

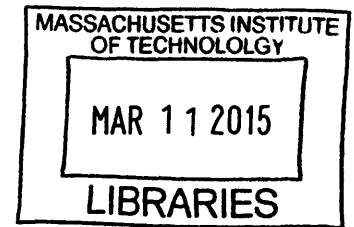
**Apostles and Brigadistas: Industrial Transformation with Social Gains in Two  
Central American Agro-Industries**

by

Alberto José Fuentes

B.A., Yale University, 2004  
M.C.P., MIT, 2007

**ARCHIVES**



SUBMITTED TO THE SLOAN SCHOOL OF MANAGEMENT  
IN PARTIAL FULFILLMENT OF THE DEGREE OF

DOCTOR OF PHILOSOPHY  
AT THE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

AUGUST 2014 [September 2014]

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**Signature redacted**

Signature of Author: \_\_\_\_\_  
Alberto Fuentes  
Sloan School of Management, August 11, 2014

**Signature redacted**

Certified by: \_\_\_\_\_  
Richard Locke  
Howard R. Swearer Director of the Watson Institute for International Studies  
and Professor of Political Science, Brown University  
Thesis Co-Supervisor

**Signature redacted**

Certified by: \_\_\_\_\_  
Ben Ross Schneider  
Ford International Professor of Political Science  
Thesis Co-Supervisor

**Signature redacted**

Accepted by: \_\_\_\_\_  
Ezra W. Zuckerman Sivan  
Nanyang Technological University Professor  
Professor of Technological Innovation, Entrepreneurship, and Strategic  
Management  
Chair MIT Sloan PhD Program

# **Apostles and Brigadistas: Industrial Transformation with Social Gains in Two Central American Agro-Industries**

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Alberto José Fuentes

Submitted to the Sloan School of Management  
on August 11, 2014 in partial fulfillment of the  
Requirements for the Degree of  
Doctor of Philosophy in Management

## **Abstract**

This dissertation offers an ideational account of the industrial transformation with social gains of two Central American agro-industries during the 1980s and 1990s, the Guatemalan sugar and Nicaraguan cheese industries. Early in this period, both relied on semi-artisanal production processes, poor labor standards and low wages, and a narrow focus on low priced products sold in protected domestic markets. Over the next two decades, processors in both adopted new production models and business strategies that modernized their technologies and work organization, raised labor standards and wages, and repositioned them as formidable competitors in international markets. Remarkably, these industrial transformations occurred in highly adverse political and economic contexts for high-road business, as deep ideological cleavages plunged the countries into bitter civil wars, economic recessions undermined business development, and national states abandoned policies of industrial support.

Paradoxically, the same ideological cleavages that tore these societies apart supplied the materials for two distinct teams of top firm decision-makers, the Apostles of Development in Guatemala and the Cooperative Brigadistas in Nicaragua, to transform the sugar and cheese industries. Spurred on by two distinct ideologies, these teams crafted and disseminated new production models and business strategies. In Guatemala, the motivating ideology was Vatican II Catholic social doctrine and in Nicaragua it was Sandinismo.

To reveal how the Apostles of Development in Guatemala and Cooperative Brigadistas in Nicaragua enacted the general principles of these ideologies to transform firms in their industries, the proposed explanation deploys a model that highlights the role of two intervening variables in shaping their value-rational

actions: (a) their particular interpretations of these ideologies, and (b) their shared professional backgrounds. The former impelled these top firm decision-makers to pursue a narrow range of prioritized moral imperatives and aspirations within the body of their ideology. The latter, in turn, directed their actions toward the business realm and supplied the necessary skills, tools and procedures to enact their ideological principles.

Thesis Co-Supervisor: Richard Locke

Title: Howard R. Swearer Director of the Watson Institute for International Studies and Professor of Political Science, Brown University

Thesis Co-Supervisor: Ben Ross Schneider

Title: Ford International Professor of Political Science

## Acknowledgements

A dissertation project represents a broad, collaborative effort. It blends the ideas, suggestions, critiques, and questions that arise during countless hours of presentations, meetings, discussions and interviews. To try to capture the myriad instances through which, in one way or another, different friends, loved ones and colleagues contributed to the final product of this dissertation project is surely impossible. But in lieu of such a lofty task, I would like to recognize some of these extraordinary people who made this dissertation possible.

First, I am enormously grateful to my committee, who though I stumbled many times, always picked me up, encouraged me to go on and patiently read the many, many memos and drafts that I wrote. To Rick Locke, committee co-chair, for supporting all my research endeavors, instilling confidence in me when I needed it, and teaching me how to craft a theoretical argument. To Ben Schneider, committee co-chair, for setting such a high standard of academic excellence, always offering insightful comments, suggestions, ideas and advice, and teaching me how to ask new questions. To Mike Piore, an inspiration of unbounded imagination, academic rigor and a remarkable capacity to synthesize ideas, from whom I learned to pursue roads less traveled. To Matt Amengual, exemplary young scholar, for always keeping a critical eye, and offering much needed mentoring during the final months.

Many other faculty gave valuable comments, support and suggestions: Alice Amsden, Emilio Castilla, Mauro Guillen, Tom Kochan, Gerry McDermott, Bob McKersie, Paul Osterman, Andrew Schrank, Ofer Sharone, Susan Silbey, Judith Tandler and Ezra Zuckerman. To all, I am grateful for your generosity.

Many of my contemporaries also lent a helping hand and a word of encouragement: Gokce Basbug, Kenny Ching, Lorenzo Frangi, Jerome Hughes, Barbara Kivat, Atul Pokharel, Aruna Ranganathan, Hye Jin Rho, Christine Riordan, Ben Rissing, Hiram Samel and Maja Tampe. Some participated in the seminars where I presented and developed many of my ideas: the IWER Workshop, the IWER Seminar, the Harvard-MIT Latin America Discussion Group, and the MIT Latin America Working Group. I would like to especially thank a few friends: Bruno Baroni, “el italiano de Latinoamerica”; Jesse Izzo, may history re-colonize all disciplines; Seth Pipkin, may our pursuits in homage to the greats continue; Jason Jackson, may ideas and culture blossom; and Andrew Weaver, may our paths cross again soon.

This project would not have been possible without the kindness and generosity of the many people I met and interviewed during my fieldwork. In a region where academia is still viewed with some skepticism, you selflessly shared your experiences and thoughts. I hope this dissertation is helpful and informative, and that it encourages you to further contribute to academic work. I owe a special thanks to Jose Molina Calderon and Armando Boesch in Guatemala; and to Tania Quintana (and the CpML team), Osmundo Solis, and Kiko Baez, friend and organizer-in-chief, in Nicaragua.

Finally, thank you to my mother, father, Harald, Rodrigo, Auri, my grandmothers and the Pringles for your love and support. And to Kimmie, my girlfriend when I started this journey, my wife as it comes to an end. May we embark on many more adventures!

I dedicate this dissertation to Judith Tandler: teacher, mentor and friend.

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# 1

## Introduction

In the mid 1970s, the Guatemalan sugar industry consisted of roughly a dozen small sugar mills that sold most of their product in the protected domestic market. They used second-hand, outmoded machinery to process sugarcane purchased from a multitude of locally-owned plantations located in Guatemala's Pacific coast. On these plantations, the majority of the industry's workforce cut sugarcane under appalling conditions, their wages meager even by local standards.

By the early 2000s, the mills had undergone a remarkable industrial transformation that fostered not only economic benefits, but also significant material improvements for the industry's workers. Mills crafted a new production model. They reorganized their production processes and introduced a range of technological innovations in plantations and processing facilities. They replaced the traditional labor and employment arrangements with new systems that enhanced worker living and working conditions. Mills also developed new business strategies. They diversified their products and focused on the highly competitive export market.

A similar process of industrial transformation, combining economic and social gains, is unfolding among cattle ranchers in north central Nicaragua. Until the late 1980s, ranchers in this impoverished region of the country produced only raw milk for large processors and unpasteurized cheese for local production. They relied upon artisanal production processes and technology. Work, and health and safety standards at these production facilities were dire.

