Ripple Effects: How Collaborations Reduce Contention

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Abstract: Prior work suggests firms can reduce stakeholder contention (e.g., lawsuits, protests) by establishing collaborations with those stakeholders. We explore when collaborations produce ripple effects beyond the firm's partner to attenuate contention from a broader set of stakeholders. Using variation in the willingness of firms and stakeholders to collaborate exogenous to contention to account for selection, our examination of contentious and collaborative interactions between 136 environmental movement organizations and 600 large U.S. firms reveals that collaborations reduce contention against firms through two pathways: signaling and relational. As evidence of a signaling mechanism, we find that firms experience a decrease in contentious challenges from a movement after they collaborate with a more contentious activist in that movement, provided their partner can signal the authenticity of its motive for collaboration. As evidence of a relational mechanism, we find that firms face less contention when an activist with which they collaborate has more board interlocks with other activists in the movement. Bilateral collaborations with a well-connected activist are particularly useful because the partner is more motivated to share affirming information about the firm. Our findings also generalize to stakeholder criticism beyond movement organizations, suggesting collaborations are powerful means by which firms can exploit the identity and networks of stakeholder partners to fashion less contentious environments.

Keywords: interorganizational relationships, nonmarket strategy, cross-sector collaborations, social networks, co-optation

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1. INTRODUCTION

Contentious attacks from nonmarket stakeholders, such as social movement activists or local communities, represent a significant strategic risk for targeted firms, one that can result in higher operating costs (Franks *et al.*, 2014), lower market valuations (Henisz, Dorobantu, and Nartey, 2014; King and Soule, 2007), and reduced profits (Luders, 2006). Recognizing the considerable damage contention can do, recent research explores the strategies that firms can employ to fashion more favorable nonmarket environments (see Dorobantu, Kaul, and Zelner, 2017 for a review). One promising strategy highlighted in this body of work is to mitigate nonmarket contention by forging cooperative alliances with nonmarket stakeholders like local communities (Dorobantu and Odziemkowska, 2017), non-profit organizations (Chatain and Plaksenkova, 2019; Luo and Kaul, 2019), and social activists (McDonnell, 2016; Odziemkowska, 2020).

To date, the relationship between cooperative nonmarket strategy and contention has been primarily conceptualized as a direct, or dyadic phenomenon: firms ally with potentially hostile nonmarket stakeholders to avoid being targeted by those same stakeholders. For example, firms sign contracts with the communities at greatest risk of mobilizing against them and endangering location-specific investments (Odziemkowska and Dorobantu, 2021). Similarly, firms can de-mobilize contentious social activists with offers of collaboration or direct support (Baur and Schmitz, 2012; Burchell and Cook, 2013a; Jenkins, 1998; Trumpy, 2008). For example, when Greenpeace launched a campaign against Coca-Cola protesting hydrofluorocarbons (HFC), Coca-Cola responded by working collaboratively with Greenpeace on refrigeration technology. Coca-Cola's collaboration brought an end to Greenpeace's protests against it on issues of air emissions and climate change.

In its dyadic focus, however, existing literature has largely ignored the potential indirect effects that cooperative nonmarket strategy can have beyond a firm's immediate partner. For

instance, Coca-Cola's collaboration with Greenpeace was followed by a dramatic decrease in contention from other movement organizations including Friends of the Earth, the Natural Resources Defense Council and the Sierra Club, all of whom had targeted the company in preceding years. In nonmarket settings where collaborations are costly, or few stakeholders are willing to collaborate with firms, it is important to understand when a collaboration can attenuate contention within the broader nonmarket field. In this paper, we seek to shed light on when these indirect effects of cooperative nonmarket strategy materialize. Our study addresses two related research questions. First, does a firm's collaboration with one nonmarket stakeholder ameliorate contentious threats from other nonmarket stakeholders? And if so, through what mechanisms?

We focus our inquiry on the amelioration of contentious attacks by social movement organizations (SMOs) through firms' collaborations with SMOs. SMOs' use myriad contentious tactics (Eesley and Lenox, 2006) which carry considerable risks and costs to firms. Grassroots tactics like boycotts, protests, or letter-writing campaigns, endanger firms' reputations by drawing negative media attention (King, 2011), reducing market performance (King and Soule, 2007), and disrupting relationships with other stakeholders such as directors (McDonnell and Cobb, 2020), politicians (McDonnell and Werner, 2016), and regulators (Fremeth, Holburn, and Piazza, 2021). A single boycott can cost $167 million in lost government contracts (McDonnell and Werner, 2016) and result in a 0.63 percent decline in stock price for every additional news article covering the boycott (King, 2011). SMOs also target firms with more professionalized tactics such as lawsuits, shareholder proxy proposals, or regulatory interventions (Eesley and Lenox, 2006), which increase investor risk perceptions (Eesley, Decelles, and Lenox, 2016) and in turn financial performance (Vasi and King, 2012).

In addition to the substantive importance of SMO contention, the social movement context offers several features conducive to answering our research question. First, it is a context in which

cooperative strategy is increasingly popular (Baron, 2012; Yaziji and Doh, 2009), taking the form of formal collaborations between firms and SMOs where the parties work cooperatively to advance the movement's reform agenda. Second, among the challenges of examining when cooperative nonmarket strategy attenuates contention is identifying nonmarket stakeholders "at risk" of being influenced. Focusing on social movements allows us to identify relevant nonmarket actors as those SMOs that are members of particular movements (Soule and King, 2008). Matching to a specific movement that advocates for the issue that is the focus of a firm-SMO collaboration also allows us to examine the mechanisms by which cooperative strategy allays contention. Thus, we evaluate if collaborations reduce contention by addressing movement grievances (Baron, 2012), providing indirect access to other actors in the movement (Gargiulo, 1993), or through more diffuse signaling mechanisms (Baum and Oliver, 1991; Galaskiewicz, 1985).

In crafting a theory of how cooperative nonmarket strategy allays contention, we draw from and extend prior theory on the consequences of interorganizational networks. This body of research is particularly useful for our purposes because of its emphasis on the embeddedness of actors and ties within broader structures of social relations (i.e., fields). From this perspective, interorganizational collaborations can wield influence on the broader field through their role as conduits of information and resources (pipes) or signals that influence the perceptions of field participants (prisms) (Podolny, 2001). We adapt and extend these mechanisms to build theory about the indirect effects of firm-SMO collaborations on the broader movement in which the collaboration is embedded. We test our theorized mechanisms using a unique and self-constructed longitudinal database that captures all contentious and collaborative interactions between SMOs across 14 environmental movements and a random sample of large, publicly-traded U.S. firms. This database, which spans 15 years and captures nearly 4,000 firm-SMO interactions, represents a singularly comprehensive map of historical relationships between large firms and the

environmental movement. Using a combination of matching and instrumental variable approaches to account for selection, we show that collaborations are not all equally effective at reducing movement contention. Instead, the extent to which a collaboration ameliorates the broader threat of contention depends on the collaborating SMO's network and identity. In sum, it's not what you do, but who you do it with, that determines when cooperative nonmarket strategy produces a more favorable nonmarket environment.

Our paper contributes to nonmarket strategy and social movement theory by crafting an account of how firm-SMO collaborations strategically benefit participating firms by reducing the contentiousness of the broader social movement. We contribute to nonmarket strategy research by shedding light on how firms can allay nonmarket contention by exploiting the social networks and identity of a collaborating nonmarket stakeholder. In so doing, our research provides insight into the mechanisms by which firms can exploit cross-sector ties to foster more advantageous nonmarket environments. In social movements research, scholars theorize activists' careful selection of targets for contention, optimizing on firm characteristics that improve their chances of success (McDonnell, King, and Soule, 2015). Our paper compliments and extends this work by showing firms can benefit from strategic selection when choosing partners for cross-sector collaborations, optimizing on the activist characteristics that reduce broader contentious threats from the social movement field. Our findings also complement a burgeoning research stream on the indirect effects of activism on organizational fields (Briscoe and Gupta, 2016) by being the first to consider the indirect effects of cooperative interactions between activists and firms. In the same way social activists influence each other's mobilization and tactics (Wang and Soule, 2012), our research uncovers the means by which they influence each other's de-mobilization. Finally, our work points to an important boundary condition on past theory and evidence emphasizing the signaling effects of interorganizational ties. An assumption underlying the theory of ties as signals

of actor quality is the profit maximizing instrumental motives of market actors (Podolny, 1993; Stuart, Hoang, and Hybels, 1999)[1]. We propose that audience inferences of instrumentality can detract from the signal sent by a tie when the evaluating audience operates on a different logic (e.g., prosocial logic in the case of SMOs). For interorganizational ties to be influential signals with audiences that value prosociality, the partner's identity as authentic is paramount.

2. FASHIONING FAVORABLE ENVIRONMENTS THROUGH COLLABORATION

Research highlights that firm performance is, at least in part, conditioned by favorable support of its nonmarket stakeholders (Henisz *et al.*, 2014). Firms employ a variety of strategies for gaining nonmarket support, and do so either independently or in collaboration with stakeholders (Dorobantu *et al.*, 2017b). In comparison to corporate social responsibility or other strategies that firms execute independently, research on the returns to collaborating with nonmarket stakeholders is nascent (Chatain and Plaksenkova, 2019; Dorobantu and Odziemkowska, 2017; McDonnell, 2016), and has yet to examine when collaborations help firms fashion more favorable nonmarket environments.

To inform our theorizing of the manner in which cooperative nonmarket strategy might ameliorate contentious threats, we draw upon a rich theoretical tradition describing co-optive organizational strategies. Co-optation refers to firms' attempts to contain and control external sources of uncertainty by forging a "formal relationship… that to some extent internalizes the threat" (McDonnell, 2016: 56; see also Selznick, 1949 and Pfeffer and Salancik, 1978). In her typology of strategic responses to institutional pressures, Oliver (1991: 157) notes an "intended effect of co-opt[ive] tactics is to neutralize institutional opposition." While prior work in this area

[1] Podolny (1993), for example, notes that the implicit behavioral assumption of profit maximizing actors is necessary for audience evaluations of a focal actor to be positively influenced by their ties to high-status actors. Inferences about the focal actor's quality based on the status of its partners requires the assumption that its partners operate as profit maximizers that select on quality, which makes the signal of their status informative.

tends to assume that co-optive strategies are used for the express purpose of co-opting an external threat, we contend that the concept of co-optation provides a useful lens for understanding the effects of cooperative nonmarket strategy, regardless of the firm's motives for pursuing a cooperative relationship. Thus, no matter whether a firm has authentic or instrumental reasons for establishing a collaboration, the conceptual lens of co-optation helps to shed light on how the collaboration might affect the contentiousness the firm faces.

To date, most discussion of co-optation in the context of nonmarket stakeholders focuses on the dyad (Baur and Schmitz, 2012; Burchell and Cook, 2013a; Trumpy, 2008). Co-optation in the dyadic setting is direct: firms support or ally with potentially hostile stakeholders to avoid being targeted by them. Firms sign contracts with a local community to share benefits of site-specific operations in return for that community not mobilizing against those operations (Odziemkowska and Dorobantu, 2021). Likewise, cooperative relationships between SMOs and corporations are thought to be associated with "a decline in confrontational activism and advocacy for radical alternatives" (Utting, 2005: 382). For example, prior research suggests firm-SMO collaborations can compromise the SMO's independence (Baur and Schmitz, 2012), distract it from its ultimate goals (Trumpy, 2008), and dissuade it from challenging its partner (McDonnell, 2016). In social movement theory, collaborating with or accepting support from elites is thought to moderate an SMO's goals and tactics, reducing disruptive forms of mobilization (Piven and Cloward, 1977; McAdam, 1982; Haines, 1984).

However, in highly contentious nonmarket settings, there are natural limits to allaying contention through direct co-optation alone. For example, in many social movements where relationships with firms have historically been strained, a large number of SMOs will never collaborate with firms (Baron, Neale, and Rao, 2016; Bertels, Hoffman, and DeJordy, 2014). Further, a strained relationship between two actors raises the cost of building a direct tie or

collaboration (Gargiulo, 1993). As such, direct co-optation may be confined to stakeholders already positively pre-disposed to firms, limiting its additive effects in attenuating contention. Therefore, an important question is when and how firm-stakeholder collaborations might lead to *indirect co-optation* and attenuate threats from the broader stakeholder field.

Since the 1990s, when social movements increasingly directed their mobilization at firms (Soule, 2009), SMOs have emerged as important stakeholders who "can affect … the achievement of the [firm's] objectives" (Freeman, 2010: 46). SMOs' influence stems from both their direct engagement of firms via contention or collaboration and their central position in broader social movements that influence firms' market (e.g., consumer) and nonmarket (e.g., regulatory) environments. Because acquiring resources for mobilization and sustaining collective action requires some minimal form of organization (McCarthy and Zald, 1977), SMOs are central actors in movements and in "the late twentieth century in Western industrial democracies a substantial proportion of social change oriented collective action is directly fielded by SMOs or proceeds under their auspices." (Edwards and McCarthy, 2004: 136). Moreover, SMO contention is generally more consequential to firms than that from isolated individuals or loosely organized movement groups (McDonnell and Werner, 2016), in part because they are more effective at garnering media attention (King, 2011).

We examine if SMO contention is attenuated by firms' formal collaborations with SMOs, a growing but undertheorized phenomenon (Heyes and King, 2020; McDonnell, Odziemkowska, and Pontikes, 2021). Collaborations between firms and SMOs are not mere transactional or arms-length relationships, such as philanthropy, but interactional relationships involving commitment of resources by both parties to achieve an outcome (Rivera-Santos, Rufín, and Wassmer, 2017; Wood and Gray, 1991). Similar to strategic alliances between firms, firm-SMO collaborations involve organizations working together in a purposeful way (i.e., with a goal of creating

outcomes), and each committing resources (i.e., financial, human capital etc.), with details typically outlined in a formal contract or memorandum of agreement (Rondinelli and London, 2003). Prominent examples include the Coca-Cola and Greenpeace HFC-free refrigeration collaboration or the Environmental Defense Fund's (EDF) partnership with McDonald's to examine waste reduction opportunities in its operations. Firm-SMO collaborations also involve co-management of assets or projects to build public awareness of movement issues. The Conservation Fund's purchase agreement to a critical forest habitat from International Paper, which allowed International Paper to harvest timber from the property, is one example of asset co-management. In another example, Starbucks partnered with Global Green to develop and promote an online game to educate the public about climate change.

Existing theory and early evidence are split on whether firm-SMO collaborations allay SMO and movement contention. Some posit collaborations can defuse contention from the broader movement because a firm can address movement grievances by changing its practices through a collaboration (Baron, 2012; Baron *et al.*, 2016). From this perspective, a collaboration acts as certification for external audiences, including other SMOs, that the firm has or will change its practices (Baron, 2012). For example, in describing a collaboration with Procter & Gamble, a World Wildlife Fund (WWF) representative noted the company "needed WWF to ensure that they're not attacked by NGOs," in their pulp purchasing program (Stecklow, 2006). As direct evidence of this effect, McDonnell (2016) found that firms partnering with SMOs to sponsor boycotts of other firms or industries experienced an average 56 percent reduction in the number of times they were targeted by other activists in the following year.

At the same time, evidence also points to firm-SMO collaborations being dismissed by other SMOs as greenwashing the firm's reputation (Bertels *et al.*, 2014) or accusations of the partner SMO "selling out" (Zald and McCarthy, 1980: 12). Both can lead to collaborations being

met with more, rather than less, contention. For example, when Pollution Probe, an environmental SMO, collaborated with a grocery retailer to certify its products, Greenpeace publicly questioned the environmental-friendliness of the products by holding demonstrations and distributing satirical leaflets at the retailer's outlets (Stafford and Hartman, 1996). Underlying greenwashing allegations are concerns about how effective a collaboration will actually be in changing firms' practices since those changes materialize over the course of a collaboration which can be fraught with challenges. This concern is not surprising given how many interorganizational collaborations do not achieve their intended goals—failure rates for firm-firm collaborations hover between 25 and 67 percent (Park and Ungson, 2001). Firm-SMO collaborations can also backfire (i.e., increase contention) if others believe the SMO is pursuing collaboration for instrumental or pecuniary reasons rather than a sincere desire to advance the movement's agenda. Given the uncertainty regarding whether a collaboration will in fact address a movement's demands or if the SMO's motives are authentic, it is not clear the conditions under which collaborations will attenuate contention from other SMOs.

To better understand that relationship, we draw from the broader literature on interorganizational networks, which suggests that interorganizational ties have dispersed effects on organizational fields through mechanisms summarized in two metaphors: pipes and prisms (Podolny, 2001). The former emphasizes the role of interorganizational relations as pipes for information and resource flows, while the latter highlights their role as prisms that provide salient cues about the qualities of the parties to a relationship. We use these two pathways to conceptualize firm-SMO collaborations as triggering the exchange of private information between SMOs and providing public signals that prompt SMOs in the broader movement to update their beliefs about the firm. The propensity of any SMO to contentiously target a firm is based on its beliefs about the firm's attractiveness as a target (e.g., its social performance or probability of concession) (Baron, 2012; Briscoe and Safford, 2008). We propose that an SMO's prior beliefs about a firm

may be updated through private information gleaned from SMOs that collaborate with the firm or through inferences made about the firm from its public association with other SMOs. Viewed from this perspective, firm-SMO collaborations affect the propensity of SMOs outside of the collaboration to target the participating firm insofar as the SMO partner prompts others in the movement to update their beliefs about the firm. We elaborate on each mechanism below.

