

The relative value of firm and nonprofit experience: Tackling large-scale social issues across institutional contexts

Luis Ballesteros¹ | Aline Gatignon²

¹The George Washington University School of Business, George Washington University, Washington, DC

²The Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania

Correspondence

Luis Ballesteros, The George Washington University School of Business, George Washington University, Fung Hall, Suite 4022201 G Street, N.W., Washington, DC 20052.
Email: ballesteros@gwu.edu

Funding information

Wharton Risk Management and Decision Processes Center's Extreme Events project; Russell Ackoff Fellowship; UPenn Global Initiatives Research Program; Wharton Social Impact Initiative

Research Summary: Nonprofit organizations (NPOs) are often identified as a natural vehicle for the engagement of firms in large-scale social issues. We evaluate this argument by examining the conditions under which NPO experience is more valuable than firm experience in overcoming the key challenges associated with corporate disaster giving. Findings from a quasi-experiment across the 4,396 natural disasters worldwide between 2003 and 2015 demonstrate that firms could donate more by implementing the aid through NPOs (on their own) in countries with low (high) institutional development, especially where they lack (have) market operations. However, we also observe that firms more frequently than not opted into the allocation mode that yielded comparatively low aid, raising questions about incentive alignment and communication across the business and nonprofit sectors.

Managerial Summary: Firms are increasingly tackling social issues across the world. Nonprofit organizations (NPOs) are often identified as natural channels for facilitating such engagement, but we have no systematic evidence to confirm this. We tackle this question by outlining the conditions under which allocating company aid for disaster relief and recovery through NPOs results in greater donations than when the firms disburse its aid directly to victims. We analyze all major natural disasters that affected the world between 2003 and 2015 and observe that firms would have donated more through an NPO (directly) in countries with low (high) institutional development where they lacked (had) local operations. Yet, firms frequently chose the channel that yielded lower donations.

KEY WORDS

cross-sector partnerships, humanitarian aid, institutional development, nonmarket strategy, nonprofit organizations

1 | INTRODUCTION

In 2016, the United Nations (UN) noted that, over the past 20 years, the breadth of corporate involvement in social issues has expanded to include domains that were traditionally considered the purview of public or nonprofit organizations (NPOs) exclusively. Supplying clean water and sanitation, managing rural schools or telemedicine facilities, among other issues, are now seen as opportunities to draw on companies' "untapped potential" to respond "efficiently to [society's] urgent needs" (UNOCHA, 2016: 138). Harnessing that promise, however, requires a greater understanding of how firms can and do take on the unique challenges associated with tackling those needs.

Disaster response is one such area where firms' greater involvement has been seen as a potentially game-changing solution. Since 2014, the world has faced the largest gap ever between disaster costs and resources available for relief and recovery. That year, 38% of the UN's humanitarian appeals remained unmet; this number rose to over 50% in 2015 (High-Level Panel on Humanitarian Financing, 2016). This gap is expected to continue to grow due to urbanization, economic interdependencies, and climate change, while the real value of government and multilateral aid stagnates (Kousky, 2013). The UN Secretary-General's expert panel, appointed to find solutions to this gap, stressed the need to build on the "power of business" to bring "systemic change in humanitarian aid delivery, raise new money and use it more effectively" (High-Level Panel on Humanitarian Financing, 2016: 7 and 11). In theory, this should also be an appealing proposition for firms. Numerous studies have found that firms are likely to reap performance benefits when they donate to disaster response (Ballesteros, 2018; Crampton & Patten, 2008; Madsen & Rodgers, 2014; Muller & Kräussl, 2011; Patten, 2008) and that these benefits increase with the size of the donation (Crampton & Patten, 2008; Muller & Kräussl, 2011; Patten, 2008).

As for how to achieve this goal, the panel proposed that NPOs are *natural vehicles* for company engagement through models of "collaborative efficiency" (High-Level Panel on Humanitarian Financing, 2016: 7, 11). Thus, firms could increase the flow of funding to beneficiaries by allocating their donations through international humanitarian organizations with experience in the delivery of humanitarian aid (i.e., NPOs operating in more than one country with dedicated units or functions in disaster response).¹ Cases in point include GlaxoSmithKline donating medicines to the International Red Crescent after the 2010 floods in Pakistan and Bayer donating \$890,000 to the Japanese Red Cross following the 2011 earthquake and tsunami in Japan. The alternative to the NPO channel is a direct disbursement of donations by the firm, *without* going through an NPO. For instance, after the

¹Nonprofit organizations are defined as having an institutionalized form and being institutionally separate from government, self-governing, nonprofit distributing and involving some degree of voluntary participation (Salamon & Anheier, 1996). The NPOs we particularly focus on this study are emergency and relief organization, "a subgroup of the Social Services category (...) encompassing voluntary non-profit organizations that engage in disaster/emergency prevention and control as well as temporary shelters and refugee assistance" (Salamon & Anheier, 1992). Note that an NPO may also have other missions that it addresses in parallel and therefore could belong to multiple categories simultaneously.

2008 flood in Mexico, CEMEX sent its engineers with 600 bags of cement to build barricades and donated \$50,000 to community efforts or, in the aftermath of the 2010 earthquake and tsunami in Chile, Anglo American used its own equipment, managers, and contractors to clear debris and rebuild schools for 4,500 children in the affected area.

Hence, the UN's proposal raises two important questions. First, assuming that firms share the UN's objective of filling the gap for disaster financing, does the NPO channel *systematically* drive up company contributions compared to direct implementation? Different studies indicate that firms and NPOs have distinct types of experience affecting their relative capacity to respond to disasters across institutional contexts (London, Rondinelli, & O'Neill, 2005; Oetzel & Oh, 2014; Wassenhove, Tomasini, & Stapleton, 2008). NPOs are often well versed in emergency logistics and stakeholder dynamics, which may ease response in ways that firms cannot emulate (Holguín-Veras, Jaller, Van Wassenhove, Pérez, & Wachtendorf, 2012; Tomasini & Van Wassenhove, 2009). On the other hand, firms can often allocate resources more efficiently than NPOs because of less-stringent bureaucratic procedures, slacker resources, and the ability to rapidly repurpose their production lines or service centers (Ballesteros, Useem, & Wry, 2017; Wassenhove et al., 2008). Therefore, it is unclear under what conditions the NPO channel will increase company aid.

Second, although studies suggest that firms' strategic and social goals *can* be aligned when donating to disaster response, we lack systematic assessment of whether *in practice* firms choose the governance modes that lead to relatively large provision of social goods. That is, are firms channeling donations through NPOs (directly) in contexts where the relative value of NPO (firm) experience results in comparatively large aid? Attention to this question is in line with recent calls for work to understand when the strategic and social benefits of company engagement in large-scale social challenges overlap (Ballesteros, Wry, & Useem, 2018; George, Howard-Grenville, Joshi, & Tihanyi, 2016; Kaul & Luo, 2018), as research on the performance consequences of nonmarket strategy reaches maturity.

To address these two questions, which are instrumental to assess the role of firms in tackling the issue of disaster financing worldwide, we develop hypotheses on the mechanisms and conditions under which NPO experience drives larger company donations than firm experience. We bring together the literatures on corporate disaster response and cross-sector partnerships and complement these with insights from interviews with key decision-makers from firms that have engaged in disaster aid.² We hypothesize that channeling corporate giving through NPOs yields relative large magnitudes because NPO experience, vis-à-vis firm experience, helps overcome key challenges associated with disaster response. We then argue that the value of NPO experience is inversely related to the firm's operating presence in the disaster-stricken country and to the level of national institutional development. The rationale behind our hypotheses is that firms should be willing to give more through the NPO channel when the marginal social value of their donation is large. Holding everything else constant, this should be the case when NPO experience helps firms increase their ability to tackle social issues.

We test our argumentation with a data set comprising every reported firm donation for the 4,396 major natural disasters that affected the world from 2003 to 2015. Considering the NPO channel as an experimental condition, our quasi-experimental design generates counterfactuals from corporate donations that were statistically similar in firm-, country-, and event-specific characteristics but donated directly instead. Thus, our results indicate what the donation amount would have been, had a firm that donated through an NPO chosen to disburse its aid directly.

²Between 2011 and 2013, we conducted 18 semi-structured interviews with top managers of firms that donated to three different disasters.

Finally, we compare the findings from our quasi-experiment to the governance choices that firms actually made. We observe that firms more often than not chose the governance mode that yielded comparatively low donation values. Donor firms often neglected the value of the NPO channel in countries with low institutional development where they did not have local operations and overused the NPO channel in contexts where they would have had a greater ability to act directly—countries with high institutional development in which they operated. This contradiction points to issues with alignment of incentives and communication between the business and nonprofit sectors. It also suggests that if measures were taken to improve communication between the sectors, firms might be able to reevaluate their governance choices in ways that would increase the strategic and social value of their donations. Therefore, our study illustrates how core strategic management concepts of value creation and appropriation translate to and across the public and private domains.