But over the past twenty-five years, many of these ranchers have entirely transformed their production models and business strategies. They formed cooperatives that include significant numbers of small and medium-sized producers. They introduced a number of infrastructure improvements in ranches, and reorganized on-ranch production. They also built cooperatively-owned cheese

processing plants, employing skilled workers and sophisticated imported equipment. Moreover, these cheese processing rancher cooperatives revamped their business strategy. They produce a range of dairy and cheese products for domestic and export sales.

The transformations of Guatemalan sugar mills and Nicaraguan rancher cooperatives are noteworthy for at least three reasons. First, both occurred in unlikely political and economic contexts that, if anything, forestalled a similar development trajectory among comparable firms and industries. In Guatemala, mills in the sugar industry reorganized their production models and business strategies in the midst of a deep economic recession and an ongoing civil war. In contrast, coffee and cotton producers in the country largely floundered during this time. In Nicaragua, the cattle ranchers that organized the cheese processing cooperatives pursued their transformations as the country emerged from the civil war with a ravaged economy. As these cooperatives of cattle ranchers transformed their organizational models, other ranchers and cheese producers in the same region struggled to survive. The main point is that, in both cases, domestic conditions were not particularly conducive to industrial transformation.

Second, in their transformation trajectories, both Guatemalan mills and Nicaraguan rancher cooperatives diverged dramatically from nearby producers participating in the same industries. Though all were beholden to the same international market conditions, their experiences varied markedly. While Guatemalan sugar mills thrived and reorganized their production practices, sugar producers in neighboring countries largely stagnated or collapsed. Similarly, as the rancher cooperatives in Nicaragua adopted a range of organizational innovations, other cheese producers in Nicaragua and in neighboring Central American countries retained their traditional production models and business strategies.

Third, the transformations in the Guatemalan sugar mills and Nicaraguan cheese processing rancher cooperatives produced not only economic, but also social gains.

As a growing literature suggests, such “mutual gains” (Osterman, 2000) and “social upgrading” (Barrientos, Gereffi, & Rossi, 2011) are anything but certain in cases of organizational restructuring. Often, the rewards from industrial transformations are funneled to the top of organizational hierarchies. Yet, in Guatemala’s sugar industry, worker conditions, especially among cane cutters, improved significantly alongside output and export growth. Similarly, in Nicaragua, small cattle ranchers’ incomes rose rapidly, as did the employment opportunities and labor conditions of the cooperative cheese plant workers.

Given these contextual features and the particular characteristics of the new production models and business strategies in the two cases, the question that arises is, how did these two sets of firms in Guatemala and Nicaragua accomplish these remarkable industrial transformations? How did the Guatemalan sugar mills and Nicaraguan rancher cooperatives introduce the widespread organizational changes that both set them apart from comparable industries, and delivered economic and social benefits?

As this dissertation will argue, to account for this transformation we must turn to the role of the particular ideologies of top firm decision-makers in the two industries. Those ideologies drove two distinct teams of top firm decision-makers, the Apostles of Development in Guatemala and the Cooperative Brigadistas in Nicaragua, to create and diffuse new production models and business strategies that transformed their respective firms and industries. They guided these teams as they introduced a range of practices that both enhanced firm performance and delivered social gains.

### **Industrial transformations with social gains**

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The industrial transformations of the Guatemalan sugar mills and Nicaraguan cheese processing rancher cooperatives involved radical changes in their production models and business strategies. Swept by “gales of creative destruction,”

to use Schumpeter’s adaptation of Sombart’s idea, firms in both cases substituted new, modern practices for their traditional approaches. The types of practices they changed can be examined along four distinct axes of comparison: production organization, technology, labor and employment practices, and products and markets. Table 1.1 offers a description of each of the axes of comparison.

Table 1.1 Axes of comparison of production models and business strategies

<b>Axis of comparison</b>	<b>Description of practices</b>
<b>Production Organization</b>	The organization of production affects the deployment of workers, internal mobility patterns, production steps and processes, and job classifications (Appelbaum & Batt, 1994; Bailey & Bernhardt, 1997; Osterman, 1994, 2000)
<b>Technology</b>	The technology used in production varies by its origin, degree of sophistication and capital intensity, and extends to firm investments in R&D (Freeman & Hannan, 1984; Piore, 1990).
<b>Labor and employment practices</b>	The practices of labor and employment include staffing policies, compensation schemes, training and skill development programs, wage rules, income and employment security, and collective worker organization (Appelbaum & Batt, 1994; Kochan, Katz, & McKersie, 1986; Osterman, 1994, 2000)
<b>Products and markets</b>	Products refer to a firm’s degree of diversification and value-added output, while markets pertain to the products’ extent of competition (niches) and regulatory requirements or constraints.

An examination of these broader organizational changes, as opposed to simply focusing on total production or exports, enables a finer-grained view of the characteristics and consequences of industrial transformations. This closer inspection is important because, as a well-established institutional literature in industrial relations and high-performance work organizations (HPWOs) suggests, firms can perform the same work by deploying a variety of practices and models (Appelbaum & Batt, 1994; Osterman, 1994, 2000; Piore, 1990).

According to this literature, these different mixes of practices, though delivering similar outputs, often offer varying conditions for firm stakeholders, most notably workers. Only a few elicit “mutual gains,” namely “benefits to both the firm and the

workforce” (Osterman 2000, 179). The most basic distinction drawn is between “low road” and “high road” approaches. As Kochan, Appelbaum, Leana & Gittel (2013) explain in a recent article, “One strategy was to more aggressively seek to compete with low wage competitors by demanding and achieving wage concessions and lower or “two-tier” wages for entry level workers. This became known as the “low road” competitive strategy... The alternative or “high road” strategy was to view labor and human capital as an asset by investing in employee development and training and more fully utilizing the knowledge and skills of the workforce to drive innovation, product and service quality, and productivity...” (4)<sup>1</sup> The high road approach is often associated with HPWOs,<sup>2</sup> while the low road approach is most readily linked to Porter’s (1980) generic competitive strategy of “cost leadership.”<sup>3</sup>

The importance of examining not only the economic benefits, but also the social consequences of the organizational restructuring involved in industrial transformations is also underscored by another literature that focuses on Global Value Chains (GVCs). Some of the path breaking work on this subject expands the GVC literature by drawing on the HPWO research in industrial relations. Locke,

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<sup>1</sup> Other authors have explored these variations under different guises (e.g. Piore and Sabel’s (1984) mass production versus flexible specialization) and with a larger number of possible mixes (e.g. Appelbaum and Batt’s (1993) American HR model, Sociotechnical systems, Lean production, Flexible specialization and Diversified quality production).

<sup>2</sup> Much of this HPWO literature assumes that, to obtain the commitment and loyalty required of workers in “high road” strategies, employers must offer improved worker conditions.<sup>2</sup> Conversely, under “low road” conditions, skilled work and loyalty prove unnecessary, and therefore so do improved conditions. The argument, which builds on the strategy literature assumption of “internal consistency” (Porter 1980), is that the viability of selected technological, production process and business strategy bundles will be enhanced when coupled with complementary labor and employment practices. This assumption is driven home by a number of studies suggesting that internally consistent bundles of high performance/high road practices deliver enhanced firm performance (Ichniowski, Kochan, Levine, Olson, & Strauss, 1996; Ichniowski et al., 1997; MacDuffie, 1995).<sup>2</sup> But see Osterman (2000). He finds that in his sample of firms, high performance work organizations (HPWOs), involving Self-managed teams, Total Quality Management, Quality Circles and Job Rotation, diffused. Yet, improvements in employee welfare did not proceed alongside this dissemination. He concludes that “these HPWOs do not seem to have lived up to their promise of ‘mutual gains’” (195). He speculates that this might be either due to employees appreciating these HPWO practices to such an extent that they continue to cooperate despite the lack of mutual gains; and/or to the “power imbalances in the workplace” being such that employers can impose the changes.

<sup>3</sup> Porter (1980) describes it as involving “vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts, and cost minimization in areas like R&D, service, sales force, advertising, and so on...”



