Structuring Transnational Fields of Governance:

Networks, Legitimation, and the Evolution of Ethical Sourcing

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Abstract

Institutional entrepreneurs have recently built a range of initiatives to certify social or environmental responsibility in global supply chains, including programs focused on Fair Trade, forest certification, sustainable seafood production, fair labor standards, and others. Scholars have most commonly discussed the growth and evolution of these programs by focusing on consumers, retailers, and the "mainstreaming" of certified products. We develop an alternative approach, based on the idea that certification is not merely a device for conveying information via consumer labels, but also an evolving field of transnational governance. To systematically map the growth and structuring of such a field, we employ network data from two points in time—2001 and 2006. We show that social and environmental certification has evolved from a set of relatively disconnected programs, originating in several distinct streams of innovation, into a more coherent field, featuring increased density and mutuality of attention among certification associations and a growing set of common intermediaries. Among the most central intermediaries are governments and international organizations—and over time, NGOs and governments worldwide have become increasingly likely to be linked to this field. We explore implications for research on isomorphism in transnational governance and legitimacy in the world of "ethical sourcing."

Introduction

When organic farmers first began certifying ecologically-friendly agricultural practices, they could never have guessed how prominent the certification model would become. Roughly three decades later, consumers can buy products not just from certified farms, but also certified forests, fisheries, and factories—with standards pertaining not only to the environment, but also to "social" conditions of labor and community development. Firms interested in "ethical sourcing" can now draw on a growing set of suppliers that have had their labor or environmental standards certified by an independent body. Experiments with certification have grown rapidly since the mid-1990s, with private sector associations emerging or expanding to certify Fair Trade agriculture, "no-sweat" apparel, well-managed forestry, sustainable fishing, and other activities—and generating mixes of excitement, criticism, and controversy among observers of "corporate social responsibility" in global commodity chains (Cashore et al 2004; Seidman 2007; Vogel 2005). In some cases at least, "political consumerism" has translated into sizeable markets for certified products: Organic agriculture is now commonplace in the supermarkets of Europe and North America, and sales of certified Fair Trade coffee worldwide grew more than five-fold between 1999 and 2007 (Fairtrade Labeling Organization). While crucial questions remain about the effectiveness of particular programs, it is clear that certification initiatives are rapidly proliferating.

In this paper, we seek to investigate just how much coherence and fragmentation exists across the range of social or environmental certification initiatives. Is there, in fact, a general certification model or just a disparate collection of sector-specific, locally-driven experiments? Have distinct programs become intertwined into a more general field? Are the various

initiatives—for food, forests, factories, and so on—essentially independent of one another or are there patterns of emergent interdependence, integration, and structure?

In studying certification in this way, we depart from a more common lens for considering the evolution of ethical sourcing. Many scholars characterize certification and labeling systems as tools for conveying information to consumers (Anderson & Hansen 2004; Elliott & Freeman 2003; Hiscox & Smyth 2007). In fact, some have argued that certification systems are formed in order to solve information asymmetries between firms and concerned consumers (see Bartley 2007 for a discussion and appraisal). In situating certification and labeling systems firmly in the market, this approach assumes particular paths of evolution and legitimation. It assumes that the evolution of certification initiatives is driven by their incorporation or "mainstreaming" into consumer markets, leading scholars to attend to the tensions generated when Fair Trade, organics, and other certified products are sold by Wal-Mart, Safeway, or Starbucks (Raynolds et al 2007). Legitimacy, in this framework, also resides in the market—that is, in the extent to which consumers see the claims of a particular label as credible.

A single-minded focus on markets, mainstreaming, and credibility among consumers has obscured some other aspects of the evolving certification model—primarily having to do with its incorporation as a mode of transnational governance (Djelic & Sahlin-Andersson 2006). The evolution of ethical sourcing may be structured not only by market penetration, but by mutual monitoring among certification associations themselves, by institution-building projects, and through its intersections with rule-making projects at the national, international, and transnational levels. Furthermore, the legitimacy of certification programs may reside not only in the market but in their conformity with international rules about trade and standard-setting,

institutionalized in bodies like the WTO and the International Organization for Standardization (ISO).

We seek to capture such features of the evolving certification model by examining it as an emergent organizational field. Neo-institutionalists commonly define an organizational field as a set of organizations that "constitute a recognized area of institutional life" (DiMaggio & Powell 1991) and in which "participants take one another into account as they carry out interrelated activities" (McAdam & Scott 2005). Fields matter, in this conception, because they shape "how organizations select models for emulation, where they focus information-gathering energy, which organizations they compare themselves with, and where they recruit personnel" (DiMaggio 1991:267). Recent scholarship in this tradition has highlighted the co-evolution of inter-organizational networks and organizational fields, using network methods to trace the logics of connection and cohesion over time (Powell et al 2005). Networks, combined with organizing cultural templates—or "field frames" (Lounsbury et al 2003)—provide the infrastructure for fields to emerge and persist. Yet the vast majority of research in this tradition has assumed a field rather than studying it empirically. Invocations of "institutional isomorphism" are common in organizational research, but rarely do scholars examine the structuration of a field that necessarily predates and underlies this process (see DiMaggio & Powell 1991).

There are also substantive rationales for examining the evolving field of social and environmental certification. On one hand, scholars have begun to theorize the "certification model" as a coherent and ascendant mode of social regulation. In influential statements, Gereffi et al. (2001) identify the "certification solution" as a promising model that "may soon become the norm in many global industries" (p.64), and Sabel et al. (2000) argue that experiments with

voluntary standards and certification could congeal into a model that can "ratchet" global standards upward. Barham (2002) theorizes "values-based labeling" as a "counter-norm[s] to globalizing markets of commodified values" (p.350). Boli (2006) detects the enactment of a global moral order in the "certification of virtue" by civil society organizations, while Guthman (2007) treats certification as a prototypical form of neoliberal governance. On the other hand, the vast majority of empirical research remains focused on a single sector or issue domain. Researchers have examined the emergence and evolution of forest certification (Cashore et al 2004; Meidinger 2003; Overdevest 2005), organic agriculture (Guthman 2004; Ingram & Ingram 2005), Fair Trade certification (Dolan 2007; Linton et al 2004; Raynolds et al 2007), labor standards monitoring (Esbenshade 2004; Locke et al 2007; O'Rourke 2003), and the sustainable management of fisheries (Constance & Bonanno 2000). A few have compared two of these cases (Bartley 2007; Gereffi et al 2001; Gulbrandsen 2005; Raynolds 2000; Taylor 2005), but a substantial gap remains between a fairly segmented empirical research literature and the attempt to theorize certification as a general mode of governance.

The Origins of the Certification Model—Streams of Institutional Entrepreneurship

Although firms have audited and certified quality assurance for some time, the transformation of certification into a mode of social and environmental regulation is relatively recent. NGOs have often led the charge to build private sector programs to certify social or environmental responsibility, often by teaming up with companies interested in building a market niche or responding to pressure campaigns (Bartley 2007). Pushed forward by governments, foundations, and others, the certification of "virtuous" corporate activity has

become a prominent model for promoting CSR, enabling ethical consumerism, and rationalizing the "moral order of world society" (Boli 2006).