2.1 Attenuating Contention Through Collaborations

In his critique of the dyadic focus of early alliances research, Gulati (1998) asserts that an alliance's performance effects are a function of the network in which it is embedded. Extending this idea to our setting, the departure point for our inquiry into indirect co-optation is the role played by the inter-SMO network in which a firm-SMO collaboration is embedded.

Social networks are "influential information conduits because they provide salient and trusted information" (Brass *et al.*, 2004: 805), particularly when the sender of information is motivated and reliable (Ghosh and Rosenkopf, 2014). While most networks research has explored information sharing about organizational practices (e.g., poison pills), interorganizational ties can also be conduits of information about other organizations. Galaskiewicz and Wasserman (1989: 454) first brought attention to managers using information gleaned from interorganizational ties "to make decisions on how to relate to other organizations in their task environment." They found that interlocked directors at nonprofit organizations acted as conduits of information about prospective private-sector funders. Despite having no relationship with a private-sector funder, a focal nonprofit could learn about the firm when its directors sat on the board of another nonprofit that *did* have a relationship with the firm. In this way, indirect ties enable information gleaned from one interorganizational relationship to transfer outside the relationship.

Inter-SMO networks can act as information conduits that demobilize others indirectly tied to a firm in two ways. First, in the same way that narratives of mobilization can energize other

activists (Polletta, 1998), we expect narratives of collaboration with a firm to quell contention. That is, an SMO that collaborates with a firm can transfer positive private information about the firm to other SMOs, which can influence their perceptions of the firm's motives, and the authenticity of its support for their cause. Secondly, SMOs collaborating with a firm may protect it by reaching out to their connections to advocate on the firm's behalf, or by discouraging their peers from targeting their partner. One executive quoted in McDonnell (2016: 57) illustrates this mechanism, saying:

> "[T]he Greenpeace guys, they know the PETA guys… [I]f we are working with PETA on something that might make a big difference in the animal rights world, and then, if we get a call from Greenpeace threatening to put the heat on us, well, we'd expect PETA to call and say 'back off, they are one of the good guys."

SMOs might attempt to advocate on the firm's behalf to ensure its continued dedication to their collaboration and to protect its reputation, given that their open association with the firm could expose the SMO to adverse reputational spillovers if their partner firm's reputation is compromised (McDonnell *et al.*, 2021).

All this suggests firms should benefit more from collaborating with an SMO that is centrally embedded within its social movement field, as these SMOs can reach a broader population of SMOs in the field to share praise and advocacy for the firm, when necessary. Accordingly, we expect that a firm that collaborates with an SMO is likely to reap the benefits of fewer contentious challenges not just from its partner, but other SMOs connected to its partner:

> **Hypothesis 1 (H1).** *A firm that collaborates with an SMO will face fewer contentious challenges from other SMOs in the movement the greater their partner SMO's ties to other SMOs.*

Importantly, however, the strength of the relationship proposed in hypothesis 1 is likely to vary with the intensity and intimacy of the collaboration. Research highlights that the actual transmission of information via networks is dependent on the sender being motivated and

perceived as reliable (Ghosh and Rosenkopf, 2014). In line with this evidence, we expect bilateral collaborations between a firm and SMO to have a greater impact on the calculus of indirectly tied SMOs than multilateral collaborations. Bilateral collaborations refer to collaborations that include only a focal firm and focal SMO, whereas multilateral collaborations involve consortiums of SMOs and firms. Ring and Van de Ven's (1994) process model of cooperative relationship formation suggests trust and goodwill of parties is a cumulative product of repeated past interaction. Bilateral collaborations offer greater opportunities for the repetitive sequences of negotiation, commitment and execution events that underlie the building of goodwill between actors (Ring and Van De Ven, 1994). Conversely, in a multilateral collaboration, reciprocal exchange events are supplanted with generalized social exchange (Li *et al.*, 2012). The removal of the reciprocity between the exchange partners can undermine the building of goodwill between partners. As such, in bilateral collaborations the information an SMO relays to its network about its corporate collaborator is likely to be more specific and affirming. Moreover, bilateral collaborations involve a more overt and clear connection between an SMO and firm, exaggerating the associative reputational risks. As such, an SMO will be more motivated to discourage its peers from targeting its ally in a bilateral, as opposed to multilateral, collaboration. Thus, we expect:

> **Hypothesis 1a (H1a).** *The decrease in contentious challenges proposed in hypothesis 1 will be more pronounced for bilateral collaborations, as compared to multilateral collaborations.*

In addition to transmitting private information, interorganizational ties also provide more diffuse cues "on which others rely to make inferences about the underlying quality of one or both of the [tied] actors" (Podolny, 2001: 34). The notion of interorganizational relationships providing signals about partners has received support in numerous contexts ranging from banking syndicates (Podolny, 1994) to daycare centers (Baum and Oliver, 1991). The perspective holds that actors in an organizational field can be influenced by relationships between two organizations even when

not directly tied to either actor in the relationship. This is because salient signals like the category membership (Zuckerman, 1999) of one party to the relationship heuristically inform the conclusions that field participants draw about the characteristics and quality of the other party to the relationship.

Perhaps one of the most salient and observable dimensions on which SMOs are typically categorized is their tactical repertoire (Clemens, 1993), or the degree to which they employ contentious tactics like protests, boycotts or lawsuits versus more collaborative tactics like cross-sector partnerships (Bertels *et al.*, 2014). Reflecting this distinction, organizations comprising a social movement field are referred to variously by scholars as 'radicals' versus 'moderates' (Haines, 1984), 'confrontational' versus 'cooperative' (Baron *et al.*, 2016), or, in the environmental movement, 'dark greens' versus 'light greens' (Hoffman and Bertels, 2010). Such cognitive classifications are based on the actions of SMOs in the context of past mobilization, and have been shown to operate as especially salient signals to participants in movements where relational ties between activists are thin (McAdam and Rucht, 1993). Repertoire-based categorizations are constructed in media reports of tactics and in the communications of the organizations themselves. Greenpeace, for instance, has a fairly strong reputation for using a contentious repertoire when interacting with firms. It has been described in the media as "known for its over-the-top efforts to draw attention to various causes," (Bostedt, 2017) and self-describes its work as "us[ing] peaceful protest" while maintaining its independence by "never tak[ing] any money from corporations or government" (Greenpeace, 2016: 26). Conversely, the EDF, whose collaborations with firms like McDonald's and Walmart have received much media attention, describes its work as "partner[ing] with leading companies to achieve environmental results" (Bertels *et al.*, 2014: 13).

Categorization of SMOs as 'confrontational' or 'cooperative' creates expectations amongst observers about the typical means by which they engage firms. These expectations will, in turn, inform how observers interpret and make sense of a firm-SMO collaboration. The announcement of a firm's collaboration with a 'cooperative' SMO, such as the EDF, conforms to existing expectations. As such, it is likely to produce little new information. Conversely, a firm's collaboration with a 'confrontational' SMO violates expectations and creates a strong stimulus for observers to re-evaluate their own beliefs (Kernahan, Bartholow, and Bettencourt, 2000). Briscoe and Safford (2008) term this the Nixon-in-China effect whereby cooperation by actors known for being confrontational with another actor (e.g., Nixon with China) prompts observers to reassess the logic of maintaining conflictual relationships with the other actor (e.g., China).

SMOs' collaborations with firms provide valuable information to other activists because they reveal "something about their private information and beliefs" (Dorobantu, Henisz, and Nartey, 2017a: 565). Because confrontational SMOs rarely engage firms collaboratively, their collaboration with a firm operates as a more salient and informative cue about their beliefs about the firm. This information is used by other SMOs to update their beliefs about which firms to target and how, and should have a particularly pronounced effect on SMOs that are similarly contentious, insofar as these organizations are more attuned to the actions of others that they see as peer referents (DiMaggio and Powell, 1983; Marquis and Tilcsik, 2016). In this way, a collaboration with a primarily contentious SMO not only creates a stronger signal by violating expectations (Briscoe and Safford, 2008), it may also be particularly important in reducing contention through its effect on the most contentious segments of a movement. As one director at Coca-Cola said of its collaboration with Greenpeace: "It's very powerful for a company to be associated with an NGO, *especially if it's an activist one*," (Financial Times, 2007, emphasis added). Greenpeace's

recognizable brand as a contentious campaigner acts as a stronger endorsement of its beliefs about the firm's merits, and is influential with the movement's most contentious members.

In summary, the tactical repertoires of SMOs create lines within social space that serve as salient boundaries. When a contentious SMO signals through a collaboration that a firm is a worthy ally, this serves as a strong signal that may quell the contentiousness of others in the broader social movement. Therefore, we propose:

> **Hypothesis 2 (H2).** *A firm that collaborates with an SMO will face fewer contentious challenges from other SMOs in the movement the more their partner SMO has a history of using contentious tactics.*

In addition to communicating revised beliefs about the firm, a confrontational SMO's collaboration simultaneously leads to inferences about its motive in shifting to collaboration. In describing the Nixon-in-China effect, Briscoe and Safford (2008) note that beyond the surprise generated by pivots in repertoires (i.e., from confrontation to collaboration), audience inferences about the motive underlying the pivot also matter. They note that the adoption of a practice by a previously resistant actor may be "viewed as motivated by instrumental intentions" (Briscoe and Safford, 2008: 465) signaling the economic rationality of the new practice. While this is a positive signal for organizations that operate using a market logic, it may be a negative one for organizations operating on a prosocial logic. To the extent that collaborations are thought to offer pecuniary or other benefits to an SMO they may foster suspicion regarding the SMO's ulterior instrumental motives and seed doubt about the authenticity of its motive (Hahl and Zuckerman, 2014), similar to when SMOs engage in commercial activities (Lee, Ramus, and Vaccaro, 2018). Unlike the private information sharing mechanism that operates via inter-SMO ties where motives can be directly communicated to peers, motives are unobservable to peers relying exclusively on a public signal. Thus, we expect the persuasiveness of the signal sent by collaborations with

confrontational SMOs to vary with others' perceptions of the collaborating SMO's underlying motive as self-benefitting versus sincerely seeking to advance movement goals.

When motives are unobservable but important evaluation criteria, research has found that audiences rely instead on judgments of an organization's authenticity (Hahl and Zuckerman, 2014; Radoynovska and King, 2019). Authenticity can signal the non-pecuniary, non-instrumental motivations of an organization (Carroll and Wheaton, 2009; Walker and Stepick, 2020), and is critical when SMOs risk perceptions of selling out (Fassiotto and Soule, 2017).[2] How do SMOs signal authenticity? Walker and Stepick (2020) propose that audiences look to organizational tactics and features grounded in ideals of grassroots mobilization, including those that draw on mass participation (e.g., protests, letter-writing campaigns), displays of spontaneity and emotion (e.g., civil disobedience like climbing a smokestack), and participatory rather than professionally-driven organization, and grassroots membership. Grassroots, participatory tactics and organizational features are evidence of uncoerced engagement and drive "perceptions of activists' sincerity and moral standing" (Walker and Stepick, 2020: 20). Conversely, professionally-driven non-membership organizations that rely upon professional expertise of lawyers, policy analysts, and scientists to advance their advocacy are evaluated as comparatively less authentic.

Thus, the extent to which other SMOs in a movement update their prior beliefs about a firm after its collaboration with a confrontational SMO will depend on their judgements of the confrontational SMO's motives for collaborating. Non-pecuniary and non-instrumental motives overcome concerns the SMO is selling out and are most likely to be attributed to SMOs that rely on grassroots participatory tactics. Collaborations with SMOs using contentious tactics that rely on professionals (e.g., lawyers) and institutional arenas (e.g., courts, regulatory hearings) are less

[2] Authenticity is a multidimensional construct and most relevant to our question is moral authenticity which signals the sincerity of choices, signaling non-pecuniary, non-instrumental motivations (Carroll and Wheaton, 2009; Walker and Stepick, 2020).

persuasive because their relative professionalization seeds doubt about the authenticity or sincerity of their motivations in making the tactical pivot to collaboration.

> **Hypothesis 2a (H2a).** *The decrease in contentious challenges proposed in hypothesis 2 will be more pronounced for partner SMOs with a history of using grassroots contentious tactics, as compared to professional contentious tactics.*

3. METHOD

We focus our study on firms' interactions with various environmental movement organizations to allow for a focused exploration of the mechanisms by which firm-SMO collaborations result in a reduction in contentious challenges from a given movement. Environmental SMOs are especially well-suited to test our theory because of the large variance in the tactics the employ. The variance in tactics employed by environmental SMOs engaging with firms is well illustrated by their popular categorization as 'dark greens' versus 'light greens' (Hoffman and Bertels, 2010). This is also an ideal setting because of the prevalence of inter-SMO board ties, which allow us to observe the structure of intra-movement networks. Further, the board interlock network of environmental SMOs is highly clustered and provides a context with large variance in the network profiles of individual SMOs (Bertels *et al.*, 2014).

We test our hypotheses using a unique, hand-collected database that tracks all contentious and collaborative interactions between 136 U.S.-based environmental SMOs and a random sample of Fortune 500 companies in the U.S. between 1997 and 2012. We generated the company sample by randomly drawing 600 companies from the pool of all companies appearing in the Fortune 500 at any point during the sample period. The Fortune 500 list was sampled because research has shown SMOs favor large, high-status firms for contentious targeting (King, 2008), and collaborations (Odziemkowska, 2020).

The sample of SMOs was created using a combination of media-based search and an archival directory. We searched Factiva archives of U.S. newspapers for all organizations

described in media as an "environmental activist organization," "conservation activist organization," "environmental activist group," or "conservation activist group," and matched the organization names this search produced with formal nonprofit tax filings from the National Center for Charitable Statistics (NCCS). We employ the term 'activist' in the searches because activism is a key function of an SMO and is necessary to classify an organization as belonging to a social movement (Soule and King, 2008). The media-based sample was complemented with nonprofit organizations from the NCCS database classified as engaging in advocacy on environmental issues based on their National Taxonomy of Exempt Entities Core Code (NTEE-CC) at any point between 1997 and 2012. The NTEE-CC for advocacy on environmental issues (code C01) encompasses a wide range of organizations, therefore, we further verified that the organizations so classified were independent (i.e., not corporate-backed) and interacted with the sampled firms. After these exclusions, the final sample includes 136 environmental SMOs.

3.1 Data sources

Following common practice in social movements research (Earl et al. 2004), we rely on media reports to code contentious and collaborative interactions between an SMO and firm. Our list of possible sources includes all North American English-language sources included in Factiva's categories of major news and business publications and press release wires[3], which includes major wire sources providing corporate press releases. Relying on media reports can create two forms of bias: selection bias (i.e., ideological biases, over-reporting of negative events) and description bias (i.e., the veracity of the coverage) (Earl et al. 2004). Our sample mitigates ideological selection biases by including multiple major news and business publications rather than relying on one media outlet. We also mitigate the selection bias introduced by the media's over-reporting of

[3] The major news and business publications category includes over 100 print and online sources from outlets such as ABC News, The Boston Globe, and the Wall Street Journal, while the press release wire category includes over 200 press release wires such as Business Wire and Nasdaq/Globenewswire.

negative events (e.g., protests may be over-reported in comparison to collaborations), by including press releases in our source list, which tend to report more positive news. To mitigate description bias, we rely only on the "hard facts" of the event (e.g., who, what, when), which is relatively accurate in media reports (Earl et al. 2004: 65).

Within this source list, we searched for any articles or press releases where the firm name and SMO name appear in the same report. In total, this search yielded approximately 60,000 unique media articles and press releases. Each resulting article or press release was read by undergraduate student coders, and then reviewed again by the authors,[4] selecting instances where the SMO contentiously interacted with a firm (e.g., protests, boycotts, lawsuits), or cooperatively interacted with a firm (e.g., monetary or in-kind donations, board interlock, collaboration). Table A1 (Appendix A) provides examples of most commonly occurring interactions. All contentious and cooperative interactions in a firm-SMO dyad are recorded by the authors with unique identifiers (for deduplication of multiple reports), and coded for the environmental issue (Appendix B lists the environmental issues) being advocated for, or addressed, in the interaction based on the Comparative Agendas Project topics codebook (Baumgartner and Jones, 2002). Coding by environmental issue enables us to test the impacts of collaborations addressing an environmental issue (e.g., air emissions) on the movement associated with that issue (e.g., climate change movement). Consistent with past research, large firms operating in environmentally sensitive industries such as extractives, energy, or animal production, experience the greatest number of contentious challenges (Table A2 in Appendix A).