2 | GOVERNANCE MODES AND THE CHALLENGES OF DELIVERING DISASTER AID

We focus on the distinction between two archetypal governance modes that firms have historically used when engaging in disaster aid. The *NPO channel* involves donating aid to an international humanitarian organization³ that acts as the vehicle for allocating the aid to beneficiaries. This could be a completely arms-length agreement or encompass greater collaborative involvement of the firm in relief efforts. In both cases, the NPO assumes the role of managing the donation and ensuring that it reaches beneficiaries.

Alternatively, through a *direct channel*, firms disburse aid to victims themselves. Managers and other employees thus physically deliver resources to affected communities. Sometimes this involves collaboration with the firm's contractors or local providers, community organizers, or neighborhood associations. In every case, the firm is in charge of identifying the ultimate beneficiaries of their donations and disbursing the aid. Hence, there is no intermediate vehicle between the corporation and beneficiaries, that would take charge of the donation.

Note that in both channels, donations are always classified as either cash or in-kind (i.e., products and services). The donor may write a check or wire money to an NPO or do so directly to community development funds, local organizations, or online funding campaigns, for instance. Alternatively, firms may donate goods such as logistic services, technical advice, medicines, or tents directly to community members or to an NPO.

2.1 | The decision-making process for corporate disaster aid

The fact that firms may strive to donate substantially to the public good may be aligned with the pursuit of financial profits (Kaul & Luo, 2018). Multiple studies point to an association between corporate disaster aid and performance benefits (Madsen & Rodgers, 2014), which often increase with donation amount (Crampton & Patten, 2008; Muller & Kräussl, 2011; Patten, 2008). The underlying mechanisms driving these benefits may include reputational gains (Madsen & Rodgers, 2014;

³This type of organizations, such as the International Federation of Red Cross-Red Crescent Societies (IFRC) and the UN's WFP, have played a predominant role in disaster response since the late 19th century. These NPOs, therefore, have a high profile within the space of disaster response and are recognized for their specialized expertise. Thus, firms are likely to consider them as vehicles for their disaster aid. There exist many other types of nonprofit organizations (Salamon & Anheier, 1996) that could be part of corporations' pool of potential partners for corporate social initiatives more broadly. We consider this possibility empirically in the section on robustness tests but theoretically consider it a weaker option for disaster response in light of the existence of international humanitarian organizations as more experienced intermediaries.

Muller & Kräussl, 2011), improved labor productivity (Flammer & Luo, 2017), and restoring consumer purchasing power and the firm's supply chain (Ballesteros et al., 2017). Therefore, filling the funding gap for disaster aid also carries a for-profit rationale for firms.

Regarding the materialization of these win-win opportunities where strategic and social objectives meet through substantial company contributions, our interviews with firms donating to disasters suggested that the choice of the implementation channel—the governance mode—is a driver of the magnitude of their giving. Informants explained that, in the immediate aftermath of the disaster, they evaluated the ability of locally active NPOs vis-à-vis their own human, financial and physical resources for disbursing resources to the victims prior to choosing a donation amount. An executive of a technology firm described the decision process of donating in the aftermath of the 2011 disaster in Japan as follows: “*We asked ourselves ‘can we realistically make an impactful donation given the impact (of the disaster) on our facilities? (Or) can we work together with the Red Cross so they deliver (to the victims) what we want to give?’*” Other managers indicated that the donation amount was discussed, then the firm revisited it once it obtained information on the ability of each implementation mode to deliver the aid. A manager for a large retailer told us that the firm had to “*revise down the \$20 million that [the firm] wanted to donate to Haiti (in the aftermath of the 2010 earthquake) because [the firm] just did not have the capacity to deliver the items.*”

Note that our study does not attempt to capture the full complexity of this decision-making process. Despite distinctions in how the decision was debated within these different firms and across disasters, the same underlying logic applies. In the end, the perceived availability of alternative modes for aid allocation is a binding constraint on the size of the donation. A key driver of this relationship is thus the manager's perception of the capacity of the NPO versus the firm's to disburse aid. This hinges on the relative value of their experience in handling two types of challenges that are inherent to disaster response.⁴

2.2 | The challenges of delivering disaster aid

The uncertainty and disruption caused by earthquakes, floods, hurricanes, and other natural disasters create two compounding types of challenges for delivering aid. The first is logistical and finds its source in contextual instability. The second is relational and caused by the diversity of actors involved in disaster response. These obstacles are relevant to both governance modes and we argue that firms and NPOs possess distinct advantages in dealing with them.

2.2.1 | Logistical challenges of delivering disaster aid

The logistics of providing disaster aid are characterized by invisibility (i.e., the difficulty of anticipating what factors will have an impact), ambiguity (i.e., the difficulty of anticipating the result of particular choices), and security concerns (Rangan, Samii, & Van Wassenhove, 2006). These factors provoke concrete transportation and communication problems when trying to disburse aid. For example, the 2009 earthquake in Haiti damaged Port-au-Prince's port and airport, hampering communication for weeks and leading to the eventual destruction of disaster goods (Holguín-Veras, Pérez, Ukkusuri, Wachtendorf, & Brown, 2007). Likewise, the 2004 Indian Ocean tsunami destroyed

⁴In other words, our reasoning does not suggest that the governance mode is the *only* parameter that affects the value of donations, but we focus on this choice as it is a theoretically and managerially important factor explaining firms' magnitude of engagement in the social issue. In practice, firms will often attempt to incorporate multiple parameters into their ultimate decision (e.g., Ballesteros et al., 2017; Madsen & Rodgers, 2014; Muller & Kräussl, 2011; Tilcsik & Marquis, 2013; Zhang & Luo, 2013), which we account for our empirical tests.

thousands of kilometers of shoreline and the transportation infrastructure of several countries (Tomasini & Van Wassenhove, 2009).

With both cash and in-kind donations, different intermediaries and groups of victims can create competing claims regarding the social need. They also may overemphasize social needs because they fear receiving less aid than requested (High-Level Panel on Humanitarian Financing, 2016). With cash, the limited traceability of funds combined with anti-money laundering or counter-terror financing laws can hamper the transfer of donations. Once onsite, delivering cash aid to beneficiaries can create security concerns (e.g., robbery, mugging, and even physical harm to the holder of the funds). Finally, organizations must figure out how to donate without disrupting the local economy (Becerra, Cavallo, & Noy, 2014).

With in-kind donations, aid demand and supply uncertainty may lead to a surplus of inappropriate low or nonpriority items that overwhelm local responders' capacity (Tomasini & Van Wassenhove, 2009). This problem can often become severe, to the extent that in Haiti (Holguín-Veras, Jaller, & Wachtendorf, 2012). Thus, failure to correctly identify what, when, and where donations are needed may lead to contributions being turned away or destroyed (Holguín-Veras, Jaller, Van Wassenhove, et al., 2012).

2.2.2 | Relational challenges of delivering disaster aid

The complexity of the stakeholder landscape in the aftermath of disasters exacerbates the aforementioned difficulties. Holguín-Veras, Taniguchi, Ferreira, and Thompson (2012) report that major disasters involve "tens or even hundreds of thousands of donors (governments, communities or individuals) (that) send massive amounts of supplies and equipment." These stakeholders often radically differ in their ideologies and practices (Rangan et al., 2006). Consequently, coordination is typically a major challenge because every entity has its own supply chain and there is "little standardization, limited transparency (tracking and tracing is unusual), high fragmentation, (...), strongly decentralized decision making, and misaligned incentives" (Holguín-Veras, Jaller, Van Wassenhove, et al., 2012). For instance, political interests associated with aid may increase uncertainty about what donors can deliver. Governments sometimes impose demands concerning foreign funding. For instance, during the 2002 Southern African Food Crisis, the President of Zambia refused to accept shipments of maize because of traces of genetically modified grains (Tomasini & Van Wassenhove, 2009).

Given these arguments, the desire and ability to provide disaster aid are, arguably, distinct. The following section explores the conditions under which each type of entity is comparatively well equipped to overcome these logistical and relational challenges. This should indicate which governance mode can yield relatively greater disbursements of corporate aid.

2.3 | The benefits of NPO channeling

As firms face increasing pressure to attend to social issues, they often lack the internal capabilities to do so on their own and thus they turn to international humanitarian NPOs. The specialized experience of NPOs can help firms access novel knowledge, skills, or core competencies (London et al., 2005; Powell & Steinberg, 2006). While learning from disasters is likely to be difficult for firms due to the relatively low frequency of high-consequence shocks (Ballesteros & Kunreuther, 2018; Lampel, Shamsie, & Shapira, 2009; Oetzel & Oh, 2014), NPOs are often able to collectively accumulate a knowledge base in responding to disasters across countries. In this spirit, BHP Billiton's managers explained that the company donated to the Red Cross in response to the 2010 disaster in Chile because the NPO's "*extensive experience gave it a greater capacity to deliver the aid.*" Specifically, NPO channeling helps firms overcome the two inimical challenges to disaster response.