Four relatively distinct streams of innovation and institution-building have contributed to the rise of certification as a mode of social or environmental regulation—that is, beyond its use in quality assurance. The organic agriculture movement generated the first large scale case of private environmental certification. While the origins of organic agriculture can be traced to the 1930s and 1940s, the first attempts to *certify* organic crops occurred in the early 1970s. Experiments with certification by farmers in California were formalized into the California Certified Organic Farmers (CCOF) group in 1973 (Guthman 2004). Around the same time, European farmers were developing the International Federation of Organic Agriculture Movements (IFOAM), on the rationale that "the food quality and ecology crisis is no longer a national problem, but an actual international concern" (Chevriot 1972). While IFOAM initially issued programmatic statements, as the organic food market grew in the 1980s and 1990s, it increasingly took on the task of issuing standards and coordinating an otherwise chaotic world of competing certifiers. In 1997, it introduced a system for accrediting certifiers, thus making it a full-fledged certification association (Bernstein & Cashore 2007). With sales of organic food in the U.S. nearly tripling from 1997 to 2003 (Obach 2007), organic agriculture has become the best-known case of environmental certification for many consumers.

Fair Trade coffee represents a second stream feeding into the rise of a more general certification model. While religious groups had promoted "alternative trading organizations" and "world shops" since the 1960s (Renard 2003), it was the collapse of the International Coffee Agreement in 1989, which had regulated coffee prices for over 30 years, and the subsequent decline in coffee commodity prices that set the stage for the largest experiment in Fair Trade

labeling (Linton et al 2004). In the U.S., activists founded Equal Exchange in 1986 as a vehicle for supporting coffee producers in Nicaragua—resisting the U.S. government's embargo on Nicaraguan goods (Auld 2007). The Max Havelaar label, created in 1988 in the Netherlands, was the first "fair trade" product label. As the labeling idea spread, TransFair organizations sprung up around Europe. U.S.-based Transfair International was created in 1992 to coordinate these efforts. International coordination increased further with the creation of the Fairtrade Labeling Organization (FLO) in 1997, which standardized the Fair Trade label and oversees its application. Coffee is the most common Fair Trade product—with the market growing dramatically in recent years, especially in the UK—but consumers can also buy Fair Trade chocolate, tea, bananas, flowers, cotton fabrics, wine, and other products (Dolan 2007; Raynolds et al 2007; Taylor 2005).

Separate from the organic and Fair Trade cases—though not completely untouched by them—a third stream emerged in the early 1990s out of concerns over tropical deforestation. In the midst of tropical timber boycotts, a plethora of often spurious "green" claims by companies, and stalled negotiations for an inter-governmental forestry regime, several environmental NGOs and woodworking firms came together in the early 1990s to explore options for certifying responsible forestry (Bartley 2007; Cashore et al 2004). In 1993, they founded the Forest Stewardship Council (FSC), which issues standards for well-managed forestry and oversees accredited certifiers. By the late 1990s, the group was certifying hundreds of forests and, through its "chain of custody" certification program, labeling wood, furniture, and paper products for sale in Europe and North America. Although the FSC is widely regarded as a major player in the emerging world of private certification, it is far behind Fair Trade and organics in consumer recognition and has struggled to build a market (Bernstein & Cashore 2007).

The fourth major stream of innovation came out of controversies over sweatshops in apparel, footwear, and toy manufacturing. The globalization of supply chains highlighted the gap between wealthy North American and European consumers and impoverished workers in developing countries making their garments in dangerous and hostile conditions. As labor rights activists "named and shamed" companies for abuses in their supply chains, a handful of NGOs and companies came together to develop associations for the monitoring of factories and certification of compliant firms. The U.S. government convened the Apparel Industry Partnership in 1996, which spawned the Fair Labor Association soon thereafter. Meanwhile, the Council on Economic Priorities, a socially responsible consumption and investment NGO, developed Social Accountability International (SAI) and the SA8000 standard for factories in 1997 (Bartley 2007; O'Rourke 2003). Labor activists criticized these initiatives for being corporate controlled and lax in their monitoring, and neither initiative developed a product label, although both allow participating companies to use the association's name in their advertising. Still, these programs represent an important extension of certification into the domain of labor conditions in manufacturing industries, whereas prior efforts had focused either on environmental issues (as with organics and forest certification) or on the social dimensions of agriculture (as with Fair Trade).

In several of these streams, the initial founding of certification associations was soon met by competition from industry actors. In the case of coffee, this took the form not of a full-fledged competing certification association, but rather a series of alternative labels and initiatives (e.g., Starbucks' internal program, the recent Common Code for the Coffee Community (CCCC), etc.). In forestry and apparel, however, the challenge from industry took the form of competing associations, typically with weaker standards and greater industry control. The industry-

sponsored Sustainable Forestry Initiative (SFI) and the Pan European Forest Certification (PEFC) system (now called the Programme for the Endorsement of Forest Certification) were both designed to compete with the FSC. In apparel and toys, industry associations created the Worldwide Responsible Apparel Production (WRAP) system and the International Council of Toy Industries (ICTI) CARE system to compete with programs like SAI and the FLA, where NGOs and branded firms held sway. So in several instances, competition and conflict quickly took hold, with a variety of actors fighting for legitimacy and market share.

In addition to competition within sectors, in the late 1990s, the initial experiments with social and environmental certification began to diffuse to other sectors. The Marine Stewardship Council (for sustainable fisheries) and the Marine Aquarium Council (for ornamental fish and the protection of coral reefs) drew heavily on the Forest Stewardship Council (Auld 2007), generating a case of mimicry that is apparent in their names and similar "check mark" imagery in their logos. Some of the leaders in these initiatives (e.g., WWF, MacArthur Foundation) have also helped to spawn programs that are currently in formation—such as the Sustainable Tourism Stewardship Council and the Initiative for Responsible Mining Assurance, which illustrates the continued diffusion of certification as a regulatory form.

These patterns of diffusion suggest that by the late 1990s, some actors were paying close attention to one another. Yet the lack of attention in other instances is equally striking. Interviews with key architects of forestry and labor standards programs in 2002 produced little evidence of communication or attention across the labor-environment divide (author ref.). These interviews did reveal some use of analogy, borrowing, and bricolage across the four streams discussed above. Developers of forest certification made reference to organic agriculture, although at times it was to point out that organics had "failed . . . in terms of

becoming mainstream and really catching on quickly" (interview, forest certifier, 3/17/04) and had too long remained a niche market, a "beads and sandals and brown rice" kind of thing (interview, FSC official, 7/25/02). Institutional entrepreneurs in labor standards did occasionally look to eco-labeling, quality certification, financial auditing, and other models or guidance (Arnold & Porter 1996; interview, SAI developer, 7/18/02), but some felt they were essentially "poking around, looking at other initiatives, although typically not in any depth" (interview, FLA developer, 3/9/04) and "sort of making it up as we went along" (interview, FLA developer, 7/18/02). On the whole, some borrowing and recombination of models occurred as programs were being formulated, but it was, for the most part, fleeting and partial.

As our analyses below will illustrate, much has changed since that time. The opportunities for communication and cross-fertilization have increased dramatically: Universities, government agencies, companies, and NGOs have sponsored conferences on "social and environmental certification" and its relation to CSR more generally. Certification supporters have teamed up to form umbrella groups like the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance. In short, there is reason to believe that the divisions that characterized the origins of this form may be diminishing as certification evolves and becomes "a coherent field susceptible to central influence and direction," as DiMaggio (1991) described a different instance of field formation. We now discuss the data we have collected to lend weight to these observations about growing structure and interconnectedness among ethical sourcing initiatives.

Data and Methods

We use network data on the relationships among certification associations and from certification associations to a variety of other organizations. Collecting network data on this topic is complicated by the fact that the boundaries and logics of involvement in certification are themselves unsettled and ambiguous. A huge array of organizations could potentially participate in or contribute to certification systems, making it difficult to identify "candidates" for involvement in this field. Furthermore, certification associations differ in their interface with participating organizations: Some have official "members," others do not. Some have boards of directors made up of company and NGO representatives; others have looser advisory committees, and still others have neither or both. Moreover, some important forms of involvement—such as accreditation as an auditor/certifier, recognition as an important source of information, or contribution to a workshop or conference—can be missed by a focus on members or officially-recognized stakeholder groups.