[4] During the training period, which spanned one month and approximately 2,000 articles coded by each coder, we read every article that the undergraduate students coded and provided feedback. Once each coder was trained to a performance level of at least 95 percent correct coding, we continued to read and enter into a database every article that was coded as containing either a contentious or cooperative interaction, but not those that were coded as containing neither. Inter-coder reliability tests conducted half-way through the coding exercise demonstrated a high rate of agreement (95 percent average, three coders, random sample of 3,465 articles).

In identifying firm-SMO collaborations we concentrate on relationships aligned with Selznick's (1948: 34) conception of elements absorbed "into the leadership or policy-determining structure of an organization" through a formal relationship or alliance. We define a collaboration between an SMO and firm as organizations working together by committing resources to achieve mutually relevant outcomes. Excluded from our definition are any arms-length cooperative interactions, such as corporate donations to the SMO, marketing affiliations (e.g., licensing of SMO logo), or market transactions, such as purchases of an SMO's products (e.g., carbon credits). Appendix A provides additional details on the definition and key features of firm-SMO collaborations. We identified firm-SMO collaborations from the broader population of cooperative interactions reported in the Factiva media and press release search described above, as well as firm's financial filings by searching for each SMO name in firms' 10-K filings. Relying on a combination of media, press releases and company filings is consistent with methods employed by databases used for research on firm-firm alliances (Schilling, 2009). Each media report, press release, or company filing was read carefully by the first author, to identify those interactions that conformed with the definition of collaboration. Each collaboration is coded as bilateral (i.e., one SMO and one firm) or multilateral (i.e., one or more firms or SMOs), the year in which the collaboration began, and its duration.[5] Similar to the concentration of contention, we find firms with collaborations are concentrated in consumer-facing industries such as retail or consumer products (Table A3 in Appendix A). In addition to the data on firm-SMO interactions, we rely on

[5] Each collaboration's end date or duration is determined in one of two ways. For 53 percent of collaborations, duration is taken directly from the announcement (e.g., "three-year partnership"), or from reporting on its outcomes (i.e., if the collaboration outcome is subsequently reported, we assume the collaboration concludes when its objective is met). For the remaining collaborations (47 percent), we assume a 3-year life span, which is the sample median for those collaborations where duration is observable, and consistent with the approach taken in alliances research (Schilling and Phelps, 2007). Panel results are substantively unchanged if we assume a 2-year or 4-year life span for collaborations with missing information on duration.

several other sources for firm, SMO and movement level measures to test our hypotheses or for controls in our estimations, which we describe as we introduce those measures.

3.2 Empirical Design

To test our hypotheses of indirect co-optation resulting from firm-SMO collaborations we have to take account of self-selection into collaboration. Specifically, firms that form collaborations with SMOs on a particular environmental issue may be different from other firms in ways that differentially influence whether they are contentiously targeted after the collaboration. We accounted for this selection bias using an instrument for collaboration in both a matched sample and full sample panel analysis. For our matched sample analysis, we identified firms that closely resemble the collaborating firms on observables that predict contention and collaboration, and we use an instrumental variable (IV) to predict treatment within the matched sample. Because our matching drops half of formed collaborations, there is concern that the findings may not generalize to the larger population. To ensure this is not the case, we also show results from IV-panel regression using the full sample.

Matching Approach. We construct our matched sample by first identifying every firm-SMO collaboration on a given environmental issue established between 2002 and 2010. Collaborations are distinguished by issue because we expect those addressing issues advocated by a specific movement have greatest influence on SMOs in that movement (i.e., a collaboration on a recycling program may not affect contentious targeting of the firm on carbon emissions). We focus on collaborations formed beginning in 2002, because it is the first year SMOs' IRS tax filings, which we use to construct SMO board interlocks, are consistently available. Not including collaborations formed after 2010 ensures we have sufficient data on contention following the collaboration. This initial sample consists of 79 firms with 398 SMO collaborations on 10 different environmental issues.

We then look at each firm-SMO collaboration on a given environmental issue, and create a match on firm characteristics that make another firm an equally plausible candidate for a collaboration on that issue (i.e., the 'counterfactual collaborations'). The goal was to find firms that were as close as possible to the treated firms prior to collaboration on dimensions that predict collaboration and contentious targeting by SMOs in a given movement. In total, we match on nine firm characteristics considered by SMOs in choosing collaboration partners, or vice versa, or in choosing targets for contention. We use coarsened exact matching (CEM) to identify the plausible counterfactual collaborations for each treatment (Iacus, King, and Porro, 2012), using the remaining Fortune 500 firms in our sample as the donor pool, and match without replacement. First, we match on the number of contentious challenges and arms-length cooperative interactions (e.g., donations) each firm had with any SMO in the focal movement in the previous five years. Contentious targeting by a movement drives collaboration by creating crises for targeted firms (Haines, 1984; McDonnell, 2016), increasing SMO bargaining power in a collaboration (Baron, 2012), and is predictive of future contention (McDonnell, 2016). Past arms-length cooperation between a firm and movement demonstrates the salience of the issue advocated by the movement to the firm, and SMOs' willingness to engage the firm on the issue (Odziemkowska, 2020). Because both variables are highly skewed (i.e., most observations are between 0 and 2), we categorize firms into coarsened 'bins' for each variable and firms are matched within these bins—the bins are 0, 1 to 2, 3 to 4, and above 4. We also accounted for the possibility that the trajectory of recent contention matters to future contention by matching on a 2-year trend in contention (i.e., the difference between contention three years prior and the year preceding the collaboration).

We also matched on firm size and media attention because SMOs favor firms with market power and visibility for collaborations (Odziemkowska, 2020). Firm size is proxied by total assets and media attention is the sum of all articles containing a firm's name that appeared in the six

largest U.S. newspapers in the year prior to collaboration (scaled by 1,000 articles).[6] We matched firms on industry because the salience of environmental issues and prevalence of contention varies by industry. We also took into account firms' environmental performance because poor environmental performance is associated with greater contention against the firm. We match on both the level of environmental performance in the preceding year and the change in the preceding three years[7] to account for trends. Finally, we matched on trends in economic performance, using the percentage change in net sales from three years prior to the year immediately preceding the collaboration based on King's (2008) logic that sales declines make firms vulnerable to movement attacks. In total, the matching resulted in 163 actual collaborations by 47 firms with an SMO on eight environmental issues, and 343 counterfactual collaborations on those same issues with matched firms. Table 1 shows descriptive statistics for the matching variables for firms treated with collaboration and matched firms, and confirms the two groups do not differ significantly. We control for other important characteristics such as firm receptivity to activism but these are not included in the matching procedure to limit the loss of observations.

**** Insert Table 1 here ****

Instrumental Variable. To meet the relevance and exclusion conditions, a valid instrument for those firms 'treated' with a collaboration in the matched sample, must be predictive of a collaboration on a given issue with a particular firm, but not the subsequent contentious challenges the firm faces from the movement. We use an instrument that interacts exogenous shocks to individual firms' demand for a collaboration with a measure of the willingness of SMOs

[6] We focus on the six largest newspapers to reduce variability due to organizational survival of newspapers and changes in coverage of media outlets in Factiva over time. The six largest U.S. newspapers are *The New York Times, The Washington Post, The Wall Street Journal, Chicago Tribune, USA Today,* and *Los Angeles Times.*

[7] Environmental performance as the sum of KLD concerns ratings. Chatterji, Levine, and Toffel (2009: 25) found KLD concern ratings are "fairly good summaries of past environmental performance" and predictive of future pollution. Change in environmental performance is calculated as the number of KLD concerns in t-1 minus that in t-3, because some firms have zero concerns rendering a percent change measure undefined for those firms.

in a movement to collaborate with firms in a given year. The logic here is that collaborations are formed by the match of two willing parties at a given point in time. If the source of this variation in the willingness of *both* parties to collaborate is not related to the contention the firm faces from other SMOs subsequent collaboration (except through its impact on collaboration), then the instrument satisfies the exclusion condition.

Beginning with SMOs' willingness to collaborate, Odziemkowska (2020) shows that when movements are relationally segmented between radical and moderate SMOs (i.e., little cooperation between them), collaborations are considerably less likely to materialize. The mechanism underlying the effect is avoidance of open attack by radical SMOs in the movement accusing collaborating SMOs of 'selling out' (Zald and McCarthy, 1980) or 'sleeping with the enemy' (Burchell and Cook, 2013b). Such open attacks are more frequent in segmented movements, but important to our purpose, movement segmentation is not predictive of contentious challenges against firms (Odziemkowska, 2020). Thus, we proxy for an SMO's willingness to collaborate with any firm on a given environmental issue with the reverse of the measure used by Odziemkowska (2020) for movement segmentation in the preceding year. Appendix C provides information on the measure, underlying data, and graphs of segmented and unsegmented movement networks.

We proxy a firm's demand for a collaboration using the sum of extreme weather events in a firm's headquarter county in the preceding three years.[8] Extreme weather events provide an exogenous shock to firms' demand for environmental collaborations, because those who experience extreme weather events increase their behavioral intentions for sustainability-related actions (Demski *et al.*, 2017) and investments (Brandon and Krueger, 2018). Weather has

[8] To construct the measure, we match each firm's headquarter county with data from SHELDUS (Spatial Hazard and Loss Database for the United States) on which counties in the U.S. were affected by 38 extreme weather disasters, defined as disasters lasting less than 30 days with estimated damages above $1 billion (Barrot and Sauvagnat, 2016).

previously been linked to individual beliefs about environmental issues (e.g., Konisky, Hughes, and Kaylor, 2016). Important to our rationale, however, is recent research showing that the changes to beliefs and attention that extreme weather prompts also translate to changes in behavior and investment. Brandon and Krueger (2018) show that institutional investors increase their investments in high sustainability assets if the investors' headquarters are hit by natural disasters. Choi, Gao, and Jiang (2020) similarly find divestment from unsustainable stocks in markets experiencing extreme weather, an effect mediated by increased attention to climate change as proxied by Google searches. The attention-mediated results of Choi *et al.*, (2020) have been confirmed in other studies using alternative measures such as local messages on Twitter related to climate change (Sisco, Bosetti, and Weber, 2017) and local discussion in media outlets and by opinion leaders (Boudet *et al.*, 2020). We draw on the logic offered by Brandon and Krueger (2018) and Choi *et al.*, (2020) that extreme weather close to an organization's headquarter serves as a wake-up-call which makes an organization's leaders and employees more receptive to environmental issues and, as a result, alter their resource allocation towards sustainability. Working with an environmental SMO is one way firms can address sustainability by leveraging SMO expertise and knowledge of environmental issues (Rondinelli and London, 2003). At the same time, extreme weather events are plausibly exogenous to firm characteristics in a given year because the choice of headquarter location in our sample of large established firms was determined many years prior and are rarely moved (e.g., Walmart has been headquartered in Bentonville, Arkansas for over 50 years).

We use the interaction of *extreme weather events* and the reverse-coded *movement segmentation* to instrument for collaboration. The interaction should be predictive of an SMO and firm forming a collaboration in a given year by proxying for the match of firm demand for, and SMO willingness to supply, a collaboration. At the same time, the interaction should not through

any other channel affect the subsequent contentiousness the firm faces from that movement. To violate the exclusion condition, the timing of extreme weather events in a particular county in concert with dense ties between radicals and moderates in a movement in that same year would have to influence contention against the focal firm by that movement in the following years.[9]

Estimation. We estimate the effect of collaborating SMO characteristics (e.g., legitimacy) on contention the firm receives using a within-match design. Each row in the data represent a firm-SMO-issue dyad, and the treated rows are those with actual collaborations, and the control rows are the plausible counterfactual collaborations (i.e., matched firms). The matching design is implemented in the models through dummy variables for each of the matched 'strata' of observations obtained from the CEM procedure. In essence, the estimations yield within-strata estimates of the impact of a collaboration and collaborating SMO characteristics on contention a firm faces from other SMOs. Because the treatment (i.e., collaboration) is binary, conventional two-stage least squares (2SLS) regression is not appropriate (Angrist and Pischke, 2008). We use two approaches to account for selection into binary treatment. In the first, we use nonlinear fitted values as an instrument for the binary treatment indicator in a conventional 2SLS as recommended by Angrist and Pischke (2008). We implement this by running a probit regression to predict collaboration with all covariates, matched strata dummies and the instrument, from which we obtain fitted values that we subsequently use as the instrument for the treatment in a conventional 2SLS model. The second approach is an analog to the Heckman selection model for endogenous selection into a binary outcome. Essentially a probit model estimates treatment with all covariates and the instrument, and a correction based on the probit model is applied to the second stage (Stata 15 'etregress' command). Referred to as the treatment effects model, this approach is also

[9] In addition to movement segmentation not being related to contention against firms (Odziemkowska, 2020), we confirm extreme weather events are not correlated with movement segmentation in supplementary analyses.

recommended when the outcome associated with a self-selected binary treatment decision needs to be modeled (Clougherty, Duso, and Muck, 2016).

3.3 Measures

Our dependent variable is the log of the number of times a firm has been contentiously challenged on a given environmental issue by SMOs (*contentious challenges*), from the previously described coding of media articles and press releases. Our use of IV-regression necessitates logging our outcome of interest because our dependent variable suffers from overdispersion which makes IV-Poisson regression unsuitable. For the matched sample analysis, we sum contentious challenges the firm faces from a movement over three years after the collaboration is formed because the sample median duration for a collaboration is three years. Two-thirds of SMO contentious challenges against sampled firms are concentrated on three issues: air pollution/climate change; toxic chemicals and waste; and species and forest protection (see Figure D1 in Appendix D for a by issue distribution).

Inter-SMO ties are multiplex and have been operationalized variously including co-participation in protests (Wang and Soule, 2016) and board interlocks (Bertels *et al.*, 2014). Given our theoretical arguments center on private information transmission between key SMO decision makers, we test our ties hypotheses using board interlocks because they serve as "conduits for the flow of information and norms" (Davis and Greve, 1997: 12) between organizations, and have been repeatedly shown to influence organizational behavior (Mizruchi, 1996). In a setting similar to ours, Galaskiewicz and Wasserman (1989) showed interlocked directors at nonprofit organizations were conduits of information about private-sector funders. We obtain data on each SMO's board of directors from their IRS tax filing. The names of each board member appearing in Part VII of each SMO's Form 990 was recorded for each filing year and then matched computationally on last name and first initial to directors of other SMOs in that year. Each resulting

match was inspected visually using additional information such as the full given name to remove any false matches, and further internet searches in instances of ambiguity (e.g., different spellings of given names).

To test whether a firm faces fewer contentious challenges when their partner SMO has more board interlocks with other SMOs (H1), we use the sum of *indirectly tied SMOs.* This variable is the sum of SMOs operating in a given movement to which the collaborating SMO is connected via a board interlock. For example, Starbucks' collaboration with Global Green in 2007 on climate change results in one indirect tie to the Natural Resources Defense Council because it shared a director with Global Green and was part of the climate movement in 2007. To test whether the decrease in contention is more pronounced for bilateral collaborations (H1a), we interact *indirectly tied SMOs* with two dummy variables denoting whether the collaboration is bilateral or multilateral. *SMO bilateral collaboration* is coded 1 for a collaboration involving one firm and one SMO, and 0 otherwise. Correspondingly, *SMO multilateral collaboration* is coded 1 if the collaboration involves more than one firm or SMO, and 0 otherwise.

To test hypothesis 2, we use *SMO contentious repertoire*, or the number of contentious challenges mounted against any firm on the environmental issue in the previous three years by the SMO with which a firm collaborates. We test whether the decrease in contention is more pronounced for partner SMOs that rely on grassroots contentious tactics, rather than professionalized tactics (H2a), by splitting *SMO contentious repertoire* into two sums corresponding to these tactical categories. Tactics that rely on professionals (e.g., lawyers) and institutional arenas (e.g., regulatory hearings), such as lawsuits, regulatory interventions, or shareholder proxy proposals, are summed for each environmental issue in the previous three years for the partner SMO (*SMO professional contentious repertoire*). *SMO grassroots contentious repertoire* is the sum of contentious challenges mounted against any firm on the environmental

issue by the SMO partner that rely on grassroots participation outside institutional channels, which researchers have also referred to as extra-institutional tactics (e.g., Dorobantu and Odziemkowska, 2017; Eesley *et al.*, 2016). These include demonstrations, protests, civil disobedience (e.g., activists entering/damaging private property), and letter-writing campaigns.

We control for the collaborating SMO's non-board ties to other SMOs in the movement to isolate our hypothesized information-sharing mechanism through board interlocks from other possible mechanisms. For example, two SMOs that share a board interlock may also be more aligned in their movement goals or in their stances towards corporations (Bertels *et al.*, 2014). Thus, if a firm collaborates with an SMO, the reduction in contention the firm experiences post-collaboration may be a result of the SMO's alignment with, or similarity to, other SMOs. To isolate our proposed information-sharing mechanism from such homophily-based explanations, we control for the collaborating SMOs' campaign-based ties to other SMOs in the movement. *Indirectly tied SMOs (campaign ties)* is the sum of times the collaborating SMO cooperated with other SMOs on things such as co-organizing a protest or letter-writing campaign, co-producing reports, or co-filing a lawsuit. The data is hand-coded from all English-language documents contained in the Factiva database where the names of two SMOs appear in the same report (Appendix C provides additional details).

