckman only)	- 9.273 *** (0.43)	- 8.89 *** (0.44)				
Wald Chi-square	14730.76***	14830.52***	13299.60***	13348.36***	11088.79***	11109.71***
Log likelihood	- 60982.95	- 60904.36	- 59420.04	- 59444.26	- 56049.43	- 56104.23
Firms	12,851	12,851	12,527	12,527	12,518	12,518
Observations (n)	125,706	125,706	114,778	114,778	104,254	104,254

 Indicators for each country (103), industry (11), and year (12) are included in the models, but their coefficients are not reported for the sake of brevity.
 * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.



research that is increasingly demanded (Lundan, 2018). Policy-makers can better anticipate when businesses are most likely to assist them in helping societies to recover after an attack or when executives are inclined to turn inward.

But our study also invites a wide array of future research to re-test and expand the conclusions. Our firm-level data comes from UNGCI, which is structured by country-year. As such, we are unable to investigate the impact of specific terrorist attacks or their visibility. With more fine-grained data, future research will assess the discrete effects of each attack on CSR engagement. Our independent variables focus on the national level, which makes sense as terrorism is intended to change national policy by instilling fear throughout the nation (Richardson, 2007). Still, future research should assess the CSR effects of targeting certain regions of countries over others. We proxy the apparent risk to firms by the intensity of terrorist attacks in the country, their targets, and the resilience of the company as reflected in its size. Other proxies may also capture the apparent terrorism risk to companies, such as whether the attacks are committed by militant groups as opposed to so-called “lone-wolf” actors, whether the perpetrators employ suicide tactics, and whether the terrorists have state sponsorship – all of which are said to heighten terrorism risk (Abrahms, 2007; Asal & Rethemeyer, 2008; Byman, 2005; Pape, 2006). Conversely, additional firm-level properties may promote resilience, such as whether it is family-owned, networked, international, and benefits from high levels of social capital (Aldrich, 2012; Dau, Moore, Petrich, & Abrahms, 2019; Holling, 1973; Berkes, Folke, & Colding, 2000).⁵ Future research should also investigate the role of time. Due to the structure of our time-series data, we lagged our variables by 1 year to alleviate concerns of endogeneity. However, the conflict literature remains divided on the impacts of societal trauma with some scholars pointing to short lived experiences (Sweet, 1998) and others suggesting that change endures (Tatsuki & Hayashi, 2000). Thus, future research may build on our study

by utilizing more nuanced time-series data to facilitate assessments of the effects of CSR outlays.

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NOTES

¹See Appendix A for the full models used.

²We note in this model conventional levels of statistical significance drop out for *community targets*.

³We only present the results of the first of these robustness tests for the sake of parsimony. The others are available upon request.

⁴Sample sizes in Tables 3 and 4 are different from those in Tables 5 and 6 because the former are with a logistic regression using a dichotomous dependent variable, whereas the latter are with an ordinal logistic regression that required us to drop 204 observations.

⁵Additional attention should be paid to firm-level financial variables. We tested a few firm-level financial factors, such as whether the company was a member of the Fortune 500. Those results did not further elucidate the relationship between terrorism and CSR.

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APPENDIX A: FULL MODELS USED

$$\begin{aligned} \text{CSR Signaling}_{ijkt} = & \beta_0 + \beta_1 \text{Terrorism Intensity}_{kt-1} \\ & + \beta_2 \text{Terrorism Intensity}_{kt-1} \\ & \times \text{Firm Size}_{kt-1} \\ & + \beta_m \text{Control Variables}_{ijkt-1} + \varepsilon \end{aligned}$$

$$\begin{aligned} \text{CSR Signaling}_{ijkt} = & \beta_0 + \beta_3 \text{Business Targets}_{kt-1} \\ & + \beta_4 \text{Community Targets}_{ijkt-1} \\ & + \beta_5 \text{Government Targets}_{kt-1} \\ & + \beta_6 \text{Business Targets}_{kt-1} \\ & \times \text{Firm Size}_{kt-1} \\ & + \beta_7 \text{Community Targets}_{ijkt-1} \\ & \times \text{Firm Size}_{kt-1} \\ & + \beta_8 \text{Government Targets}_{kt-1} \\ & \times \text{Firm Size}_{kt-1} \\ & + \beta_m \text{Control Variables}_{ijkt-1} + \varepsilon \end{aligned}$$

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