The Spillover Effects of Social Movement Coalitions on Entrepreneurial Entry into Emerging Markets for Socially Beneficial Products

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ABSTRACT

I study the spillover effects of a social movement coalition in geographically distant markets. By analyzing 112 national emerging markets for clean cookstoves between 2013 and 2017, I find that entrepreneurial entry into a country's emerging market is predicted by the number of organizational ties to countries where the Global Alliance for Clean Cookstoves (GACC) is actively promoting the creation of clean cookstove markets. I argue that coalition spillover effects occur because participating member organizations learn how to promote a social movement's cause and how to collaborate with other organizations. If these organizations operate in multiple locations, then they can transfer their knowledge. However, I propose that the diffusion of knowledge depends on the characteristics of these multilocational organizations and the characteristics of the destination countries. For example, larger organizations serve as less effective ties, and a country's cultural autonomy and hierarchy can weaken the effect of organizational ties on entrepreneurial entry. My results shed new light on the existence of social movements' geographical spillover effects, and they extend our understanding of how multilocational organizations can effectively act as channels of diffusion.

Markets are increasingly prone to becoming sites of contention. Social movements have been shown to generate institutional change that disrupts the stability of existing market structures (King and Pearce, 2010; Davis et al., 2005). Such disruption can result in the creation of new markets that support the social movement's goals, often by providing products and services that mitigate social and environmental problems (Dacin, Dacin, and Tracey, 2011). For example, environmental activists played keys roles in the emergence and development of the markets for wind energy (Pacheco, York, and Hargrave, 2014; Sine and Lee, 2009), organic foods (Hess, 2004), and recycling (Lounsbury, Ventresca, and Hirsch, 2003). These new markets for socially beneficial products arise because market-focused social movements alter the normative and cognitive aspects of the institutional environment in ways that then infuse the market with moral value (Rao, Monin, and Durand, 2003), validate the existence of new market categories (Hiatt, Sine, and Tolbert, 2009), shape the regulatory environment for market actors (Georgallis, Dowell, and Durand, 2018), and provide a supportive infrastructure for entrepreneurs (Sine and Lee, 2009; for a review, see Tolbert, David, and Sine, 2011).

Yet scholars of social movements and markets have overlooked the spatial interdependencies between market-focused social movements and the interactions between diverse movement actors. These movements are generally analyzed as "separate and discrete phenomena" (McAdam, 2013), both in terms of where they are geographically attempting to bring about market creation and in terms of their conceptualization as unitary organizations. In studies demonstrating the effect of social movements on market creation, scholars typically study how entrepreneurial entry into a new local market is determined by the number of individual members in a single social movement organization that operates within this local market (e.g., Sine and Lee, 2009; Schneiberg, King, and Smith, 2008). Such an analysis only tests the direct

effect of market-focused activism in a specific cultural context (e.g., Weber, Heinze, and DeSoucey, 2008) and ignores the collaborative efforts occurring among actors within the broader movement (McCarthy and Zald, 1977; Meyer and Whittier, 1994; Johnson, 2008).

Consequently, the idea that interorganizational, market-focused activism in one location can have effects on market creation in other locations has been ignored. These geographical spillover effects are important to consider because contemporary market-focused social movements and their actors are increasingly becoming transnational, meaning that they exist in multiple countries (Smith, Chatfield, Pagnucco, 1997; Smith, 1997; Romeril, 1994). Furthermore, coalitions that involve collaboration between distinct, often very different organizations play a significant role in spearheading transnational social movements (von Bülow, 2011; Bandy and Smith, 2005; Tarrow, 2005; Kriesberg, 1997). It is critical to understand how the efforts and effects of social movement coalitions diffuse across the globe.

To fill this theoretical gap, I develop a conceptual apparatus for how interorganizational collaboration through a coalition affects entrepreneurial entry in countries where the coalition is not active. I theorize that multilocational organizations learn from participating in the coalition and apply their experiential knowledge in other countries where the coalition is not present. When an organization participates in a coalition, it learns how to promote the coalition's cause and how to collaborate with other organizations to pursue these goals. However, the effectiveness of this knowledge in other contexts varies.

I examine the spillover effects of a social movement coalition in the case of emerging clean cookstove markets. Clean cookstoves are technologies intended to reduce the negative health, environmental, and social impacts of cooking on open fires in developing countries. A global social movement has developed to promote the adoption of these technologies among

low-income users in developing countries by creating clean cookstove markets. I consider how this movement is diffused through organizational members of an important transnational social movement coalition organization, the Global Alliance for Clean Cookstoves (henceforth known as the GACC). In eight countries, the GACC coordinates the collaborative efforts of member organizations, which may also work in countries where the GACC does not operate. With data from the GACC's member directory of over 1,900 member organizations, I construct a longitudinal dataset from 2013 to 2017 to test whether organizational ties to a country where the GACC is active (the origin country) affect entrepreneurial entry into the cookstove markets of countries where the GACC is inactive (the destination country). I find support for the argument that coalition spillover effects exist and that multilocational organizations are a channel that spreads these spillover effects.

This research contributes to work on social movements, market creation, and diffusion. For research on social movements, I build upon extant work that uses organizational learning as a mechanism of diffusion among social movement organizations. I demonstrate how social movements can spread geographically through multilocational organizations. For research on market creation, I suggest that markets are geographically interdependent on one another because organizational actors learn how to create markets in one location and attempt to create markets by applying their knowledge in other locations. For diffusion studies, I highlight how differences in the type of ties connecting two actors can affect whether something is diffused.

In the next section, I present a framework for thinking about social movement diffusion, coalition spillover effects, and interorganizational learning.

A DIFFUSION-LEARNING FRAMEWORK FOR COALITION SPILLOVER

The current work on coalition spillover combines two literatures: diffusion and interorganizational learning. Diffusion refers to "the spread of something within a social system" (Strang and Soule, 1998:266). Whereas classical models of diffusion assume spatial homogeneity (i.e., all actors have equal chance of affecting or being affected by one another), sociologists and organizational scholars have taken advantage of differences in social structure and the characteristics of individual actors to explain variations in where knowledge, innovations, and practices are diffused. Interorganizational learning refers to "the collective acquisition of knowledge among a set of organizations" (Larsson et al., 1998:287) that occurs when organizations collaborate. Interorganizational learning produces both collective and private knowledge (Khanna, Gulati, and Nohria, 1998) that can then be transferred from the original site of learning to new destinations (Delios and Henisz, 2003; Barkema, Bell, and Pennings, 1996).

The collective and privately held knowledge acquired through interorganizational learning can be diffused from origin countries to destination countries. The diffusion process depends on three factors: the infectiousness of the origin, the organizational ties between the origin and the destination, and the susceptibility of the destination (Greve, 2005). The *infectiousness* of the origin country describes the degree to which knowledge that is held at the origin has the potential to spread. Infectiousness varies with the origin's characteristics, such as the origin's status and how much attention it attracts (Haveman, 1993), and the intensity of interorganizational learning and knowledge acquisition occurring at the origin. *Organizational ties* between the origin and destination describes the organizational channels through which knowledge can flow. Prior work on organizational-level nodes focuses on the number of individual ties between nodes (e.g., Burt, 1987; Davis, 1991; Mizruchi, 1996; Davis and Greve, 1997), but this study also examines the characteristics of the ties. The *susceptibility* of the

destination country describes how much it can be affected by the transmitted knowledge. Susceptibility is influenced by how much actors in the destination are motivated to adopt the knowledge (Westphal and Zajac, 1994) and their capability to absorb the knowledge (Cohen and Levinthal, 1990).

This framework of interorganizational learning and diffusion can be applied in the context of emerging clean cookstove markets, which is described in the next section. When organizations are members of a coalition in an origin country, they learn 1) how to promote clean cookstove markets and 2) how to collaborate with other organizations to operate in these markets. This knowledge is diffused to destination countries where the coalition is not present.

