



## DISSERTATION ABSTRACT

This three-paper dissertation examines the origins of standards-based certification organizations (SBCOs), their impact on regulatory structure, and their influence on market entry and exit rates in the U.S. organic food industry.

The first paper develops a typology of SBCOs and then quantitatively assesses what conditions led to the founding of distinctive SBCO forms in U.S. states. Findings from this paper suggest that standards initially served as a “fence” that established a boundary around the concept of organic but which subsequently served as a “gate” by which industry outsiders entered the organic industry, significantly altering the trajectory of the market.

The second paper examines how different SBCO forms influence variation and evolution in the content of industry law. The results of this paper provide answers to questions of when and under what conditions private governance organizations influence variation and evolution of industry regulation.

The third paper examines how SBCOs influence patterns of market entry and exit of organic producers. Findings from this paper show that SBCOs stimulate entry into the market and that the certification they provide to individual firms inhibits market exit and moderates the competitive effects of increasing form density.

## EXECUTIVE SUMMARY OF BRANDON LEE DISSERTATION

Standards and the organizations that create and disseminate them are everywhere in today's society. Standards dictate how to manufacture computers, how to play sports, how to enact environmental policies, how to structure organizations, and even how to raise children. The ISO alone has developed over 15,000 standards on different subjects. Despite their ubiquity, we know little about the origins of standards-based certification organizations<sup>1</sup> (SBCOs hereafter) and their impact on new industry creation. This dissertation presents three papers that examine the origins of SBCOs, their impact on broader regulatory structure, and how their actions influence the success and failure of organizations in a new market.

Because the value of organically grown food products (like many other product markets) is partially derived from a set of standards that dictate production practices, the U.S. organic food industry is an ideal context to explore how standards and the organizations that develop and promote them influence new market creation. In recent years, organic agriculture has grown into a 26 billion dollar industry, making it the fastest growing sector in both U.S. and global agricultural markets. Although organic production accounts for less than .2 percent of U.S. agricultural output, it has posted a 21 percent yearly growth rate since 1997, and organic cropland has doubled over the same period. Despite such robust growth and the recent passage of federal regulations governing the industry, organic agriculture was marginalized for much of its history. In the early years, both market mechanisms and existing institutional structures failed to provide organic farmers with the stability and support necessary to grow beyond local and specialized niche markets. The notions of sustainability and

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<sup>1</sup> Standards-based certification organizations are organizations whose primary purpose is to create and/or promote standards, verify the compliance of other organizations with those standards, and formally acknowledge that an organization has met the standards through the conferral of a certification, endorsement, or accreditation.

ecology underlying organic food production were starkly inconsistent with prevailing agricultural practices that favored the use of technology to increase efficiencies and produce economies of scale. Being excluded from existing channels of access and having little assistance from agricultural market mechanisms, early organic advocates mobilized resources to create and advocate a viable set of standards that differentiated organic production techniques and products from those of mainstream agriculture. Consequently, organic farmers founded SBCOs to develop standards and oversee the task of certification, which sowed the seeds for a market that has quietly grown up in the shadow of conventional agribusiness and now dominates the sector in terms of growth.

#### Paper 1

The first paper of the dissertation entitled, “Fences and Gates: An Inductive Case Study of Standards-Based Certification Organizations in the U.S. Organic Food Industry,” examines the origins of SBCOs in the U.S. organic food industry. The establishment of industry standard-setting bodies provides entrepreneurs in new sectors a vehicle by which they can establish a product’s identity, stabilize exchange, and gain legitimacy for their new industry. Past research has demonstrated that such standards-setting bodies are central to continued maintenance of well-established markets, but relatively little is understood about the origins and consequences of such bodies in new markets.

To uncover the key factors leading to the establishment of SBCOs, I present a case study of the U.S. organic food industry from 1973 to 2000. I gathered data on the founding of all organic SBCOs in the United States from 1970 to 2000. This time frame captures the founding of the first SBCO and tracks all other SBCOs founded through 2000, when federal standards dramatically changed the market landscape.