Kochan, Romis and Qin (2007), for instance, developed a detailed study of two apparel factories in Mexico. Among other things, they showed that two different approaches to production, namely “lean production” and “scientific management,” offered dramatic differences in both production and, most notably, employee-centered outcomes. In other words, though producing roughly the same product for the same market, the two organizational models diverged in their consequences for workers.

More recently, a research initiative focused on “Capturing the Gains” in GVCs has begun examining the relationship between “economic and social upgrading” (Barrientos, Gereffi, et al., 2011; Barrientos, Mayer, Pickles, & Posthuma, 2011). The research initiative explores the conditions that allow both firms and workers to gain from the process of upgrading. It challenges the literature’s previously held assumption that the benefits of upgrading automatically trickle down to workers.

Capturing the Gains also strives to bring together two bodies of GVC literature. The first is centered on “the dynamics of GPNs and global value chains (GVCs) at the firm and industry level.” The second focuses “on the flexibilization and casualization of work and the challenges of promoting labour standards in the global economy.”<sup>4</sup> These two literatures “have tended to remain separate, either confined within specific academic disciplines and conceptual frameworks, or proceeding at different levels of analysis” (Barrientos, Mayer, et al., 2011, 300). The proposed agenda examines the interaction between these two parallel strands of GVC literature and offers insights into the processes through which economic upgrading also delivers social upgrading.

---

<sup>4</sup> It is important to note this influential strand in the GVC literature. It underscores the social embeddedness of the suppliers of global buyers as it explores the effects of private and private regulation, and social mobilization, on the conditions of work (Anner, 2012; Esbeneshade, 2004; Locke, Amengual, & Mangla, 2009; Locke, 2013; Seidman, 2009). This strand of the GVC literature, however, rarely addresses the interaction between organizational transformation, or upgrading, and social gains. Rather, the emphasis is on the conditions under which regulation and social mobilization ramp up labor standards.

This dissertation follows the HPWO and GVC literatures in adopting a broader understanding of industrial transformations that considers both their economic and social implications. It shows that, contrary to producers in other upgraded industries, the firms in the two studied cases pursued transformations that delivered economic *and* social gains. They introduced changes in practices along the four axes described, generally embarking on a “higher road” approach.

In Guatemala, sugar mills took control of production on plantations, reorganizing the process of production, heavily training workers, and introducing technological changes. These steps dramatically raised land and labor productivity – they grew by an over 55%, and 200% respectively between 1978/79 and 2009/2010 (CENGICANA 2008 and 2011; Oglesby 2000; Personal communications with managers, 2010). In processing facilities, they professionalized and specialized the workforce, and imported sophisticated equipment. These changes allowed them to rapidly expand sugar output – it more than quintupled between 1978/79 and 2008/09 (CENGICANA 2008 and 2011). They also led them to produce a range of sugar qualities (e.g. raw sugar, refined sugar) and related products such as ethanol and electricity. They sell most of their production abroad (70% of output), and have become the fourth largest raw sugar exporter in the world (FAO 2013).

Crucially, and in contrast to many mills in fast-growing sugar industries such as 1990s Brazil’s (Coslovsky & Locke, 2013),<sup>5</sup> upgraded work and employment practices complemented these innovations in plantations and processing facilities. They trained and professionalized permanent workers, and offered them a number of benefits. Most notably, they revamped labor and employment practices for cane cutters. They offered them longer term written contracts, wages well above the legally set minimum, adequate living facilities, a range of work-related benefits, and an array of programs in nutrition, education, health and recreation.

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<sup>5</sup> Though Locke and Coslovsky (2013) present an argument for the complementary role of public and private regulation in blocking the “low road”, they recognize that “Until recently the Brazilian sugar industry was characterized by environmental degradation and inadequate labor standards” (499).

In Nicaragua, cheese processing rancher cooperatives similarly introduced a new organization of production and technological package in ranches and processing plants. This organizational shift allowed them to pursue new products and markets. Through on-ranch innovations including adequate milking facilities, pasture improvements, genetic interventions, tropical health programs, fencing and smaller corrals, medium- and small-sized cooperative ranchers raised health and safety standards. They also more than doubled raw milk output per cow between the early 1990s and the early 2000s, and dampened the year-round cyclicity of raw milk production. In processing, they built cheese plants with sophisticated imported machinery, laboratories, and skilled, multi-functional technicians and workers. In these plants, they produce a range of cheeses and other dairy products. They sell some domestically, but increasingly export their production to other Central American countries and the high-standard United States (this latter market absorbed about 25% of their exports in 2012) (Author, with data from Centro de Trámites de las Exportaciones (CETREX) 2013).

As in Guatemala, the industrial transformation of Nicaragua's cheese processing rancher cooperatives coupled economic growth with social gains. In a largely rural region marked by high poverty rates and low levels of education, cooperatives have invested heavily in training workers and managers at collection centers and processing plants. They offer their workers long-term written contracts, wages in excess of the legally required minimum, a full menu of benefits above those required by law, variation in daily tasks and even job ladders. Equally important, and in contrast to other cheese processing firms located in the same region of the country, the cooperatives spread the economic gains to all their members, most of them medium- and small-sized ranchers. These ranchers benefit not only from the sales of their processed dairy products, but also from cooperative purchases of their raw milk at higher, more stable prices than other potential buyers.

## **The proposed ideational explanation for industrial transformation**

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How did the Guatemalan sugar mills and Nicaraguan cheese processing rancher cooperatives accomplish these remarkable industrial transformations? Two sets of theories are often offered to account for such dramatic organizational changes. The first set focuses on the role of the state. Though they vary widely in their diagnoses and prescriptions, these theories generally explore how the state establishes various preconditions that elicit firm and industry upgrading, and more broadly, economic development (Acemoglu, Johnson, & Robinson, 2005; A. H. Amsden, 2003; R. F. Doner, 2009; Evans, 1995; Hausmann & Rodrik, 2003; Krueger, 1990; Williamson, 2008). The second set of theories of industrial transformation centers on the explanatory role of inter-firm learning and collaboration. This set of theories also encompasses a range of approaches, each highlighting a different type of firm interaction that enables learning and upgrading (Bair, 2005; R. Doner & Schneider, 2000; Gereffi, 1999; Humphrey & Schmitz, 2002; Saxenian, 2004).

Though highly influential and insightful, most of these theories share a common drawback: they adopt too simplified an understanding of firms, particularly of the firms examined as cases of industrial transformation. This understanding deprives those firms of any agency. In the mechanisms favored by the different explanations, they are usually seen as merely responding to different conditions, whether particular state policies or specific firm-firm interactions, in a predetermined, predictable manner. Thus, ironically, the fate of firms is assumed to depend not on their own internal decisions, but on the actions that state bureaucrats or global buyers, to name just two examples, might take.

Recognizing the role of firm agency promises to generally strengthen prevailing theories, and may offer an alternative to account for two particular scenarios. The first, which we call the “divergence scenario,” refers to situations in which the favored explanation produces varying outcomes. In this divergence scenario, the preferred explanation might promote industrial transformations among some firms

or industries, but not among other, comparable ones. Accounting for firm agency, and examining its interaction with prevailing explanations, suggests useful extensions to accounts offered by standard theories.

The second “unlikely scenario” turns our attention to situations in which industrial transformations unfold even in the absence of the established explanations. The two studied cases of this dissertation represent instances of this latter scenario. The Guatemalan sugar mills and Nicaraguan cheese processing cooperatives fundamentally revamped their production models and business strategies in war-torn countries. They accomplished their transformations despite operating under barely functioning states and in contexts of acrimonious cross-firm relations. They undertook these costly and risky processes of industrial transformation while most firms operating in their same industries dug their heels in and retained their traditional approach.

Sometimes, this “unlikely scenario” triggers scholarly searches for evidence supporting one prevalent explanation or another. When successful, these searches conclude that the context was not unlikely after all. Yet, in accounting for the transformations of the Guatemalan sugar mills and Nicaraguan cheese processing cooperatives, I found no evidence to support the prevalent accounts.