Recognizing these complications, we developed a data collection procedure based on three key principles. First, to make the project appropriately but not overly bounded, we focus on associations that take the certification of labor or environmental conditions as their main focus. This produces a set of 11 focal certification associations across several industries, as listed in Table 1. Each is well-known to scholars working on a particular industry, though no prior research has attempted to study all of them. This group does not include pilot projects or groups that have not yet formed an association (e.g., discussions about certification of responsible gold mining operations); nor does it include associations with a significantly broader scope than labor and the environment (e.g., ISO, which produces certifiable standards for

technical matters, managerial models, etc.). Our analysis, therefore, applies to the field surrounding dedicated social and environmental certification associations.

[Table 1 here]

Second, given different associational structures and our interest in capturing the full range of players in this field, we define linkages to certification associations broadly to include an array of affiliations and symbolic references. For instance, sitting on a board of directors, being an accredited auditor, or being referenced as a source of endorsement, information, or even criticism would all constitute linkages to a certification association.

Third, we use the websites of certification associations as the source of data on these linkages. The benefits of the internet as a data source are becoming increasingly clear to social scientists, generating everything from abstract theories of network dynamics (Watts 2004) to analyses of transnational social movement arenas (Pudrovska & Ferree 2004). For our purpose, websites provide information about a wide range of relevant organizations that would be quite costly, if not impossible, to collect from other sources. The disadvantage, of course, is that the content of websites may be only loosely coupled with the concrete practice of certification, and may be overly inclusive, given the low cost of "virtual" connections. On the other hand, for organizations like certification associations, websites are important tools for information-dissemination and self-presentation. Both of these functions prove useful for understanding patterns of attention, "regard," and affiliation that are constitutive of fields. For instance, if an association's website discusses the conformity of its standards to International Labor Organization conventions, this may be a strategy of self-presentation, but it is also an indication of *attention* and even reverence. Even if a certification association portrays itself as *not* like some competing certification program or is *critical* of a particular organization, this signals that

those other actors are "on the radar" of the certification association. Moreover, if, for example, a program focused on labor standards in apparel production *does not* make mention of a program focused on sustainable fisheries, this would be evidence that it views the fisheries program as neither relevant nor competing nor especially legitimacy-enhancing. This would indicate a gap, boundary, or "structural hole" (Burt 1992).

We examined the entire contents of each focal certification association's website and recorded every organization that was mentioned.[1] We used these lists, first, to generate an 11 x 11 matrix of ties to and from the focal certification associations. The more complex task, however, was to combine the lists from each certification association in order to generate a two-mode network of ties from certification associations to a variety of other organizations. We excluded isolates—that is, organizations linked to only a single certification association—to focus on those organizations that are connected to two or more certification associations. We then coded these organizations into give general categories—capital, labor, government, NGOs, and other, (plus more specific sub-categories)—using a variety of additional resources.

To examine the evolution of networks over time, we coded the websites at two points in time—one as they existed in the summer of 2006, the other as of January 2001 (or the closest available date), via the Internet Archive (www.archive.org), a massive "digital library" of websites from the mid-1990s to the present. 2001 was the earliest date for which we could conduct a complete search and coding. By that year, the Internet was reasonably mature, having experienced dramatic growth in the late 1990s, and each of our focal certification associations had a well-developed, information-rich website.

We use network analysis to identify several types of patterns in this data. First, we map the structure of attention among the focal organizations themselves and examine summary

measures of density, centrality, cleavage and the like. Second, we examine the 2-mode network (or "affiliation network") of certification associations and other organizations. As Breiger (1974) shows, 2-mode networks can be used to examine ties between two different types of actors (i.e., certification associations and other organizations) or ties among one set of actors that are generated by common intermediaries (i.e., ties among certification associations generated via shared ties to other organizations). We examine diagrams that illustrate both sets of ties, with particular attention to the ways in which shared intermediaries contribute to the integration of certification as a field. We also look at the particular identities of the most central organizations. All network analyses were done in UCINET 6.16, with visualizations done in NetDraw using the spring-embedding algorithm, which arranges nodes based on cohesion (see Powell et al 2005).

We supplement the network analyses with an examination of the rate and correlates of participation in the field of social/environmental certification among four sets of actors—large companies, NGOs, governments, and labor unions. Here we use data from the Financial Times Global 500, Penn World Tables, the Global Unions Network and International Confederation of Free Trade Unions, and a large directory of NGO compiled by Duke University (Galli no date). (We describe this data and analysis in a later section.) Finally, interviews conducted with key informants in the areas of labor and environmental certification (as described in Bartley 2007) add additional texture to our findings.

Networks and the Integration of Social and Environmental Certification

Attention among Focal Certification Associations

Looking at attention among the focal certification associations, one can begin to see the shift from a set of disconnected initiatives to a more coherent field. As shown on the top half of

Figure 1, as of 2001 there was a cluster of inter-connected programs (with connections indicating attention), with Social Accountability International (SAI) and the Forest Stewardship Council (FSC) occupying the most central positions.[2] Several other initiatives neither gave nor received much attention, with the Sustainable Forestry Initiative (SFI) sitting as an isolate and other industry-sponsored programs, Worldwide Responsible Apparel Production (WRAP) and Pan-European Forest Certification (PEFC) not well connected either. Interestingly, the Fairtrade Labelling Organization (FLO) was at this point more likely to be regarded by others as relevant to their work than to see other certification programs in that way. It received three ties but did not send any.

[Figure 1 here]

By 2006, inter-organizational attention was greater in volume and more diversified, as evident in the bottom panel in Figure 1. Additional indicators of this evolution are provided in Table 2, which lists measures of density, reciprocity, transitivity (the percentage of triads in which a "friend of my friend is a friend of mine"), and the average of the geodesics (the shortest path between each pair of organizations, not counting those that are not reachable at all—e.g., WRAP and PEFC). First, the total number of ties obviously increased over time, as did their density, from .20 to .31 (meaning that as of 2006, approximately 31% of the possible ties were present). The level of reciprocity also increased over time, from only 29% reciprocal in 2001 to nearly 55% reciprocal in 2006, indicating an increasing *mutuality* of attention. The increasing level of transitivity can be read as a further sign of integration. The average geodesic changed little over time, although the number of fully unreachable pairs declined dramatically by 2006. In fact, one new and highly isolated program (the International Council of Toy Industries factory

certification initiative, ICTI) is responsible for all of these, with all other programs able to reach each other in no more than four steps.

[Table 2 here]

As evident in the figure, FSC and SAI remain the most central actors, and the rank ordering of actors by their centrality is stable. Table 2 includes two measures of centrality, one based on "degree" (the number of ties sent or received), the other on "betweenness" (the positioning of organizations as necessary to "go through" to get to other organizations). It is notable that the six most central certification associations (FSC, SAI, FLO, IFOAM, MSC, MAC) are all members of the International Social and Environmental Accreditation and Labeling (ISEAL) Alliance, an umbrella group formed to promote multi-stakeholder initiatives and develop best practices for certification and accreditation. In terms of the structure of ties, notice that ties to the FLO are now more likely to be reciprocated but that the previously isolated industry-led initiatives (SFI, PEFC, WRAP) are still *relative* isolates.