This allowed me to examine the founding and evolution of SBCOs as the primary source of industry governance over an extended time period. Using multiple data sources, I draw on archival data and over 20 interviews with organic growers and SBCO employees (past and present, including presidents and directors). I first illustrate how SBCOs within the organic food industry varied and then account for temporal and geographic patterns of SBCO founding. I quantitatively analyze what conditions predict the founding of distinctive types of SBCOs.

The findings in this paper show that the emergence and expansion of (SBCOs) in the organic food industry followed clear temporal and geographic patterns. The initial development of the organic food industry occurred in states such as California, Maine, and Oregon that had strong, left-leaning political bases and populations of farmers and consumers that promoted an anti-mass consumer, organic ideology that facilitated the creation of an infrastructure of organic food wholesalers. In turn, these states experienced the creation of local nonprofit certification organizations. As the organic market grew, other states, dominated by large farms and agribusiness interests, experienced the founding of a distinct SBCO form—chapters of a nationally federated organization. Growers in these states were less driven by ideology than those in states from which the original organic grassroots movement emerged. Instead, these growers saw the organic food industry as an economic opportunity. The founding of chapters of this nationally federated organization facilitated the entry of much larger farmers into the organic industry. Increased legislative activity in the late 1980s and early 1990s generated the impetus and legal machinery necessary for state departments of agriculture to establish state-run SBCOs, constituting a third, unique SBCO form.

By highlighting how distinct SBCO forms took root in different states that are characterized by distinct political and economic conditions, this paper explains how a

set of industry principles and practices that take form in distinctive organizational forms can foster the emergence and growth of an industry. In the context of the organic food industry, the development of a set of standards and certification procedures by early organic pioneers served as a "fence"—enacting a solid boundary around organic agriculture by which consumers could differentiate organically grown products from conventionally grown food. Yet somewhat ironically, the development and diffusion of standards and certification procedures to different locales, subsequently served as "gates" by which agribusiness entered the organic marketplace, dramatically altering the scale, scope and trajectory of the market.

## Paper 2

The second paper, "Mechanisms Generating Variation: Regulatory Change in the Organic Food Industry," shifts attention to the impact of different types of SBCOs on industry law. To date, we do not really understand what accounts for variation in the content and effectiveness of industry regulation. We also do not know how or why changes in law occur over time and across boundaries. To address these questions, I developed a primary dataset of all provisions contained in U.S. state organic food laws and administrative rules from the first state law passage in 1973 through the end of the observation period in 2000. I then developed important measures of legal content variation and change: regulatory inertia and regulatory elaboration.<sup>2</sup>

Findings from this study show that regulatory elaboration occurred later in the period of regulatory passage but did not account for significant variation in regulatory content across states. Regulatory inertia, however, contributed significantly to overall

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<sup>2</sup> Regulatory inertia refers to when regulation is passed but is then left unrevised even as more efficacious or legitimate versions of similar regulation exist in other states. Regulatory elaboration refers to the refinement or expansion of existing legal structure through formal legislative amendment or through bureaucratic rule processes.

regulatory content variation. Different types of SBCOs have differential impacts on the processes of regulatory inertia and elaboration. The presence of a local nonprofit SBCO in a state predicts significant regulatory elaboration in terms of amendments to existing legal structure, whereas the presence of a chapter of a federated SBCO negatively predicts amendments. In terms of regulatory inertia, states dominated by local nonprofit SBCOs are less likely to have idiosyncratic laws when compared to the “typical” law for U.S. states.<sup>3</sup> In contrast, the presence of a chapter of the federated SBCO significantly predicts the presence of idiosyncratic laws. These findings are important because they show how seemingly similar SBCOs have a differential impact on broader industry-level institutions and relations.