Instead, the proposed explanation follows a different logic. It begins with firms, and specifically, with the actions of top firm decision-makers. These are the architects of industrial transformations, the individuals who often create and diffuse transformative new production models and business strategies. The proposed explanation recognizes their agency and the importance of their strategic decisions.

This alternative perspective suggests that the remarkable transformations of the Guatemalan sugar mills and Nicaraguan cheese processing cooperatives resulted from the distinct actions taken by these top firm decision-makers. These decision-makers set about transforming their firms and industries despite their inhospitable

environments. They pushed forward radical innovations while most comparable firms skeptically observed. Their actions affected not only firm production and markets, but also conditions for stakeholders such as workers and small producers.

Yet, who were these top firm decision-makers? And why did they pursue such remarkable transformations? Geertz's (1963) *Peddlers and Princes* offers a window to address these questions. In his book, Geertz examined the explanatory role of "religious beliefs" and "value systems" for the dynamic of economic modernization. He detailed the contrasting ways in which two groups of Indonesian entrepreneurs solved crucial organizational problems in their firms. These entrepreneurs mobilized "existing social and economic resources," turned a force of largely undisciplined workers toward a "coordinated, persistent, productive effort", and systematically administered "both the manufacturing and marketing ends of business." In shaping their path-breaking actions, argued Geertz, the entrepreneurs' distinct religious values and beliefs took center stage. Acting as "ideological carriers," these entrepreneurs directed their actions to the pursuit of their religious ideologies' values.

Geertz's account points to the importance of Weber's concept of "value-rational action" (Kalberg 1980, 1155). For Weber, value-rational action is an inherent anthropological trait of humankind that allows individuals to act in a manner consistent with their values and beliefs. It enables "substantive rationality." As Kalberg (1980) explains, in Weber's theory substantive rationality "directly orders actions into patterns" on the basis of "a past, present or potential value postulate." Value postulates, in turn, consist of "entire clusters of values that vary in comprehensiveness, internal consistency, and content." For example, varying religious and political ideologies encompass different value postulates and standards. Insofar as "the content of the substantive rationality's values" guides

“action into specific channels,” this “radical perspectivism” entails broad variation in patterns of value-rational social action (Kalberg, 1980).<sup>6</sup>

In accounting for the industrial transformations of Guatemalan sugar mills and Nicaraguan cheese processing cooperatives, this dissertation follows Weber and Geertz. It proposes that the value postulates of distinct ideologies motivated the transformative value-rational actions of two teams of top firm decision-makers. In Guatemala, a team of managers spearheaded the transformation of the sugar mills. In their transformative mission, they were driven by Vatican II Catholic social doctrine, a religious ideology which they all shared. Acting as the proverbial “Apostles of Development” of Catholic Encyclicals, this managerial team crafted and diffused the new production model and business strategy in accordance with their ideological principles.

In Nicaragua’s north central region, I found a similar phenomenon. Led by teams of foreign aid consultants inspired by their ideological commitment to Sandinismo, a political ideology, a number of rancher associations adopted an entirely new cooperative cheese processing production model and business strategy. The foreign aid consultants, whom I call the “Cooperative Brigadistas,” constructed these often risky and costly new models and strategies. They accomplished this through grassroots transformative mentoring campaigns reminiscent of the Literacy Brigadistas of the Sandinista regime.

In both cases of transformation, the principles of these two ideologies, Vatican II Catholic social doctrine and Sandinismo, motivated the actions of the Apostles and Brigadistas. Vatican II Catholic social doctrine encouraged the Apostles to pursue such general principles as the common good, respect for human dignity, and the

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<sup>6</sup> As Kalberg (1980) explains, the “radical perspectivism” embodied in Weber’s concept of substantive rationality implies that there is no “absolute array of ‘rational’ values.” Rather, “a rationalization process depends on an individual’s implied or stated, unconscious or conscious, preference for certain ultimate values and the systematization of his or her action to conform to these values. These values acquire “rationality” merely from their status as consistent value postulates...” (1155-1156)

brotherhood of mankind. Similarly, Sandinismo spurred followers to create a revolutionary society, promote popular democracy and foster independent economic development. Though they operated under the “uncertainty scenario,” bereft of common drivers of industrial transformation, these two teams drew inspiration from their ideologies to foster wide-ranging organizational changes.

However, though forcefully springing ideological carriers into action, these two ideologies failed to provide a blueprint to guide their efforts. Neither specified the concrete actions that ideological carriers should pursue. Nor did they determine the realms of social life to be transformed. In other words, both lacked the actionable content that is assumed to be self-evident in Weberian accounts. Instead, they offered only relatively broad principles, or value postulates, that allowed significant leeway for value-rational action.

Not surprisingly given these broad principles, the two ideologies have been associated with a number of different patterns of action. Vatican II Catholic social doctrine is linked not only to the industrial transformation of the Guatemalan sugar mills but also, and more commonly, to numerous grassroots and even revolutionary in 1960s and 1970s Latin America. Analogously, in addition to providing the impetus for the transformation of the Nicaraguan cheese processing plants, Sandinismo shaped the strongly statist approach of the Sandinista regime of the 1980s.

Given their general principles and the varied patterns of action associated with them, an explanation linking ideologies to industrial transformation must specify how these ideologies translate into the concrete transformative actions of top firm decision-makers. In this vein, the proposed argument, further developed in Chapter Two, suggests that the manner in which these top firm decision-makers enacted the principles of their ideologies to foster industrial transformation was mediated by what I call their “moral-practical mindsets” (see Figure 1.1). Moral-practical

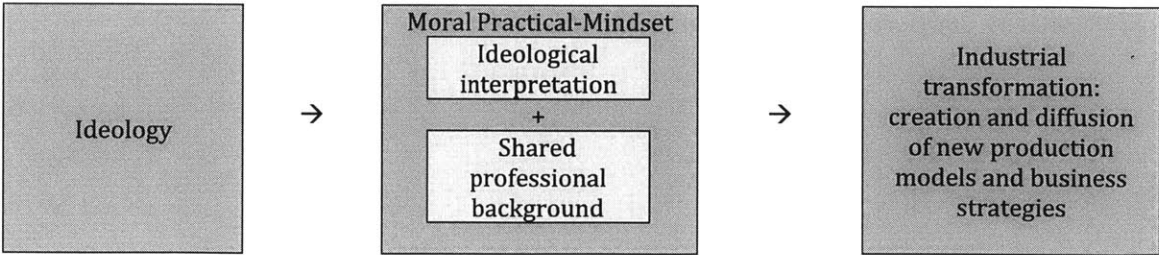


mindsets integrate particular interpretations of the motivating ideology with the shared professional background of the ideological carriers.

Within the overarching umbrella of an ideology's value postulate, different ideological interpretations offer varied, even conflicting understandings of its content. They provide ideological carriers with causal maps and taxonomies to make sense of their environment. As a result, they may motivate seemingly inconsistent behaviors. Ideological interpretations prioritize specific moral and political imperatives and aspirations within the body of an ideology, and downplay others. They highlight the partial contradictions that often plague ideologies, and motivate ideological carriers to pursue the prioritized moral precepts.

The shared professional backgrounds of the ideological carriers, in turn, focus their value-rational actions on particular spheres of life. Distinct ideological interpretations may frame ideological carriers' patterns of value-rational action by providing causal maps and taxonomies. But their shared professional backgrounds steer their actions toward particular realms of activity such as religion, politics or, in the case of industrial transformations, business. In addition, professional backgrounds supply tools, practices, skills and knowledge. Ideological carriers rely upon them to creatively implement solutions in response to their ideological interpretations' imperatives, aspirations and causal maps. In the case of industrial transformations, the practices of the new transformative production models and business strategies represent these solutions.