CLEAN COOKSTOVES: A STUDY OF MARKET CREATION SPILLOVER EFFECTS VIA MULTILOCATIONAL ORGANIZATIONS

Approximately half of the world's population—and up to 90 percent of rural households in developing countries—still rely on unprocessed biomass fuels, such as wood, dung, and crops leftover from the harvest (World Resources Institute, 1998). When used for cooking and heating, these biomass fuels are typically burnt indoors in open fires or in poorly functioning stoves. As a result, vulnerable populations – especially women in charge of cooking and their young children – are exposed to high levels of air pollution (Bruce, Perez-Padilla, Albalak, 2000). Indoor air pollution is related to an increased risk of acute respiratory infections in childhood, chronic obstructive pulmonary disease, and lung cancer. (Smith, 2013; Chen et al., 1990). The World Health Organization estimates that indoor air pollution from cooking kills over 4.3 million people very year (World Health Organization, 2017). Social problems are also associated with using traditional cookstoves and fuels, such as gender inequality, which emerges because women

are generally responsible for spending time on fuel collection and cooking (Lewis and Pattanayak, 2012). The gases emitted from burning unprocessed biomass fuels also have a higher global warming potential (Sagar and Kartha, 2007), and they can even result in localized, not just global, impacts (Smith et al., 2009).

One intervention for the problems created by using traditional fuels and cooking methods is the use of "clean" cookstoves. These cookstoves come in a range of culturally differentiated designs, use different types of fuels, are affordable at different price points, and include categories such as improved biomass stoves, solar stoves, and stoves that run on liquefied petroleum gas (USAID and Winrock International, 2017). Most of these cookstoves were initially developed to address adverse health, social, and environmental problems by reducing the amount of fuel that is required, using cleaner-burning fuels, decreasing fuel-gathering time, and reducing cooking time.[1]

However, even though versions of clean cookstoves have existed for 60 years (Smith quoted in Morrison, 2018), "initial efforts to promote these technologies have run into challenges surrounding diffusion, dissemination, and implementation" (Lewis and Pattanayak, 2012:637). There had been early efforts to produce and promote clean cookstove and fuels, but these initiatives typically depended on donor funding and operated on a project-by-project basis (e.g., Abdelnour and Branzei, 2010; Hanbar and Karve, 2002). For example, USAID has been funding cookstove projects in Asia, Africa, and Latin America since the 1980s (WASHplus, 2010). Moreover, the different organizations involved in creating, distributing, and funding cookstoves operated somewhat independently. This situation has been described as "a patchwork of

[1] The purpose of this research is to demonstrate how the coalition activities of the Global Alliance for Clean Cookstoves affect entrepreneurial entry into emerging markets for clean cookstove and fuels. I do not comment on the technologies' actual abilities to provide health and environmental benefits, which have been studied by academic researchers (e.g., Hanna, Duflo, and Greenstone, 2016) and investigated by journalists (e.g., Morrison, 2018).

cookstove manufacturers, non-governmental organizations, and other stakeholders" that "often exists with little coordination among themselves or with the host government," resulting in "missed opportunities and a failure to achieve the economies of scale that come with a more cohesive and strategic approach" (GACC, 2011:18). Because the existing organizations were small and the products were undesirable, very early-stage clean cookstove sand fuels industries lacked legitimacy, could not attract sufficient investment for further private sector development, and could not attract entrepreneurs. The few clean cookstove and fuels companies that did exist struggled to achieve profitability and growth. In a study of the business models of 10 Indian cookstoves companies, zero were found to achieve both scale and proven financial sustainability in the one through 40 years of being in the cookstoves business (Shrimali et al., 2011).

In September 2010, the Global Alliance for Clean Cookstoves was launched as a public-private partnership led by the United Nations Foundation. The goal of the GACC and its member organizations is to provide 100 million clean cookstoves by 2020 (Smith, 2010), and its mission is to "save lives, improve livelihoods, empower women, and protect the environment by creating a thriving global market for clean and efficient household cooking solutions" (GACC, 2018b). The means through which the GACC aims to achieve its social goals involve the creation of a "thriving global market," which requires the emergence and growth of a clean cookstove and fuels market that includes firms that create social and environmental impact (London and Fay, 2018). The GACC's goal of industry creation and growth is a marked departure from the charity and foreign aid-based means of technology dissemination that were embodied in earlier initiatives. According to the GACC:

> The development of a thriving global clean cookstove and fuels industry that is constantly innovating to improve design and performance, while lowering the cost of cookstove and fuels, is the most sustainable way to bring modern cooking solutions to hundreds of millions of families in developing countries. While reducing costs for clean cookstoves, designing products that people will buy, addressing cultural preferences, and reaching greater scale in the manufacturing and distribution of clean cookstoves are challenges, success will literally mean life-saving and life-changing improvements in the lives of billions of people (GACC, 2011).

To develop markets for clean cookstoves, the GACC coordinates the activities of its over 1,900 member organizations, many of which operate in different fields and sectors. The coalition cites the lack of a "cohesive vision" and limited coordination and collaboration among organizations has been a primary reason for why there are few established markets (GACC, 2011:18). For example, in an assessment of Lao PDR's cookstove market, a handful of organizational actors were identified as already participating in cookstove projects, but coordination was limited. The report recommended that "any large-scale program should make a priority of linking existing actions to avoid overlap and to maximize efficiency" (Lao Institute for Renewable Energies, 2013).

To address the coordination problem, when entering a country, the GACC identifies existing actors and convenes them in order to write a Country Action Plan (CAP), in which participating organizations have to agree upon three to four main problem areas and strategies for market development. This document becomes the blueprint for cookstove organizations in the

country. The GACC may also create a national coordinating organization "to ensure sector players and facilitators are working towards a cohesive coordinated strategy and are learning from each other, leveraging each other's work, not duplicating efforts, and are able to advocate for the sector with one unified voice" (Government of the People's Republic of Bangladesh, 2013). The purpose of coordination is so that member organizations collaborate to implement a repertoire of strategic framings and tactics that promote the emergence and growth of clean cookstove and fuel markets. Together, the GACC and its member organizations raise awareness of the problems with traditional cooking methods, communicate the importance of behavioral change around cooking methods, and advocate governments for supportive policies like removing taxes on imported cookstoves and clean fuels (Wanjohi, 2016). The organizations utilize research findings that are financially sponsored by the GACC's global headquarters, and they may also receive financial support to experiment with new campaigns or business models (London and Fay, 2018; GACC, 2014).

The GACC is an exemplar case to study a coalition's spillover effects because of how it operates across countries. The coalition selected eight countries to "maximize impact and strengthen national markets for clean cooking" (GACC, 2016). These eight countries (which I label as "origin countries") are Bangladesh, China, Ghana, Guatemala, India, Kenya, Nigeria, and Uganda. The GACC operates in these origin countries through the local presence of a Market Manager, whose responsibilities include building relationships with key individuals and organizations in the private, public, and civil society sectors, establishing cross-sectorial collaborations, managing the activities of these interorganizational collaborations, fundraising,

and supporting and evaluating entrepreneurs (GACC, 2015b). In origin countries,[2] the GACC engages its member organizations in essentially the same way, even though its tactics may morph to fit the cultural context. In destination countries, the GACC does not have a Market Manager present to initiate coalition activities. However, other member organizations may be operating here, and they may participate in regional workshops and online platforms to learn best practices and utilize toolkits from the GACC (GACC, 2014).

Using the context of clean cookstoves, I next develop hypotheses to test the presence of coalition spillover effects and examine factors that affect the strength of coalition spillover effects in a destination country.

HYPOTHESES

Infectiousness: The Characteristics of Origin Countries

When organizations are members of a coalition in an origin country, they learn 1) how to promote clean cookstove markets and 2) how to collaborate with other organizations to promote these markets. The first type of knowledge is influenced by the coalition's strategic framing, or the "conscious strategic efforts by groups of people to fashion shared understandings of the world and of themselves that legitimate and motivate collective action" (McAdam, McCarthy, and Zald, 1996:6). Through regular stakeholder meetings and bi-annual global conferences, GACC member organizations learn the acceptable way to frame the problems related to cooking with traditional methods and how to talk about clean cookstoves and fuels as solutions to these

[2] China should be counted as an exception. Most of its clean cookstove and fuel efforts have been led by the Government of China. The promotion and adoption of clean cookstoves was explicitly provisioned for in its 2011-2015 Five Year Plan.

problems. Member organizations also learn specific GACC-promoted tactics, such as behavior change campaigns and the inclusion of women throughout the clean cookstove industry's value chain (e.g., as door-to-door cookstove entrepreneurs or repairwomen).