This division between multi-stakeholder and industry-sponsored programs points to the persistence of cleavages in the midst of integration. To measure such cleavages among certification associations, we use the External-Internal (E-I) index, which is a measure of in-group versus out-group ties based on the proportion of ties of each type. Negative values indicate a preponderance of in-group over out-group ties; a quasi-significance test is based on comparing the observed E-I index to what would be expected if the ties were randomly distributed (Hanneman & Riddle 2005). As shown in Table 2, the boundary between industry-sponsored and multi-stakeholder programs was salient in 2001 (E-I index = -.714) and remained so in 2006 (E-I index = -.636), and these values are statistically significant at both points in time. The E-I index also shows a persistent though less stark division between programs focused on

environmental conditions and those focused on social/labor conditions. The negative values (-.143 in 2001 and -.273 in 2006) indicate that in-group ties predominated; this value is not statistically significant in 2001 ($p<.236$) but is in the later period ($p<.016$). This can also be seen in the diagrams in figure 1, where the labor/social programs tend to cluster in the upper-right hand corner at both points in time.

In sum, even with the growing level of attention among certification associations, gaps between industry and multi-stakeholder groups remained salient and gaps between labor/social and environmental groups may have even been amplified. Notice also that by 2006, competing programs within a particular issue domain (i.e., SAI-FLA-WRAP in labor, FSC-SFI-PEFC in forestry) are closely linked (i.e., attentive) to one another. Multi-stakeholder programs are *also* linked to one another across issue domains (e.g., SAI-FSC-IFOAM), while the industry programs tend not to be. These finding illustrate the importance of both consensus and conflict in the structuring of fields. As neo-institutionalists would expect, emerging over time are higher degrees of mutual attention and a community of multi-stakeholder initiatives. Yet this mutuality coexists with highly charged debates and a structure of positions that are defined at least partial in opposition to one another—as Bourdieuian conceptions of fields would stress. Further inquiry into network structure and boundaries will shed additional light on the character of this field.

Intermediary Organizations and Integration through Indirect Ties

In addition to the direct ties of attention among certification associations, field integration may occur through the variety of other organizations—NGOs, auditors, retailers, governments, etc.—that work with more than one certification program. Even absent direct ties of attention between different certification programs (as examined above), shared ties to intermediaries may link programs to one another, help forge a broader community, and potentially carry ideas from

one program to another. Furthermore, examining exactly who the most central intermediaries are can shed light on the extent to which the certification model has become intertwined with key actors in the world of commerce, advocacy, and global governance.

For 2001, we found a total of 2,148 other organizations linked in some way to one or more of our focal certification associations. While most were connected to a single certification program, the most important (for our theoretical purposes) are the 109 organizations that were connected to at least two certification associations. These include NGOs like WWF, international organizations like the United Nations, and auditing firms like SGS (Société Générale de Surveillance). Figure 2 shows the network of linkages to these intermediary organizations, which are coded into five main categories—capital (e.g., firms and trade associations, shown in the diagram as squares), government (including inter-governmental organizations, shown as circles), labor (upward triangles), NGOs (downward triangles), and other.

[Figure 2 here]

Taking account of these organizations, it is notable that even in 2001, there was no paucity of overlapping affiliates. All of the social or environmental certification associations were linked to at least six organizations that were also tied to another certification association. As the figure illustrates, these indirect ties diminish but do not entire negate the cleavages reported above. On the right side of the diagram lies a cluster of social certification initiatives (FLA, SAI, WRAP, and to a lesser extent FLO), and on the left is a cluster of initiatives focused on environmental issues (PEFC, MAC, FSC, MSC, and IFOAM). Notably, in the center of the diagram lies a set of 45 intermediaries that are connected to at least one certification initiative of each type. These are most commonly companies or trade associations (44.4%, e.g., retailers like

IKEA and Sainsbury, auditors like SGS and KPMG), governmental or inter-governmental organizations (22.2%, e.g., U.S. government, World Bank, and OECD), or NGOs (22.2%, e.g. Transparency International, Amnesty International, and Friends of the Earth).

Looking at shared intermediaries also makes it clear that multi-stakeholder initiatives and their industry-based competitors were far more connected in 2001 than one might expect based on these categorical distinctions. For example, the three programs for certifying labor conditions in manufacturing plants (FLA, SAI, and WRAP) have worked with some of the same companies (e.g., Reebok, Philips Van Heusen) and auditing firms (e.g., PriceWaterhouseCoopers, Intertek Testing Services), which accounts for many of the nodes representing capital (squares) on the far right side of the diagram. In the area of forestry, the multi-stakeholder FSC and industry-driven PEFC share ties to sixteen organizations, most commonly inter-governmental organizations like the World Bank, Food and Agriculture Organization (FAO), and European Union.

By 2006, the number of other organizations linked to the focal certification associations had increased dramatically (to a total of 13,583), the number of intermediaries (i.e., the number of nodes) had nearly quadrupled to 401, and the number of *ties* to intermediaries (i.e., the number of lines) also nearly quadrupled, from 275 in 2001 to 1001 in 2006. Figure 3 illustrates this growing set of ties.

[Figure 3 here]

Even with this growth, the structure of the network remains similar, with social certification initiatives clustered in one part of the diagram (here, the upper left). On the opposite side of the figure is a cluster of forestry programs (SFI/SFB, PEFC, FSC), and toward the bottom is a loose cluster of others, including Fair Trade, organic, and fisheries certification (MAC, MSC, IFOAM).[3] The gap between different types of certification initiatives remains to

some extent, but is filled by a larger set of intermediaries. In 2006, there were 113 organizations connected to at least one certification association of each type (social vs. environmental). Similar to 2001, these were most commonly companies/trade associations (37.2%, squares in the diagram) or governmental/inter-governmental organizations (23.0%, circles); the percentage of boundary spanners that were NGOs decreased (to 9.7%, down triangles), while the percentage of "others" increased (to 30%, diamonds), primarily due to the growing involvement of universities.

A second thing to notice in Figure 3 is the now tight integration of certification initiatives within the same issue domain. For instance, the far right side of the diagram illustrates the tight integration of SFI/SFB with PEFC, as well as the tendency of some firms to work with multiple systems (e.g., the industry-sponsored PEFC *and* the multi-stakeholder FSC). In sum, to an even greater extent than revealed through the analysis of mutual attention among certification associations, the analysis of intermediaries and indirect ties reveals an increasingly integrated—though still somewhat segmented—field, not merely a series of scattered experiments.

Intermediaries and the Character of the Certification Model

Having illustrated the importance of intermediary organizations in integrating a field of social and environmental certification, we now look at the identities of those intermediaries and consider their implications for theorizing an evolving certification model. We approach this issue from two angles: First, we examine those organizations that have become especially central over time. Second, rather than merely focusing on those organizations that *are* involved in the world of certification, we examine several pools of candidates for involvement and their connections to the certification model over time.

Examining the Intermediaries

As Table 3 shows, the field of social and environmental certification has come to cohere around a *particular* set of highly central organizations. Indeed, by 2006, a few organizations were linked to *nearly all* of major social and environmental certification associations. These highly central intermediaries include transnational NGOs (WWF, Oxfam, HIVOS), retailers (Marks & Spencer), and a variety of governments and international organizations (e.g., UN, WTO, FAO). The two most central organizations in 2006 were the U.S. government and the Swiss firm Société Générale de Surveillance (SGS), a multinational corporation with its roots in quality testing and assurance, which has expanded into the auditing of production sites for labor and environmental conditions. SGS has become the most widely accredited auditor in this field, working with all certification programs except the Fairtrade Labeling Organization. SGS's competitor, Bureau Veritas Quality International (BVQI) was a minor presence in this field in 2001 but rose dramatically to be connected to 7 of the 11 certification associations by 2006.