While future research should explore further the differential impact of organizational capacity from underlying motivations regarding legislative outcomes, this study nonetheless shows clear differences in regulatory outcomes for different types of SBCOs. More research is needed that considers how the structure and intent of SBCOs and other types of industry associations can lead to significant variation in the content and effectiveness of industry regulation.

### Paper 3

The third paper, “Certifying the Harvest: The Role of Standards-Based Certification Organizations in Market Entry and Exit Dynamics,” focuses on how SBCOs, through key processes of creation of standards, advocacy, verification of compliance, and endorsement, influence patterns of organic producers entering and leaving the market. Specifically, I seek to answer the following questions: How do SBCOs provide market order? How do the activities of SBCOs influence market entry and exit rates of producers? While we know much about the role of standards in

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<sup>3</sup> To make this assessment, I quantitatively developed a measure of similarity across all state-level regulation. More details regarding the measure are available in the dissertation.

technology fields, we know relatively little about the dynamics of standards in new non-technological product markets in which the standards themselves are central to the value of the product they are purported to describe and evaluate. For example, fair-trade coffee looks and tastes no different from conventional coffee. However, there is a price premium for fair-trade coffee because its value is derived from a set of standards that requires importers to meet international criteria, pay a minimum price per pound for coffee, and provide credit and technical support to farmers.

Employing state-level and firm-level data sets spanning a 15-year period (1986–2000), I find that SBCOs served as both mitigators of uncertainty and sources of legitimacy by actively creating and evangelizing standards at a broader market level and, at the same time, verifying organic claims and providing endorsements to compliant firms. Controlling for alternative explanations, the analysis suggests that for each additional SBCO in a state, entry rates into the organic market increase by 53 percent. The exit analysis suggests that firm-level certification decreases the likelihood of exiting a market for which a firm has “authorization” to participate in. Such certification can decrease the probability of producer exit by 57 percent. Further, there is evidence that certification moderates the effects of competition, providing a buffer for producers against competitive market effects.

This study makes multiple contributions. First, it shows a normative influence of SBCOs on dynamics of market exit and entry. Further, it supports a growing research agenda focused on structural aspects of new industry creation. By focusing on the role of standardization and certification processes, I advance this agenda and answer calls from those concerned with the role of standards and norms in fostering entrepreneurial activity. I also recognize the need for increased attention to the structural and institutional aspects of the environment that are beyond the control of



entrepreneurs but that nonetheless shape the existence of entrepreneurial opportunities and the efficacy of entrepreneurial efforts.

Finally, by focusing on an industry in which standards “create” the underlying value of a product, this research expands our conception of the role of standards in market creation and growth beyond the important technological concepts of network externalities and interoperability. Many new market niches (particularly those concerned with the environmental and social externalities associated with more “traditional” means of production) depend heavily on the integrity of standards, verification methods, and endorsement processes for value and continued market growth. Thus, it behooves scholars to understand the way in which these new markets are employing standardization and certification processes.

#### Summary

Taken together, this dissertation suggests that future research should more fully explore the emergence and consequences of socially responsible product markets such as organic food, fair trade products, and microcredit. These types of goods and services come into existence as a result of institutional entrepreneurs that see an important social need that is not adequately addressed by business or the government. These types of markets are important from a public policy perspective because they are often the source of substantial economic and social change that can fundamentally redefine pre-existing norms, practices, and institutions. For example, while not entirely achieving their objectives, the pioneering work of organic activists has significantly altered agricultural practice and consumer behavior, making organic agriculture the fastest growing niche in U.S. and global agricultural markets. Tensions arise in these types of markets because while advocates find justification for their markets’ existence through their opposition to mainstream institutions and

organizations, they must nonetheless seek support, endorsement, and legitimacy from some of those same institutions. Further study of how these tensions are managed is critical to more fully understand under what conditions broader markets for oppositional goods and services are successful, frustrated, co-opted, or transformed.