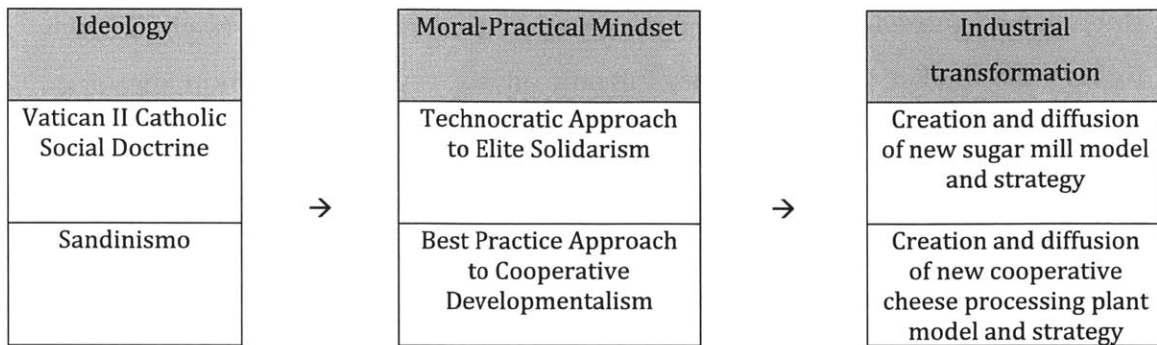
Figure 1.1 The causal argument



In the studied cases, Vatican II Catholic social doctrine and Sandinismo drove and generally guided the industrial transformations of the Apostles and Brigadistas. But these top firm decision-makers' moral-practical mindsets played a crucial intervening role (see Figure 12). As Chapter Three describes, in Guatemala the Apostles of Development shared a strongly hierarchical interpretation of Vatican II Catholic social doctrine, "Elite Solidarism." This interpretation appealed to the privileged members of society, calling upon them to unilaterally pursue social transformations conducive to the common good. In addition, all the Apostles of Development obtained mechanical and agronomist engineering degrees. Their professional background focused their attention on agro-business endeavors and provided a necessary body of knowledge and set of skills. The merger of their Elite Solidarism interpretation and engineering background created a moral-practical mindset among the Apostles of Development that I call the technocratic approach to Elite Solidarism.

Similarly, as Chapter Four details, in north central Nicaragua the Cooperative Brigadistas adopted a distinct interpretation of Sandinismo, "Cooperative Developmentalism." This interpretation most generally supported the creation of a revolutionary society founded on a mixed economy with widespread cooperative participation and a thriving and increasingly industrialized rural economy. In addition, the Brigadistas shared a background in consulting. Like the Apostles' engineering background, the Brigadistas' consulting background turned their attention to the problems of business and supplied a body of knowledge and tools to address them. I call the Brigadistas' moral-practical mindset, combining their distinct ideological interpretation and professional background, the best practice approach to Cooperative Developmentalism.

Figure 1.2 The causal chains in the studied cases



In both cases, the moral-practical mindsets decisively intervened in the process of translation from ideology to the transformative action. In Guatemala, the Apostles of Development pursued the transformation of the sugar mills in a strongly hierarchical manner. They unilaterally introduced and then actively diffused organizational innovations that furthered their relatively narrow understanding of the common good. In a strongly conservative industry, they significantly improved the material conditions of most workers while simultaneously centralizing control of production in management. Despite the inhospitable conditions of war and economic recession that prevailed in Guatemala at the time, they trained workers extensively and provided them with new tools and equipment. They also implemented a Taylorist system of production on plantations, and diversified their product range. Refusing to succumb to the world sugar industry's deteriorating conditions, the Apostles aggressively targeted new export markets. In addition, they overcame the entrenched antagonistic relations of the industry by promoting the diffusion of their practices to other mills with missionary zeal. Their patterns of action and the characteristics of the industrial transformation they engendered denote the driving force of Vatican II Catholic social doctrine, and the intervening role of the technocratic approach to Elite Solidarism.

In a comparable fashion, in Nicaragua Sandinismo inspired the transformative efforts of the Cooperative Brigadistas. The best practice approach to Cooperative Developmentalism conditioned their patterns of action and the outcome of their

undertakings. Working closely with small- and medium-sized ranchers, the Brigadistas fostered joint work and the creation of cooperatives in a region known for its individualistic tradition. They introduced vast raw milk collection networks, building roads and cooling stations. Defying their impoverished environment, they erected cheese processing plants, importing sophisticated processing equipment and training workers extensively. The new plants allowed these isolated small- and medium-sized ranchers to produce cheeses for domestic and export sale. The Brigadistas concluded their campaigns of industrial transformation by promoting diffusion of their new model and strategy among other ranchers organized in associations. Mirroring the experience in Guatemala, their actions and the industrial transformation they brought about evince the explanatory role of Sandinismo and the intervening best practice approach to Cooperative Developmentalism moral-practical mindset.

### **A note on methods and design**

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I designed this project to generate and evaluate a new explanation for agro-industrial transformations. The objective was to address the central drawback of the prevalent theories and construct an alternative, complementary account. I began by studying the transformation of Guatemala's sugar mills, treating them as a hypothesis-generating deviant, or outlier, case. The case illustrated the "unlikely scenario": the transformation unfolded in an inhospitable context in which most comparable industries (i.e. "shadow" cases) in Guatemala and the region failed to transform their organizational models (see Table 1.2). Comparisons with these shadow cases address alternative country- and industry-specific explanations, ranging from state policy to changing market conditions, for industrial transformation. As a complement to these theories, the study generated an explanation focused on ideology, and shed light on the causal chain linking ideology to the organizational changes of industrial transformations.

Table 1.2 Shadow cases for the Guatemalan sugar mill case

<u>Within country comparisons</u>	<u>Within industry comparisons</u>
Coffee and cotton agro-industries in Guatemala	Sugar agro-industries in El Salvador, Nicaragua, Dominican Republic, Barbados

I then replicated this ideational explanation and its associated causal chain through a second case study in the Nicaraguan cheese industry. I focused on the remarkable organizational changes of the cheese processing rancher cooperatives. Like the Guatemalan sugar mills, the Nicaraguan cheese processing cooperatives represented outliers and illustrated the unlikely scenario. And as in Guatemala, I drew comparisons with other producers to address alternative explanations (see Table 1.3). Through this second case, I corroborated and refined the ideational account for industrial transformation.

Table 1.3 Shadow cases for the Nicaraguan cheese processing cooperative case

<u>Within country comparisons</u>	<u>Within industry comparisons</u>
Salvadorian and artisanal cheese processors in Nicaragua	Cheese agro-industries in El Salvador, Honduras

To collect the evidence that informs Chapters Three and Four, I relied primarily upon the insights afforded by process tracing. As George and Bennett (2005) explain, process tracing is “the only observational means of moving beyond covariation alone as a source of causal influence.” It is ideally suited for “how” questions, focusing on sequential processes within a particular historical case. It unwraps and divides into smaller steps the cause-effect sequence connecting independent and dependent variables. This allows the researcher to look for evidence at each step (Mahoney, 2010; Van Evra, 1997).

Through process tracing, I addressed the question of how the Guatemalan sugar mills and Nicaraguan cheese processing cooperatives accomplished their industrial

transformations. Fieldwork involved over 100 in-depth interviews.<sup>7</sup> It also entailed intensive archival research in government, university and industry offices, field visits to production sites and content analysis of industry-related material.<sup>8</sup> While I initially focused on evaluating the prevalent explanations for industrial transformation, as the role of ideology became clear, I shifted the emphasis to the mechanism through which this variable explained the transformation. Using the abundant material collected, I developed narratives of the experiences of key studied firms and the lives of their top firm decision-makers. Relying upon these narratives, I traced the pathways through which the Apostles of Development and Cooperative Brigadistas, guided by the principles of Vatican II Catholic social doctrine and Sandinismo, respectively, devised and diffused the transformative models and strategies in Nicaragua and Guatemala. The narratives revealed the crucial intervening role of moral-practical mindsets in shaping their actions.

Within case comparisons complemented process tracing by highlighting the consequences of the actions of the Apostles and Brigadistas. In the early stages of the studied agro-industrial transformations, comparisons with the rest of the agro-industries' firms in Guatemala and Nicaragua highlighted the remarkable organizational changes at the Apostles' and Brigadistas' original firms. The differences between their firms and the rest evinced the consequences of their actions. In later stages of the process of change, comparisons corroborated the diffusion of the new production models and business strategies across the two industries.