[Table 3 here]

The agglomeration of actors in this table resonates with Gereffi et al's (2001) image of certification as an "NGO-Industrial Complex," though with a greater than expected number of inter-governmental organizations. It is also partially consistent with broader theories of "world society" that treat international NGOs as carriers of governance models (Boli & Thomas 1999), as well as accounts of transnational governance that emphasize the continuing role of state-based actors (Levi-Faur 2005; Slaughter 2004) and the ascendant role of business professionals such as auditors (Braithwaite & Drahos 2000; Strange 1996).

Yet this list of highly central intermediaries also draws attention to processes that are more specifically tied to the challenges of legitimating social and environmental certification. First, the centrality of the International Organization for Standardization (ISO) and the

International Labor Organization (ILO), and their use as common symbolic reference points (that is, the mention of these organizations as references, not only affiliations) draws attention to the ways in which certification associations seek legitimacy through conformity with established international organizations (not merely through credibility with consumers). Though advocates of private regulation through certification initiatives often criticize the lack of teeth of a body like the International Labor Organization, they also appear to recognize it as a legitimate source of international standards. Certification associations routinely draw on or point to (internationally negotiated) ILO conventions on freedom of association, forced/bonded labor, and workplace conditions, treating the ILO as a source of symbolic capital for certification. The ISO provides a slightly different sort of symbolic capital, which has less to do with legitimating the content of standards and more to with legitimating the structure of certification and accreditation systems (see Bernstein & Hannah 2006). The ISO 65 Guide for certification bodies, for instance, specifies the character and boundaries of activities like standard-setting, accreditation, and other functions. Over time, certification associations have taken greater care to align their structures to ISO 65, with many splitting their operations into independent units responsible for standard-setting and accreditation. For instance, the Forest Stewardship Council has allocated some of its prior tasks to a formally independent spinoff called Accreditation Services International, and Social Accountability International has recently followed suit by creating Social Accountability Accreditation Services (SAAS). This type of isomorphism seemingly reflects both the increasingly field-like character of certification and the power of an international organization like ISO to set the terms of legitimacy in this field.

Another important story of legitimation in this field is revealed by looking into another of the highly central intermediaries—the ISEAL Alliance (International Social and Environmental

Accreditation and Labelling Alliance). This umbrella organization was created in the late 1990s at the interstices of different certification programs, and it currently counts nearly all of the multi-stakeholder certification initiatives (FSC, FLO, IFOAM, SAI, and MSC) as members. On one hand, ISEAL was clearly formed as a way for NGO-based, multi-stakeholder systems to fend of attacks from industry and try to establish credibility in the marketplace. In this sense, it serves as something of a "trade association of mission-driven [certification] systems" (interview, ISEAL official, 3/8/06). Yet much of its work is focused on harmonizing the structure and practice of certification systems with international trade rules (as institutionalized in the WTO) and governmental initiatives. A major demand of ISEAL's creators was to have a body to do "a lot of policy monitoring and advocacy work on their behalf….looking at the ISO world and the IAF [International Accreditation Forum] world—those kinds of things; finding what governments are doing in terms of . . . regulating voluntary systems, and new guidelines in place, like the FAO guidelines on fisheries labeling—things like that" (interview, ISEAL official, 3/8/06). In this brief look at ISEAL, we see further evidence that legitimating social and environmental certification is not simply a task of building recognition and credibility among consumers; rather, it is played out at the level of international policy development and entangled with rules issued by governments, the WTO, and various UN bodies.

Rates and Correlates of Participation by Several Sets of Candidates

The discussions above focus only on those organizations that *are* involved in certification in one way or another. But just how common is this kind of involvement, and what factors might be associated with greater or lesser centrality in this field? To answer these questions fully would require a complete accounting of the "candidates" for involvement. Though we lack such a full set of candidates, we can provisionally identify sets of candidates of four types—(1) large

corporations, (2) NGOs working in the areas of environment, development, or human rights, (3) governments, and (4) labor unions. For each group, we look at rates of involvement in 2001 and 2006 and then examine some of the factors associated with higher numbers of linkages to certification associations, using negative binomial regression models.

[Table 4 here]

Table 4 shows the basic rate of participation among four sets of candidates. Among companies in the Financial Times Global 500, 13.6% were involved with at least one certification association in 2001, and 15.4% were involved in 2006, though the change across these two points in time is not statistically significant. A significant change over time is found for NGOs. Among the 452 NGOs catalogued by Duke University (Galli no date) in the areas of environment, development, human rights, or any combination of these issues, the rate of participation increased from 7.74% in 2001 to 11.5% in 2006. Unfortunately, no list of only the largest NGOs is available, so these rates should not be compared directly with those of corporations. National governments also became more likely to be involved with a certification initiative over time. In 2001, 12.2% of all national governments (as catalogued in the Penn World Tables) were involved, but the rate increased to 21.8% by 2006. Though the rates of participation are not comparable across groups, there is clearly a substantial degree of involvement of companies, NGOs, and governments. Labor unions, on the other hand, are strikingly under-represented in the world of certification. Of 317 global union federations—that is, those affiliated with the International Trade Union Confederation (ITUC) or the "global unions network"—only 3.79% had any connection to certification associations in 2001, and this failed to increase by 2006.[4]

Thus, while our network diagrams illustrated the continuing prominence of companies and governmental organizations in the field of social and environmental certification, when we consider particular pools of candidates, we find that it is NGOs and governments—not large firms—that are increasingly likely to be involved with certification. So, along with the *market* expansion of certification and the growth of a field among different certification initiatives has come an increasing likelihood of NGOs and governments to be "enrolled" in certification projects in one way or another.

[Table 5 here]

In Table 5, we go one step further, to examine some correlates of participation and possible shifts in the logic of involvement over time. The top panel shows that among large corporations, American firms had a higher degree of involvement in certification (that is, a greater number of linkages to certification systems) than firms based in other countries in both 2001 and 2006. Likewise, at both points in time, market valuation was positively associated with the degree of linkage to certification associations, and firms in food manufacturing/processing had a higher degree of involvement than other types of firms. There is also evidence for a shifting logic of involvement over time. Consumer products firms were initially no more involved with certification than other large firms, but by 2006, they have a higher degree of linkage than others—as do retailers, though the change over time is not statistically significant in this latter case. The positive interaction effect (retailer * EU-based) indicates that European retailers are, by 2006, especially likely to be heavily involved in certification—more than either other retailers or other large corporations based in the EU.

The second panel in Table 5 shows that levels of NGO involvement tend initially (in 2001) to be higher for groups based in the U.S. and Europe than those based elsewhere (e.g.,

Asia, Middle East, Africa). But both of these effects diminish in size by 2006, suggesting that NGOs from other parts of the world may be getting increasingly similar to those from the U.S. and Europe in terms of their levels of engagement with the certification model. At both points in time, transnational NGOs have the highest degrees of involvement, and environmental NGOs have a higher degree of involvement than those focused on human rights, development (the reference category), or those categorized under multiple issue foci.

Moving to the analysis of governments, it is clear that larger (by population) and wealthier (GDP per capita) countries have a higher degree of involvement with certification at both points in time. The regional patterns here are less distinctive, but the decrease in the coefficient for North American governments perhaps indicates a declining significance of this region relative to others—meaning that governments around the world, not only in North America and Europe, are taking part in the certification project.

In sum, these analyses show that the extent of involvement in the world of certification is patterned—and that some of the patterns seem to have shifted over time. Specifically, linkages to certification have become increasingly normative for some types of firms, and there appears to be a slight internationalization of involvement by NGOs and governments, beyond the early predominance of the U.S. and Europe.