We also include a number of control variables that could be related to a collaboration with a particular SMO on a given issue and the contentious challenges the firm faces on that issue. We control for post-collaboration measures of those matching variables that could be affected by the collaboration, and thus impact contentious challenges via pathways different from those we hypothesize. For example, if a collaboration improves the environmental performance of a firm in the following years, this may reduce contention against the firm but may also be correlated with the collaborating SMO's characteristics (e.g., a more contentious SMO demands greater pollution

abatement). As such, we control for the post-collaboration three-year average of a firm's *environmental performance*, *media attention*, and *arms-length cooperation* with the movement. We also control for the level of *pre-collaboration contention* the firm faced on the environmental issue. We control for *firm size*, which is correlated with contention, by including the firm's pre-collaboration 3-year average of logged assets which we obtain from Compustat.

We also control for the possibility that firms' receptivity to activism not only drives contention, but also better connected or more contentious SMOs' propensity to collaborate with firms. Consistent with past research (Briscoe and Safford, 2008; McDonnell *et al.*, 2015), we rely on firms' history of responses to activists' targeting them to identify receptive firms as those that seek to address activists' concerns. We use firms' responses to social and environmental issue shareholder proposals because this provides an observable and unambiguous indicator of receptivity to social activism. Firms respond to shareholder proposals in three distinct ways: positively (when the firm voluntarily cedes to the proposal leading to its withdrawal), neutrally (when the firm does nothing and the proposal is put to a vote at its annual meeting), or negatively (when the firm petitions the U.S. Securities and Exchange Commission to exclude the proposal). We obtained data on firm responses to shareholder proposals from the Interfaith Center on Corporate and Institutional Shareholder Services. We follow McDonnell, King, and Soule (2015) in measuring firm *receptivity to activism* using the Janis-Fadner (JF) coefficient of imbalance,[10] where a JF coefficient of -1 (minimum value), indicates a firm challenged all proposals in a given year, while a firm with a JF coefficient of 1 (maximum value) indicates it voluntarily implemented all proposals it received.[11] Finally, all our models include the two variables whose interaction is

[10] JF coefficient = $(P^2\text{-}PN)/V^2$ if P>N; 0 if P=N; and $(PN\text{-}N^2)/V^2$ if N>P where P is the number of positive firm responses to social-issue proxy proposals (i.e., withdrawals), N is the number of negative responses (i.e., challenges), and V is the total number of social-issue proxy proposals submitted to a firm in a given year.

[11] If a firm did not receive a shareholder proxy proposal in a given year, we carry over the firm's past receptivity, and run robustness checks omitting firm-years in which no social proxy proposals were received by a given firm.

used to instrument collaboration: *extreme weather events*, and the reverse-coded measure of *pre-collaboration movement segmentation*.

Table 2 shows the summary statistics and correlations for the matched sample, and the equivalent for the panel regressions using the whole sample is presented in Table D1 (Appendix D). We plot the distribution of the main SMO partner independent variables—indirectly tied SMOs, and SMO contentious repertoire—against the contention firms with collaborations face in figures D2, and D3, respectively (appendix D). Figure D2 suggests a negative relationship between the number of indirectly tied SMOs via the partner SMO and the contentious challenges mounted against the firm by the broader movement the following year. Figure D3 likewise suggests a negative relationship between the contentiousness of a partner SMO and the contentious challenges the firm face from other SMOs in the movement the following year. We explore if these correlations maintain in our selection-adjusted regressions in the next section.

**** Insert Table 2 here ****

4. RESULTS

In our matched sample analysis, each observation represents a collaboration, with the 'treated' observations being realized collaborations with a given SMO and the matched control observations being counterfactuals. The matching design is implemented in the estimation models by including dummy variables for each of the matched strata of observations obtained from the CEM procedure. Table 3 shows the effect of a firm-SMO collaboration on contentious targeting the firm faces from the movement in the following three years, estimated through 2SLS regression, the treatment effects model, and OLS regression with no instrument. Model 1 is a probit model in which SMO collaboration is predicted using all covariates, dummies for matched strata, and the instrument. As anticipated, we find a significant positive relationship between a firm-SMO collaboration in a given movement and the interaction of extreme weather events and reverse-coded movement

segmentation (p=0.001). We use the fitted values from the probit model as the instrument in a conventional 2SLS estimation (Angrist and Pischke, 2008) in model 2, where we see they are highly significant in the first stage (p=0.000). A heteroscedasticity robust Kleibergen-Paap F statistic of 20.58 for the excluded instrument suggests the instrument is a good predictor of a collaboration (Stock and Yogo, 2002). Consistent with our argument about the uncertainty of whether a collaboration will attenuate contention, in model 3 we see only a marginally significant negative impact of a collaboration with an SMO (p=0.052) on contention from other SMOs in the movement.

When we interact the 'treatment' variable (i.e., collaboration) with SMO characteristics we posit matter for attenuating contention in model 4, we find evidence corroborative of our two main hypotheses. Firms face less contention from a movement the more board interlocks their partner has with SMOs in that movement (p=0.000) and the more contentious their partner SMO (p=0.000). Partnering with an SMO one-standard-deviation above versus below the sample mean of board interlocks corresponds to a decrease of 18 percent in contention. The equivalent for the contentiousness of an SMO partner's repertoire is a 35 percent reduction in contention against the firm. Given the rarity of contention on average (mean of 0.13 contentious challenges) and the costs associated with each contentious attack (e.g., $167 million in lost government contracts from one boycott (McDonnell and Werner, 2016)), the effects are economically significant.

Turning to our moderator hypotheses (H1a and H2a), we test these in model 5 by further disaggregating the collaborating SMO's characteristics. Therein, we see that a firm that is connected indirectly to a greater number of SMOs via a bilateral collaboration (p=0.021) experiences a larger drop in contention than one connected via a multilateral collaboration (p=0.008). A t-test confirms hypothesis 1b that the decrease in contentious challenges coming from better connected SMO partners is more pronounced for bilateral collaborations, as compared to

multilateral collaborations (p=0.043). Conversely, the signal sent by a collaboration with a more contentious SMO is driven entirely by SMOs that rely on more grassroots contentious tactics (p=0.000). In line with our arguments regarding attribution of instrumental motives for more professionalized SMOs (H2a), collaborations with SMOs that rely on more professionalized tactics do not significantly attenuate contention from other SMOs (p=0.125). In models 6 and 7 we replicate these results using the treatment effects model (i.e., etregress in Stata 15). In models 8 and 9 we show equivalent linear regression results without an instrument for collaboration. Our hypothesized effects are consistent across all models.

In table 4 we show our results are consistent using the entire sample of firms and collaborations in IV-regression panel models. Each row in the panel estimations represents a firm's relationships with one movement, and all variables are calculated on a yearly basis, with independent and control variables lagged by one year. Controls are identical to those we use in the matched sample estimates, except reflected as annual measures, and we include the percentage change in net sales which we used in the matching procedure to control for firm vulnerability to contention. If a firm collaborates with more than one SMO in a given issue-year, we sum the number of board interlocks all its partner SMOs have. For the contentious repertoire independent variables, we take the maximum value of the SMOs' repertoires as the maximum is theoretically consistent with our signal mechanism. Models 10 through 14 present 2SLS regressions using the fitted values of a probit model as an instrument (Angrist and Pischke, 2008), and for comparison models 15 and 16 show equivalent results in correlational models (i.e., no instrument for collaboration). All models include issue and industry fixed effects with standard errors clustered at the firm and environmental issue level. Firm fixed effects are not feasible for the 2SLS models because the first stage probit model removes all companies with no variance on collaboration. Results for the panel models are consistent with the within-matched sample results: collaborations

alone do not attenuate contention against the firm, instead collaborating with a well-connected (p=0.027) or contentious (p=0.022) SMO greatly reduces contention. Moreover, firms benefit more from bilateral collaborations with well-connected SMOs (p-value of one-sided t-test=0.010), and only benefit if their contentious partner can signal their authenticity through more grassroots tactics (p=0.015).

**** Insert Tables 3 and 4 here ****

4.1 Supplemental analyses

We perform supplemental analyses to investigate possible alternative explanations for our results and to further probe the mechanisms and boundary conditions underlying the results. While we sought to delineate the treatment effect of a collaboration from that resulting from selection using an instrumental variable, we were not able to instrument for the characteristics of a particular SMO partner (i.e., the hypothesized interaction effects). One concern this raises is that better-connected or more contentious SMOs, have more latitude to partner with firms frequently targeted by movements. If this is the case, the effects we observe may be driven by attenuation of a greater amount of contention against such firms rather than through the relational and signaling mechanisms we propose. We sought to address this by matching firms on past contention they faced from the movement, and controlling for past contention in the regressions to address outliers our bin-based matching could not. Another concern is that characteristics of SMO partners may be predictive of whether other SMOs counter-mobilize in response to a collaboration, as Greenpeace did in the case of Pollution Probe's collaboration with a grocery chain. If this is the case, our findings may result from an increase in mobilization in response to those collaborations with less esteemed SMOs rather than an attenuation of contention resulting from collaborations with better connected or more contentious SMOs. We investigate this possibility by matching each collaboration to any inter-SMO criticisms that surfaced in our coding of Factiva documents where

the names of two SMOs appear (i.e., the reports described in Appendix C we use to construct SMO campaign-based ties). We rerun our models excluding any collaboration that garnered criticism from other SMOs, and our results remain unchanged. We also investigate the possibility our results are driven by other SMOs' belief that the firm is more likely to improve its environmental performance in the future if it partners via a bilateral collaboration or with a more contentious grassroots SMO. To do so, we re-estimate our models using a dummy variable for whether the collaboration's goal is aimed at improving the environmental performance of the firm, or if its goal is more public such as an educational campaign on climate change, coded from our reading of the collaboration description. Our results remain unchanged with this disaggregated collaboration measure suggesting that it's not what you do but who you do it with that matters for attenuating nonmarket contention.

We sought to identify the inter-SMO network effect as operating through information exchange between key SMO decision-makers (i.e., board members) by controlling for inter-SMO ties that reflect overlapping goals or preferences in a given movement (i.e., campaign-based ties). To further strengthen this evidence, we estimate dyad-level panel models (i.e., firm-SMO-year) where we confirm that individual SMOs indirectly tied to a firm via a collaboration are less likely to mobilize against that firm ($p=0.046$). We use linear panel regressions with firm and year fixed effects and control for the firm's partner SMO's sum of ties to other SMOs (H1) to partial out correlates of centrality like status that could also affect other SMOs' propensity to target the SMO's partner firm. See Appendix E for method, variables and result details.

Finally, we probe whether sampling on formal SMOs represents a boundary condition on our theory and findings. The choice to focus on formal SMOs reflects both the more substantive impact their attacks have on firms (King, 2011; McDonnell and Werner, 2016), and the inability to measure the ties and repertoires of individual activists or informal groups over time. However,

this choice leaves open the possibility that our theory applies only to contention from formal movement organizations and not loosely constituted groups of movement actors or individuals. Thus, we investigate the generalizability of our findings to a broader set of actors using a more comprehensive measure of contention from Reprisk. Reprisk screens a broad set of media, stakeholder and other third-party reports to derive various measures of criticism and mobilization against firms disaggregated by issue (Kölbel, Busch, & Jancso, 2017). We matched our sampled firms and environmental issues to the Reprisk data, and re-estimated the panel models using Reprisk's measure of stakeholder criticism. Details on Reprisk's methodology, our matching, sample, variables and results are provided in Appendix F. We find that firms experience a significant decrease in contention from stakeholders the better connected their SMO partner (H1) and especially if the collaboration is bilateral (H1b). While firms' SMO partners may not be directly connected to the stakeholders represented in the Reprisk data, the corroboration of our relational hypotheses using a more comprehensive measure of stakeholder criticism accords with Edwards and McCarthy's (2004) claim that most mobilization in Western democracies is organized by SMOs. We also find that the more contentious the SMO partner, and particularly if they rely on grassroots tactics, the less contention the firm faces after the collaboration. In comparison to our main results however, we find professionalized SMOs have a significant negative effect on contention (albeit, lower magnitude than grassroots). This suggests that the authenticity of an SMO's motive in pursuing a collaboration is more important to other SMOs in the movement than to a broader set of stakeholders with interests on an issue.

5. DISCUSSION AND CONCLUSIONS

A lively body of work at the intersection of nonmarket strategy and social movement theory explores contentiousness in markets as an increasingly central strategic problem for targeted firms (Dorobantu *et al.*, 2017a; King and Pearce, 2010). Movements challenge the normative

appropriateness of a firm's actions and structures, threatening to disrupt firms' market performance (King and Soule, 2007; Luders, 2006) and the loyalty of stakeholders who provide the firm with critical resources. For example, contentious challenges provoke turnover among a firm's internal elite (McDonnell and Cobb, 2019) and signal increased regulatory risk (Hiatt and Park, 2013; Ingram, Yue, and Rao, 2010). These revelations have spurred a body of work exploring how firms can strategically mitigate contentious threats by implementing strategies as varied as strategic evasion (Ingram *et al.*, 2010; Yue, Rao, and Ingram, 2013), regulatory arbitrage (Rao, Yue, and Ingram, 2011), impression management (McDonnell and King, 2013; Carlos and Lewis, 2018), and covert opposition (Walker, 2014).

Recently, scholars have suggested that firms might mitigate contentious threats by establishing formal cooperative relationships with nonmarket stakeholders (McDonnell, 2016; Odziemkowska and Dorobantu, 2021). We build on this work by adopting a field-level lens to explore the precise mechanisms through which cooperative nonmarket strategy can mitigate the contentious threats firms face from nonmarket actors. Using hand-collected data on nearly 4,000 contentious and collaborative interactions observed among a sample of large firms and SMOs in multiple environmental movements over 15 years, we find evidence of two such mechanisms. First, we find collaborations mitigate contention through relational means. Specifically, SMOs who share directors with an SMO that collaborates with a firm become less likely to mobilize against that firm in the future. Second, we find firm-SMO collaborations mitigate contention through symbolic means. Specifically, collaborations with contentious SMOs embodying grassroots ideals of mobilization are helpful in dispelling contention from others in the field. This latter mechanism complements Briscoe and Safford's (2008) finding that variation in the identities of targeted organizations affect a movement's likelihood of indirectly affecting other firms in the field. Similarly, we show the identity of an SMO in a collaboration affects the likelihood the

exchange will alter the behavior of other SMOs in the field. We argue this mechanism operates through belief updating amongst activists about the firm's alignment with the movement, as long as they judge the SMO's motive for collaboration as authentic.

This paper contributes to research in social movements, nonmarket strategy and organizational theory. First, our findings inform a long-running stream of literature exploring the tactical repertoire of activists. Although the role of networks in social movement mobilization has long been acknowledged (Diani, 1995; Wang and Soule, 2012), this body of work has focused primarily on how movement networks facilitate learning from, and diffusion of, contentious tactics. Our paper shows networks also operate as pathways through which collaborative tactics inform the mobilization of the broader social movement. By adopting a field-level lens to understand how interactions between activists and firms affect the broader movement, we respond to McAdam and Scott's (2005: 12) assertion that a "field-level conception becomes indispensable to tracing the complexities of contemporary changes" in movements, as the boundaries of fields increasingly blur and new forms of interactions emerge.

Our findings highlight the importance of accounting for "cooperative private politics" (Baron, 2012) in future research that explores interactions between movements and firms. Prior work examining interactions between firms and activists almost uniformly treats private politics as a "contentious politics" in which activists engage firms as challengers using the tactical repertoire of marginalized social movements (McCarthy and Zald, 1977; Tarrow, 1998). Our longitudinal survey of corporate interactions with various environmental movements does capture many contentious episodes in which SMOs attempt to compel a firm's concession through tools like boycotts, protests or lawsuits. However, our study demonstrates cooperative politics also play a central role in shaping relationships between movements and firms. One ripe opportunity for

future work to build upon our findings lies in exploring the factors that inform activists' selection of contentious and cooperative tactics.

Our work also makes a novel contribution in illustrating the indirect effects of cooperative nonmarket strategy. A growing body of research is concerned with the indirect effects of contention from nonmarket stakeholders on non-targeted firms (Briscoe and Gupta, 2016) or firms' stakeholders (Dorobantu *et al.*, 2017a; McDonnell and Werner, 2016). This work illustrates the mechanisms through which contention can instigate change beyond the target. In this article, we show firms' formal cooperative engagements with stakeholders can have indirect effects beyond the partner. We build on a long-standing concept in social movement and organizational theory, co-optation, and extend prior research on interorganizational networks to theorize how firm-SMO collaborations lead to the indirect co-optation of a broader set of stakeholders by leveraging the social networks and identity of a collaborating stakeholder. From a strategic vantage, indirect co-optation is especially meaningful as a mechanism for managing contention from nonmarket stakeholders because attenuating threats via direct co-optation may not be an option in cases where firm-stakeholder relations are strained by prior conflict (Gargiulo, 1993). By theorizing the mechanisms underlying indirect co-optation, our framework complements and extends prior work showing how firms' favorable reputations with one stakeholder produces positive spillovers onto others (Dorobantu *et al.*, 2017a; Werner, 2015).