The logistical advantages of NPO experience. Research has highlighted several ways in which commercial and humanitarian logistics differ (Beamon, 2004; Holguín-Veras et al., 2007; Wassenhove et al., 2008), many of which stem from the greater instability and unpredictability of humanitarian logistics. When the global logistics provider TNT first partnered with the World Food Programme (WFP), TNT employees noted this distinction: “*in a passenger airport there are strict rules, and everything is optimized. WFP is good at adapting, making up the rules as they go along,*” a skill particularly useful given that “*TNT is on a planet governed by rules and regulations. WFP is on a planet where the rules don't apply*” (Gatignon, 2018).

In comparison with firms, NPOs are likely to better navigate humanitarian logistics given that they span multiple functions and phases of disaster response (Holguín-Veras, Jaller, & Wachtendorf, 2012). NPOs apply procedures from one disaster to the next and therefore perfect them. By investing in specialized resources such as practice drills, personnel training and physical assets, NPOs may ensure that relief and recovery proceed hastily (Gatignon, Van Wassenhove, & Charles, 2010; Martinez, Stapleton, & Van Wassenhove, 2011; Holguín-Veras, Jaller, & Wachtendorf, 2012). Furthermore, NPOs' adherence to principles of humanity, neutrality, and impartiality give them a logistical advantage in terms of isolating them from potential security threats through the creation of a safe “humanitarian space” (Wassenhove et al., 2008). This also connects with the relational benefits that NPOs enjoy (Rangan et al., 2006; Tomasini & Van Wassenhove, 2009).

2.3.1 | The relational advantages of NPO experience

NPOs benefit from being formally plugged into the complex social networks that make humanitarian response possible (Carley, 1999; Comfort, Boin, & Demchak, 2010; Kapucu, 2005). This helps them generate an expertise to manage a more diverse group of stakeholders than is typical in the business world (Krashinsky, 1997; Selsky & Parker, 2005). In fact, NPOs are often considered the “core actors” behind “mapping, filtering, amplifying, bundling, and transmitting (...) problems and needs” (Scherer & Palazzo, 2007). Through mechanisms such as the National Voluntary Organizations Active in Disaster, founded to improve coordination among NPOs, “Everyone (each NPO) knows their responsibilities, so stepping on each other's toes is not a problem.” This was explained by a representative of the NPO Islamic Relief when describing their coordination with the Red Cross in response to Hurricane Harvey (NPR, 2017b).

In addition to being well plugged into the existing stakeholder network, NPOs are equipped to form *new* collaborative relationships that are important given the uniqueness of disasters. Compared to firms, they have a greater ability to understand and adapt to different institutional logics. This is key because belief systems affect how actors approach social issues (Battilana & Dorado, 2010; Le Ber & Branzei, 2010). The distinctions that separate civil society and firms regarding social preferences and self-interest have led to a tradition of mistrust between these sectors (Selsky & Parker, 2005). Firms often suffer from a *liability of privateness* when they engage in prosocial behavior. Stakeholders, in contrast, legitimize NPO action because of their nonprofit logics (Bhanji & Oxley, 2013).

In summary, we argue that NPOs hold key advantages over companies when dealing with the logistical and relational challenges of implementing disaster aid, which should incentivize firms to donate more through that channel, all else being equal. This defines a baseline hypothesis that allows us to explore the contingencies underlying the value of NPO experience:

Hypothesis 1: Channeling aid through NPOs will yield a greater magnitude of corporate disaster giving, compared to direct implementation by the firm.

2.4 | The role of firms' local operations

A Houston-based furniture firm made national headlines in August 2017 when it used its trucks to rescue victims of Hurricane Harvey and opened its premises to those who had lost their homes (NPR, 2017a). The owner posted a message on Facebook and shortly had 400 people taking shelter in his stores and sleeping on new sofas and recliners. This illustrates that having a local market presence may help firms overcome the challenges of delivering aid by bringing their commercial assets and experience to bear (Ballesteros et al., 2017; Kaul & Luo, 2018).

2.4.1 | Logistical advantages of firms' local operations

As evoked above, the environmental uncertainty associated with disasters decreases with the awareness of the local institutional context, including customs and language. Local firms can thus mitigate this uncertainty (Wassenhove et al., 2008). In this sense, Ballesteros et al. (2017) advance that local firms can "more effectively sense areas of critical need following a disaster, make fast decisions, and reconfigure resources for efficient, effective responses" than other entities.

A local supply chain and contacts with business partners can provide companies with information that can guide their implementation of aid (Ballesteros et al., 2017; Useem, Kunreuther, & Michel-Kerjan, 2015). A vice president of CEMEX explained that when responding to the Tabasco flood that hit Mexico in 2008, CEMEX "*knew what material could be used, when and how much. It was really helpful that we knew the city so well.*" This awareness thus helped mitigate the risk of unsolicited donations. As a manager recollected: "*We had a lot of people working in Villahermosa and we were constantly in touch with our local offices. We would get updates about how high the water was and what the neighbors were struggling with. The people who had to evacuate, who lost their houses, their cars, they were people that our local offices knew.*" Moreover, when firms have gone through previous disasters in the area, they can better prepare against future shocks and be more secure in their ability to respond philanthropically. For example, the Houston-based furniture firm could open its stores to shelter victims of Hurricane Harvey because it had built them on elevated concrete pads after surviving Hurricane Katrina 12 years earlier (NPR, 2017a).

Firms with local operations are also able to act on information relatively hastily. NPOs' response is often significantly slowed down by bureaucratic procedures designed to assure transparency to donors and protect humanitarian principles. Comparatively, market operations make firms *fast-moving* and *action-oriented* (Van Wassenhove, 2006: 487). When already present, characteristics of market operations, such as optimization and standardization, speed up aid implementation (Holguín-Veras, Jaller, & Wachtendorf, 2012; Kaul & Luo, 2018). For example, a manager from Coca Cola explained that the firm implemented its aid on its own after the 2011 disaster in Japan because this would imply fewer administrative steps than those required by NPOs. He indicated that "*There was urgency. People were dying. (...) We had to act fast. We have the resources; we know what to do (...). There is too much circulation of resources that the IFRC and other agencies cannot avoid. We are in the field with the victims and we use corporate resources that, in the end, (allow us to) reduce bureaucracy.*"

2.4.2 | Relational advantages of firms' local operations

Experience in the local market helps firms mitigate the drawbacks of the *liability of foreignness* and those associated with the *liability of privateness* (Bhanji & Oxley, 2013). Firms with no local presence are often labeled as opportunistic and not sincerely interested in the long-run development of the community (Bhanji & Oxley, 2013). In fact, such firms are relatively unlikely to invest in the community in the near future (Escaleras & Register, 2011). Conversely, local stakeholders perceive

the strategic considerations of firms operating in the local market to be congruent with the long-run goals of the community because they have a stake in the area's welfare (Ballesteros, 2018).

Moreover, much of the value of disaster experience, such as stakeholder relationships, cannot be easily transferred or reproduced across geographies (Oetzel & Oh, 2014; Oh & Oetzel, 2017). Compared with organizations with no economic connection with the affected country, firms with local operations are familiar with the stakeholder landscape, which they leverage during disruptions (Kunreuther & Useem, 2018). Take the case of Anglo American's response to the 2010 disaster in Chile. To swiftly rebuild schools, the firm employed its own contractors, who had expertise building modular encampments. Anglo American's Vice President of Corporate Affairs suggested that an NPO would have had to go through a lengthy procurement process aimed at ensuring fairness in choosing suppliers. Similarly, Coca Cola involved its local customers by using its vending machines to raise funds in Japan in 2011, which were also used to display emergency information from the local authorities (Shiozawa, 2015).

In addition to market-based actors, local operations help firms to develop ties with local *nonmarket* and community actors that engage in disaster aid (Madsen, 2009). For example, corporate responders have established relationships with regulators and government agencies (McDermott, Corredoira, & Kruse, 2009) or ties with communities through volunteer initiatives (Exley, 2017). This increases the confidence of firms to implement aid directly. A manager of a distribution company explained that they were approached by an NPO dedicated to flood relief in Mexico in 2008 but preferred to act on their own because they "*could do more when we work directly with the community.*"

Consequently, we suggest the following about the value of firms' local operations:

Hypothesis 2: *When firms have local operations in the disaster-stricken country, the positive effect of NPO channeling on the magnitude of corporate disaster giving will decrease, compared to direct implementation by the firm.*

2.5 | The role of the affected country's institutional development

In 2017, record monsoon rains hit Bangladesh, India, and Nepal at the same time as Hurricane Harvey wreaked destruction on the Gulf Coast in the United States. A Vice President of international services at the Red Cross explained that, despite the similar nature of the disasters, the task of providing aid to each region differed dramatically due to differences in the quality of formal institutions and resulting support systems (NPR, 2017b). This indicates that one cannot consider the advantages of each governance mode in a vacuum as these are a function of the institutional context (Ballesteros & Kunreuther, 2018).