Conclusions

We have sought to provide a stronger basis from which to theorize certification as a general *model* of governance and as a *field* of mutually attentive organizations. Moving beyond the single-sector studies that predominate in much of the literature, we have examined the structure of ties among 11 major social and environmental certification associations, as well as

the hundreds of other organizations that are linked to them. Our analyses have revealed a much more interconnected field than would be imagined based on the fragmented research literatures on forestry, labor, organics, Fair Trade, and the like. Relations of attention among certification associations have become denser and more reciprocal, though this integration has coexisted with divisions rooted in founding constituencies (industry vs. multi-stakeholder) and issue domains (the labor-environment gap).

Furthermore, we have found the evolving field of social and environmental certification to be populated by and structured by not only manufacturers interested in ethical sourcing or retailers meeting the demands of "political consumers," but also by governments, inter-governmental bodies, auditing firms, and NGOs. Among the most central of these intermediary organizations are auditors like SGS, international organizations like ISO and the WTO, and advocacy groups like WWF and Oxfam. Finally, we have provided an analysis of the bases of participation among four different sets of candidate organizations and shifts in the rate and logic of involvement over time. Though we have begun to account for some of the observed changes over time, a more thorough investigation of the drivers of field evolution is clearly in order.

Several caveats should be kept in mind in interpreting our results. First, they rely in part on useful but imperfect data from websites. There is likely some slippage between "virtual" linkages and concrete patterns of interaction at the individual and organizational levels. Furthermore, the low cost of mentioning organizations on websites means that our analysis may be overly inclusive of other organizations involved in the certification field. Nevertheless, by examining overlapping ties (i.e., by excluding isolates), by focusing on inter-organizational *attention*, and by supplementing our network analyses with qualitative data, we have minimized the likelihood that our results are diverge greatly from real-world phenomena. Indeed, our most

central intermediaries should immediately be familiar to scholars who have used other types of data to consider certification associations in multiple industries (Bernstein & Cashore 2007; Gulbrandsen 2005; Raynolds 2000; Taylor 2005). A second caveat concerns the possibility that the growth of a field that we observe could in part reflect the growth of websites, independent of changes in certification activity itself. However, we chose 2001 as our starting date (rather than earlier points in time) precisely to limit this possibility. Furthermore, it is not obvious how the mere growth of web content would account for the persistence of structures and cleavages in the midst of growth or the convergence on particular intermediaries (e.g., SGS, WWF, GTZ, ISEAL). So while the Internet surely continues to evolve and to make inter-organizational, communication easier, dynamics in the world of certification appear to be much more important sources of our results.

As experiments with ethical sourcing, corporate social responsibility, and social entrepreneurship grow, they face a new series of challenges and a complex architecture of actors and sources of legitimacy. Some researchers have begun to argue that standardized models of certification—such as those promulgated in the ISO 65 standard—have unintended negative consequences for the very people certification initiatives were designed to help (Mutersbaugh 2005). We would expect isomorphic tendencies in the "world of standards" to increase further in the coming years, making it even more crucial to understand how macro-level templates intersect with local level practices and livelihoods. The world of standards is increasingly a multi-level world—with layers of standard-setting and verification occurring at communal, national, regional, international, and transnational levels. Yet scholars in this area have little knowledge about how contradictions across levels are negotiated—such as when a transnational template for

certification (whether developed by ISO, ISEAL, WTO, or others) conflicts with the locally-embedded projects that inspired many certification systems in the first place.

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NOTES

[1] Our coding of the content of the tie was limited to distinguishing between concrete affiliations and symbolic references (e.g., "for more information, see ____"). We did not seek to code this in more detail due to the difficulty of making sound judgments about the valence of references, the absence of strong prior rationales for other categorization schemes (especially given heterogeneity in the structure of the programs), and the sheer amount of data that had to be collected. The ICTI program did not exist in 2001 and is not included in our analyses for that year.

[2] SAI sends six ties (meaning that it was paying attention to six of these other organizations as of 2001) and receives three, with all three being reciprocal ties. FSC sends four ties and receives four, two of which are reciprocal.

[3] Further analyses indicate that the 2-mode matrices do not strongly resemble either of two ideal types—a core-periphery model or a two-faction model. As the diagrams show, the structure is more complex than that.

[4] Of course, the very low rate of involvement by unions might be due to the fact that global union organizations are composed of national, industry-specific unions, which may be involved in certification projects even if their "parent" union is not. To attempt to identify these affiliates, we searched the entire list of groups that were engaged with certification. We did find some unions here, like the Industrial, Wood and Allied Workers of Canada, Federación Independiente de Trabajadores Hondureños (FITH), Danish Labour Union (3F), and Malaysian Trades Union Congress. But the overwhelming finding is that labor unions constitute a tiny portion of the participants in this field. Out of nearly 16,000 organizations that were linked to one or more certification associations in 2001 or 2006, we found only 71 that could be identified as labor unions.

Table 1. Dedicated Social or Environmental Certification Associations

Social/labor
Fairtrade Labelling Organization (FLO)
Social Accountability International (SAI)
Fair Labor Association (FLA)
Worldwide Responsible Apparel Production (WRAP)
International Council of Toy Industries "CARE" program (ICTI) (2006 only)

Environmental
Forest Stewardship Council (FSC)
International Federation of Organic Agricultural Movements (IFOAM)
Marine Stewardship Council (MSC)
Marine Aquarium Council (MAC)
Programme for the Endorsement of Forest Certification (PEFC)
Sustainable Forestry Institute/Board (SFI/SFB)

Table 2. Summary measures for relations of attention among certification associations

	2001		2006	
Integration				
Density	.20		.31	
Reciprocity	29%		55%	
Transitivity	41% of triads		59% of triads	
Average geodesic	1.90		1.92	
Cleavage				
E-I Index (industry vs. MSI)	-.714 (p<.023)		-.636 (p<.002)	
E-I Index (labor vs. enviro)	-.143 (p<.236)		-.273 (p<.016)	
Centrality scores	Degree	Betweenness	Degree	Betweenness
FSC	6	25	8	32.778
SAI	6	29.167	7	23.889
FLO	3	0	5	3.333
IFOAM	3	0	5	11.111
MSC	3	0	5	11.667
MAC	3	0	4	0
FLA	2	8.333	4	0.556
PEFC	1	0	2	8.889
WRAP	1	0	2	0
SFI/SFB	0	0	2	0
ICTI	NA	NA	0	0

Note: Degree centrality measured as the total of in- or out-degrees. Betweenness measure is normalized.

Table 3. Most central intermediary organizations in the world of social and environmental certification

	2001		2006		
Organization	**Degree centrality**	**Major symbolic ref. point**	**Degree centrality**	**Major symbolic ref. point**	**Diff.**
SGS (Société Générale de Surveillance)	5		10		+5
U.S. government	7		10		+3
International Org. for Standardization (ISO)	5	X	9	X	+4
International Labor Organization (ILO)	6	X	9	X	+3
United Nations (UN) (all but ind. orgs.)	8		9		+1
Bureau Veritas Quality International (BVQI)	1		7		+6
Deutsche Gesellschaft fur Tech. Zus. (GTZ)	2		7		+5
World Trade Organization (WTO)	3		7		+4
European Union (EU)	5		7		+2
World Wide Fund for Nature (WWF)	5		7		+2
Food and Agricultural Organization (FAO)	7		7		0
ISEAL Alliance (ISEAL)	2		6		+4
Oxfam Intl	3		6		+3
HIVOS	1		5		+4
International Accreditation Forum (IAF)	1		5	X	+4
Marks & Spencer	1		5		+4
Canadian government	2		5		+3
UK government	3		5		+2
World Bank (incl. IFC)	6		3		-3

Note: The table includes all organizations linked to five or more associations in 2001 or 2006.