The knowledge of how to collaborate with others to operate in this market is also influenced by the coalition. In origin countries, the GACC's Market Manager connects complementary organizations in the industry value chain and invites organizations to work together on nationwide advocacy or behavioral change campaigns. Member organizations may receive funding that encourages collaboration. For example, one of the GACC's first Spark Fund grants went to a collaboration between BioLite, a cookstove manufacturer, and Impact Carbon, a nonprofit organization, to build a national network of distribution partners in Uganda. As member organizations work together, they learn how to engage in partnerships with other organizations. This occurs because collaboration produces "the accumulation of mutual experience with and knowledge about how to manage interorganizational cooperation per se. Collaborative knowhow might be used later in design and management of other collaborations" (Child, 2001:664).

The knowledge of how to promote clean cookstove markets and how to collaborate with other organizations is acquired in origin countries but not destination countries. Compared to destination countries, origin countries experience relatively cookstove market growth, as represented by higher rates of entrepreneurial entry and organizational participation (see Figure 1).

Insert Figure 1 about here

The knowledge of how to collaborate can be transferred from origin countries to destination countries, since learnings acquired in one context can be applied in new contexts (Delios and Henisz, 2003; Barkema, Bell, and Pennings, 1996; Barkema et al., 1997). Hence, destination countries can still experience the benefits of coalition activity because of the multilocational member organizations that operate in both origin and destination countries. Coalition spillover effects occur through the learning and transfer of knowledge. These spillover effects are observed as entrepreneurial entry into the clean cookstove and fuels markets of destination countries.

Hypothesis 1a: For a destination country, more organizational ties to origin countries will increase entrepreneurial entry into the emerging market.

Furthermore, organizational ties between destination countries do not result in coalition spillover effects, since organizations do not acquire as much knowledge in destination countries.

Hypothesis 1b: For a destination country, more organizational ties to other destination countries will not affect entrepreneurial entry into the emerging market.

Next, I develop hypotheses about the characteristics of organizational ties that connect origin and destination countries.

Organizational Ties: Characteristics of Multilocational Organizations

Multilocational organizations learn and transfer knowledge from origin to destination countries with varying levels of effectiveness. Hence, diffusion is not just affected by characteristics of the origin and destination, but also by the characteristics of the ties that connect them. Even though prior research has differentiated between "strong ties" (Morris, 1981) and "weak ties" (Granovetter, 1973), empirical studies assume tie homogeneity. For example, scholars analyzing the effect of board interlocks on the diffusion of business practices give identical treatment to the directorship ties between corporations (e.g., Davis, 1991; Haunschild, 1993). However, when organizational learning is considered as an integral mechanism of diffusion, it is not possible to treat the ties between an origin and a destination as identical. In the example of diffusion via board interlocks, some directors may be more effective channels of diffusion because they are better at learning the information that is gained by being on other companies' boards or are more capable at transferring this knowledge to other countries.

In the context of emerging markets for clean cookstoves, the characteristics of the organizational ties between origin and destination countries moderate the strength of coalition spillover effects. The first characteristic that I examine is the size of multilocational organizations. Recall that organizations learn from participating in a coalition. For an organization to learn, there must be internal organizational process in place to distribute knowledge within an organization (Huber, 1991). As an organization grows larger and is composed of an increasing number of subunits, knowledge distribution across subunits becomes more challenging. Knowledge distribution is especially difficult when the knowledge is tacit and uncodifiable. The transfer of tacit knowledge requires face-to-face interaction between small groups (Kogut and Zander, 1992) and is difficult to accomplish in large organizations.

Additionally, larger organizations tend to be older organizations, which are inclined to fall into competency traps (Levitt and March, 1988). Hence, larger organizations may be less motivated to acquire and apply new knowledge because they are more comfortable exploiting existing knowledge. Finally, larger organizations are more bureaucratic and rigid, possessing standard operating procedures and formalized rules (Weber, 1958). Their rigidity may also make larger organizations less willing and able to learn.

The multilocational organizational members of the GACC vary in size. Some organizations operate in over 150 countries, and some organizations work in two. For larger organizations, there are fewer opportunities for the managers of different countries' operations to interact and transfer knowledge that is acquired in origin countries. Moreover, larger organizations are more likely to be well-established and unwilling or unable to utilize new knowledge. Even though they are members of the GACC in name, their actual practices are not affected by their involvement. The opposite story may hold for smaller organizations. In smaller organizations, the managers of different countries' operations are likely to be in more frequent contact, and the same person may even manage different countries' operations. Since smaller organizations are also more dependent on the GACC for financial and social resources, they are also more likely to adopt the GACC's framings, tactics, and recommended practices. Therefore, organizational size has a negative moderating effect on the relationship between organizational ties and entrepreneurial entry.

Hypothesis 2: The effect of organizational ties to origin countries on entrepreneurial entry in the emerging market of a destination country will be weaker when the multilocational organizations constituting these ties are larger.

The second characteristic of organizational ties that I examine is the activities organizations engage in to promote cookstove markets. Coalitions are powerful tools for addressing complex social problems because they coordinate different activities across different types of organizations (Trist, 1983). The promotion of a new market involves multiple activities, such as advocating for policy change, producing and distributing a new product or service, making end customers aware of the offering, and pumping financial capital into the nascent industry. Organizations pursue activities that align with their sector capabilities, histories and expertise, mission and values, institutional logics, and power (Gray and Purdy, 2014; Hardy and Phillips, 1998). Different activities provide different opportunities for learning and knowledge transfer. I provide hypotheses for three categories of organizational activities that promote new markets: value chain activities, status-sharing activities, and funding activities.

Value chain activities take place in the industry-level value chain. They include the inbound logistics from suppliers, manufacturing, outbound logistics or distribution, sales and marketing, and after-sales service (Porter, 1985). In emerging clean cookstove industries, competencies in these activities are spread across different organizations. The activities are not vertically integrated because there does not exist one organization with the necessary resources and capabilities. For example, research organization is able to design a high quality cookstove but lacks manufacturing experience and access to low-income customers. A SME can manufacture cookstoves but does not possess the technical expertise in research and development or knowledge of how to reach the last mile. An NGO regularly engages with low-income, last-mile beneficiaries and provides loans to them so that they can purchase socially beneficial products. The research organization, SME, and NGO would mutually benefit from a

collaborative relationship that extends beyond market transactions. For example, the NGO needs the SME for training and after-sales service, the SME needs the research organization to provide state-of-the-art designs, and the research organization needs the NGO for access to a base of customers that can provide design recommendations and feedback.

Organizations that implement value chain activities are motivated to acquire knowledge from their participation in a coalition. From the coalition, organizations learn who potential collaborators are (e.g., by using resources like the GACC's Partnership Directory, attending meetings and conferences, or being introduced by the Market Manager) and how to frame their activities in a way to attract partners. Because these organizations must also identify, attract, and successfully collaborate with partners in other countries where they work, they are also motivated to transfer their knowledge to new contexts. When organizations that implement value chain activities operate in another country, more entrepreneurs will enter the market because there are knowledgeable organizations to partner with.

Hypothesis H3a: For a destination country, organizational ties to origin countries that are characterized by value chain activities will increase entrepreneurial entry into the emerging market.

In contrast with organizations characterized by value chain activities, some organizations may only be coalition members because they want to demonstrate their alignment with a noble cause. Their participation in the coalition is neither deep nor substantial. For example, although they are members of the GACC, it is unlikely that multilateral organizations like the World Bank and the United Nations Development Programme will prioritize the promotion of clean

cookstove markets, which is still viewed as a rather niche concern that pales in comparison to other social problems. Similarly, it is unlikely that national and multinational companies join the GACC to pursue internal goals of social change. Rather, they are likely to become coalition members to signal a vague commitment to social change (Marquis, Toffel, and Zhou, 2016). Even though their membership is a form of greenwashing, these organizations are nonetheless welcomed by the coalition because they increase the movement's legitimacy.