### **Plan of the dissertation**

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The development of the argument of this dissertation begins with a discussion of its main theoretical contributions in Chapter Two. This chapter opens by describing in further detail the main theories of industrial transformation and their central

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<sup>7</sup> See Appendices 1 and 2 for the types of interviewees, and a sample of the questionnaires.

<sup>8</sup> See Appendix 3 for a list of visited offices and production sites.

drawbacks, focusing on their simplified understanding of firms. Then, it presents the proposed explanation for industrial transformation. The explanation focuses on the explanatory role of ideology and the intervening role of moral-practical mindsets in driving firm changes. The chapter then moves to a discussion of how ideology explains industrial transformations. It specifies how they foster the creation (i.e. neomorphism) and diffusion (i.e. isomorphism) of transformative new models and strategies.

Chapter Three illustrates the proposed theory through the case of the Guatemalan sugar mills and the Apostles of Development. After contrasting the new models and strategies of these mills with their competing pre-transformation approach, the chapter traces the transformative mission of the Apostles. It reviews the main principles of Vatican II Catholic social doctrine and describes the Apostles' technocratic approach to Elite Solidarism. This moral-practical mindset combines their Elite Solidarism interpretation with their engineering professional background. The chapter then turns to a description of the industrial transformation. It depicts the processes of neomorphism and isomorphism in the case. In chronicling these processes and describing the innovations, the chapter highlights the crucial explanatory role of the Apostles' ideology and moral-practical mindset.

Chapter Four turns to the case of the Nicaraguan cheese processing rancher cooperatives and the Cooperative Brigadistas. Like Chapter Three, it begins with an overview of the cooperatives' new production model and business strategy, contrasting it with the approach of competing dairy firms prevalent in north central Nicaragua. Then it discusses the Cooperative Brigadistas' campaign to transform the cheese industry. It describes the main principles of Sandinismo and the Cooperative Brigadistas' best practice approach to Cooperative Developmentalism. This moral-practical mindset combines the Cooperative Developmentalism interpretation of Sandinismo with the Brigadistas' consulting background. The chapter then turns to the industrial transformations. It recounts the processes of neomorphism and

isomorphism in cooperative processing plants. In this explanation, it pays particular attention to the role of the Brigadistas' ideology and moral-practical mindset.

The Conclusion reviews the contributions of this dissertation toward ongoing debates on industrial transformation. It restates the prevalent theories, their drawbacks and the proposed explanation. Then, it explores possible points of interaction and complementarity between established theories and the ideational approach. Though the proposed account is induced from two sets of firms operating in the "unlikely scenario," this discussion probes its possible implications for the "divergence scenario" to explore those interactions.



## **The ideological roots of industrial transformations**

The purpose of this chapter is to propose an ideational explanation for industrial transformation. The account offered focuses on the top decision-makers of firms undergoing industrial transformations. It traces how ideologies drive those decision-makers to transform the production models and business strategies of their firms.

This explanation represents an alternative but potentially complementary account to prevalent theories of industrial transformation. It stands as an alternative insofar as ideology intervenes as an independent driver of radical organizational change, operating alongside other explanatory variables. The two cases of this dissertation illustrate this alternative account, showing how two teams of top firm decision-makers, the Apostles of Development and Cooperative Brigadistas, transformed firms in two agro-industries in the “unlikely scenario” of 1980s and 1990s Central America. Yet, the explanation offered may also complement well-established theories: to the extent that firm agency interacts with prevailing explanations, it may strengthen their accounts of industrial transformation.

To develop this argument, the chapter begins with an overview of the explanations provided by prevalent theories of industrial transformation. After drawing attention to some of their main drawbacks, especially the constraints they impose on firm agency, it turns to the ideational alternative. I offer a detailed discussion that conceptualizes ideology as an independent variable and reveals a model for its translation into the transformative actions of top firm decision-makers. The chapter then proceeds to a review of these transformative actions: first, the creation of new production models and business strategies, a process which I call “neomorphism”; and second, their diffusion to other firms, a process commonly known as isomorphism.

## **Alternative Theories of Industrial Transformation**

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The numerous theories of industrial transformation that have held sway over time vary quite extensively in the outcomes they explain and the explanatory variables they propound. All address dramatic firm or industry-level changes. But the measures for those changes range widely. The more orthodox among them prioritize total output, productivity and exports. Other accounts also incorporate measures such as technological sophistication and capital intensity, worker skills, product quality, and market diversification.

Alongside those variations in the outcome, we can find broad differences in the factors presented as causes of industrial transformation. For analytical purposes, I group these theories into two categories distinguished by the type of explanatory variable. The first set of theories introduces state policies as the general drivers of industrial transformation. The second set focuses on inter-firm relationships and collaboration. While not an exhaustive list of explanations for industrial transformation, these two sets of theories include the most prevalent and influential accounts at this time.

### ***State Policy***

The literature on the role of the state as a driver of industrial transformation extends across a broad spectrum. On one extreme, authors from the “production school,” point to the unique pre-conditions that fostered the “miraculous” state-led industrial upgrading of the East Asian countries (e.g. South Korea, Taiwan). According to these authors, competent and cohesive state bureaucracies, guided by a shared ethos and commitment to national economic development picked firms and industries, or “winners,” destined for world-class production.

These state bureaucracies relied on information provided by the business sector to tailor various policy instruments to industry or even firm-specific needs. The bureaucrats shared close relations with business while simultaneously remaining

autonomous – a condition captured by Evans’ concept of “embedded autonomy.” The goal of these heavy-handed interventions was to move the targeted winners from primary production into knowledge and skill-intensive manufacturing. The gamut of instruments available to bureaucrats ran from tariffs and other trade protections from international competition for domestic infant industries, through reciprocity-based (i.e. subsidies, credits and other benefits contingent on firm performance) export strategies for “mature” firms, to educational and social control policies designed to create an obedient, cheap and increasingly skilled workforce (A. H. Amsden, 2003; Deyo, 1989; Evans, 1995; Haggard & Kaufman, 2008; Kohli, 2009; Schneider, 2013).

According to these arguments, these chosen national firms and industries, with the overt support of state bureaucracies, would quickly upgrade their production. In East Asia, the argument goes, they overcame the entry barriers of advanced industrial nations and conquered their mass consumption markets. Through their transformations, these “winners” fueled rapid economic growth and national development in their home countries.

Though offering a “compelling correlation,” in Schneider’s (1998) terms, the production school faces some noteworthy challenges. With a few exceptions,<sup>9</sup> little work has addressed the origin of these Weberian bureaucracies. Yet such processes of emergence would appear to demand significant resources and time. Moreover, as Schneider (1998) explains, the causal connections between different “facets of embeddedness” – such as “data collection,” “private sector expertise,” “negotiation and renegotiation,” and “consensus” – and the studied outcomes remain unclear (108). Schneider goes on to argue that parsing apart these different relations would be useful for the “mass of ‘intermediate’ states” that cannot hope to achieve

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<sup>9</sup> See Doner, Ritchie, & Slater (2005) on the role of “systemic vulnerability” in fostering the emergence of developmental states.

autonomous Weberian bureaucracies in the short run but might be able to reap some of the benefits of embeddedness.<sup>10</sup>

Furthermore, all the facets of embeddedness that Schneider mentions are contingent not only on the actions of state bureaucrats, but also of business. Yet, because of its single-minded focus on the state, this theory largely omits a discussion of firm agency. Most of the argument centers on the different policy instruments state bureaucrats deploy. Firms are simply assumed to share and collaborate, or in the authoritarian East Asian tigers, comply, with state bureaucrats. For our purposes, most of the discussion on Weberian states is moot to the extent that neither the Guatemalan or Nicaraguan states developed East-Asia-like development capabilities. Nor did state bureaucrats pick the studied industries as national “winners.” Though both industries enjoyed some protective tariffs, in no way did those trade protections set them apart from their competitors in neighboring countries or comparable industries in their domestic market.<sup>11</sup>

A very different set of critiques inspired the “Washington Consensus,” located at the opposite end of the state policy spectrum. This perspective posited that state intervention of the type advocated by the production school often elicited not upgrading but rent seeking and corruption, waste and inefficiency, poor public services, and large public deficits and inflation. Given this critique, Washington Consensus champions proposed a starkly different set of prescriptions. They drew heavily from neoclassical economics to defend the “liberalization, deregulation and privatization” troika. For them, the state should steer clear of the economy (deregulation of entry/exit barriers, prices), ensuring only macroeconomic stability (through fiscal discipline and lower public expenditures, broader tax bases with lower marginal tax rates, and competitive exchange rates), private ownership (defense of property rights, privatization) and unhindered flows of goods and

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<sup>10</sup> Indeed, the East Asian “tigers” appear to be a rather unique historical phenomenon, which leads to the question of the generalizability of their lessons.