Table 4. Rates of Involvement with Certification Initiatives by Different Sets of Candidates over Time

	% linked to a certification association		
Sets of "candidate" organizations	*2001*	*2006*	*Sig.*
Corporations: *FT Global 500 in 2006 (N=500)*	13.6%	15.4%	
NGOs: *Environmental, development, and human rights (Catalogued by Duke Univ; N=452)*	7.74%	11.5%	*
National governments *(N=188)*	12.2%	21.8%	*
Global labor unions *(from ITUC and "global unions network," N=318)*	3.79%	3.15%	

* p<.05 (two-tailed test)

Table 5. Negative binomial regression of the number of ties to certification associations on selected organizational characteristics

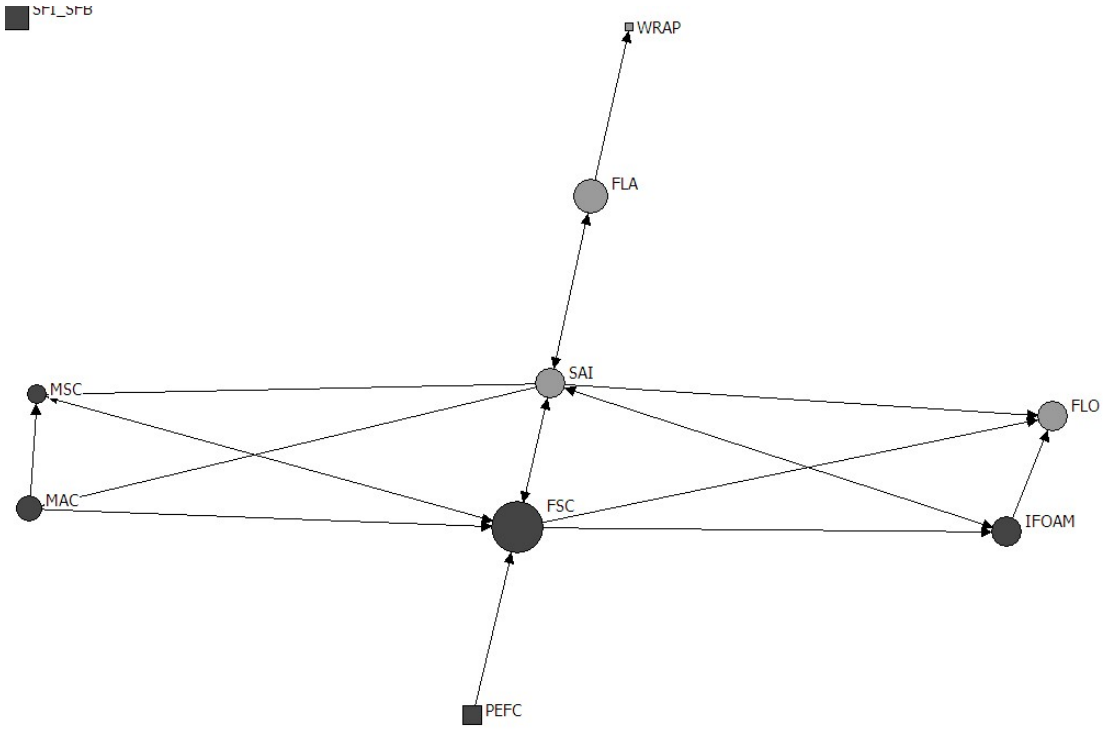
	2001		2006		
Corporations ***(FT Global 500 (2006); N=500)***	*Coefficient*	*S.E.*	*Coefficient*	*S.E.*	*Sig. diff.*
Region (reference = all other)					
American firm	1.177**	(0.450)	0.898*	(0.388)	
EU-based firm	0.742	(0.487)	0.513	(0.424)	
Japanese firm	0.150	(0.652)	0.604	(0.479)	
Market value (in millions of $)	0.008***	(0.001)	0.008***	(0.002)	
Sector (reference = all other)					
Food producer	1.484***	(0.326)	1.312***	(0.375)	
Consumer products	0.802	(0.452)	1.210**	(0.422)	*
Metals/mining	0.282	(0.345)	0.879**	(0.297)	
Retailer	0.852	(0.613)	1.523**	(0.476)	
*Retailer*EU-based*	0.892	(0.765)	1.832**	(0.639)	+
NGOs: Environmental, development, and human rights ***(Catalogued by Duke Univ; N=452)***					
Region (reference = all other)					
US-based	2.187***	(0.641)	0.936*	(0.375)	**
EU-based	1.557*	(0.711)	0.280	(0.457)	*
Transnational	3.633***	(0.697)	2.501***	(0.429)	*
Issue domain (reference = development)					
Environment	1.716**	(0.569)	1.130**	(0.402)	
Human rights	0.222	(0.607)	(0.361)	(0.439)	
Multi-issue	0.973	(0.759)	0.684	(0.555)	
National governments ***(N=187)***					
Region (reference = all other)					
EU	0.577	(.545)	0.392	(0.487)	
North America	0.976+	(0.532)	0.162	(0.493)	+
Population (in 000s)	0.004***	(0.001)	0.006*	(0.003)	
Log of real GDP per capita	0.822***	(0.244)	0.608***	(0.174)	
Global labor unions ***(N=317)***					
International union federation member	2.725***	(0.780)	3.390***	(0.622)	

Note: The rates of participation are not strictly comparable across these four general types of organizations, due to inherent differences in the pools of candidates. (See the text for details on each pool.) Unfortunately, no general sample of candidates is available.

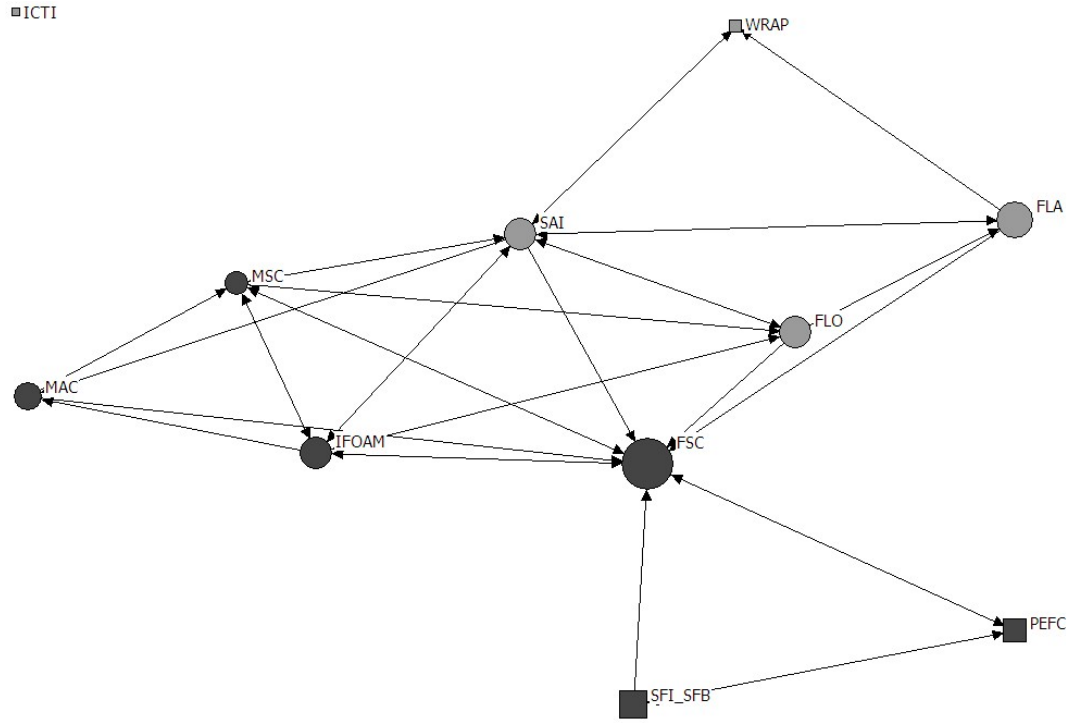
Significance tests for negative binomial regression coefficients (two-tailed tests):
+ $p \leq .10$ * $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