Status-sharing organizations are less motivated to learn from coalition participation and are less able to transfer knowledge that encourages entrepreneurial entry. Because they are less committed to promoting clean cookstove markets, these organizations are less dependent on the GACC for connections to potential partners. Since they learn less from coalition participation, they have little useful knowledge to transfer. Their membership in the GACC may even deter entrepreneurial entry in destination countries where the coalition is inactive. Because they fear retaliation from industry incumbents, entrepreneurs who are interested in entering the emerging market may feel intimidated by the outward support of a multinational company. While entrepreneurs may view SMEs as potential collaborators, they may view multinational companies are potential competitors.

> *Hypothesis H3b: For a destination country, organizational ties to origin countries that are characterized by status-sharing activities will have no effect or will decrease entrepreneurial entry into the emerging market.*

Finally, organizations that engage in funding activities are motivated to participate in the coalition because they want to attract and identify organizations to fund. Such organizations may be donors that seek no financial return or impact investors who desire a financial return while intentionally addressing a social issue (Bugg-Levine and Emerson, 2011). Regardless, their chosen role is to fund and not to implement.

Internally, the GACC identifies and supports organizations (typically SMEs) that they believe will reach more customers and beneficiaries through a financially sustainable operating model. The GACC disburses its support through one-time grants or short-term technical assistance that the organizations apply for. Funders (investors and foundations) can use the GACC's grants as a screening process to learn about potential investees and how to select potential investees. They can apply this knowledge to selecting investees in other countries where the GACC is not active. Since entrepreneurs are more likely to enter an emerging market where there is available startup capital, more organizational ties characterized by funding activities will result in more entrepreneurial entry.

Hypothesis H3c: For a destination country, organizational ties to origin countries that are characterized by funding activities will increase entrepreneurial entry into the emerging market.

Next, I develop hypotheses about the susceptibility of destination countries to knowledge that is transferred by the organizational ties.

Susceptibility: The Characteristics of Destination Countries

Whether knowledge can be diffused to a destination country depends partly on the destination's susceptibility to what is being diffused. Susceptibility is affected by whether actors in the destination are motivated to adopt the diffused knowledge (Westphal and Zajac, 1994) and their capability to absorb the knowledge (Cohen and Levinthal, 1990). In this study of coalition spillover effects, two characteristics of susceptibility to diffused knowledge are the abundance of cookstove organizations that only operate in the destination country (labeled "domestic organizations") and the destination country's culture. Knowledge of how to promote clean cookstove markets and how to collaborate to operate in these markets create more opportunities for entrepreneurial entry when domestic organizations are also willing and able to receive and apply knowledge from origin countries' cookstove organizations. Whether domestic organizations receive and apply this knowledge depends partly on their national culture, which they use to construct strategies for operating in the emerging market.

The number of domestic organizations in a destination country is likely to weaken the effect of organizational ties on entrepreneurial entry. This negative moderation may occur because knowledge gained through interorganizational collaboration in an origin country is acquired in a specific context and community of practice that is foreign to a destination country's cookstove organizations. According to Brown and Duguid, "[Learners] learn to function in a community … They acquire that particular community's subjective viewpoint and learn to speak its language. In short, they are enculturated" (2000:109). Origin countries' cookstove organizations, which participate in collaborative efforts of the GACC, are likely to speak a common language, share a common vision, and pursue common activities. A destination country's domestic cookstove organizations, which do not participate in GACC activities, are unlikely to possess these understandings. The mismatch in prior experience makes it difficult for

domestic organizations to recognize the value of knowledge from origin countries' cookstove organizations and absorb this knowledge into their routines. The differences between organizations with coalition experience and domestic organizations make it difficult for market-promoting collaboration to occur in a destination country. This weakens the effect of organizational ties on entrepreneurial entry.

Hypothesis 4: The effect of organizational ties to origin countries on entrepreneurial entry in the emerging market of a destination country will be weaker when more domestic organizations are working in the country.

National culture also affects a destination country's susceptibility to coalition spillovers. Culture is conceptualized as a repertoire that social actors use to construct strategies of action (Swidler, 1986, 2001). Variations in culture across countries are stable because they are tightly linked to historical and ecological conditions (Siegel, Licht, and Schwartz, 2012). Hence, cookstove organizations operating in a destination country can be characterized, to some degree, by the destination country's national culture. National culture affects how cookstove organizations promote the country's clean cookstove market and collaborate to operate in the country's clean cookstove market.

As is common in the international business literature, I use Schwartz's cultural scores to describe two aspects of national culture (Schwartz, 1994, 1999). Schwartz defines culture as the norms that a country's actors use to "select action, evaluate people and events, and explain their actions and evaluations" (Schwartz, 1999:24-25). Each country in Schwartz's sample is given a score along two dimensions, which each exist along a continuum. The first dimension is

autonomy-embeddedness, which captures the extent to which social actors are embedded in their groups and, relatedly, whether social actors typically prioritize individual or group interests. The second dimension describes the degree to which responsible social behavior stems from *egalitarian* versus *hierarchical* impulses (for a review, see Schwartz, 1999).

Interorganizational collaboration typically requires organizations to fit into a social structure that is defined by specific roles. Organizations that are accustomed to operating independently, on their own terms, may not want to collaborate. Organizations that are willing to be embedded in a community of organizations are more willing to collaborate compared to organizations that act more autonomously and independently pursue their goals. In origin countries, the GACC creates an embedded social arrangement by regularly convening member organizations or by setting up separate coordinating organizations that will do the same. For example, the Ghana Alliance for Clean Cookstoves exists to "promote partnerships among members of the alliance and other actors to ensure synergy in influencing policies and stimulating actions that contribute to a vibrant cookstove industry." The national organization has a constitution, guidelines, and quarterly general assembly meetings, and it wants to address, for example, unhealthy competition, fear, and lack of trust between manufacturers, all while promoting information sharing (Ghana Alliance for Clean Cookstoves, 2014). The goal of the coalition is to create a community of like-minded organizations that adopt shared frames and practices (Powell et al., 2016) and act in concert to build the national clean cookstove market. Such collaboration requires member organizations to give up some degree of control in setting and promoting their specific visions (Obach, 2004) and to cooperate with other organizations they may view as competitors (Zald and McCarthy, 1980).

The knowledge that member organizations gain from coalition participation can be described by the cultural dimension of embeddedness, which is an emphasis on the "maintenance of the status quo, propriety, and restraint of actions or inclinations that might disrupt the solidary group or the traditional order" (Schwartz, 1999:27). When they transfer this knowledge to a destination country, the knowledge may not be attractive to or effective for organizations in the destination country if the destination country is characterized by autonomy, or a cultural emphasis on the "desirability of individuals independently pursuing their own ideas and intellectual directions" (Schwartz, 1999:27). Since there is a mismatch between knowledge from origin countries and the national culture of the destination country, collaboration among all the cookstove organizations operating in the destination country is less likely. Because there is less of a united effort to promote the clean cookstove market, entrepreneurial entry is less affected by organizational ties to origin countries.

Hypothesis 5a: The effect of organizational ties to origin countries on entrepreneurial entry in the emerging market will be weaker in destination countries that are characterized by higher cultural autonomy.

Where a destination country falls on the hierarchy-egalitarianism cultural dimension can also affect how willing and able its organizations will incorporate the knowledge of multilocational organizations. Hierarchy refers to a cultural emphasis on "the legitimacy of an unequal distribution of power, roles, and resources" (Schwartz, 1999:27), and hierarchical cultures rely on hierarchical systems to ensure socially responsible behavior. Organizations in hierarchical cultures may be accustomed to a local power structure that does not welcome

foreign knowledge. Thus, multilocational organizations that have experience participating in the GACC may find it difficult to share their acquired knowledge of promoting clean cookstove markets and collaborating to operate in the emerging market. They may also not know how to operate in a hierarchical power structure, as they are accustomed to more egalitarian collaboration in which the distribution of power between partners is more equal.

Hypothesis 5b: The effect of organizational ties to origin countries on entrepreneurial entry in the emerging market will be weaker in destination countries that are characterized by higher hierarchy.