<sup>11</sup> In assessing this and other alternative explanations, I examined the two country’s trade protections, state budgets and histories, industry-specific regulations, and state credit policies.

capital (financial and trade liberalization) (Bates, 1981; Krueger, 1990; Schleifer & Vishny, 2002; Williamson, 2008).

However, like its production school nemesis, the Washington Consensus has faced significant challenges. Stiglitz (1999), echoing the view of many of its critics, decried the Washington Consensus' "misunderstanding of the very foundations of a market economy" and its "failure to grasp the fundamentals of reform processes" (3). He claimed that its deep reliance on neoclassical economics entailed "excessively simplistic textbook models of the market economy" that obscured problems related to entrepreneurship and the creation of new enterprises, corporate governance (e.g. the separation of ownership and control) and the institutional framework that a working market economy requires. These omissions fatally undermined intended economic and industrial development.

Most important for the argument of this dissertation, in an ironic twist, the Washington Consensus argument mirrored the production school in overlooking the role of firm decisions. Paradoxically, given its emphasis on the blessings of "the market," the Washington Consensus theory paid scant attention to firm agency. Like the production school, it implicitly assumed that firms would respond to the favored policies in a largely deterministic fashion.

For our purposes, we should note that in the cases presented in this dissertation, the Guatemalan and Nicaraguan states' eagerly adopted of the Washington Consensus package well after the mills and cooperatives initiated their transformations. And, as the empirical chapters show, once their respective states adopted liberalized markets and partially deregulated domestic economies, the Guatemalan mills and Nicaraguan cheese processing cooperatives continued to grow, fully exploiting the new market possibilities. They also diverged from the development trajectory of comparable domestic firms and industries.

In light of the challenges associated with both the production and Washington Consensus schools, various authors have combined their insights. Most of them share the view that the industrial policy advocated by the “production school” may indeed produce a number of undesirable consequences. But they recognize that markets may succumb to serious failures as well (e.g. information externalities, coordination problems between firms and between firms and the state).

According to this hybrid perspective, which builds on Stiglitz’s (1999) critique of the Washington Consensus, the state’s most general role in triggering upgrading is to define an institutional arrangement that will overcome collective action problems. These problems, which arise when individual actors with a fixed set of (exogenous) preferences and tastes vie to maximize their own welfare in the market, lead to suboptimal collective outcomes. In this context, state-devised institutions structure the interactions of economic actors. They supply incentives for them to reach socially optimal outcomes, and thereby provide the necessary and sufficient conditions for industrial upgrading (Hall & Taylor, 1996; Rodrik, 2007).

The range of market supporting institutions necessary to guarantee the socially optimal outcome of upgrading and economic growth is quite broad, varying by author. Parsimonious accounts underscore the state’s ability to enforce property rights and the rule of law as central to national economic growth (Acemoglu et al., 2005; North & Thomas, 1973; North, 1990). Other authors view these as insufficient and advocate additional institutions, such as institutions of regulation (for goods, services, labor, assets, financial markets), conflict management (judiciary, political institutions, independent trade unions, social partnerships) macroeconomic stabilization (sound fiscal and monetary policies), social insurance, and even – in arguments that shade into the production school realm – industrial policy (with close consultation with business, but importantly, also targeted at activities such as R&D rather than sectors, and with credible commitment, monitoring and strict controls) (R. F. Doner, 2009; Hausmann & Rodrik, 2003; Rodrik, 2007).

Though this perspective has become influential over the past decade, it too has encountered challenges. Critics question the increasing number of institutions considered indispensable and the difficulties associated with introducing them. Rodrik's (2006) critique, initially intended for institutionalists more friendly to the Washington Consensus, can be extended to illustrate the problems associated with this third state-centered perspective: "In the limit, the obsession with comprehensive institutional reform leads to a policy agenda that is hopelessly ambitious and virtually impossible to fulfill... Furthermore, there is something inherently unfalsifiable about this advice. So open-ended is the agenda that even the most ambitious institutional reform efforts can be faulted ex post for having left something out" (980).

In addition, while synthesizing the production school and Washington Consensus this "third way" also smuggled in their shared exclusion of firm agency. Like its two sources of inspiration, it relies upon a strongly deterministic conception of firms insofar as it renders them completely beholden to the "iron laws" of their institutional environments. Fortunately, in the studied cases of this dissertation even the most parsimonious of these "institutional packages" was absent in war-torn Guatemala and Nicaragua. As firms undertook the studied transformations, neither country offered even secure property rights, much less the more sophisticated institutions of social insurance or industrial policy that some authors consider necessary. Only later, as the countries pacified, would some of these institutional conditions become established.

### ***Inter-firm collaboration and learning***

The literature on inter-firm learning and collaboration also encompasses a range of different approaches. For analytical purposes this literature can be divided into two distinct traditions: one focusing on institutions governing the vertical interactions between buyers and suppliers, the other on institutions governing the horizontal interactions between similarly placed firms. The former tradition sheds light on upgrading across Global Value Chain (GVC) (Bair, 2005; Gereffi, 1999; Nadvi &

Halder, 2005; Schrank, 2004) and domestic large firm suppliers (Chandler & Hikino, 1997). It focuses on how suppliers upgrade by learning from global buyers and large domestic firms. The mechanisms explored to account for upgrading include changing and increasingly complex buyer demands (e.g. movement from simple assembly into full-package manufacturing), organizational succession (i.e. increasingly sophisticated buyers move into production sites), and continuous discussion and standard setting (i.e. learning by monitoring).

Some of the main critiques directed at this literature spring from the variation in the extent of upgrading observed, as well as the social consequences of the changes. In addition, authors such as Schrank (2004) question the extent of the returns and sustainability of upgrading. Most notably for our purposes, however, and notwithstanding a few exceptions,<sup>12</sup> much of this literature undertheorizes the agency of developing country suppliers in processes of upgrading. For the most part, the emphasis falls on the role of pedagogical buyers. In our studied cases, sugar mills in Guatemala and cheese processing cooperatives in Nicaragua supplied global value chain buyers only at later stages of their development. These buyers approached the mills and cooperatives not looking to upgrade their production models and strategies, but rather to benefit from their already transformed capacities. In neither case did the buyers offer the type of pedagogical attention conducive to industrial transformation.

The tradition focusing on horizontal institutions of inter-firm learning and collaboration studies spatially concentrated industrial districts and clusters of mostly small and medium-sized firms. These firms engage in seemingly contradictory relations of collaboration and competition. They are closely linked – in some cases they even specialize in different phases of the production process. Labor moves relatively freely across them. Institutions jointly created by them in

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<sup>12</sup> See Pipkin (2011)



their locales coordinate economic activity.<sup>13</sup> These institutions also encourage permanent generation and diffusion of knowledge, training and innovation. They fuel continued upgrading, and allow them to adjust to changing conditions in the global economy. Undergirding these institutions are cross-firm relations of trust and a shared understanding of mutual dependence. Additionally, spatial agglomeration reduces costs of access to key inputs, such as labor, finance or infrastructure (Humphrey & Schmitz, 2002; Nadvi & Halder, 2005; Piore & Sabel, 1984; Saxenian, 2004).