Finally, our work points to important differences in how audiences evaluate signals sent by an interorganizational tie. In many market settings, the status of one's partner is a signal of quality because audiences assume the partner, as a profit maximizer, selects on quality (Podolny, 1993). When audiences evaluate nonprofit organizations, such as an SMO, inferences of economic or pecuniary motives driving an interorganizational collaboration can devalue the informational signal of the tie. Instead, features that signal the partner's authentic or sincere motives in entering

the collaboration prove critical to swaying audience evaluations. Following Briscoe and Safford's (2008) call for research to disaggregate the factors that comprise the Nixon-in-China effect, we find that the 'surprise' of a previously contentious actor pivoting to collaboration is a powerful stimulant for belief updating amongst a broad swathe of stakeholders. However, tactical pivots can also seed doubt about the authenticity or sincerity of an organization's motives amongst audiences (i.e., SMOs) concerned with their peers selling out to private interests.

Despite its potential contributions, our research has several limitations that offer opportunities for future research. First, we only observe the indirect effects of firm-SMO collaborations on the movements within which these are embedded. Future research could explore whether collaborations can indirectly influence activists in other movements or other nonmarket stakeholders like regulators. Given firms' strategic use of donations to nonprofits to influence policy-makers in their favor (Bertrand *et al.*, 2018), it is plausible collaborations with respected SMOs may likewise help firms fashion more favorable legislative or regulatory environments. Leveraging SMO partners may be a particularly useful political strategy for firms previously contentiously targeted by movements, whose political capital may be depleted (McDonnell and Werner, 2016), but who could leverage the political capital of SMO partners. Secondly, our inquiry stops short of evaluating the degree to which the firm-SMO collaboration results in changes in the firm's operations and strategy. In line with Selznick's (1949) original conceptualization of co-optation as bi-directional, Van Wijk et al. (2013) find that co-optation may be mutual. Therefore, an important question remains as to what extent firm-SMO collaborations result in changes within the firm, and their broader social welfare implications (Luo and Kaul, 2019).

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TABLE 1 Descriptive statistics of treated and control firms on pre-treatment covariates

	Control			Treated				Two-sided
Pre-treatment covariate	N	Mean	Std. Dev.	N	Mean	Std. Dev.	t-statistic	p-value
Contentious challenges by movement (prior 5 years)	343	0.041	0.262	163	0.067	0.252	-1.084	0.279
Cooperation with movement (prior 5 years)	343	0.114	0.399	163	0.178	0.483	-1.576	0.116
Change in contentious challenges by movement (from t-3 to t-1)	343	-0.015	0.120	163	-0.012	0.110	-0.207	0.836
Firm size (total assets)	343	39,733	99,370	163	41,932	98,464	-0.233	0.816
Media attention	343	1.738	2.511	163	1.839	2.683	-0.415	0.678
Environmental performance (KLD concerns)	343	0.580	1.187	163	0.785	1.369	-1.727	0.085
Change in environmental performance (from t-3 to t-1)	343	-0.047	0.321	163	-0.006	0.176	-1.507	0.132
Change in sales performance (% change from t-3 to t-1)	343	0.074	0.255	163	0.067	0.177	0.298	0.766

TABLE 2 Summary Statistics and Correlations for Matched Sample

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	*Post-collab. contentious challenges (log)*	0.123	0.423	1																	
2	*SMO collaboration*	0.322	0.468	-0.169	1																
3	*Indirectly tied SMOs (board ties)*	2.630	2.179	0.113	0.055	1															
4	*Indirectly tied SMOs, bilateral*	0.132	0.734	-0.053	0.262	0.130	1														
5	*Indirectly tied SMOs, multilateral*	0.771	1.715	-0.127	0.653	0.403	-0.081	1													
6	*SMO contentious repertoire*	2.820	8.295	0.355	0.019	0.145	-0.020	0.092	1												
7	*SMO grassroots contentious repertoire*	1.028	3.403	0.301	0.011	0.106	-0.009	0.061	0.881	1											
8	*SMO professional contentious repertoire*	1.229	4.061	0.199	0.033	0.200	-0.023	0.130	0.542	0.150	1										
9	*Indirectly tied SMOs (campaign ties)*	30.476	59.538	0.258	0.069	0.304	0.021	0.196	0.427	0.211	0.689	1									
10	*Pre-collab. contentious challenges*	0.019	0.114	0.260	0.038	0.018	-0.031	0.058	0.213	0.183	0.068	0.127	1								
11	*Post-collab. environmental performance*	1.891	3.567	-0.013	0.046	-0.089	-0.051	-0.009	-0.064	-0.079	-0.004	0.007	0.124	1							
12	*Post-collab. firm media attention*	4.512	5.892	0.076	0.054	-0.012	0.041	0.022	0.029	0.033	0.013	-0.011	-0.082	-0.121	1						
13	*Post-collab. cooperation*	1.010	1.873	0.058	0.243	0.115	0.219	0.170	0.092	0.014	0.186	0.247	0.147	0.052	0.245	1					
14	*Pre-collab. firm size*	29.101	3.826	0.154	0.151	0.028	0.015	0.140	0.125	0.108	0.120	0.144	0.081	0.123	0.523	0.211	1				
15	*Pre-collab. receptivity to activism*	0.780	1.479	-0.131	-0.002	-0.004	0.020	-0.028	-0.003	0.014	-0.016	-0.029	-0.297	-0.124	-0.112	-0.154	-0.271	1			
16	*Post-collab. receptivity to activism*	0.881	1.402	-0.076	-0.023	0.073	0.044	-0.026	0.011	0.032	-0.036	-0.039	-0.086	-0.226	-0.232	-0.149	-0.267	0.505	1		
17	*Pre-collab. extreme weather events*	0.449	1.599	0.084	-0.088	-0.015	0.054	-0.104	0.003	-0.001	-0.023	-0.013	0.036	0.002	0.087	0.264	-0.102	0.035	0.022	1	
18	*Pre-collab. movement segmentation*	0.237	0.370	0.028	0.015	-0.109	-0.039	0.000	0.045	0.102	0.020	-0.051	-0.031	0.157	0.001	-0.022	0.106	-0.053	-0.065	-0.017	1
19	*Instrument (weather x segmentation)*	-0.156	1.110	-0.122	0.071	0.007	0.032	0.047	-0.035	-0.024	-0.030	-0.067	-0.034	-0.056	-0.149	-0.356	-0.066	0.050	0.086	-0.576	-0.136

Notes. Statistics shown pertain to 506 firm-movement combinations, i.e., 163 firm observations with SMO collaborations on a given environmental issue and 343 matched 'control' firms on the same environmental issue.

TABLE 2 Effect of SMO collaboration on contentious challenges against firms by SMOs in an environmental movement (matched sample regressions, 506 observations)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
	Probit	2-Stage Least Squares				Treatment Effects		CEM w/o instrument	
		1st stage	2nd stage	2nd stage	2nd stage				
Dependent variable:	Collab.	Collab.	Contention	Contention	Contention	Contention	Contention	Contention	Contention
SMO collaboration			-0.471	0.0463	0.0500	-0.0130	-0.00904	0.0268	0.0331
			(0.243)	(0.0391)	(0.0370)	(0.0707)	(0.0681)	(0.0457)	(0.0445)
Indirectly tied SMOs (board ties)				-0.0409***		-0.0405***		-0.0283**	
x SMO collaboration (H1)				(0.0112)		(0.0113)		(0.0107)	
Indirectly tied SMOs (board ties)	-1.410	0.0128	-0.220	-0.0691	-0.0615	-0.0968	-0.0890	0.00776	0.0375
	(1.133)	(0.4383)	(0.216)	(0.0658)	(0.0663)	(0.0793)	(0.0790)	(0.0175)	(0.0195)
Indirectly tied SMOs (board ties)					-0.0539*		-0.0536*		-0.0396*
x SMO collaboration bilateral (H1a)					(0.0235)		(0.0239)		(0.0190)
Indirectly tied SMOs (board ties)					-0.0308**		-0.0305**		-0.0232*
x SMO collaboration multilateral (H1a)					(0.0116)		(0.0118)		(0.0110)
SMO contentious repertoire				-0.0209***		-0.0210***		-0.0215***	
x SMO collaboration (H2)				(0.00353)		(0.00346)		(0.00426)	
SMO contentious repertoire	-0.434	-0.0824	-0.0314	0.00941		-0.00222		0.0252	
	(0.308)	(0.0948)	(0.0630)	(0.0326)		(0.0378)		(0.0391)	
SMO grassroots contentious repertoire					-0.0401***		-0.0403***		-0.0442***
x SMO collaboration (H2a)					(0.00837)		(0.00827)		(0.00933)
SMO grassroots contentious repertoire					0.0468*		0.0469*		0.0459**
					(0.0219)		(0.0229)		(0.01589)
SMO professional contentious repertoire					-0.0225		-0.0228		-0.0151
x SMO collaboration (H2a)					(0.0147)		(0.0147)		(0.0172)
SMO professional contentious repertoire					-0.469		-1.257		0.0304
					(2.139)		(2.484)		(0.0226)
SMO control variables									
Indirectly tied SMOs (campaign ties)				-0.00136	-0.00114	-0.00133	-0.00111	-0.000812	-0.000865
x SMO collaboration				(0.00116)	(0.00116)	(0.00115)	(0.00115)	(0.00139)	(0.00138)
Indirectly tied SMOs (campaign ties)	0.649	0.1144	0.0727	0.0210	0.0156	0.0380	0.0325	-0.000252	-0.00137
	(0.448)	(0.1357)	(0.0931)	(0.0465)	(0.0458)	(0.0540)	(0.0534)	(0.00101)	(0.00141)

Continued on next page

TABLE 2 continued Effect of SMO collaboration on contentious challenges against firms by SMOs in an environmental movement (matched sample regressions, 506 observations)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
	Probit	2-Stage Least Squares				Treatment Effects		CEM w/o instrument	
Dependent variable:	Collab.	1st stage Collab.	2nd stage Contention	2nd stage Contention	2nd stage Contention	Contention	Contention	Contention	Contention
Firm control variables									
Pre-collab. contentious challenges	-0.440	0.2623	0.649*	0.544	0.573	0.548	0.578*	0.346	0.373
	(0.580)	(0.2327)	(0.262)	(0.298)	(0.295)	(0.294)	(0.291)	(0.286)	(0.286)
Post-collab. environmental performance	-0.118	-0.0489	-0.0186	-0.00903	-0.00772	-0.0141	-0.0127	0.0124	0.0138
	(0.126)	(0.0338)	(0.0244)	(0.0167)	(0.0164)	(0.0184)	(0.0181)	(0.0177)	(0.0178)
Post-collab. media attention	0.0276	0.0039	0.00488	0.000872	0.000346	0.00158	0.00105	-0.00303	-0.00388
	(0.0299)	(0.0094)	(0.00559)	(0.00441)	(0.00444)	(0.00437)	(0.00438)	(0.00434)	(0.00444)
Post-collab. cooperation	0.378**	-0.0328	0.000922	-0.0354	-0.0368*	-0.0292	-0.0307	-0.0210	-0.0219
	(0.116)	(0.0415)	(0.0246)	(0.0183)	(0.0185)	(0.0198)	(0.0200)	(0.0193)	(0.0194)
Pre-collab. firm size	0.171***	-0.0425	0.0124	0.00910	0.00904	0.0102	0.0101	0.00878	0.00876
	(0.0471)	(0.0221)	(0.00766)	(0.00579)	(0.00562)	(0.00564)	(0.00549)	(0.00657)	(0.00648)
Pre-collab. receptivity to activism	-0.184	-0.0046	-0.00679	-0.000358	-0.00197	-0.00284	-0.00445	-0.000985	0.000179
	(0.111)	(0.0366)	(0.0182)	(0.0125)	(0.0124)	(0.0125)	(0.0124)	(0.00978)	(0.0103)
Post-collab. receptivity to activism	0.132	0.0227	0.00416	-0.00754	-0.00684	-0.00495	-0.00426	0.00367	0.00204
	(0.0912)	(0.0361)	(0.0156)	(0.00967)	(0.00975)	(0.00925)	(0.00930)	(0.0112)	(0.0114)
Pre-collab. extreme weather events	-0.0191	-0.0279	0.00192	0.0181	0.0195	0.0145	0.0159	0.0119	0.0131
	(0.0684)	(0.0175)	(0.00879)	(0.0105)	(0.0108)	(0.0102)	(0.0105)	(0.0103)	(0.0106)
Pre-collab. movement segmentation	-1.330	-0.2344	-0.149	-0.0417	-0.0309	-0.0766	-0.0655	0.00135	0.00370
	(0.918)	(0.2781)	(0.191)	(0.0953)	(0.0939)	(0.110)	(0.109)	(0.00225)	(0.00321)
Instrument: *extreme weather events x pre-collab. movement segmentation*	0.236** (0.0727)								
Fitted values IV		0.372*** (0.082)							
R^2 *(or log-likelihood)*	-375.7	0.586	0.586	0.723	0.722	-170.8	-172.3	0.714	0.712

Notes. Standard errors clustered at the firm level in parentheses. The dependent variable 'Contention' is the logged count of 1 plus the number of contentious challenges a firm received from a movement in the 3 years following a collaboration. All models contain matched strata fixed effects. Model 1 is a probit regression predicting a collaboration where the exogenous instrument is the interaction of extreme weather events and movement segmentation. Models 2 through 5 are the 2SLS estimates. The instrument in model 2 is the fitted values from model 1. Models 6 and 7 present the 'treatment effects' estimation which employs a correction for selection into treatment based on the probit model predicting collaboration using the instrumental variable. Models 7 and 8 are linear regression results (without instrument) with matched strata fixed effects obtained from the coarsened exact matching.

∗ p<0.05; ∗∗ p<0.01; ∗∗∗ p<0.001.

TABLE 3 Effect of SMO collaboration on contentious challenges against firms by SMOs in an environmental movement (panel regressions, 27989 observations)

	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16
	Probit	2-Stage Least Squares				Linear regression	
		1st stage	2nd stage	2nd stage	2nd stage		
Dependent variable:	Collab.	Collab.	Contention	Contention	Contention	Contention	Contention
SMO collaboration			0.0282	0.0409	0.0459	0.0446	0.0493
			(0.0147)	(0.0682)	(0.0713)	(0.0256)	(0.0274)
Indirectly tied SMOs (board ties)				-0.00225*		-0.00395*	
x SMO collaboration (H1)				(0.00102)		(0.00188)	
Indirectly tied SMOs (board ties)					-0.0108**		-0.0119*
x SMO collaboration bilateral (H1b)					(0.00378)		(0.00605)
Indirectly tied SMOs (board ties)					-0.00260*		-0.00419*
x SMO collaboration multilateral (H1b)					(0.00123)		(0.00182)
SMO contentious repertoire				-0.00238*		-0.00249*	
x SMO collaboration (H2)				(0.00104)		(0.00089)	
SMO grassroots contentious repertoire					-0.00505*		-0.00532*
x SMO collaboration (H2a)					(0.00207)		(0.00211)
SMO professional contentious repertoire					0.000061		-0.000060
x SMO collaboration (H2a)					(0.00217)		(0.00136)
SMO control variables							
Indirectly tied SMOs (campaign ties)				0.0000843	0.0000895	0.000146	0.000144
x SMO collaboration				(0.000109)	(0.000109)	(0.000069)	(0.000066)
Firm control variables							
Contentious challenges (prev. yr)	0.211**	0.0183	0.183***	0.183***	0.182***	0.182***	0.182***
	(0.0659)	(0.0098)	(0.0122)	(0.00219)	(0.00219)	(0.0149)	(0.0149)
Environmental performance	0.00845	0.0028	0.00301	0.00295	0.00292	0.00292	0.00289
	(0.0518)	(0.0025)	(0.00177)	(0.00179)	(0.00179)	(0.00242)	(0.00243)
Firm media attention	0.0162	0.0004	0.000253	0.000244	0.000247	0.000243	0.000246
	(0.0193)	(0.0009)	(0.000329)	(0.000332)	(0.000332)	(0.000390)	(0.000392)
Cooperation with movement	0.493***	0.1066***	0.00424	0.00544	0.00587*	0.00525	0.00572
	(0.0558)	(0.0158)	(0.00861)	(0.00297)	(0.00298)	(0.0131)	(0.0131)
Firm size	0.299***	-0.0044	0.00356***	0.00358***	0.00358***	0.00359*	0.00359*
	(0.0638)	(0.0025)	(0.000892)	(0.000700)	(0.000700)	(0.00141)	(0.00142)
Receptivity to activism	0.00154	0.0008	-0.000701	-0.000752	-0.000743	-0.000733	-0.000725
	(0.0702)	(0.0025)	(0.00135)	(0.00123)	(0.00123)	(0.00111)	(0.00112)
Change in sales performance (%)	0.00815	-0.001	0.00233	0.00228	0.00223	0.00228	0.00223
	(0.0792)	(0.0037)	(0.00288)	(0.00241)	(0.00241)	(0.00280)	(0.00279)
Extreme weather events	-0.246	-0.0071*	-0.00120	-0.00120	-0.00122	-0.00118	-0.00120
	(0.129)	(0.0035)	(0.00321)	(0.00253)	(0.00253)	(0.00301)	(0.00299)
Movement segmentation	0.129**	0.0042**	-0.000605	-0.000518	-0.000494	-0.000534	-0.000509
	(0.0403)	(0.0013)	(0.00103)	(0.00148)	(0.00148)	(0.00171)	(0.00172)
Instrument: *extreme weather events*	0.257*						
x movement segmentation	(0.122)						
Fitted values IV		0.0403***					
		(0.0076)					
R^2 *(or log-likelihood)*	-2478.3		0.241	0.209	0.210	0.241	0.242

Notes. Standard errors clustered at the firm and issue level in parentheses. In models 12 to 16, the dependent variable 'Contention' is the logged count of 1 plus the number of contentious challenges a firm received from a movement. All models include issue and industry fixed effects. Model 10 is a probit regression predicting a collaboration where the exogenous instrument is the interaction of extreme weather events and movement segmentation (reverse-coded). Models 11 through 14 are the 2SLS estimates. The instrument in model 11 is the fitted values from model 10, and the heteroskedasticity robust Kleibergen-Paap F statistic is 38.07. For comparison, models 15 and 16 presents linear regression results without an instrument for collaboration. The direct effects of the collaborating SMO's characteristics are not estimated since these variables do not exist at the firm-level except when a firm has a collaboration with an SMO.