2.5.1 | The logistical advantages of NPOs in less institutionally developed settings

Institutional inefficiencies often exacerbate the disruption caused by shocks (Becerra, Cavallo, & Noy, 2015; Berleemann & Wenzel, 2018; Kahn, 2005). In less institutionally developed settings (i.e., settings with weaker formal institutions), transportation systems and communication technologies are often unsophisticated, vulnerable to destruction, and difficult to repair. For instance, in Turkey in 1999 and in China in 2008, lack of government oversight resulted in shoddy construction that held up poorly during earthquakes (Oetzel & Oh, 2014; Rangan et al., 2006; Wassenhove et al., 2008).

Regulatory bureaucracy can also slow down the process of fixing or rebuilding national infrastructure (Becerra et al., 2014). For example, it took several weeks and the arrival of a floating port from the United States to restore maritime operations in Haiti and debris still clogged the roads a month after the earthquake. Similar damage in Japan was fixed in a few days, and the transportation infrastructure was operational within a week. Because firms' logistical advantages depend critically

on transportation and communication infrastructure (Holguín-Veras, Taniguchi, Ferreira, & Thompson, 2012), the adaptability and flexibility of NPO logistics may help them deliver aid in the absence of such supporting systems.

Political risk and institutional issues may also pose a bigger toll on firms than on NPOs. Political instability often creates security concerns, from which NPOs are arguably more protected by their adherence to international humanitarian principles (Tomasini & Van Wassenhove, 2009). Corruption mitigates firms' incentives to help, because their procedures are rarely tailored to disaster aid. Conversely, complex reporting is a key skill of NPOs because they rely on donations from multiple types of donors, each of whom often has its own reporting requirements. Therefore, firms may be relatively inefficient for tracking aid to different stakeholders and this can lead to donations being diverted to the black market (Becerra et al., 2015).

2.5.2 | The relational advantages of NPOs in less institutionally developed settings

The complexity of coordination during disasters is also typically higher in countries with lower institutional development. The efficiency of networks of local stakeholders is highly vulnerable to shocks (Blaikie, Cannon, Davis, & Wisner, 2014; Kahn, 2005). The government, for instance, is less likely to carry out the vital coordination role that it often takes on in more institutionally developed settings (Holguín-Veras, Jaller, Van Wassenhove, et al., 2012). For example, the lack of a coordinating agency in Sumatra quickly turned the disaster response into a chaotic *free-for-all* (Tomasini & Van Wassenhove, 2009). A representative from the Red Cross explained that: "*In Nepal and Bangladesh the government simply doesn't have the resources. There is no tax base to support that robust response and recovery system*". The expertise of NPOs to organize diverse actors thus becomes invaluable in these countries. In contrast, the Red Cross points to the role played by the Federal Emergency Management Agency (FEMA) in the United States, where having a "mature federal system" facilitates response (NPR, 2017b). Hence, NPOs are likely to have a comparative advantage as channels of company giving in countries with lower levels of formal institutional development. Hence, we argue that:

Hypothesis 3: *The lower the formal institutional development of a disaster-stricken country, the higher the positive effect of NPO channeling on the magnitude of corporate disaster giving, compared to direct implementation by the firm.*

To summarize, we have argued that there is a positive effect of channeling company aid through NPOs on its magnitude because of the relative value of their experience. Holding everything constant, this should increase firms' willingness to donate more. This relationship will be negatively affected by firms' local operations and positively affected by institutional challenges when the affected country has less developed formal institutions. Table 1 summarizes this argumentation.

3 | EMPIRICAL ANALYSIS

3.1 | Data

Our data set covers every major natural disaster worldwide from 2003 to 2015, as reported in the International Disaster Database (EM-DAT).⁵ We used data on human and economic losses provided

⁵To register an event in the International Disaster Database, at least one of the following criteria must be fulfilled: 10 or more people killed, 100 or more people affected, a declaration of a state of emergency, or a call for international assistance. Further information can be accessed at <http://www.emdat.be/>.

TABLE 1 Summary of hypotheses, empirical comparisons and results

	Hypothesis 1	Hypothesis 2	Hypothesis 3
Hypotheses	Channeling aid through NPOs will yield a greater magnitude of corporate disaster giving, compared to direct implementation by the firm.	When the firm has local operations in the disaster-stricken country, the positive effect of NPO channeling on the magnitude of corporate disaster giving will decrease, compared to direct implementation by the firm.	The lower the formal institutional development of a disaster-stricken country, the higher the positive effect of NPO channeling on corporate disaster giving, compared to direct implementation by the firm.
Empirical comparisons (Treatment vs. counterfactual)	Firms that donated through an NPO versus direct implementation	(1) Firms with <i>local operations</i> that donated through an NPO versus direct implementation. (2) Firms without <i>local operations</i> that donated through an NPO versus direct implementation	(1) <i>Low</i> : Firms that donated through an NPO versus direct implementation in countries with low institutional development. (2) <i>Medium</i> : Firms that donated through an NPO versus direct implementation in countries with medium institutional development. (3) <i>High</i> : Firms that donated through an NPO versus direct implementation in countries with high institutional development
Results	Firms channeling their aid through an NPO would have donated 167% more if they had implemented their aid directly	(1) Firms with <i>local operations</i> channeling their aid through an NPO would have donated 230% more if they had implemented their aid directly. (2) Firms with <i>no local operations</i> that channeled their aid through an NPO donated 138% more than what they would have implemented directly	(1) <i>Low</i> : Firms channeling their aid through an NPO donated 95% more than if they had implemented it directly. (2) <i>Medium</i> : Although firms implementing directly would have donated more than those using an NPO, placebo inference suggest a not sizeable difference. (3) <i>High</i> : Firms channeling their aid through an NPO would have donated 139% more if they had implemented their aid directly

by the reinsurance company Swiss Re and the United Nations Office for Coordination of Humanitarian Affairs (UNOCHA). We limited our analysis to earthquakes, hurricanes, and other types of sudden disasters whose trigger is identified (e.g., the ground shaking) and have peak outbreaks within 30 days. We thus omitted evolutionary disasters such as famines and heat waves where the identification of consequences and aid response is challenging (Ballesteros et al., 2017). We also excluded manmade disasters, such as terrorist attacks, as they are commonly associated with complex socio-economic and political dynamics outside of the scope of our study (Cohen & Werker, 2008; Hannigan, 2013; Platt, 2012). We thus studied a population of 4,396 sudden disaster-country pairs that affected over 1.3 billion people in 179 countries and inflicted economic damages of over \$1.8 trillion.

To measure company aid, we use a proprietary data set on every donation received within the year following the disaster, which we coded using a combination of manual and automatic procedures to analyze reports from electronic media. Our tracking covered newspapers, trade press, magazines, newswires, press releases, TV and radio transcripts, digital video and audio clips, corporate websites and reports, institutional websites and reports, and government websites and reports, among other sources.

To build this data set, we searched for a combination of the name of the affected country (e.g., New Zealand), the type of disaster (e.g., earthquake), and, when available, the name of the

disaster (e.g., Sandy). This resulted in over 2.3 million electronic reports from which we extracted data on donation characteristics. To make these reports computationally tractable, we applied differential language analysis to extract information on the donor firm, the characteristics of the contribution, the recipient channel and the target social area and beneficiary community. We merged these data sets with the Lexis Nexis Corporate Affiliations database (CAD) to code firms' local operations in the affected country and with Capital IQ to obtain other firm-specific variables. Independent researchers ran processes to verify the quality of the data using third-party sources such as company sustainability reports. We describe these processes and the data collection and coding in Supporting Information Appendix S1.

We follow an accepted definition of an NPO as an entity having an institutionalized form separate from government, which is self-governing, nonprofit distributing and involving some degree of voluntary participation (Salamon & Anheier, 1996). We focus on international relief organizations, "a subgroup of the Social Services category (...) encompassing voluntary non-profit organizations that engage in disaster/emergency prevention and control as well as temporary shelters and refugee assistance" (Salamon & Anheier, 1992). In addition to international specialized NPOs, there are other types of NPOs that may be potential partners for disaster aid. We empirically accounted for this possibility via robustness tests. Additionally, we considered including donations to national or local governments under the umbrella of direct implementation. As an agency, the government is a direct representative of affected communities.