METHODS

Data

The primary dataset for this study is the publicly available GACC online partner directory (GACC, 2018c), which as of April 2018 contained 1,973 distinct organizations. This directory includes information such as: organization name, country where the organization is based, country or countries where the organization is operating, organization type (i.e., carbon asset/project developer, consultant, foundation, government, investor, multilateral organization, national or multinational enterprise, non-governmental organization, research, and small or medium enterprise, or other), and website. Using R, I scraped this member organization directory and, using 60 webpages announcing new coalition members, I determined in which years organizations joined the GACC. Including only organizations that worked in 200 countries or fewer, I created country-organization observations based on where organizations operate. I used

these observations to create country-year counts of organizations from 2013 to 2017. I then culled the dataset to include only the 112 countries for which at least one of the following statements is true: over 5 percent of the country's population uses solid fuels (GACC, 2018a), the United Nations Development Programme considered the country's 2010 human development level to be "medium" or "low" based on GDP per capita (UNDP, 2014), and the GACC did not select the country as a coalition-active country. The final dataset had 545 country-year observations.

Dependent Variable

The dependent variable for all hypotheses is the *entrepreneurial entries in a destination country in year*$_t$. From the GACC directory, I counted the number of organizations that listed themselves as a "small or medium enterprise" in the GACC directory. Using data on when they joined the GACC (which is interpreted as when they begin entrepreneurial activities in the clean cookstoves and fuels industry, as they may be de novo companies or existing companies that diversify into the industry), I determine how many entrepreneurial entries occurred each year between 2013 and 2017 for each country.

Independent Variables

The independent variable for Hypothesis 1a, 4, 5a, and 5b is the *organizational ties to origin countries in year*$_{t-1}$. This variable is calculated as the sum of the number of ties to origin countries that a destination country has across all cookstove organizations operating in the country. For example, if a destination country has a member organization that also works in four origin countries, four is added to the number of ties. I only count experience in the immediately

prior year and not accumulated experience, since the emerging market is changing quickly, and only the most recent experiential knowledge may be applicable in other contexts.

The independent variable for Hypothesis 1b is the *organizational ties to destination countries in year*$_{t-1.}$ This variable is calculated as the sum of the number of ties to destination countries that the focal destination country has across all cookstove organizations operating in the country.

The independent variables for Hypothesis 3a, 3b, and 3c are determined by an exploratory factor analysis with variables as the number of organizational ties of each organizational type (i.e., carbon asset/project developer, consultant, foundation, government, investor, multilateral organization, national or multinational enterprise, non-governmental organization, research, and small or medium enterprise, or other) in a destination country. The factor analysis produced three factors that have an eigenvalue greater than 1 and cumulatively capture 69.8 percent of the tie types variance. The factor loadings (i.e., the correlations between the factors and the tie types) after an axis rotation are in Table 1.

Insert Table 1 about here

The first factor's loadings imply SMEs, research organizations, and NGOs as one group. Conceptually, these types of organizations are likely to be organizations that engage in value chain activities. Hence, the independent variable for Hypothesis 3a is the sum of the organizational ties to origin countries created by SMEs, research organizations, and NGOs. This is labeled as the *value chain organizational ties to origin countries in year*$_{t-1}$.

The second factor's loadings imply multilateral organizations and national or multinational companies as another group (I exclude "other" organizations because I do not have enough information about them). Conceptually, these types of organizations are likely to be organizations that conduct status-sharing activities. Therefore, the independent variable for Hypothesis 3b is the sum of the organizational ties to origin countries created by multilateral organizations and national or multinational companies. This is labeled as the *status-sharing organizational ties to origin countries in year*$_{t-1}$.

Finally, the third factor's loadings imply investors and foundations as a third group. Conceptually, these types of organizations are funders of other organizations. Therefore, the independent variable for Hypothesis 3c is the sum of organizational ties to origin countries created by investors and foundations. This variable is labeled as the *funding organizational ties to origin countries in year*$_{t-1}$.

Moderator Variables

The moderator variable for Hypothesis 2 is the *average size of organizations that work in origin countries in year*$_{t-1}$. For each destination country-year, this is calculated as the total number of countries that organizations working in origin countries also work in divided by the number of organizations that work in origin countries. It is meant to proxy for the size of organizations that work in origin countries and assumes that larger organizations work in more countries.

The moderator variable for Hypothesis 4 is the *domestic organizations in year*$_{t-1}$. This is the number of organizations working in a destination country that only work in the destination country.

The moderator variables for Hypothesis 5a and Hypothesis 5b are country-level scores of cultural dimensions of *autonomy* and *hierarchy*. These scores are taken directly from Schwartz's survey of cultural orientations. Schwartz's survey asked schoolteachers in 80 countries to rate each end of each continuum (i.e., both autonomy and embeddedness) as "a guiding principle in my life" using a scale from 7 (of supreme importance) to 0 (not important) and -1 (in opposition to beliefs) (Schwartz, 2004).[3] Because characteristics that are emphasized on one end of a cultural dimension are deemphasized on the other end of the dimension, I study each cultural dimension with only one score as opposed to two scores. I standardize these scores across the countries in my dataset for which surveys were conducted.

Control Variables

Three categories of control variables are included with each regression. The first set of variables control for factors that affect entrepreneurship in general. A score for *ease of starting a business in year*$_{t-1}$ is taken from the World Bank's measures of business regulations across countries (Doing Business, 2018). This overall score is the average of individual component indicators: the number of procedures require to startup and formally operate a commercial business, the amount of time and cost to complete these procedures, and the paid-in minimum capital requirement (that is, funds deposited in a bank or with a notary before registration as a percentage of income per capita). The higher the score, the easier it is to start a business in a country. A score for *ease of getting credit in 2014* is taken from the same dataset. Because the methodology for measuring this score changed during my study period, I use the 2014 data that

[3] This dataset is available for download at https://www.researchgate.net/publication/304715744_The_7_Schwartz_cultural_value_orientation_scores_for_80_countries.

is measured with the 2015-2019 methodology and keep this as a time-invariant, non-lagged measure. The getting credit score incorporates the strength of credit reporting systems and the effectiveness of collateral and bankruptcy laws in facilitating lending. The higher the score, the easier it is to access credit.

A measure from the World Bank Group entrepreneurship survey (Klapper et al., 2010) is used to control for the *degree of informality* that exists in a country's economy. Degree of informality is the percent of firms in a country that self-report that they compete against unregistered or informal firms. Because the entrepreneurship survey is not deployed in all countries in all years, for each country, I take the most recent survey responses between 2006 and 2017.

Rule of law in year$_{t-1}$ controls for the extent to which agents have confidence in and abide by the rules of society and the quality of contract enforcement and property rights. Rule of law is important to potential entrepreneurs who would benefit having a stable legal framework that protects their business interests. The data is sourced from the Worldwide Governance Indicators project, which reports aggregate and individual governance indicators for over 200 countries and territories over the period of 1996 to 2017 for six dimensions of governance, including rule of law (Worldwide Governance Indicators, 2018).

Because policies matter to potential entrepreneurs in an emerging market, *political constraints in year*$_{t-1}$ are also controlled for. I use the Political Constraints III (POLCONIII) index developed by Henisz (2000, 2006), which estimates the feasibility of policy change as the extent to which a change in the preferences of any single political actor may lead to a change in government policy.

The second category of control variables controls for factors that affect entrepreneurship into clean cookstove markets, specifically. I control for the *total number of cookstove organizations in year*$_{t-1}$ that are operating in a coalition-inactive country. In general, more cookstove organizations would increase entrepreneurial entry into the emerging market.

I include a measure for *press freedom in 2013*, which is based on the World Press Freedom Index that is produced by Reporters without Borders (Faccio, 2006). This variable is time-invariant because there is no data prior to 2013, and it controls for varying levels of press censorship that may bolster or hinder the spread of the cookstove-related information, messaging, and knowledge within and beyond a country's borders.

I also control for whether the country is *English-speaking*. English-speaking countries are better positioned to take advantage of the resources provided by the GACC, which conducts its global activities in English. A country's English-speaking status is determined by whether English is listed as a common-used language in a country according to the CIA World Factbook. It is a binary variable set to 1 if English is listed and 0 if English is not listed.