∗ p<0.05; ∗∗ p<0.01; ∗∗∗ p<0.001.

Appendix A: Firm-SMO Collaborations and Other Interactions

This appendix provides details on the definition of a firm-SMO collaboration used in this research, its key defining features, and other commonly occurring firm-SMO cooperative interactions that do not meet the definition. Table A1 provides examples of report excerpts of the most commonly occurring firm-SMO interactions. Tables A2 and A3 provide the top 10 firms and SMOs with each types of interaction (i.e., contention or collaboration).

Definition: A collaboration between an SMO and firm is defined as 'organizations working together by committing resources to achieve mutually relevant outcomes.' The outcomes can be focused on improving performance within the firm by changing its practices, or externally-focused, where the outcome has a more 'public good' character, such as educational programs or habitat protection. The key defining features are that the interorganizational relationship is interactive, involves the commitment of resources by each party, and is purposeful. Importantly, evidence must be available that *all three key features* are present in order for the firm-SMO relationship to qualify as a collaboration.

Key features:

1. Interactive (i.e., working together) – Interactive denotes that the collaboration involves an interactive process where a "change-oriented relationship of some duration exists and that all participating stakeholders are involved in that relationship." (Wood and Gray, 1991: 148). This means that interactions mediated by third parties or an umbrella organization are excluded in that the firm and SMO must participate in the relationship. For instance, a trade association that includes firm A, working on a project with an SMO, does not constitute a collaboration between firm A and that SMO. Participation suggests interactions between the parties, meaning staff or representatives of their respective organizations interact directly as part of the collaboration. Further, 'change-oriented' suggests the parties are working together for an outcome (see Purpose below) that involves a change in the status-quo. As such, arms-length transactions such as licensing of SMO logos are excluded.

2. Commitment of resources by both parties (rather than simple exchange) – A collaboration involves the commitment of resources, understood broadly to include human, financial, or capital resources. The broad definition of 'resources' to include human resources, means collaborations can include advisory roles (e.g., SMO advising firm on its sustainable purchasing policy) where no financial commitment of resources is made by the parties. Further, the commitment needs to be by both parties, meaning, a mere exchange or flow of resources from one party to another does not qualify (e.g., donations, employees volunteering at SMO).

3. Purpose – The collaboration has an articulated objective or outcome. Outcome articulation is typically in a particular problem domain, such as water use at a firm's facility or climate change awareness amongst students. This does not necessarily imply that the firm and SMO have identical goals in the collaboration (e.g., firm may want to repair its reputation, and the SMO may be seeking funds for a pet project). However, it does imply that there is a desired outcome that is relevant to both (i.e., both want to achieve it). Further, because a collaboration is directed toward an outcome, the participants must intend to act to pursue that outcome. In other words, the realization of the outcome does not define a collaboration, but instead the engagement of the actors in a process intended to result in action on the outcome (Wood and Gray, 1991).

Exclusions: The following arms-length cooperative relationships are not considered firm-SMO collaborations: firm contributions and gifts (e.g., donations to SMOs, in-kind gifts to SMOs); firm support for employee participation in SMOs activities (e.g., corporate matching of employee gifts); firm–SMO marketing affiliations (e.g., licensing of SMOs name or logo, joint fund-raising).

TABLE A1: Examples of most common media and press-release reported interactions between SMOs and firms

Type	Firm(s)	SMO(s)	Interaction described with excerpt from media article (Source and date in parentheses)
Firm-SMO Collaborations			
Bilateral formal collaboration	Willamette Industries	Nature Conservancy	Seven environmentally sensitive areas in the Coast Range and Willamette Valley will be protected under an agreement between Willamette Industries and The Nature Conservancy of Oregon. The Portland-based forest products company will give The Nature Conservancy permanent easements on six parcels totaling 1,740 acres. The expanded Gearhart Bog preserve was established last month by Willamette Industries as one of their six permanent land easements. Willamette will retain ownership of the properties, valued at $1.5 million, but the land management will fall to The Nature Conservancy. (Associated Press Newswires, May 31, 2001)
Multilateral formal collaboration	McDonald's, NationsBank, Time Warner, J&J, Prudential Insurance	Environmental Defense Fund	Seven organizations formed a task force to develop recommendations for increasing the use of environmentally friendly paper and paperboard products in the United States, the Paper Task Force said. The group, which was organized by the Environmental Defense Fund, includes Duke University, Johnson and Johnson, McDonald's Corp, NationsBank Corp, The Prudential Insurance Co of America, and Time Warner Inc's Time Inc. The two goals of the task force are to expand the use of environmentally friendly paper products and to design a purchasing model applicable to a broad range of institutions. (Reuters News, Aug. 18, 1993)
Cooperative Arms-Length Interactions			
Donation (in-kind or monetary)	Coca-Cola	Ocean Conservancy	As the Coca-Cola Company celebrates 125 years of sharing happiness throughout 2011, its philanthropic arm continues the Company's heritage of giving back to the communities where it does business. During the first quarter of 2011, the Coca-Cola Foundation awarded grants totaling more than $6 million to 31 organizations across the United States. Organizations receiving funding include: … The Ocean Conservancy, Washington, D.C., $1.5 million. (M2 Presswire, June 9, 2011)
Sponsorship of SMO programs	EMC Corp.	World Resources Institute	EMC Corporation, the world leader in information infrastructure solutions, announced today it is a sponsor of the World Resources Institute's Greenhouse Gas (GHG) Protocol Product and Supply Chain Initiative. (PR Newswire, March 23, 2009)
Corporate-sponsored boycott	Wal-Mart	Sierra Club, Gulf Restoration Network	Wal-Mart Stores Inc., the world's largest retailer, will stop selling cypress mulch from Louisiana, where environmentalists say the logging of the tree threatens this coast's eroding wetlands and puts the state at greater risk from hurricanes. Wal-Mart will refuse to buy cypress mulch harvested, bagged or manufactured in Louisiana "in order to extend the life-span of the coastal wetland forests," Tara Raddohl, a spokeswoman for Wal-Mart, said Wednesday. Environmental groups have launched national ad campaigns and protests urging consumers not to buy cypress mulch and criticizing retailers such as Wal-Mart and Lowe's for marketing it. "They are developing the market for it by distributing it," said Dave Favre, an organizer with Gulf Restoration Network. (Associated Press Newswires, July 22, 2007) [Sierra Club inferred from Nov. 16 2006 article below]
Consultation	Georgia-Pacific	Dogwood Alliance, Natural Resources Defense Council, Rainforest Action Network	Georgia-Pacific LLC announced today it is expanding its forest protection and sustainability efforts with an updated policy to better identify and protect endangered forests in the United States; promote conservation of forest diversity; and enhance its sustainable forestry and recycling practices. The policy update is the result of ongoing discussions with customers and suppliers, and several years of consultation with a number of environmental organizations, including the Rainforest Action Network, the Natural Resources Defense Council and the Dogwood Alliance. (ENP Newswire, Nov. 19, 2010)
Award/ Report of good-doing	Dow Chemical, ExxonMobil	Nature Conservancy	…at The Nature Conservancy's awards luncheon Friday… ExxonMobil was given an award for reforesting 20 acres on Grand Isle and preserving other land there, and Dow Chemical Co. for creating a greenbelt around its Plaquemine plant site. The annual awards luncheon recognizes corporations that make a contribution to the environment. Companies nominate their own projects. ExxonMobil and Dow are this year's winners. (Associated Press Newswires, Feb. 23, 2002)

Type	Firm(s)	SMO(s)	Interaction described with excerpt from media article (Source and date in parentheses)
Contentious Interactions			
Protest/ demonstration	ConocoPhillips	Amazon Watch	ConocoPhillips annual general meeting, begins at 10:30am, at the Omni Houston Hotel, 13210 Katy Freeway. Journalists, please arrive at 9:45am for 10am photo opportunity with native Amazonians in traditional dress, before they enter the shareholder meeting. The Amazonian leaders will be carrying a "No Trespassing!" sign. Amazon Watch and the Amazon leaders will be available for interviews and photos immediately after the annual general meeting at 12:30pm. (Amazon Watch press release from PR Newswire, May 9, 2006)
Civil disobedience	Progress Energy	Greenpeace	Greenpeace protesters have climbed a smokestack that towers over a power plant near Asheville. Progress Energy spokesman Scott Sutton says a handful of protesters scaled the column at the Asheville Power Plant in Arden on Monday morning. (Associated Press Newswires, Feb. 13, 2012)
Media campaign	Lowe's, Wal-Mart, Home Depot	Sierra Club, Gulf Restoration Network	Environmentalists here launched a campaign Wednesday to discourage the sale of cypress mulch … The "Save Our Cypress" campaign, which will use radio ads and student activists to spread its message, opens up a new public relations front in a simmering row between loggers and environmentalists in Louisiana over the culling of the once-abundant cypress. The campaign aims to dissuade three of the biggest retailers -- Lowe's Home Improvement, Wal-Mart and The Home Depot -- to stop selling cypress mulch that's harvested from Louisiana's coastal forests, which they say are endangered. Leslie March, the chair of the Delta Chapter of the Sierra Club, called on the retailers "to live up to their corporate policies of sustainability." "It's akin to shredding the Constitution to make post-it notes," said Aaron Viles of the Gulf Restoration Network, a New Orleans-based environmental group. (Associated Press Newswires, Nov. 16, 2006)
Boycott	Yum Brands (Kentucky Fried Chicken)	PETA	PETA is also urging consumers to boycott KFC, for which Tyson is a major supplier. You can read a statement about the chicken chain's animal welfare policy on the web site for Yum! Brands, parent of KFC, Taco Bell, Pizza Hut and Long John Silver's. (The Atlanta Journal – Constitution, Jan. 17, 2008)
Lawsuit/ notice of intent to sue	FirstEnergy	Citizens for Pennsylvania's Future	PennFuture notified Akron, Ohio-based FirstEnergy Inc. on Tuesday that it intends to sue over alleged pollution at the Bruce Mansfield plant in Shippingport, about 30 miles northwest of Pittsburgh. The plant had at least 250 violations of opacity standards, regarding the degree to which emissions block visibility, between November 2002 and March, PennFuture said. (Associated Press Newswires, May 23, 2007)
Regulatory action	Duke Energy, Progress Energy	Environmental Defense Fund, Sierra Club	Some environmental groups have filed last-minute challenges to the proposed merger between Duke Energy and Progress Energy. The complaints were filed with the North Carolina Utilities Commission, which opens hearings on the merger Sept. 20. Charlotte-based Duke and Raleigh-based Progress want to merge, creating the nation's largest utility. Groups including the Sierra Club and Environmental Defense Fund say the merger would create a company that would dominate the state and crowd out competition from clean energy producers. (Associated Press Newswires, Sept. 9, 2011)
Shareholder proxy proposal	Kimberly-Clark	Greenpeace	Environmentalists … will offer a resolution at Kimberly-Clark's shareholder meeting Thursday calling on the company to report by Nov. 1 on whether it could phase out the use of fiber from old-growth Canadian forests that environmentalists say are threatened by clear-cutting operation s… Pamela Wellner, a Greenpeace official working on the shareholder resolution, said the company should instead use more recycled fiber. Kimberly-Clark's directors unanimously recommended that shareholders reject the Greenpeace-backed resolution. (Associated Press Newswires, April 26, 2006)
Report of wrong-doing	Edison International	Friends of the Earth	The idled San Onofre nuclear power plant is facing new scrutiny from Congress as the utility that operates it moves closer to proposing a fix to get the twin reactors back in service. At issue is whether Edison sidestepped any federal requirements by conducting extensive design changes, a claim leveled by an environmental group that said the alterations are at the heart of the plant's problems. A 13-page report issued by Friends of the Earth, a group critical of the nuclear industry, warned that running the plant at reduced power would not resolve problems with badly worn tubing… The Friends of the Earth report also expanded an earlier allegation that Edison misled federal regulators about the modifications, a claim disputed by the Nuclear Regulatory Commission and the company. (Associated Press Newswires, May 16, 2012)

TABLE A2: Top 10 firms contentiously targeted and SMOs using contentious tactics, 1997 and 2012

Firm	No. of contentious challenges	Social Movement Organization	No. of contentious challenges
Exxon Mobil	129	Sierra Club	334
Shell Oil	125	Greenpeace	306
ChevronTexaco	115	PETA	152
Monsanto	108	Natural Resources Defense Council	128
Smithfield Foods	56	Rainforest Action Network	126
Duke Energy	49	USPIRG	111
Procter & Gamble	48	Friends Of The Earth	100
Entergy	45	Amazon Watch	81
Occidental Petroleum	44	Ceres	68
Allegheny Energy	42	Environmental Integrity Project	64

TABLE A3: Top 10 firms and SMOs forming collaborations, 2002 and 2010

Firm	No. of collaborations	Social Movement Organization	No. of collaborations
Coca-Cola	33	Nature Conservancy	64
WalMart	29	Environmental Defense Fund	62
DuPont	24	World Resources Institute	54
General Electric	19	World Wildlife Fund	53
Alcoa	14	Natural Resources Defense Council	47
Starbucks	12	Conservation International	38
General Mills	10	National Wildlife Federation	21
Kellogg Co	10	Ceres	13
Staples	10	National Recycling Coalition	6
Home Depot	10	Rainforest Alliance	6

Notes. Number of organizations may exceed ten where two or more organizations have the same number of collaborations (i.e., a tie).

Appendix B: Description of Environmental Issue Categories

Code and Topic	Description
701: Drinking Water Safety	Domestic drinking water safety, supply, polution, fluridation, and conservation (e.g. Clean Water Act, pesticides in groundwater)
703: Waste Disposal	Disposal and treatment of wastewater, solid waste and runoff (e.g. federal management of municipal waste, municipal sewage problems)
704: Hazardous Waste and Toxic Chemicals	Hazardous waste and toxic chemical regulation, treatment, and disposal (e.g. hazardous waste sites cleanup, hazardous materials transportation, pesticide regulation)
705: Air pollution, Global Warming, and Noise Pollution	Air pollution, climate change, and noise pollution (e.g. Clean Air Act, EPA regulation of chemical plant emissions)
707: Recycling	Recycling, reuse, and resource conservation (e.g. beverage container recycling)
708: Indoor Environmental Hazards	Indoor environmental hazards, indoor air contamination (including on airlines), and indoor hazardous substances such as asbestos (e.g. lead exposure reduction, EPA regulation of indoor disinfectants)
709: Species and Forest Protection	Species and forest protection, endangered species, control of the domestic illicit trade in wildlife products, and regulation of labratory or performance animals (e.g. endangered species protection act, marine mammal protection, old growth forest protection)
710: Pollution and Conservation in Coastal & Other Navigable Waterways	Land and water conservation in coastal and navigable waterways (e.g. pollution from cruise ships, plastic pollution/invasive species control, oil spills)
711: Land and Water Conservation	Land and water conservation other than coastal and navigable waterways (e.g. watershed protection, pollution/invasive species in small lakes, rivers, and streams)
806: Alternative and Renewable Energy	Alternative and renewable energy, biofuels, hydrogen and geothermal power (e.g. promotion of solar and geothermal power, promotion of alternative fuels for automobiles, issues of ethanol gasoline, biomass fuel and wind energy programs)
807: Energy Conservation	Energy conservation and energy efficiency, including vehicles, homes, commerical use and government (e.g. home energy efficiency programs, energy conservation standards for household appliances, motor vehicle fuel efficiency)
405: Animal and Crop Disease, Pest Control, and Domesticated Animal Welfare	Animal and crop disease, pest control and pesticide regulation, and welfare for domesticated animals (e.g. welfare of domesticated animals or animals under human control, use of animals for research, sale or transportation of animals)
408: Fisheries and Fishing	Fishing, commercial fishery regulation and conservation (e.g. fisheries conservation and management; fish hatchery development)
498: Agricultural Research and Development	Agricultural research and development (e.g. organic farming research, potential uses of genetic engineering in agriculture)

Notes. The above includes issues codes from the Comparative Agendas Project's sub-category of 'Environment', as well as issue topics that fall under other sub-categories but which are applicable to the broader environmental movement (e.g., alternative & renewable energy; energy conservation; pesticide regulation; fishery conservation; and genetically modified organisms).