3.2 | Estimation strategy

Our argumentation focuses on understanding the conditions under which channeling donations through NPOs increases the amount of corporate disaster giving, accounting for firms' local operations and the disaster-hit country's level of formal institutional development. Supporting Information Appendix S1 has a discussion on the considerations for causality that led us to choose our causal-inference method, the synthetic control method (SCM). The key characteristic of the SCM is that control entities are combinations of potential counterfactuals as opposed to a single firm that matches on all characteristics except for donation channel. The SCM algorithm evaluates the efficiency of every case of a firm donor not affected by the experimental condition (i.e., an NPO channel) in reproducing the pretreatment characteristics of a case of a firm donating through an NPO in a given disaster-stricken country. We drew these characteristics from the literature studying drivers of the magnitude of company giving as we discuss below. This process results in two or more control firms whose characteristics are weight-averaged into a synthetically created counterfactual firm (see Abadie, Diamond, & Hainmueller, 2010, 2015 and our Supporting Information Appendix S1 for more detailed explanations). Incorporating the characteristics of the country and the disaster associated with company giving, according to extant studies, allows us to account for the case-specific environmental complexity associated with the studied decision-making process, which is hard to capture using other methods.

For instance, no one single firm approximates the context-based factors and underlying characteristics of the firm Tek's choice to donate to the Red Cross in the Chilean institutional environment in the period leading up to and around the 2010 earthquake and tsunami. However, features of Rio Tinto, Antofagasta, Bifox, and Anglo American, which provided aid directly, are combined in different proportions to form a *synthetic* Tek that closely matches features predictive of corporate disaster giving but used a different governance mode. Hence, SCM controls constant and time-variant unobserved heterogeneity and allows us to identify what would have happened to the donation magnitude

of a given firm that channeled its aid through an NPO to a disaster-country pair, should said firm have implemented its aid directly.

The statistical efficiency of SCM relies on minimizing the difference between the predictors of every treated case, a combination of a firm and a disaster-country pair, and its synthetic control in each of the analyzed predonation periods. This means that statistical inference with SCM is run differently than with traditional panel-data methods where standard errors measure uncertainty in aggregate data. To produce a measure of inference, we calculated the likelihood that the observed donation amount is affected by the NPO intervention, by conducting falsification procedures called placebo tests. In practical terms, we artificially reassigned the intervention to try to falsify the effect of using an NPO channel on the magnitude of aid by running the SCM with firms that gave directly. Therefore, we generated a distribution of effects observed by chance after repeating this procedure with every case in the control group. We then calculated p values by comparing the distribution of placebo effects with the actual distribution. The benefit of the SCM is that it is always feasible to obtain the exact distribution of the estimated effect regardless of the number of cases in the treatment and control groups.

3.3 | Variable definitions

3.3.1 | Outcome variable

We recorded a continuous variable for the total dollar amount of each of the company gifts disbursed within the year *immediately* following the disaster (i.e., from t_0 to t_1 , where t_0 is the disaster date), with $Y = \{0, \dots, n\}$, *donation amount*. The data reflect donations that target disaster relief (i.e., aid targeting immediate life-threatening concerns), and recovery (i.e., aid for reconstruction, restitution, and resettlement and rehabilitation) and cover 74,131 donations from 34,258 firms. The average total donation for a firm to a single disaster in the analyzed period was \$1.6 million.

We chose a 1-year tracking window based on prior literature indicating the importance of tracking response over multiple months (Becerra et al., 2014; Gatignon et al., 2010; White & Lang, 2012). We then verified that this period provided accurate coverage within our data set by tracking aid reports using a window of 3 years after the disaster date for 100 randomly selected disaster-country pairs. We only found four donations that were not included in our data set, or 0.0054% of the data set.

We pooled cash and in-kind donations in our main analysis because the mechanisms underlying our hypotheses pertain to both, as per the explanations and examples provided. In the case of in-kind donations, we recorded the characteristics of the service (e.g., technical advice by 50 firm employees) or product (e.g., 1,000 bottles of drinking water) and evaluated their monetary value using one of the following sources: the financial value reported by the donor or other entity, the current prices applicable in the affected country (e.g., the average price of one litter of bottled water, the daily man-power wage for a specific professional or technician) or an equivalent pecuniary value based on similar donations made by other firms to the same disaster. If necessary, we converted to U.S. dollars using the exchange rate on the donation date and the tool <http://www.xe.com/>.

3.3.2 | Treatment and predictor variables

Our treatment variable is *NPO channel*, a binary variable taking the value “1” if the corporate gift was made through an international NPO specialized in humanitarian relief and “0” otherwise. For instance, we coded Boeing's gift of \$50,000 following 2006 Typhoon Durian in Vietnam as “1” because the recipient channel was the Red Cross. Conversely, we coded as “0” Anglo American's in-kind aid focused on removing debris and rebuilding schools in the aftermath of the 2010 disaster in

Chile, for a total worth of \$10 million. We focused our main analyses on cases where the firm used only one governance mode and also dropped observations involving corporate foundations (2.7% of our data), as they are outside the scope of the current analysis. For robustness purposes, we also conducted our coding at the level of the donation by including every gift as a different observation. Thus, we accounted for cases when firms implemented their aid using multiple channels. We elaborate on this strategy and coding procedure in Supporting Information Appendix S1.

In Hypothesis 2, the variable *local operations* measures whether a firm operated in the affected country at the time of disaster. We used the Lexis Nexis CAD to calculate this variable that takes a value of "1" when the firm has an affiliate in the focal country. We do not account for subsidiary characteristics such as size or time-in-country. Although the effects could presumably increase with local experience, our hypothesis requires only a local presence for the underlying mechanisms to come into play.

To measure formal *institutional development* in Hypothesis 3, we rely on the World Bank's Worldwide Governance Indicators (WGI) (Kaufmann, Kraay, & Zoido, 2000). Diverse studies show the reliability of these indicators as measures of the quality of national institutions (Apaza, 2009) and they have been applied previously in the strategy literature (e.g., Ault & Spicer, 2014). We focused on two WGI dimensions that capture the role that the national institutional environment may have on the likelihood and effectiveness of disaster aid (Collier & Dollar, 2002; Stromberg, 2007): *government effectiveness* and *control of corruption*.

To classify countries according to their formal institutional development, we averaged the percentile ranks among all countries into a single composite measure ranging from 0 (low institutional development) to 100 (high institutional development). We divided the data set into three equally sized groups using the annual 33.3 and 66.6 percentiles as cutoff points: countries with low, medium, and high institutional development. This corresponds to the World Bank's classification using the Human Development Index (Anand & Sen, 1994) and has been used previously to reflect a country's ability to recover from disasters (Ballesteros et al., 2017).

3.3.3 | Predictor variables for corporate disaster giving

We built our counterfactual groups using the firm-, country-, and disaster-specific characteristics that the extant literature has identified as predictors of the magnitude of company giving. We included six groups of firm-specific variables following studies on corporate disaster giving and broader nonmarket strategy (Ballesteros et al., 2017; Dorobantu, Kaul, & Zelner, 2017; Kaul & Luo, 2018; Luo, Zhang, & Marquis, 2016; Madsen & Rodgers, 2014; Muller & Kräussl, 2011; Patten, 2008; Tilcsik & Marquis, 2013; Zhang & Luo, 2013). Additionally, we included a variable measuring the experience of the firm working with NPOs, as this may increase willingness and ability to use an NPO to channel aid (Gatignon & Capron, 2018; Gulati & Gargiulo, 1999; Selsky & Parker, 2005). Finally, we draw on literature on international disaster aid to identify four groups of country- and event-specific variables that may explain the likelihood of a country to receive aid in the aftermath of a disaster and the magnitude of such aid (Baker & Bloom, 2013; Becerra et al., 2014, 2015; Bloom, 2009; Cohen & Werker, 2008; Eisensee & Strömberg, 2007; Fink & Redaelli, 2011; Stromberg, 2007). This set of predictors allowed us to follow a rigorous data-driven procedure to construct efficient comparison groups that have similar characteristics to treatment cases and mitigate the risk of capturing effects driven by factors other than the choice of governance mode. Supporting Information Appendix S1 has a table with a description of these variables and their sources. Tables 2 and 3 show descriptive statistics and correlations, respectively. We observed similar average values for treatment groups and control groups on each covariate, suggesting that our pretreatment fit was effective. The tables report