Because multilocational organizations are more likely to work in countries that are geographically closer to the countries where they already work, I control for a coalition-inactive country's *distance to the nearest coalition-active country* in hundredths of kilometers (i.e., kilometers divided by 100). This is recorded as a border distance, such that the distance between countries that border each other is 0.

The third category of variables controls for country-level differences in economic development: *GDP per capita in year*$_{t-1}$ (purchasing power parity in constant 2011 international dollars, in $100,000s) and *percentage of rural population in year*$_{t-1}$. These data are from the World Bank database.

Because counts of organizations and organizational ties are strongly correlated, I orthogonalize them to reduce multicollinearity in regressions where more than one is included. For each of these regressions, I orthogonalize independent, moderator, and control variables that are based on numbers of organizations and organizational ties. Orthogonalization is implemented with Stata's `orthog` function, which is based on a modified Gram-Schmidt procedure. This has been recent practice in other research on social movements and markets (Sine and Lee, 2009; Hiatt, Sine, and Tolbert, 2009). When using `orthog`, the order of the variables matters because it determines which variable's "effect" is first removed from the rest of the predictors. For each regression that requires the orthogonalization of variables, the "most important" predictor (the main independent variable of interest) is listed first, followed by the moderator variable (if applicable). The least important control variable(s) are listed last.

Analysis

For all of the hypotheses, I run ordinary least squares regressions with panel data for country-year observations. All independent, moderator, and control variables are lagged by one year, unless these variables are time-invariant. All independent, moderator, and control variables that count organizations or organizational ties are orthogonalized prior to each regression model that requires it. All regressions are run with year fixed effects to control for historical trends or shocks that may affect entrepreneurial entry. I report heteroskedasticity and cluster-robust standard errors by country to account for the fact that observations in each country are not independent.

RESULTS

Regression Results

Summary statistics and a pairwise correlation matrix appear as Tables 2 and 3. As seen in Table 3, most of the variables calculating counts of organizations and organizational ties are highly correlated. Their orthogonalization reduces multicollinearity in the regression analyses.

Insert Table 2 and 3 about here

Table 4 presents results for Hypotheses 1a and 1b, which hypothesize that, for a destination country, organizational ties to origin countries increase entrepreneurial entry (Hypothesis 1a) and that organizational ties to destination countries have no effect on entrepreneurial entry (Hypothesis 1b). Hypothesis 1a is fully supported. Model 1 tests Hypothesis 1a with no control variables, and Model 2 tests the hypothesis with all control variables except for the total number of cookstove organizations. Model 3 includes this variable after orthogonalizing it and the main independent variable. All effects coefficients on the main independent variable are positive and statistically significant ($p<0.001$). Model 2 can be used to interpret the results. Since each organizational tie to an origin country results in 0.008 entrepreneurial entries into a destination country's clean cookstove market, 125 organizational ties to origin countries would result in one entrepreneurial entry.

Models 4 and 5 support Hypothesis 1b. Model 4 includes organizational ties to destination countries as the main independent variable and does no control for organizational ties to origin countries. Organizational ties to destination countries and total cookstove organizations are orthogonalized. The results show that organizational ties to destination countries has a

somewhat statistically significant ($p<0.10$) effect on entrepreneurial entry, which does not confirm Hypothesis 1b. However, since organizational ties to destination countries is highly correlated with organizational ties to origin countries. If organizational ties to destination countries, organizational ties to origin countries, and total cookstove organizations are orthogonalized using this order of priority and then included in the regression, then there is no statistically significant effect of organizational ties to destination countries on entrepreneurial entry. This demonstrates that the organizational ties to origin countries was driving the positive effect that is seen in Model 4. Hence, Hypothesis 1b is supported.

Insert Table 4 about here

Table 5 presents results for Hypotheses 2, 3a, 3b, 3c, 4, 5a, and 5b. Hypothesis 2 argued that the size of multilocational organizations serving as ties between origin and destination countries weakens the relationship between organizational ties to origin countries and entrepreneurial entries into the clean cookstove market. Model 6 finds support for Hypothesis 2, as the interaction between organizational ties to origin countries and the average size of multilocational organizations is negative and statistically significant ($p<0.01$).

Hypotheses 3a proposed that organizational ties to origin countries that are characterized by value chain activities will increase entrepreneurial entry. Hypotheses 3b proposed that organizational ties to origin countries that are characterized by status-sharing activities will have no effect or will decrease entrepreneurial entry. Hypotheses 3c proposed that organizational ties to origin countries that are characterized by funding activities will increase entrepreneurial entry. These three hypotheses are supported in Model 7.

Model 8 tests Hypothesis 4, which states that domestic cookstove organizations in a destination country weaken the effect of organizational ties to origin countries on entrepreneurial entry. The results of Model 8 support Hypothesis 4, as there is a negative, statistically significant coefficient on the interaction term between organizational ties to origin countries and the number of domestic organizations. Moreover, even though domestic organizations weaken the effect of organizational ties to origin countries on entrepreneurial entry, the results show that domestic organizations have a positive main effect on entrepreneurial entry.

Models 9, 10, and 11 test Hypotheses 5a and 5b, which are about the moderating effects of two cultural values. Hypothesis 5a argued that the higher a destination country's autonomy, the weaker the effect of organizational ties to origin countries on entrepreneurial entry. Hypothesis 5b argued that the higher a destination country's hierarchy, the weaker the effect of organizational ties to origin countries on entrepreneurial entry. These two hypotheses are supported by Models 9, 10, and 11, as the coefficients on the interaction terms between organizational ties to origin countries and these cultural variables are negative and statistically significant ($p<0.05$). Interestingly, autonomy has no main effect on entrepreneurial entry, and hierarchy has a positive main effect. Even though these results are counterintuitive, it may be the case that in developing countries, hierarchies and communities provide resources and a safety net for potential entrepreneurs. These potential entrepreneurs may not be able to enter new markets if they were more autonomous.

Insert Table 5 about here

DISCUSSION AND CONCLUSION

In this article, I have theorized and empirically demonstrated that social movement coalition spillover effects occur through multilocational member organizations. By studying the movement for the promotion of clean cookstove markets, I have shown that the GACC, a transnational cross-sector coalition that is attempting to creating national cookstove markets, is being helped by multilocational member organizations. From participating in the coalition, organizations both learn how to promote clean cookstove markets and how to collaborate to operate in these markets. This knowledge can be transferred from origin countries where the coalition is active to destination countries where the coalition is not active.

The empirical analysis supports the argument that the knowledge gained in origin countries has varied effects on entrepreneurial entry in destination countries. The strength of impact on entrepreneurial entry depends both on the characteristics of the origin countries, the characteristics of the organizational ties, and the characteristics of the destination countries. I have shown that when larger organizations serve as ties between origin and destination countries, they are less effective at transferring knowledge to encourage entrepreneurial entry in destination countries. Moreover, multilocational organizations that implement value chain activities are more likely to spur entrepreneurial entry in destination countries, presumably because they are directly applying their knowledge to attract a new partner. Funding organizations also have a positive effect on entrepreneurial entry. Interestingly, status-sharing organizations – multilateral organizations and national/multinational corporations – have a negative effect on entrepreneurial entry. Further work needs to be conducted to understand why this occurs.

The results also demonstrate that when there are more domestic organizations in a destination country, knowledge diffused from origin countries is less effective at increasing

entrepreneurial entry. This may be due to a knowledge and experience mismatch; organizations in the destination country have no priors with which to comprehend and apply multilocational organizations' knowledge. Finally, autonomous and hierarchical cultures decrease the effect of organizational ties on entrepreneurial entry. This may be attributed to the fact that collaborations are critical for developing new clean cookstove markets. Neither autonomy nor hierarchy facilitate collaboration between equals.

This work contributes to scholarship on social movements and market creation. Building upon the research of social movement scholars who have applied theories of organizational learning to understand how movement organizations learn new tactics (Wang and Soule, 2012; Soule, 2013), I consider how the different attributes of organizations affect their ability to learn and transfer knowledge to different geographies of the social movement. I additionally extend upon the recent work of scholars of transnational social movements and coalitions (Bandy and Smith, 2005; Van Dyke and McCammon, 2010; Von Bulow, 2011) by highlighting how the spillover effects of a coalition can occur through the learning and transfer of knowledge by multilocational coalition member organizations. Thus, this research furthers our understanding of what coalitions do to bring about social change and encourages additional investigation into what and how coalition organizations teach their organizational members and what affects whether these organizational members learn and transfer this knowledge elsewhere.