Appendix C: Inter-SMO Ties and Movement Segmentation

This appendix provides details on how the movement segmentation measure is calculated, the data sources and coding of the data used to calculate the measure. Figure C1 provides network graphs of three environmental movements and associated segmentation measures.

Movement segmentation measure:

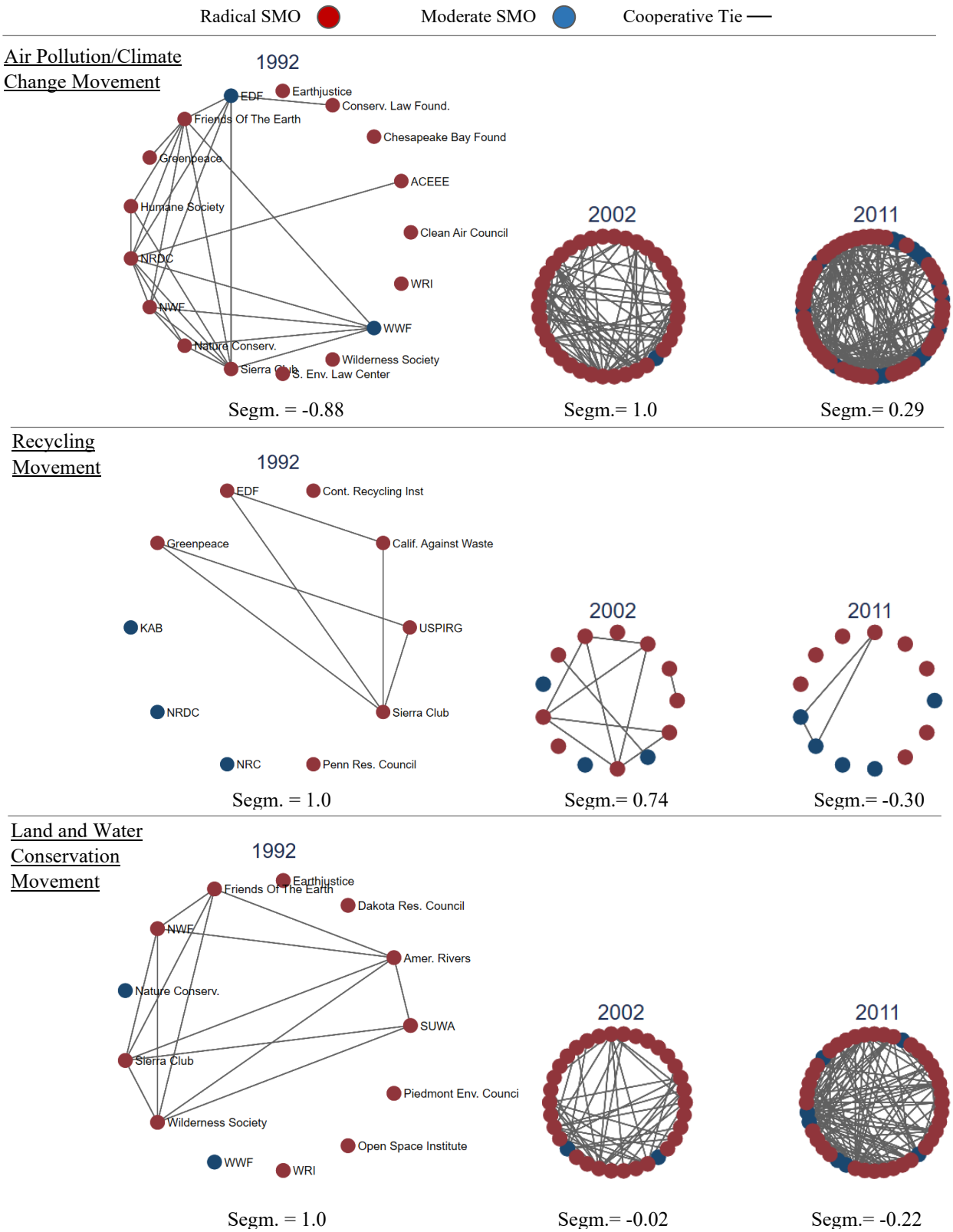
Movement segmentation captures the relative density of ties between groups versus within groups, where SMOs are classified into groups based on whether they are 'moderates' or 'radicals' in a movement. Moderate SMOs are those who interacted cooperatively at least once with sampled firms on the movement issue in the preceding three years, whereas radical SMOs are those that relied exclusively on contentious tactics to mobilize against firms on the issue. We use Freeman's (1978) segregation index to measure movement segmentation between moderates and radicals in each movement. Freeman's index compares the proportion of observed between-group ties with the number expected under random mixing, accounting for the connectedness and size of the underlying network. We use Bojanowski and Corten's (2014) reformulation of the index that allows between-group ties to exceed those expected under random mixing. *Movement segmentation* can take both positive and negative values. Negative values correspond to movements where cooperative ties between moderate and radical SMOs (i.e., between-group ties) are higher than expected under random tie formation; a value of zero corresponds to movements where between-group ties are exactly as expected under random tie formation; positive values correspond to movements where between-group ties are less than expected in a purely random network with the same group sizes and connectedness as the observed one (Freeman, 1978). Figure C1 provides examples of network graphs for three movements at three different points in time with nodes representing radical and moderate SMOs based on tactical repertoires with firms on the environmental issue.

Inter-SMO Ties:

The movement segmentation measure relies on a two-step data collection process to first identify SMOs participating in a given movement and year, and then coding of data on cooperation between SMOs in that movement. We follow Soule and King (2008) in classifying an SMO as belonging to a movement based on the issue they advocate for, or campaign on, in a given year. As environmental issues, such as air pollution, water pollution or deforestation, gain and lose salience with different stakeholders, the population of SMOs involved in the issue varies. The first author read media reports and press releases containing the name of each SMO to determine instances when it engaged in advocacy or activism (e.g., protest, lawsuit, press conference) against any target (e.g., state government, private company, regulator) in a given year on one of the 14 environmental issues in Appendix B. Some SMOs engage in advocacy on several environmental issues in a given year, and are assigned membership in all corresponding movements.

After identifying the population of SMOs belonging to a movement in a given year, movement networks were constructed by manually coding interactions between SMOs reported in news reports, press releases or other public reports. For greatest comprehensiveness of the inter-SMO interactions data, the entire English-language Factiva source list was used to ensure non-media and press release sources, such as Congressional reports or legal alerts, were included. Over 87,000 documents, obtained from a search of Factiva archives where the names of two SMOs appear in the same document, were carefully read and coded by undergraduate student coders, and then by the first author. Each resulting document was read to determine if two SMOs interacted cooperatively, and reports were de-duplicated to ensure only unique interactions were counted within a given SMO-SMO-year. Interactions between SMOs that constitute the ties within each movement typically took the form of SMOs co-filing a lawsuit, co-organizing a rally or conference, co-producing reports, joint testimony at Congressional hearings, amongst others. Each interaction was coded by the first author on the environmental issue on which the two SMOs cooperated (e.g., air pollution, recycling).

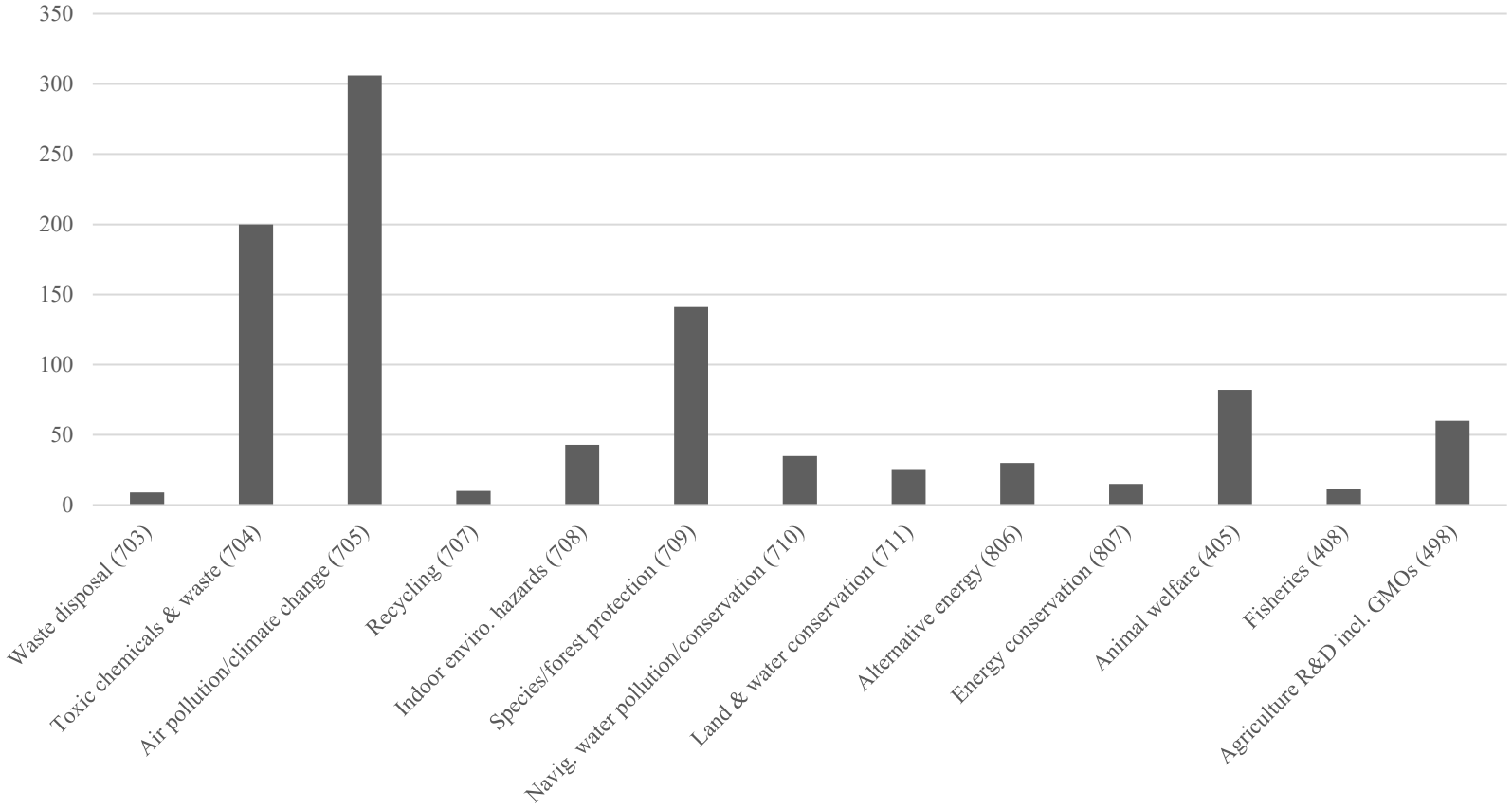
FIGURE C1: Networks of Three Example Movements in 1992, 2002 and 2011



Notes. EDF=Environmental Defense Fund; KAB=Keep American Beautiful; NRC=National Recycling Coalition; NRDC= Natural Resources Defense Council; NWF=National Wildlife Federation; SUWA=Southern Utah Wilderness Alliance; WWF= World Wildlife Fund; WRI=World Resources Institute

Appendix D: Summary Statistics and Correlation Matrices and Plots

FIGURE D1: Contentious challenges against firms by environmental issue or movement (2002-2012)



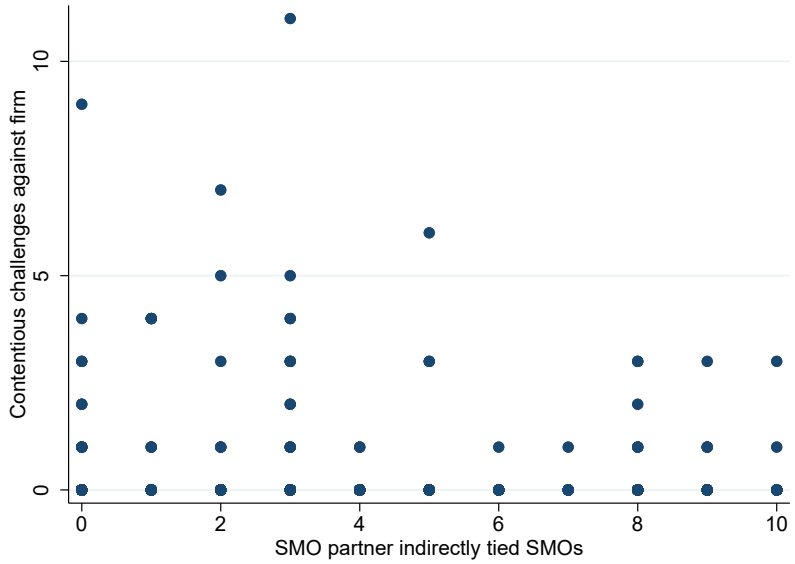
Notes. Contentious challenges by SMOs against sampled firms on various environmental issues from 2002 to 2012 (i.e., corresponding to panel regression sample). Numbers in parentheses correspond to the Comparative Agendas Project's issue topics and detailed descriptions of each environmental issue is provided in Appendix B.

TABLE D1: Summary Statistics and Correlations for Full Sample Used in Panel Regressions

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	*Post-collab. contentious challenges (log)*	0.017	0.141	1																	
2	*SMO collaboration*	0.022	0.147	0.093	1																
3	*Indirectly tied SMOs (board ties)*	0.136	1.379	0.059	0.655	1															
4	*Indirectly tied SMOs, bilateral*	0.011	0.221	0.012	0.321	0.156	1														
5	*Indirectly tied SMOs, multilateral*	0.126	1.362	0.057	0.615	0.988	0.003	1													
6	*SMO contentious repertoire*	0.034	0.632	0.025	0.360	0.473	0.113	0.460	1												
7	*SMO grassroots contentious repertoire*	0.013	0.318	0.014	0.276	0.340	0.042	0.338	0.787	1											
8	*SMO professional contentious repertoire*	0.022	0.422	0.030	0.349	0.499	0.135	0.483	0.902	0.463	1										
9	*Indirectly tied SMOs (campaign ties)*	1.083	13.804	0.055	0.522	0.866	0.118	0.857	0.465	0.355	0.481	1									
10	*Contentious challenges (prev. yr)*	0.033	0.342	0.471	0.095	0.066	0.016	0.064	0.030	0.017	0.036	0.064	1								
11	*Environmental performance*	0.834	1.250	0.116	0.071	0.049	-0.008	0.052	0.009	0.006	0.013	0.039	0.109	1							
12	*Firm media attention*	1.334	2.755	0.024	0.074	0.045	0.026	0.043	0.023	0.014	0.026	0.033	0.018	0.043	1						
13	*Cooperation with movement*	0.031	0.261	0.062	0.260	0.263	0.082	0.255	0.189	0.203	0.152	0.247	0.071	0.058	0.057	1					
14	*Firm size*	9.788	1.607	0.059	0.067	0.058	0.009	0.058	0.018	0.009	0.023	0.051	0.049	0.159	0.528	0.068	1				
15	*Receptivity to activism*	0.295	0.623	-0.032	-0.024	-0.029	0.001	-0.029	-0.010	-0.008	-0.012	-0.024	-0.020	-0.138	-0.113	-0.020	-0.187	1			
16	*Change in sales performance (%)*	0.064	0.307	0.002	0.000	-0.007	-0.005	-0.006	-0.004	-0.005	-0.003	-0.008	-0.003	-0.050	0.040	-0.004	0.052	0.009	1		
17	*Extreme weather events*	0.095	0.293	-0.009	-0.020	-0.015	-0.007	-0.014	-0.010	-0.008	-0.009	-0.015	-0.007	0.009	-0.066	-0.014	-0.043	0.050	0.025	1	
18	*Movement segmentation*	-0.367	0.658	-0.036	0.021	0.014	0.011	0.012	-0.007	-0.005	-0.008	0.004	-0.031	0.006	0.000	0.028	0.001	0.006	-0.017	0.016	1
19	*Instrument (weather x segmentation)*	-0.024	0.193	-0.012	0.013	0.011	0.004	0.010	0.000	0.000	0.000	0.005	-0.007	-0.009	0.027	0.001	0.026	-0.019	0.002	-0.049	0.153

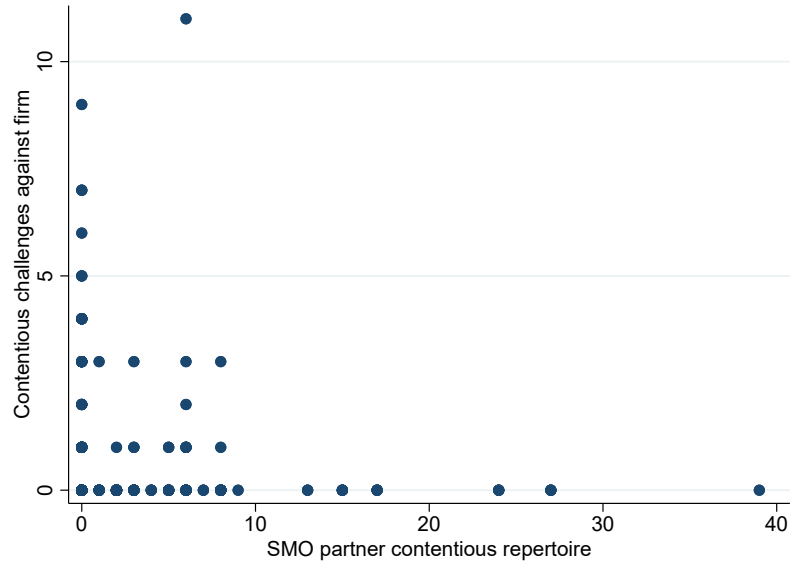
Notes. Statistics shown pertain to 27,989 firm-movement-year observations corresponding to the sample in the panel regressions.