TABLE 2 Descriptive statistics

Variables	Mean	SD	Min	Max
Outcome variable				
Donation amount	1,601,398.00	8,503,510.00	1,000.00	350,000,000.00
Treatment variable				
NPO channel	0.68	0.46	0.00	1.00
Group variables				
Local operations	0.53	0.37	0.00	1.00
Institutional development (rank)	49.32	24.49	0.00	99.75
Firm-specific predictors				
Return on assets (%)	5.01	4.51	(7.82)	39.81
Market capitalization (\$USDmm)	13,895.86	34,053.16	19.50	489,552.00
Total revenue (\$USDmm)	16,802.84	30,751.42	3,577.49	470,171.00
Industry (SIC)	4,378.15	1,347.11	1,046	8,480
Number of employees	24,786.28	129,456.32	19.00	2,200,000.00
Total assets (\$USDmm)	2,718.05	1,146.00	0.00	143,842.00
R&D expenses (\$USDmm)	18.17	5.61	0.00	13,705.00
Advertising expenses (\$USDmm)	58.73	14.15	0.00	42,656.00
Experience working with NPOs	2.72	6.46	0.00	43
Context-specific predictors				
Human hardship (number of victims)	295,253.72	2,459,571.30	1.00	67,900,000.00
Economic cost (\$USDmm)	1,163.80	856,932.50	1.00	310,000.00
Media coverage	28,845.17	37,305.00	1,800.00	398,750.00
Number of disasters (country, ln)	7.58	8.07	0.00	35.00
Number of disasters (world, ln)	237.78	16.71	213.00	260.00
Newsworthy events	8.90	2.57	2.83	29.25
Openness to aid	.66	.22	0.00	1.00
Robustness tests				
Consumer orientation	0.45	0.51	0.00	1.00
SG&A Expenses (\$USDmm)	265.10	1,034.00	0.00	34,125.00
Net PP&E (\$USDmm)	898.00	5,439.00	0.00	124,000.00
GDP (\$USDmm)	2,751,000.00	4,559,000.00	296.00	16,770,000.00
Land area (SqKm)	2,605,036.15	3,733,879.02	200.00	16,381,390.00
Population (millions)	244.40	418.00	0.03	1,357.00
Local aid appeal	0.01	0.12	0.00	1.00
External aid (United Nations appeal)	0.03	0.18	0.00	1.00
Number of deaths	392.61	6,902.89	1.00	222,570.00

TABLE 3 Correlations

Variables	1	2	3	4	5
1 Donation amount (US million)	1.00				
2 NPO Channel	-0.02	1.00			
3 Local operations	0.68	.28	1.00		
4 Institutional development	0.37	0.45	0.59	1.00	
5 Experience working with NPOs	0.11	0.76	0.17	0.36	1.00

mean values for predictors and outcome variables because the SCM minimizes the distance between treatment and synthetic control firms as discussed above.

4 | RESULTS

4.1 | Hypothesis testing

Table 4 shows results for Hypothesis 1 predicting that NPO channeling will yield greater amounts of corporate disaster giving than direct implementation. Contrary to our baseline argument, sizeable effects suggest that, across the evaluated 12-year period, firms that allocated their aid through an NPO channel would have donated 167% more aid if they had instead donated directly. A firm that channeled its donation through an NPO gave, on average, \$1.53 million less aid than a counterfactual firm would have donated had it done so directly. The analyses for the next hypotheses investigate the conditions under which the balance tips in the other direction.

Our second hypothesis integrates the effect of a firm's operations in the affected country. The results for model 2 in Table 5 show that a firm with local operations using an NPO as the implementing channel donated a mean value of \$2.97 million *less* than its counterfactual (i.e., a synthetic firm

TABLE 4 The effect of NPO channeling on corporate disaster giving (hypothesis 1)

Predictors	NPO Channel Model 1	
	NPO	Direct
Firm-specific variables		
Total revenue (USDmm ln)	9.73	9.73
Market capitalization (USDmm ln)	9.54	9.54
Return on assets %	4.95	4.97
Number of employees (ln)	10.15	10.09
Total assets (USDmm ln)	7.93	7.88
R&D expenses (USDmm ln)	2.92	2.85
Advertising expenses (USDmm ln)	4.07	4.09
Primary industry (ln)	8.37	8.39
Experience working with NPOs (ln)	1.07	0.93
Context-specific variables		
Human hardship (ln)	12.60	12.59
Economic cost (USDmm ln)	7.03	7.09
Media coverage (ln)	10.27	10.27
Newsworthy events	8.94	9.01
Number of disasters (country, ln)	2.31	2.32
Number of disasters (world, ln)	5.46	5.49
Openness to aid	0.67	0.67
Outcome variable		
Donation amount (USD million)	0.92	2.45
Placebo <i>p</i> -value	0.000	

Note. The treatment groups are comprised of firms that channeled their disaster aid through a nonprofit organization, while the control groups firms that allocated their aid directly to the disaster victims. The table shows average values for the analyzed period only as a reference. The synthetic control method minimizes the distance between treatment and control cases on a case-by-case basis. The total number of country disasters in the period 2003–2015 is 4,396.

TABLE 5 The impact of a firm's local operations on the effect of NPO channeling on corporate disaster giving (hypothesis 2)

Predictors	Local operations			
	Model 2 Local operations		Model 3 No local operations	
	NPO	Direct	NPO	Direct
Firm-specific variables				
Total revenue (USDmm ln)	9.77	9.78	9.61	9.61
Market capitalization (USDmm ln)	9.65	9.67	9.48	9.51
Return on assets %	4.96	4.94	4.14	4.11
Number of employees (ln)	10.89	10.90	10.64	10.69
Total assets (USDmm ln)	8.21	8.22	8.01	8.00
R&D expenses (USDmm ln)	4.24	4.24	3.75	3.76
Advertising expenses (USDmm ln)	3.11	3.15	2.72	2.80
Primary industry (ln)	8.33	8.33	8.26	8.26
Experience working with NPOs (ln)	0.65	0.57	1.36	1.29
Context-specific variables				
Human hardship (ln)	12.49	12.57	12.65	12.65
Economic cost (USDmm ln)	7.23	7.18	6.61	6.62
Media coverage (ln)	10.44	10.44	9.89	9.85
Newsworthy events	9.12	9.11	8.45	8.56
Number of disasters (country, ln)	2.47	2.47	2.28	2.30
Number of disasters (world, ln)	5.47	5.44	5.64	5.67
Openness to aid	0.60	0.59	0.73	0.72
Outcome variable				
Donation amount (USDmm)	1.29	4.26	0.81	0.34
Placebo p-value	0.000		0.001	

Note. The treatment groups are comprised of firms that channeled their disaster aid through a nonprofit organization, while the control groups are firms that allocated their aid directly. The table shows average values for the analyzed period only as a reference. The synthetic control method minimizes the distance between treatment and control cases on a case by case basis. The total number of country disasters in the period 2003–2015 is 4,396.

with local operations engaging in direct implementation) would have. These firms would have been able to donate 230% more in disaster aid through the direct channel. On the other hand, in model 3, firms with no local presence that donated through NPOs gave, on average, about half a million USD or 138% more, than counterfactual cases of firms engaging in direct implementation. Therefore, we find support for Hypothesis 2.

The results for Hypothesis 3 in Table 6 refine our understanding of the institutional conditions under which NPO channeling is a desirable mode to foster corporate aid. Model 4 shows that NPO channeling positively affects donation amounts in countries with low levels of formal institutional development. A firm donating through an NPO in these countries gave, on average, over half a million or 95% more than direct implementation would have yielded. Model 6 shows that the NPO channel has a negative effect on corporate giving in countries with high levels of formal institutional development. On average, firms donating through an NPO in such countries gave \$1.87 million compared to the average \$4.47 million that they would have given by donating directly. In model 5, we observed larger donations from cases of firms that would have donated directly in countries with a medium level of formal institutional development. However, placebo inference suggests that this effect is not sizeable.

TABLE 6 The impact of national institutional development on the effect of NPO channeling on corporate disaster giving (hypothesis 3)

Predictors	Institutional development					
	Model 4 Low		Model 5 Medium		Model 6 High	
	NPO	Direct	NPO	Direct	NPO	Direct
Firm-specific variables						
Total revenue (USDmm ln)	9.73	9.74	9.73	9.73	9.91	9.97
Market capitalization (USDmm ln)	9.53	9.54	9.61	9.62	9.67	9.68
Return on assets %	5.86	5.85	4.21	4.26	3.99	3.98
Number of employees (ln)	9.18	9.12	10.01	10.00	10.87	10.84
Total assets (USDmm ln)	7.43	7.40	7.89	7.88	8.24	8.21
R&D expenses (USDmm ln)	2.00	2.00	2.66	2.66	3.59	3.57
Advertising expenses (USDmm ln)	3.30	3.27	4.08	4.06	4.49	4.48
Primary industry (ln)	8.51	8.51	8.39	8.37	8.30	8.31
Experience working with NPOs (ln)	1.06	0.77	1.03	1.02	1.08	1.03
Context-specific variables						
Human hardship (ln)	13.29	13.30	12.19	12.19	11.39	11.38
Economic cost (USDmm ln)	5.94	5.95	6.73	6.69	8.50	8.50
Media coverage (ln)	9.60	9.54	10.34	10.37	10.99	10.87
Newsworthy events	8.66	8.62	8.15	8.16	8.42	8.39
Number of disasters (country, ln)	2.16	2.18	2.07	2.10	1.97	2.03
Number of disasters (world, ln)	5.49	5.47	5.52	5.53	5.53	5.54
Openness to aid	0.77	0.76	0.66	0.66	0.59	0.58
Outcome variable						
Donation amount (USDmm)	1.09	0.56	0.98	1.09	1.87	4.47
Placebo <i>p</i> -value	0.000		0.061		0.001	

Note. The treatment groups are comprised of firms that channeled their disaster aid through a nonprofit organization, while the control groups are firms that allocated their aid directly. The table shows average values for the analyzed period only as a reference. The synthetic control method minimizes the distance between treatment and control cases on a case by case basis. The total number of country disasters in the period 2003–2015 is 4,396.