With regard to the scholarship on market creation, my research suggests that markets are geographically interdependent on one another because of the presence of multilocational organizational actors, who learn how to create markets in one location and then attempt to do so in other locations by applying the same knowledge. This finding extends the work of scholars studying movements and markets (Sine and Lee, 2009; Hiatt, Sine, and Tolbert, 2009; Rao,

Monin, and Durand, 2003) by expanding beyond a single cultural context. By drawing upon the international business literature to understand the cross-cultural effectiveness of multilocational organizations, I have shed new light on how market creation is most feasible when the efforts of market-making organizations align with the local cultural context. In a specific cultural context, the effectiveness of organizations in bringing about entrepreneurship depends on how these organizations originally learned "to be part of" the coalition, social movement, and emerging market. Because fit is key, knowledge about how to behave in a social structure may be effective in one location but not be effective in other locations that are culturally dissimilar or unsupportive of certain behaviors. The emphasis on fit implies a role theoretic perspective on markets that conceptualizes a market as a collection of interdependent roles. These roles can be occupied by actors that are considered to be "non-market" in the strategy and management literatures, such as social movement organizations and research institutions. In short: markets do not just emerge but are sustained by the activities of actors occupying critical market roles.

Practically, this research has important implications for where money should be invested to tackle significant global issues beyond clean cookstoves, such as those outlined by the United Nations' Sustainable Development Goals. For the international community to address the pervasive challenges of ensuring access to clean water and promoting gender equality, for example, it may be beneficial to selectively invest in building and maintaining a coalition in countries where there are member organizations that work in many other countries. By doing this, the spillover effects of coalitions can be maximized.

For further work in this and similar empirical contexts, it would be interesting to compare other channels of diffusion. For example, intergovernmental organizations have been shown to affect the global rise and diffusion of democracy (Torfason and Ingram, 2010). It could also be

the case that intergovernmental organizations are sites where government representatives learn about social movements. Another channel to examine could be the past career experiences of social entrepreneurs. Perhaps social entrepreneurs are all individuals who have worked in the same multinational organizations or went to universities that emphasized social impact, social entrepreneurship, or designing socially impactful products (e.g., Colorado State University has been conducting research on cookstoves and indoor air pollution for decades, and one well-known cookstove manufacturer spun out of the university). Hence, large organizations – corporations and universities – can also be a mechanism of diffusion by exposing employees and students to business opportunities in an emerging market.

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FIGURES AND TABLES

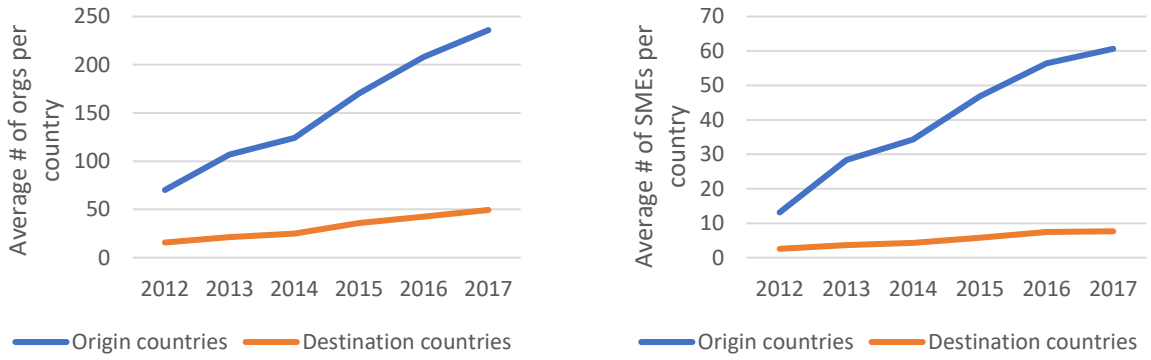

Figure 1. Comparing entrepreneurial entry in origin countries and destination countries

Type of organizational tie	Factor 1	Factor 2	Factor 3
Carbon asset/project developer	.7888281	.2995483	.2171336
Consultant	.663158	.2009659	.3231608
Foundation	.0256788	.0626517	.8685873
Government	.6143547	.2698697	.1591593
Investor	.2594719	.0719033	.7854963
Multilateral	.0650509	.8442353	-.0920374
National or multinational company	.4298412	.6176611	.2123866
Non-governmental organization (NGO)	.831069	.2178396	.0412163
“Other”	.3351665	.8046836	.2124108
Research	.8318556	.0505718	.0066132
Small and medium enterprise (SME)	.8792826	.2002505	.1422497

Table 1. Factor analysis of organizational tie types

		count	mean	sd	min	max
(1)	Entrepreneurial entries in a destination country	545	0.83	1.40	0.00	9.00
(2)	Organizational ties to origin countries	545	107.68	70.92	0.00	374.00
(3)	Organizational ties to destination countries	545	1109.98	545.89	0.00	2900.00
(4)	Value chain organizational ties to origin countries	545	63.88	48.88	0.00	231.00
(5)	Status-sharing organizational ties to origin countries	545	15.26	9.78	0.00	46.00
(6)	Funding organizational ties to origin countries	545	0.37	1.41	0.00	15.00
(7)	Avg size of organizations that work in origin countries	537	72.00	30.84	24.69	197.00
(8)	Domestic organizations	545	2.42	4.73	0.00	35.00
(9)	Autonomy	145	0.00	1.00	-2.05	2.03
(10)	Hierarchy	145	-0.00	1.00	-2.17	2.27
(11)	Ease of starting a business	520	72.78	17.01	15.48	97.73
(12)	Ease of getting credit	520	38.08	21.43	0.00	85.00
(13)	Degree of informality	480	56.61	19.46	7.20	90.50
(14)	Rule of law	534	-0.54	0.66	-2.42	1.89
(15)	Political constraints	520	0.29	0.21	0.00	0.71
(16)	Total cookstove organizations	545	26.17	23.03	0.00	125.00
(17)	Press freedom	490	36.38	16.01	9.26	84.83
(18)	English-speaking	545	0.48	0.50	0.00	1.00
(19)	Distance to the nearest origin country (.001 km)	545	17.04	20.93	0.00	90.33
(20)	GDP per capita ($100,000s)	509	71.64	62.29	5.98	356.32
(21)	Percentage of rural population	530	52.90	18.49	12.63	88.81

Table 2. Summary statistics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Entrepreneurial entries in a destination country	1										
(2) Organizational ties to origin countries	0.36	1									
(3) Organizational ties to destination countries	0.18	0.93	1								
(4) Value chain organizational ties to origin countries	0.43	0.97	0.86	1							
(5) Status-sharing organizational ties to origin countries	-0.05	0.73	0.85	0.58	1						
(6) Funding organizational ties to origin countries	0.02	0.46	0.45	0.37	0.43	1					
(7) Avg size of organizations that work in origin countries	-0.44	-0.69	-0.54	-0.73	-0.28	-0.29	1				
(8) Domestic organizations	0.29	0.69	0.60	0.72	0.41	0.31	-0.50	1			
(9) Autonomy	-0.23	-0.23	-0.15	-0.24	-0.21	0.12	0.12	-0.13	1		
(10) Hierarchy	0.22	0.32	0.26	0.34	0.15	0.01	-0.27	0.31	-0.24	1	
(11) Ease of starting a business	-0.30	-0.25	-0.10	-0.23	-0.10	0.05	0.42	-0.04	0.39	-0.02	1
(12) Ease of getting credit	-0.21	-0.19	-0.11	-0.20	-0.08	0.06	0.14	-0.28	0.35	-0.23	0.38
(13) Degree of informality	0.03	0.18	0.18	0.15	0.07	0.07	-0.32	0.13	0.15	0.17	-0.20
(14) Rule of law	-0.20	-0.29	-0.18	-0.31	-0.23	-0.08	0.40	-0.29	0.41	-0.45	0.47
(15) Political constraints	0.03	0.04	0.08	0.07	0.08	0.00	0.02	0.16	0.10	0.27	0.36
(16) Total cookstove organizations	0.37	0.97	0.87	0.94	0.66	0.48	-0.69	0.81	-0.18	0.3	-0.23
(17) Press freedom	0.08	0.17	0.12	0.19	0.12	0.02	-0.04	0.25	-0.48	0.16	-0.23
(18) English-speaking	0.32	0.45	0.36	0.50	0.21	0.04	-0.46	0.32	-0.30	0.25	-0.32
(19) Distance to the nearest origin country (.001 km)	-0.30	-0.52	-0.41	-0.52	-0.31	-0.17	0.46	-0.50	0.21	-0.21	0.18
(20) GDP per capita ($100,000s)	-0.28	-0.32	-0.18	-0.32	-0.14	0.05	0.38	-0.35	0.58	-0.30	0.58
(21) Percentage of rural population	0.22	0.18	0.06	0.20	0.11	-0.23	-0.11	0.25	-0.65	0.08	-0.45