FIGURE D2: Contentious challenges against firms with collaborations by number of indirectly tied SMOs of collaborating SMO



Notes. Number of contentious challenges a firm faced in a given year and movement (y-axis), plotted against the number of indirectly tied SMOs in that movement to its partner SMO in the previous year (x-axis).

FIGURE D3: Contentious challenges against firms with collaborations by repertoire of collaborating SMO



Notes. Number of contentious challenges a firm faced in a given year and movement (y-axis), plotted against the contentious repertoire of its partner SMO in the previous year and same movement (x-axis).

Appendix E: Firm-SMO dyad models testing relational hypotheses

This appendix provides details on dyad-level models further investigating our relational hypotheses (H1 and H1a) positing that individual SMOs indirectly tied to a firm via a collaboration are less likely to mobilize against that firm.

Method & Data

In our theory, the relational pathway of indirect co-optation operates at the firm-SMO dyad because we posit that partner SMOs advocate on the firm's behalf with other SMOs with whom they have ties. In our main estimations, we operationalize our relational hypotheses using the sum of board interlocks the firm's partner SMOs have. However, this measure could also be correlated with other constructs like status, which could attenuate contention against the firm via a different mechanism. We sought to address this by using firm-SMO dyad models where we control for the collaborating SMOs' board interlocks separately and identify the effects of information sharing or advocacy between SMOs with an indicator for whether the focal SMO in the firm-SMO dyad is indirectly tied to the firm through their interlock with the firm's collaborators. We exclude from these models SMOs that directly collaborate with the firm in a given year since we are interested in indirect, rather than direct, co-optation. Thus, the goal of the dyad-level models is to directly test whether a firm faces fewer contentious challenges from SMOs directly tied to the SMO with which they are collaborating.

We done this in our models using *indirectly tied SMO* which is coded as 1 for any firm-SMO dyad in which the SMO is connected via a board interlock to an SMO directly collaborating with the focal firm, and 0 for all other firm-SMO dyads. To test whether the decrease in contention is more pronounced for bilateral firm-SMO collaborations, we create two corresponding dummy variables. *Indirectly tied SMO bilateral collaboration* is coded 1 for all firm-SMO dyads that are indirectly connected via a bilateral collaboration, and 0 otherwise. Correspondingly, *indirectly tied SMO multilateral collaboration* is coded 1 for all firm-SMO dyads that are indirectly connected via a multilateral collaboration, and 0 otherwise. All firm control variables are identical to those that appear in our panel models (i.e., Table 3), including an indicator variable capturing whether the firm has an SMO collaboration in the previous year. We do so to isolate our hypothesized mechanism as operating through the effects of the indirect tie to the focal SMO from the impact of the mere presence of an SMO collaboration. Additionally, we control for the contentious challenges the focal SMO mounted against the firm in the previous period (i.e., a one-year lagged version of the dependent variable), and several SMO-specific controls. These include the contentious repertoire of the focal SMO, the SMO's resources (logged assets), its degree centrality in the board interlock network, and media attention constructed identically to a firm's media attention, or the sum of all articles containing the SMO's name that appeared in the six largest U.S. newspapers listed previously. We include firm and year fixed effects in linear panel regressions, and show that our results are robust to also including SMO fixed effects. We do not employ IV-regression because many SMOs operate in multiple movements in a given year, therefore, movement segmentation is available as an instrument in this method.

Results

Firm-SMO-year regression results are presented in Table E1 below, and here we briefly summarize the results for the relational hypotheses (H1 and H1a). In model E2, we find we find evidence that firms face significantly fewer contentious challenges from SMOs directly tied to their collaborating activist ($p=0.046$). At the firm-SMO level, however, the effect of indirect ties is driven entirely by bilateral collaborations (model E3 $p=0.000$). In fact, in our data we do not observe a single contentious challenge by an SMO that is indirectly tied to the firm via a bilateral collaboration. For multilateral collaborations, on the other hand, the degree of issue-overlap between the collaboration and the contentious challenges the focal SMO mounts against the firm (supplementary analysis available from authors). Consistent with our main results, we also find that contentious SMO partners (model E2 $p=0.041$), and particularly those that rely on grassroots contentious tactics (model E3 $p=0.032$), are also influential in attenuating contention from individual SMOs.

TABLE E1 Effect of collaborating SMO characteristics on contentious challenges against firms by individual non-collaborating SMOs (firm-SMO panel regressions)

	Model E1	Model E2	Model E3	Model E4	Model E5
Indirectly tied SMO (H1)		-0.00218*		-0.00205*	
		(0.00110)		(0.00102)	
Indirectly tied SMO bilateral collab. (H1a)			-0.00658***		-0.00521***
			(0.00149)		(0.00148)
Indirectly tied SMO multilateral collab. (H1a)			-0.000935		-0.000678
			(0.00121)		(0.00122)
Collaborating SMO contentious repertoire (H2)		-0.0000801*		-0.0000808*	
		(0.0000392)		(0.0000392)	
SMO grassroots contentious repertoire (H2a)			-0.000175*		-0.000173*
			(0.0000818)		(0.0000818)
SMO professional contentious repertoire (H2a)			-0.0000134		-0.0000161
			(0.0000713)		(0.0000713)
Dyad Control					
Contentious challenge (prev. yr)	0.341***	0.341***	0.341***	0.340***	0.340***
	(0.0279)	(0.0279)	(0.0279)	(0.0277)	(0.0277)
Firm control variables					
Environmental performance	-0.000251	-0.000262	-0.000262	-0.000260	-0.000261
	(0.000179)	(0.000179)	(0.000179)	(0.000179)	(0.000179)
Firm media attention	0.000130	0.000128	0.000126	0.000128	0.000126
	(0.0000920)	(0.0000920)	(0.0000920)	(0.0000927)	(0.0000927)
Cooperation with movement	-0.000132	-0.000127	-0.000120	-0.000128	-0.000120
	(0.000120)	(0.000120)	(0.000120)	(0.000120)	(0.000120)
Firm size	0.000609*	0.000589*	0.000604*	0.000594*	0.000608*
	(0.000291)	(0.000290)	(0.000290)	(0.000291)	(0.000291)
Receptivity to activism	-0.000260	-0.000260	-0.000260	-0.000259	-0.000258
	(0.000192)	(0.000192)	(0.000192)	(0.000192)	(0.000192)
Change in sales performance (%)	0.000288	0.000292	0.000295	0.000289	0.000292
	(0.000186)	(0.000186)	(0.000187)	(0.000186)	(0.000186)
SMO collaboration	0.000824	0.000955	0.000937	0.000936	0.000919
	(0.000639)	(0.000646)	(0.000647)	(0.000648)	(0.000649)
Collaborating SMO board interlock centrality	-0.0000287	-0.0000146	-0.0000147	-0.0000169	-0.0000168
	(0.0000305)	(0.0000314)	(0.0000317)	(0.0000313)	(0.0000317)
SMO control variables					
SMO contentious repertoire	0.000607***	0.000605***	0.000603***	-0.000668***	-0.000668***
	(0.000102)	(0.000102)	(0.000102)	(0.000171)	(0.000171)
SMO resources	-0.0000695	-0.0000680	-0.0000672	-0.000108	-0.000109
	(0.0000500)	(0.0000500)	(0.0000500)	(0.0000919)	(0.0000919)
SMO board interlock centrality	0.0000823	0.000101	0.000101	0.000146	0.000148
	(0.000121)	(0.000122)	(0.000122)	(0.000141)	(0.000140)
SMO media attention	0.00105***	0.00105***	0.00105***	-0.000142	-0.000141
	(0.000241)	(0.000241)	(0.000241)	(0.000587)	(0.000587)
Fixed effects	Yr, Firm	Yr, Firm	Yr, Firm	Yr, Firm, SMO	Yr, Firm, SMO
Constant	-0.00473	-0.00455	-0.00471	-0.00242	-0.00242
	(0.00295)	(0.00295)	(0.00294)	(0.00308)	(0.00308)
N	248749	248749	248749	248749	248749
R^2	0.136	0.136	0.136	0.139	0.139

Notes. Standard errors clustered at the dyad level in parentheses. The dependent variable is the logged count of 1 plus the number of contentious challenges a firm received from the focal environmental SMO. Models E1 to E3 include year and firm fixed effects, whereas models E4 and E5 include year, firm, and SMO fixed effects.
∗ p<0.05; ∗∗ p<0.01; ∗∗∗ p<0.001.

Appendix F: Supplemental Analysis

Here we detail the procedures and results of our investigation into the generalizability of our findings to a broader set of actors with interests in environmental issues using a comprehensive measure of contention from Reprisk.

Reprisk data and methods

Reprisk uses a big data approach to screen a broad set of media, stakeholder and other third-party reports to derive various measures of criticism and mobilization against firms disaggregated by issue (Kölbel, Busch, & Jancso, 2017). Data collection begins with algorithmic search and screening of over 80,000 sources, followed by Reprisk analysts reading each item, summarizing it and entering it into a database (Hawn, Durand, and Ioannou, 2021). Reprisk measures include the reach of the source as well as the severity of the criticism, or the degree to which the criticism indicates negative consequences of firms' actions, the extent of their culpability and irresponsibility. The dataset has been employed by others to measure stakeholder criticism and mobilization against firms (Hawn *et al.*, 2021; Kölbel, Busch, and Jancso, 2017).

Matching to Reprisk

We matched our sampled firms to those in Reprisk by first matching on the first word in the firm's name, then visually inspecting all resultant matches, and searching manually in Reprisk for any firms that were not matched through this process. In order to match each SMO collaboration with stakeholder criticism, we matched the 14 Comparative Agenda's Project (CAP) environmental issues to Reprisk using a combination of Reprisk's issue and topic tags for each stakeholder criticism event. Reprisk data is coded with 28 ESG Issues, of which 6 are environmental, and 58 Topic Tags with more detailed information. We rely on both codes to provide as close a mapping to CAP as possible. For example, a story criticizing a cruise ship operator for damage to coral reefs is classified by Reprisk as "Impacts on landscapes, ecosystems, and biodiversity" which is a broad issue category encompassing ecosystem, land and water impacts. Therefore, we use the story's topic tag of "coral reefs" to correctly match the criticism to CAP issue 710 or "Pollution and conservation in coastal and other navigable waters." In a similar manner, topic tags such as "endangered species" or "forest burning" are matched to CAP issue 709 or "Species and Forest Protection."

Reprisk data and results

We replicate our panel 2SLS regression models substituting our contentious challenges variable based on our 136 SMOs with Reprisk's high severity criticism. We use the high severity category because we are interested in instances when stakeholders attribute culpability to the firm in creating harm (Kölbel *et al.*, 2017), rather than more general criticisms leveled at a company with little attribution. The Reprisk data is only available from 2007 onwards, reducing the number of observations in our panel to 17,277.

Panel 2SLS regression results are presented in Table F1 below, and here we briefly summarize the results for our hypothesized SMO partner characteristics. Models F1 and F2, predicting collaboration, confirm the relevance of our instrument in this reduced sample and the instrument remains strong (Kleibergen-Paap F statistic is 25.37). Model F4 suggests that better-connected ($p=0.000$) and more contentious ($p=0.000$) partner SMOs are more effective at attenuating criticism from a broad swathe of stakeholders on the issue that is the subject of the collaboration. Consistent with our main results, we also find that a bilateral collaboration with a better-connected SMO is more effective than a multilateral collaboration ($p=0.000$). Turning to our arguments about authenticity of motives, we find that SMOs that rely on more grassroots contentious tactics are better placed to attenuate stakeholder criticism leveled at the firm ($p=0.001$), than more professionalized SMOs ($p=0.028$).

TABLE F1 Effect of SMO collaboration on stakeholder criticism against firms as measured by Reprisk (panel regressions, 17277 observations)

	Model F1	Model F2	Model F3	Model F4	Model F5
	Probit		2-Stage Least Squares		
		1st stage	2nd stage	2nd stage	2nd stage
Dependent variable:	Collab.	Collab.	Criticism	Criticism	Criticism
SMO collaboration			0.0170	0.00892	0.0108
			(0.0129)	(0.00597)	(0.00619)
Indirectly tied SMOs (board ties)				-0.00706***	
x SMO collaboration (H1)				(0.000949)	
Indirectly tied SMOs (board ties)					-0.00709***
x SMO collaboration bilateral (H1b)					(0.000953)
Indirectly tied SMOs (board ties)					-0.00339
x SMO collaboration multilateral (H1b)					(0.00201)
SMO contentious repertoire				-0.00389***	
x SMO collaboration (H2)				(0.00112)	
SMO grassroots contentious repertoire					-0.00525**
x SMO collaboration (H2a)					(0.00164)
SMO professional contentious repertoire					-0.00237*
x SMO collaboration (H2a)					(0.00108)
SMO control variables					
Indirectly tied SMOs (campaign ties)				-0.00061***	-0.00061***
x SMO collaboration				(0.000083)	(0.000083)
Firm control variables					
Criticism (prev. yr)	0.0111	0.0055	0.224***	0.223***	0.223***
	(0.00593)	(0.0092)	(0.0100)	(0.00185)	(0.00185)
Environmental performance	0.00879	0.0012	0.0115**	0.0115***	0.0115***
	(0.0494)	(0.003)	(0.00431)	(0.00072)	(0.00072)
Firm media attention	0.0177	0.0002	0.000474	0.000463	0.000465
	(0.0187)	(0.0012)	(0.000651)	(0.000295)	(0.000295)
Cooperation with movement	0.500***	0.0985***	-0.00181	-0.00102	-0.00116
	(0.0546)	(0.0175)	(0.00638)	(0.00233)	(0.00234)
Firm size	0.294***	-0.0037	0.00156	0.00150*	0.00150*
	(0.0622)	(0.0043)	(0.00191)	(0.00064)	(0.00064)
Receptivity to activism	0.0131	0.0009	-0.000750	-0.000803	-0.000799
	(0.0702)	(0.0034)	(0.00112)	(0.00116)	(0.00116)
Change in sales performance (%)	0.00366	-0.0005	-0.000544	-0.000546	-0.000550
	(0.0822)	(0.0035)	(0.00202)	(0.00188)	(0.00188)
Extreme weather events	-0.250	-0.0091	-0.00262	-0.00279	-0.00281
	(0.129)	(0.0048)	(0.00199)	(0.00246)	(0.00246)
Movement segmentation	0.125**	0.003*	-0.000112	-0.0000884	-0.0000914
	(0.0401)	(0.0014)	(0.000382)	(0.00129)	(0.00129)
Instrument: *extreme weather events*	0.261*				
x movement segmentation	(0.122)				
Fitted values IV		0.0499***			
		(0.0152)			

Notes. Standard errors clustered at the firm and issue level in parentheses. In models F3 to F5, the dependent variable 'Criticism' is the logged count of 1 plus the number of severe criticism events (from Reprisk) a firm received on the issue that is the subject of collaboration. All models include issue and industry fixed effects. Model F1 is a probit regression predicting a collaboration where the exogenous instrument is the interaction of extreme weather events and movement segmentation (reverse-coded). Models F2 through F5 are the 2SLS estimates. The instrument in model F2 is the fitted values from model F1, and the heteroskedasticity robust Kleibergen-Paap F statistic is 25.37. The direct effects of the collaborating SMO's characteristics are not estimated since these variables do not exist at the firm-level except when a firm has a collaboration with an SMO. ∗ p<0.05; ∗∗ p<0.01; ∗∗∗ p<0.001.