4.2 | Robustness checks and supplementary analyses

4.2.1 | Robustness checks

We ran the SCM with the entire population of NPOs in the data set to assess the empirical validity of our focus on international humanitarian nonprofits as the primary target for firms choosing an NPO channel. These organizations account for 93% of the population of NPOs that received corporate disaster aid. The remaining 7% corresponds to local or international NPOs responding to their first disaster (i.e., organizations that had no prior experience of humanitarian response) and specialized humanitarian NPOs that were present only in the affected country (i.e., organizations that focus on disaster response but without international experience). This pattern reflects the UN's statement that "only 0.2 per cent of reported humanitarian funding was channeled directly to national and local NGOs in 2014" (High-Level Panel on Humanitarian Financing, 2016: 3) After this exercise, the direction of the effects studied in our three hypotheses held. However, the differences in donation amount between treatment and control groups were, on average, larger. This suggested, in line with our argumentation, that other types of NPOs are less efficient in implementing aid than international humanitarian organizations.

Second, we ran fixed-effects ordinary least squares (OLS) models with several firm-, country-, and event-specific controls. We applied coarsened exact matching (CEM) (Iacus, King, & Porro, 2008) to mitigate concerns that decisions to engage in disaster giving are endogenous to local market experience and institutional development. That is, firms with similar propensity to donate self-select into specific countries or corporate giving and NPO experience may be moving in the same direction as an unobserved factor, such as aversion to corruption. We ran CEM with the firm- and context-specific variables that we used for predicting the magnitude of corporate disaster giving in our original design. We compared pre- and post-descriptive statistics in the treatment and control groups for assessing quality and calculated measures of imbalance as suggested by Iacus et al. (2008). The results, shown in Supporting Information Appendix S1, are consistent with the direction and significance of the differences observed in our quasi-experimental design.

A third robustness check involved excluding highly publicized events. A potential confounder is that the estimated effect of NPO channeling on corporate disaster giving is driven by a few disasters that received unusual amounts of media coverage. For those events, the size of corporate giving may be less affected by the choice of governance mode. Because media response is a driver of disaster aid (Stromberg, 2007), our analyses may be skewed. Thus, we limited our analyses to disasters whose number of news reports was in the bottom 50% of the distribution—see Eisensee and Strömborg (2007) for an explanation of this cutoff point. After running our analyses with this sample, we found consistency in the direction of the tested relationships, despite the large drop in the number of cases for our SCM models, particularly for disasters in countries with high formal institutional development.

Although we expected that our hypothesized mechanisms should apply across firms, it could be that certain industries may be driving a substantial portion of the observed effects. As a fourth robustness check, we thus ran OLS models with industry dummies using the Standard Industry Classification. The standard errors suggested relatively small effects of all dummy coefficients. Moreover, the difference between each industry coefficient and the median effect was not sizeable.

4.2.2 | Supplementary analyses

We performed three supplementary analyses. First, we sought to further understand whether the effect of a firm's local operations on the value of NPO collaborations varies across institutional contexts (i.e., a combination of Hypotheses 2 and 3). Hence, we ran integrative exercises, summarized in Table 7, showing that the strongest effect of NPO channeling on corporate disaster giving occurred in cases where the firm does not have local operations in countries with low institutional development. On average, such firms donated 274% more aid than counterfactuals would have. For company donors with local operations in countries with low institutional development, we found a positive effect of NPO channeling (an average increase of 18%) on company giving—models 7 and 10.

Conversely, direct implementation would have yielded the greatest magnitude of corporate aid when the firm had local operations in countries with high institutional development—model 9. In such cases, firms that donated through NPOs donated 2,6 times or \$5,32 million *less* than they would have through direct implementation, an economically substantial difference. In sum, our findings suggest that NPO experience is most valuable and overlaps the least with firm experience in countries with lower institutional development.

Finally, we based our argumentation on mechanisms that apply to cash and in-kind donations. Nevertheless, we recognize that the obstacles to providing disaster aid may vary with the type of donation. Hence, we disaggregated the data into these two types and reran our analyses. Table 8 shows that the effect of NPO channeling on the magnitude of corporate aid is greater in the aggregate

TABLE 7 Impact of a firm's local operations and national institutional development on the effect of NPO channelling on corporate disaster giving (integrative analysis)

Institutional development Predictors	Local operations						The firm does not have local operations					
	The firm has local operations			Model 8			Model 9			Model 10		
	Model 7 Low		NPO	Direct	NPO	Direct	NPO	Direct	NPO	Direct	NPO	Direct
Firm-specific variables												
Total revenue (USDmm ln)	6.26	6.57	9.72	9.72	10.58	10.55	7.37	7.36	9.75	9.80	10.06	10.05
Market capitalization (USDmm ln)	8.68	8.68	9.77	9.76	10.05	10.07	8.15	8.17	9.53	9.54	9.69	9.73
Return on assets %	5.01	5.17	4.94	4.90	5.22	5.68	5.90	5.97	4.14	4.11	5.17	5.16
Number of employees (ln)	9.99	9.99	9.94	9.94	10.39	10.38	9.90	9.90	10.12	10.12	10.27	10.26
Total assets (USDmm ln)	6.88	6.89	7.96	8.00	8.52	8.54	6.82	6.85	7.68	7.74	8.30	8.32
R&D expenses (USDmm ln)	2.10	2.10	3.13	3.14	3.46	3.45	1.20	1.35	2.90	2.91	3.33	3.32
Advertising expenses (USDmm ln)	2.72	2.77	4.22	4.25	4.62	11.54	2.57	2.60	3.94	3.94	4.48	4.49
Primary industry (ln)	8.27	8.27	8.14	8.14	8.27	8.23	8.28	8.29	8.27	8.25	8.27	8.27
Experience working with NPOs	1.07	0.77	1.06	0.77	1.39	1.15	1.09	0.81	0.85	0.70	1.26	1.11
Context-specific variables												
Human hardship (ln)	13.34	13.34	11.66	11.65	9.06	8.92	13.73	13.72	11.42	11.42	9.29	9.35
Economic cost (USDmm ln)	6.53	6.54	6.79	6.72	7.57	7.52	6.46	6.40	6.68	6.70	7.50	7.53
Media coverage (ln)	9.33	9.33	10.25	10.24	11.07	11.10	8.97	9.01	9.89	9.85	10.64	10.65
Newsworthy events	7.96	7.84	7.11	7.18	8.75	8.39	8.14	8.02	7.96	7.74	11.89	11.94
Number of disasters country (ln)	2.41	2.48	2.17	2.19	2.12	2.19	2.39	2.48	1.98	1.99	2.14	2.16
Number of disasters world (ln)	5.71	5.71	5.49	5.49	5.65	5.66	5.71	5.71	5.48	5.48	5.63	5.64
Openness to aid	0.89	0.86	0.77	0.74	0.58	0.62	0.64	0.68	0.87	0.84	0.51	0.51
Outcome variable												
Donation amount (USDmm)	1.01	0.85	1.09	1.49	2.02	7.34	1.16	0.31	0.86	0.68	1.71	1.59
Placebo p-value	0.039	0.016	0.000	0.000	0.000	0.000	0.031	0.031	0.064	0.064		

Note: The treatment groups are comprised of firms that channel their disaster aid through a nonprofit organization, while the control groups are firms that allocated their aid directly. The table shows average values for the analyzed period only as a reference. The synthetic control method minimizes the distance between treatment and control cases on a case-by-case basis. The total number of country disasters in the period 2003–2015 is 4,396.

TABLE 8 The underlying effects of the type of donation in the comparative value of NPO channeling for corporate disaster giving

		Local operations						The firm does not have local operations					
		The firm has local operations						The firm does not have local operations					
		Model 13 Low		Model 14 Medium		Model 15 High		Model 16 Low		Model 17 Medium		Model 18 High	
Institutional development		NPO	Direct	NPO	Direct	NPO	Direct	NPO	Direct	NPO	Direct	NPO	Direct
In-kind													
Donation amount (USDmm)		0.27	0.61	0.47	1.05	0.81	5.17	0.71	0.12	0.72	0.64	0.96	1.17
		Model 19 NPO		Model 20 NPO		Model 21 NPO		Model 22 NPO		Model 23 NPO		Model 24 NPO	
Cash													
Donation amount (USDmm)		0.72	0.24	0.54	0.52	1.27	2.14	0.45	0.19	0.13	0.08	0.74	0.46

Note: For each type of donation (in-kind and cash), the treatment groups are comprised of firms that channeled their disaster aid through a nonprofit organization, while the control groups are firms that allocated their aid directly. The table shows average values for the analyzed period only as a reference. The synthetic control method minimizes the distance between treatment and control cases on a case-by-case basis. The total number of country disasters in the period 2003–2015 is 4,396.

for cash than for in-kind donations. Such difference is economically substantial in both low- and high-institutionally developed countries. Moreover, model 14 shows that NPO experience is valuable for in-kind donations in nations with low institutional development in which firms do not have a local market presence. There, NPO channeling resulted in greater donations than direct implementation would have yielded.