Figure 1. Relations of attention among certification associations

2001

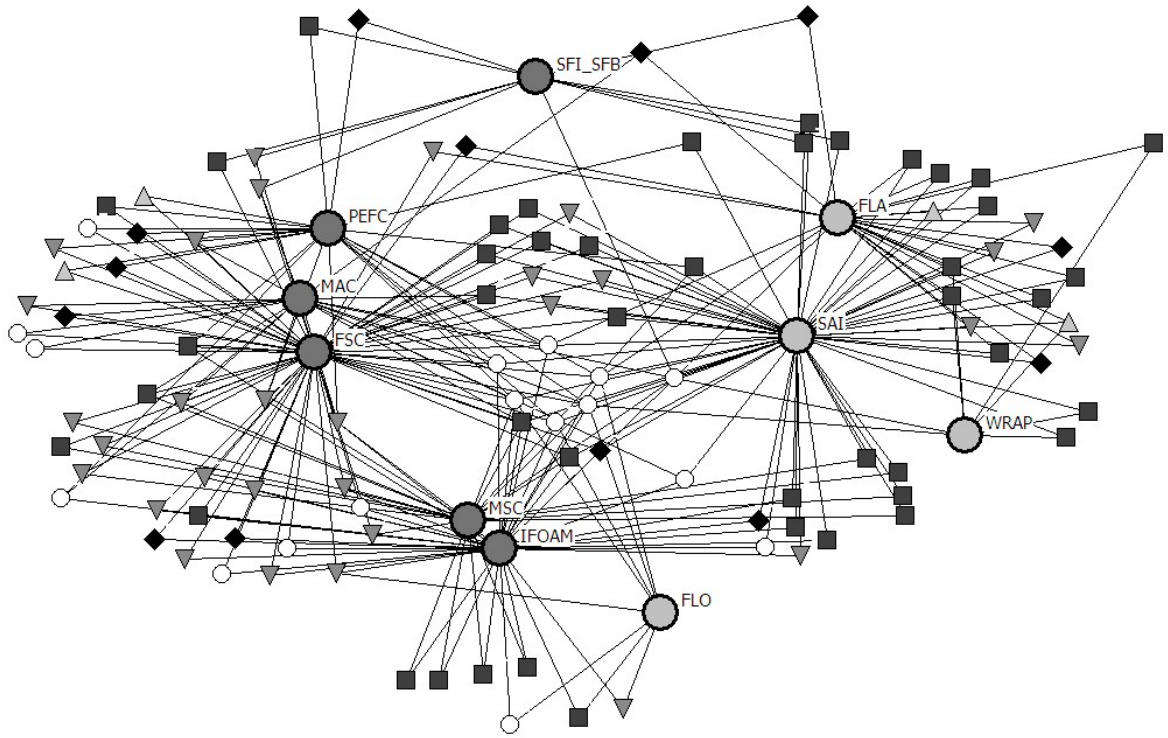


2006



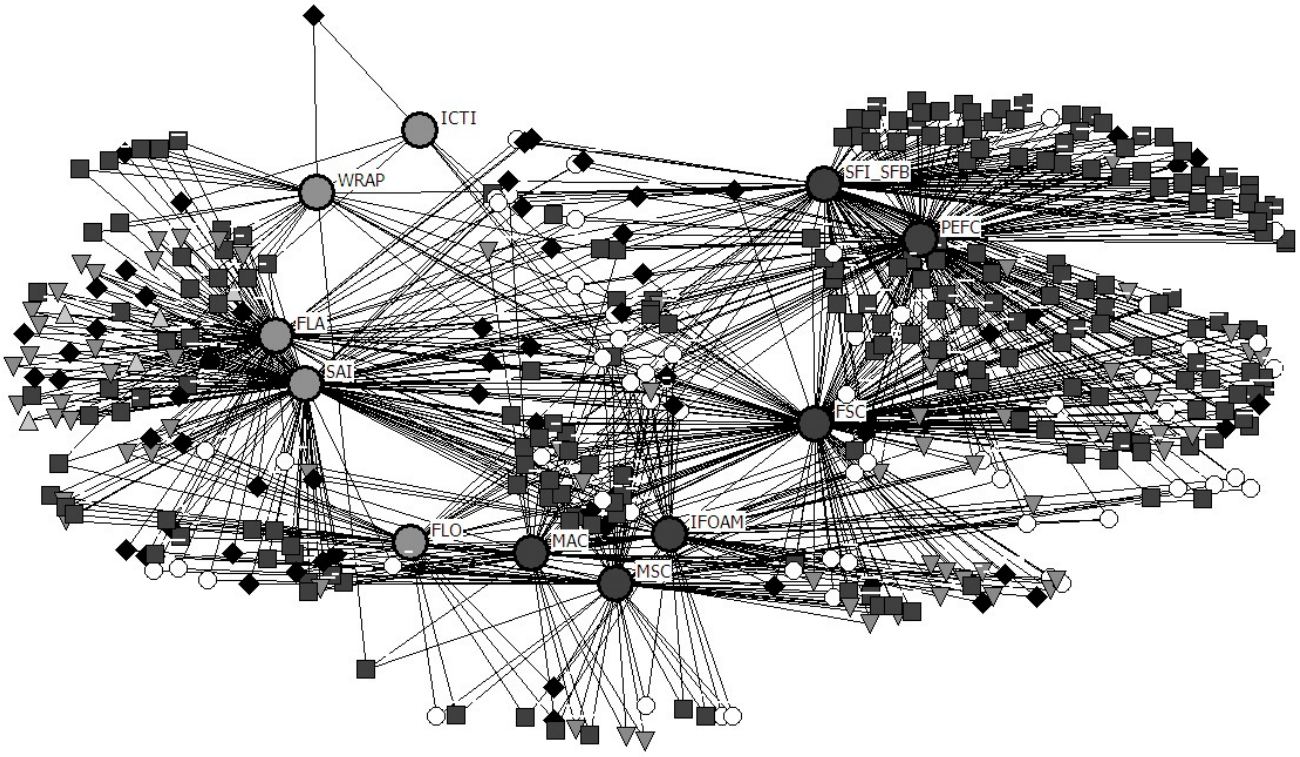
Legend	Circle: multi-stakeholder program Square: industry association-based Size of the node: age of the organization
Dark shading: environmental focus Light shading: labor/social focus	

Figure 2. Linkages to intermediary actors, 2001



Legend	
Larger circles: focal certification associations Dark shading: Environmental focus Light shading: Labor/social focus	**Smaller shapes:** intermediaries Squares: Capital Circles: Government [incl. IGOs] Up triangles: Labor [trade unions] Down triangles: NGOs Diamonds: Other

Figure 3. Linkages to intermediary actors, 2006



Legend	
Larger circles: focal certification associations Dark shading: Environmental focus Light shading: Labor/social focus	**Smaller shapes:** intermediaries Squares: Capital Circles: Government [incl. IGOs] Up triangles: Labor [trade unions] Down triangles: NGOs Diamonds: Other