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(12) Ease of getting credit	1									
(13) Degree of informality	0.11	1								
(14) Rule of law	0.09	-0.20	1							
(15) Political constraints	0.31	0.05	-0.16	1						
(16) Total cookstove organizations	-0.21	0.21	-0.31	0.06	1					
(17) Press freedom	-0.50	0.03	-0.35	-0.12	0.18	1				
(18) English-speaking	-0.45	-0.16	-0.13	-0.07	0.41	0.09	1			
(19) Distance to the nearest origin country (.001 km)	0.39	-0.21	0.09	-0.01	-0.54	-0.41	-0.30	1		
(20) GDP per capita ($100,000s)	0.60	-0.29	0.44	0.42	-0.35	-0.52	-0.36	0.43	1	
(21) Percentage of rural population	-0.44	-0.26	-0.30	-0.36	0.18	0.38	0.27	-0.34	-0.68	1

Table 3. Pairwise correlation matrix

DV: Entrepreneurial entries in a destination country in $year_t$	(1)	(2)	(3)	(4)	(5)
Organizational ties to origin countries in $year_{t-1}$	0.010***	0.008***	0.568***[1]		0.649***[1]
	(0.00)	(0.00)	(0.10)		(0.12)
Organizational ties to destination countries in $year_{t-1}$				0.305+[1]	0.100[1]
				(0.16)	(0.18)
Ease of starting a business in $year_{t-1}$		-0.014**	-0.014**	-0.013**	-0.012**
		(0.00)	(0.00)	(0.00)	(0.00)
Ease of getting credit in 2014		0.010*	0.008*	0.008*	0.008*
		(0.00)	(0.00)	(0.00)	(0.00)
Degree of informality in 20xx		-0.002	-0.003	-0.003	-0.003
		(0.00)	(0.00)	(0.00)	(0.00)
Rule of law in $year_{t-1}$		0.181	0.167	0.154	0.122
		(0.14)	(0.12)	(0.11)	(0.10)
Political constraints in $year_{t-1}$		0.408	0.424	0.478	0.438
		(0.33)	(0.32)	(0.30)	(0.31)
Total cookstove organizations in $year_{t-1}$			0.221+[1]	0.494***[1]	0.060[1]
			(0.13)	(0.11)	(0.10)
Press freedom in 2013		0.005	0.003	0.002	0.001
		(0.01)	(0.01)	(0.01)	(0.01)
English-speaking		0.378+	0.331+	0.350+	0.351*
		(0.19)	(0.17)	(0.18)	(0.18)
Distance to the nearest origin country		-0.006	-0.004	-0.005	-0.006+
		(0.00)	(0.00)	(0.00)	(0.00)
GDP per capita in $year_{t-1}$		-0.002	-0.002	-0.002	-0.001
		(0.00)	(0.00)	(0.00)	(0.00)
Percentage of rural population in $year_{t-1}$		0.005	0.005	0.004	0.002
		(0.00)	(0.00)	(0.00)	(0.00)
Intercept	-0.275**	0.374	1.355*	1.379*	1.324*
	(0.09)	(0.66)	(0.60)	(0.56)	(0.53)
N	545	433	433	433	433
Adj. R^2	0.328	0.365	0.385	0.396	0.410

Standard errors in parentheses

[1] Orthogonalized variable

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4. Models 1-5, Results for Hypotheses 1a and 1b

DV: Entrepreneurial entries in a destination country in $year_t$	(6)	(7)	(8)	(9)	(10)	(11)
Organizational ties to origin countries in $year_{t-1}$	0.719***[1]		0.633***[1]	0.632***[1]	0.801***[1]	0.711***[1]
	(0.14)		(0.09)	(0.15)	(0.19)	(0.16)
Organizational ties * Average size	-0.268**[1]					
	(0.08)					
Value chain organizational ties to origin countries in $year_{t-1}$		0.522***[1]				
		(0.09)				
Status-sharing organizational ties to origin countries in $year_{t-1}$		-0.223+[1]				
		(0.12)				
Funding organizational ties to origin countries in $year_{t-1}$		0.206*[1]				
		(0.09)				
Organizational ties * Domestic organizations			-0.149+[1]			
			(0.08)			
Autonomy				-0.062		-0.071
				(0.18)		(0.19)
Organizational ties * Autonomy				-0.229*[1]		-0.229*[1]
				(0.10)		(0.10)
Hierarchy					0.252*	0.261*
					(0.12)	(0.11)
Organizational ties * Hierarchy					-0.228*[1]	-0.225*[1]
					(0.11)	(0.10)
Domestic organizations in $year_{t-1}$			0.442*[1]	0.088[1]	0.072[1]	0.135+[1]
			(0.20)	(0.07)	(0.07)	(0.08)
Average size of organizations that work in origin countries in $year_{t-1}$	-0.249*[1]	-0.101[1]	-0.145[1]	-0.060[1]	0.022[1]	-0.066[1]
	(0.12)	(0.09)	(0.09)	(0.27)	(0.26)	(0.22)
Ease of starting a business in $year_{t-1}$	-0.014**	-0.013**	-0.013**	-0.019	-0.025	-0.022
	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)	(0.02)
Ease of getting credit in 2014	0.007+	0.009*	0.008*	-0.003	-0.000	-0.001
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Degree of informality in 20xx	-0.006	-0.004	-0.003	-0.011	-0.014	-0.012
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Rule of law in $year_{t-1}$	0.148	0.119	0.156	0.283	0.356	0.441*
	(0.13)	(0.13)	(0.13)	(0.20)	(0.23)	(0.21)
Political constraints in $year_{t-1}$	0.379	0.377	0.297	1.042	1.140+	0.643
	(0.38)	(0.36)	(0.33)	(0.73)	(0.63)	(0.67)
Total cookstove organizations in $year_{t-1}$	0.211*[1]	0.117[1]	0.015[1]	0.039[1]	-0.026[1]	0.003[1]
	(0.11)	(0.07)	(0.08)	(0.12)	(0.13)	(0.12)
Press freedom in 2013	0.002	0.003	0.002	-0.007	-0.014	-0.007
	(0.01)	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)
English-speaking	0.319+	0.331+	0.222	-0.041	-0.218	-0.144
	(0.19)	(0.18)	(0.17)	(0.32)	(0.30)	(0.31)
Distance to the nearest origin country	0.000	-0.004	-0.002	-0.002	0.003	0.001
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
GDP per capita in $year_{t-1}$	-0.002	-0.002	-0.001	-0.004	-0.003	-0.002
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Percentage of rural population in $year_{t-1}$	0.003	0.004	0.005	-0.007	0.007	-0.000
	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)	(0.02)
Intercept	1.689*	1.355*	1.348*	3.713	3.664	3.478
	(0.65)	(0.63)	(0.64)	(2.69)	(2.68)	(2.68)
N	430	430	430	142	142	142
Adj. R^2	0.409	0.395	0.397	0.360	0.365	0.367

Standard errors in parentheses

[1] Orthogonalized variable

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5. Models 6-11, Results for Hypotheses 2, 3a, 3b, 3c, 4, 5a, and 5b