4.3 | Assessing firms' actual governance choices

Having established under which conditions the value of the NPO and firm experiences are relatively large and thus led to relatively large donation amounts, we compare with what firms did in practice. Table 9 shows the actual choices of governance mode across institutional contexts. We observe that firms resorted frequently to NPO channeling in countries with higher levels of formal institutional development in which they had market experience: these cases account for almost 20% of the dataset. Conversely, firms resorted less frequently (10% of the cases) to NPO channeling in countries with lower levels of institutional development in which they have no market experience, i.e., the

TABLE 9 Distribution of firms' governance mode choices for allocating disaster aid

NPO mode				Direct mode							
69.8%				30.2%							
Local operations				Local operations							
Yes		No		Yes		No					
41.7%		28.1%		19.1%		11.1%					
Institutional development				Institutional development							
Low	Medium	High	Low ^a	Medium	High	Low	Medium	High ^b	Low	Medium	High
11.9%	10.1%	19.7%	9.8%	6.3%	12.0%	5.9%	3.5%	9.7%	2.8%	2.9%	5.4%

Note: This table shows the actual choice of allocation mode for every single corporate disaster donation reported in the media during the period 2003–2015. We highlight what our analyses indicate are the optimal use of each governance mode the following ways.

^a The conditions under which channeling company aid through an NPO would have resulted in comparatively large donations

^b The conditions under which direct implementation by the firm would have resulted in comparatively large donations.

conditions under which channeling company aid through an NPO would have resulted in comparatively large donations.

Furthermore, firms relied infrequently (a mere 9.7% of the cases) to the direct mode in countries with high institutional development where they have local operations, i.e., the conditions under which direct implementation by the firm would have resulted in comparatively large donations. Moreover, firms sometimes implemented their aid directly in countries with lower institutional development in which they did not have operations. In other words, firms tended to choose the governance mode that yields comparatively low levels of aid given their local presence and the national institutional development. This pattern was observed across firms and time.

5 | DISCUSSION AND CONCLUSION

Between August and September 2017 alone, catastrophic monsoons killed thousands of people in South Asia and the Caribbean, the Gulf Coast of the United States was hit by hurricanes that wreaked economic destruction on a historic scale, and Mexico City experienced its most powerful earthquake in over three decades. These phenomena are likely to become increasingly ubiquitous as urbanization, economic interdependencies, and environmental degradation lead to a rise in such occurrences worldwide. In this context, there is a growing urgency to act on the UN appeal for a systemic change in humanitarian aid. Our findings can help inform this process by contributing theoretical and empirical insights as to how firms take on the challenges associated with their role in tackling large-scale social issues.

Our results indicate that NPOs can act as catalysts of company aid for cash donations. The effect of NPO channeling on corporate donation amounts is particularly strong in less institutionally developed settings where the firm lacks local operations. When considering in-kind donations, however, our results indicate that NPO channeling is not *systematically* the governance mode that leads to comparatively large donations because the effect is contingent on the national level of institutional development and whether the firm operates in the affected country. In light of the increasing social need and the evidence suggesting that corporate disaster giving can have performance implications for firms, channeling donations through NPOs should be a particularly strong win-win proposition for in-kind donations in countries with lower levels of institutional development, especially when the firm lacks local operations and in the aggregate, for cash more than for in-kind donations.

However, we found that firms tend to make the opposite governance choices. This points to the factors that firms consider when determining how to give and how much. These may be at odds with those envisioned by the UN when calling for greater corporate involvement, or simply require greater efforts to foster mutual understanding and accountability across sectors. For instance, some firms may feel that the objective of increasing the size of donations is not aligned with their own interests and seek out the governance mode that will enable them to satisfy the requirements of external stakeholders with minimal effort or expense. It may also be that firms are concerned about ceding control over their donations and feel more confident in their ability to monitor their own implementation of aid in countries with weaker formal institutions. Conversely, firms may also share the desire to fill the financing gap for aid, but inaccurately evaluate their relative ability to deliver aid in disaster situations compared to NPOs. Our results point to a need for better understanding these motives if the promise of company involvement in addressing this social challenge is to be fulfilled.

Our study offers theoretical contributions to research on nonmarket strategy and cross-sector partnerships. Within the former, the literature on corporate disaster giving is still nascent and has focused on the drivers of such engagement (Ballesteros, 2018; Luo et al., 2016; Madsen & Rodgers, 2014;

Muller & Whiteman, 2008; Tilcsik & Marquis, 2013; Zhang & Luo, 2013), its strategic value for the firm (Crampton & Patten, 2008; Madsen & Rodgers, 2014; Muller & Kräussl, 2011; Patten, 2008), and to a lesser extent its effects on social welfare (Ballesteros et al., 2017). Our paper shifts the conversation beyond showing *why* firms engage and *should* engage in these types of initiatives to explaining *when* and *how* they do so.

Second, regarding the literature on cross-sector partnerships (Bhanji & Oxley, 2013; Dahan, Doh, Oetzel, & Yaziji, 2010; Kivleniece & Quelin, 2012; Rangan et al., 2006), our study informs on one such type of NPO–firm interaction that has received limited attention: NPOs acting as implementing partners for firms addressing social issues. While research in operations has pointed to examples of logistics companies and humanitarian organizations working together (Wassenhove et al., 2008), the literature has yet to fully integrate these findings or account for emergency aid as a fertile area for cross-sector collaboration.

Our paper speaks to two central themes of strategy research, value creation and appropriation, when they are applied simultaneously to both the public and private domain. The underlying mechanisms in our study are consistent with research indicating that resource complementarities drive the desirability of cooperative solutions (Dyer & Singh, 1998; Gulati, 1995; Kale & Singh, 2009). Here we show that one may extend this concept to explain the conditions under which crossing sector boundaries is valuable for firms and stakeholders.

In addition to the limitations of our study discussed above, we point out two others that offer a path for future investigation. First, there is a need to further distinguish diverse types of cross-sector collaboration. Channeling donations through NPOs is likely in most cases to correspond to short term, transactional relationships rather than integrative and long-run relationships (Austin, 2000). Case studies have pointed to best practices involving much deeper coordination, wherein the firm and its staff play an active role to assist the NPO in delivering resources (Tomasini & Van Wassenhove, 2009). Work on this topic could offer more nuanced understanding of the governance choice by focusing on the mechanisms underlying synergies between firm and NPO experience.

Second, there may be other entities that serve as partners for firms acting directly and for international NPOs acting as firms' intermediaries. For instance, relationships with governments or grassroots groups may also be relevant even if they are not the primary vehicle for delivering social goods because they provide access to different sets of resources such as local knowledge or legitimization (Madsen & Rodgers, 2014). Research on the role these entities may play could help understand why firms seem to make suboptimal choices of governance modes.

Third, future work may add nuance to the role of firm and country factors. The relative value of firm resources to deliver aid likely varies across types of local operations and affiliates, which we aggregated in our study. Additionally, countries classified within the same level of institutional development surely have meaningful differences in norms, rules, and customs that may affect the effectiveness of each governance mode.

We believe that research at the intersection of company engagement in large social issues, such as natural disasters, and cross-sector partnerships stands to become increasingly relevant given the rising socioeconomic toll of these shocks and the frequency by which firms interact with other entities. In line with the competitive advantages that such behavior may generate for the firm (Madsen & Rodgers, 2014; Muller & Kräussl, 2011), addressing the consequences of disasters is of strategic value for the firm as these phenomena are now seen as one of the top causes of business mortality (FEMA, 2015). With this study, we hope to join the efforts of several strategy scholars to identify ways by which firms and nonprofit organizations can collaborate to solve large-scale social challenges and create more sustainable and inclusive business growth worldwide.

ACKNOWLEDGEMENTS

We are grateful for the guidance of Anita MacGahan and three anonymous reviewers and the other guest editors of the special issue on "Value Creation and Value Appropriation." We thank comments from Vit Henisz, Aseem Kaul, Howard Kunreuther and seminar participants at the Strategic Management Society and Academy of Management annual meetings, the George Washington University School of Business, and The Wharton School. Support for this research comes from the Wharton Social Impact Initiative, the UPenn Global Initiatives Research Program, the Russell Ackoff Fellowship and the Wharton Risk Management and Decision Processes Center's Extreme Events project.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

How to cite this article: Ballesteros L, Gatignon A. The relative value of firm and nonprofit experience: Tackling large-scale social issues across institutional contexts. *Strat Mgmt J*. 2019; 40:631–657. <https://doi.org/10.1002/smj.2968>