The challenge with such accounts is that they take trust and shared understandings as given. Few explore the roots of these conditions. Yet, creating those cross-firm bonds and the willingness to invest in costly joint institutions is often a firm-led process that already reflects a high degree of sophistication. As the two cases of this dissertation suggest, though they catalyzed industrial change, such cluster-like relations and institutions arose only after the creation of the new production models and business strategies. Studied firms, and particularly top firm decision-makers, introduced them to encourage diffusion of the new model and strategy. Previously, firms in both countries existed in an equilibrium of cutthroat competition and individualist production.

### **Ideology as an explanation for industrial transformation**

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The purpose of introducing the prevailing theories was not only to evaluate them as possible accounts for the studied cases. I also sought to show that, as influential approaches, they would benefit from a less simplified understanding of firms, particularly of the firms examined as cases of industrial transformation. Such an understanding must make room for firm agency.

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<sup>13</sup> One institution not necessarily unique to clusters and industrial districts is the business association. A growing literature addresses the role of “developmental associations” that offer market supporting and complementing institutions – usually in conjunction with the state – conducive to upgrading. In explaining developmental outcomes, authors in this tradition emphasize conditions such as association encompassingness, degree of formality, and use of selective and public benefits and barriers to exit (R. Doner & Schneider, 2000)

Recognizing the existence of firm agency and abandoning more determinist assumptions would strengthen prevailing theories in general, and may offer alternative hypotheses for two particular scenarios. First, in the “divergence scenario” the favored condition produces varying outcomes.<sup>14</sup> As I further discuss in the Conclusion, divergence scenarios may become intelligible by developing explanations for firm agency and incorporating them into prevailing theories of industrial transformation.

The second “unlikely scenario” arises when industrial transformations unfold even in the absence of the established explanations. In this scenario, firm-led industrial transformation emerges as a compelling explanation. Yet, for such an explanation to work, explaining the agency of particular firms in introducing and then diffusing transformed production models and business strategies proves indispensable. This dissertation advances such an explanation of industrial transformation focused on the actions of top firm decision-makers. It posits that ideologies account for the transformative actions of these top firm decision-makers. Ideologies explain how top firm decision-makers create and diffuse new production models and business strategies that entirely transform firms and industries.

The two studied cases of this dissertation illustrate this explanation for industrial transformation in “unlikely scenarios.” The Guatemalan sugar mills and Nicaraguan cheese processing cooperatives fundamentally revamped their production models and business strategies in the absence of the standard conditions for industrial transformation. In both cases particular ideologies drove the actions of two teams of top firm decision-makers, the Apostles of Development and Cooperative

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<sup>14</sup> In some instances, this scenario triggers useful revisions that refine understandings of the main explanatory variable. For example, when examining very different employment practices and, of particular interest for their argument, labor standards, across two Mexican apparel producers, Locke et al. (2007) further our understanding of the role of compliance relations between buyers and suppliers. They distinguish between two different kinds of brand compliance relations with their suppliers: a “hands-on, cooperative relationship with some suppliers and an arm’s length, more distrustful ‘compliance’ relations with others” (34).

Brigadistas. Guided by their ideologies, the Apostles and Brigadistas first created the new transformed production model and business strategy at one firm, and then diffused it to other firms.

### ***Ideology as an explanation for human action***

How do ideologies account for top firm decision-maker creation and diffusion of new, transformed organizational models? To address this question, we must first define ideology and attend to how ideologies account for human action broadly conceived – what Weber calls “value-rational action.” Only then can we address the relationship of interest between ideology and the human actions producing industrial transformations.

To understand the concept of ideologies, we can turn to Geertz's (1973) chapter on *Ideologies as a cultural system*, in which he set out to devise a “conceptual apparatus capable of dealing more adroitly with meaning.” Central to this conceptual apparatus is his description of ideological thought as “intricate symbolic webs” that provide “extrinsic sources of information in terms of which human life can be patterned.” Ideologies represent articulate “symbolic templates” and “interpretive frameworks” that render meaningful “otherwise incomprehensible social situations.” They “can be said to distort and mystify experience,” thereby “[masking] possibilities of alternative understandings and accounts of social relations”(Silbey, 1998). They encompass varying values and beliefs. Thus, different ideologies serve as competing, articulate sense-making devices.

Building on his conceptual apparatus, Geertz (1973) argued that ideologies organize, guide and to a significant extent control the “extremely plastic” behavior of human beings. In this vein, most “ideational” studies assume that ideologies lead to consistent behavior by “supplying the ultimate ends or values toward which action is directed.” As Weber put it, while “interests directly govern men’s attitudes,” often “the world images that have been created by ideas have, like switchmen, determined

the tracks along which action has been pushed by the dynamic of interest” (Weber 1958, 280).

As the most prominent exemplar of this approach, Weber's (1905) *Protestant Ethic and the Spirit of Capitalism* posits that the “doctrine of pre-destination” and the “calling” of ascetic Protestantism single-handedly shattered “traditionalist” behaviors. In what constituted an example of Weber’s concept of value-rational social action, this new ideology prompted individuals to curtail consumption while they simultaneously worked tirelessly to acquire wealth. These individuals patterned their actions according to a particular substantive rationality, founded upon a particular religious value-postulate. As a result, the adoption of the Protestant Ethic spawned a new pattern of action associated with the “spirit of capitalism.”

A number of other authors have also developed arguments in this conventional vein. For instance, in studies on policy, Hall (1989, 1993, 1994) points to Keynesianism and Monetarism to explain the economic approaches of Great Britain and other nations during the twentieth century. Similarly, for Blyth (2002, 2007) different “economic ideas” enabled the varied policies and institutions devised in the context of the Great Depression. Dobbin (1994) offers another example, focusing on the “national traditions” and “institutionalized meaning systems” that elicited distinct national industrial strategies in the United States, Britain and France.<sup>15</sup> Studies on management and political economy of business mirror this explanatory pattern. For instance, Reinhardt Bendix (1963) explains the variation in labor relations across England, the US, Eastern Germany and the Soviet Union by reference to the “ideologies of management.” And Guillen (1994) sheds light on the role of

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<sup>15</sup> Gerschenkron (1962), Adler (1988), Campbell (1998), Chwioroth (2010), Kindleberger (1975) and Stepan (1978) also develop ideational accounts for policy.

“managerial paradigms” in his study of the actions of “management intellectuals” and practitioners in the United States, Spain, France and Germany.<sup>16</sup>

Yet, two problems arise with these conventional ideational accounts. First, people expressing the same values or principles often pursue them through different and even inconsistent means. (Pipkin, 2012; Swidler, 1986; Tilly, 1993, 2005). As Swidler (1986) explains, “People may share common aspirations, while remaining profoundly different in the way culture organizes their overall pattern of behavior” (275).<sup>17</sup> For instance, she argues that even Weber was “hard pressed to explain why the doctrines of predestination and proof produced the rationalized, ascetic conduct of the saint” and not “fatalistic resignation, or even hedonism” (280).<sup>18</sup> The second, closely related problem is that ideologies often provide only general principles that leave significant leeway for individual agency. Rarely do they furnish “road maps,” “scripts” or “cues” that ideological carriers can “blindly” follow (Campbell, 1998).

These two problems bring to the fore the need to develop a theory of translation from ideology to action. The general principles of ideologies may elicit varied patterns of action. Thus, determining how particular value-rational actions arise – how ideologies translate into specific patterns of action – becomes indispensable.

This dissertation offers a model of translation. Building on the evidence from the ideologically-motivated organizational transformations of the Guatemalan sugar

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<sup>16</sup> In Italy, a number of authors similarly point to Communist and Christian Democratic ideologies as explanations for firm organization and development (Brusco & Pezzini, 1990; Criscuolo, 2002; Piore & Sabel, 1984; Trigilia, 1990). And in Indonesia and Morocco, Geertz (1956, 1963, 1978) turns to the importance of Hinduism and Islam to account for entrepreneurial activities. Other ideational studies on business: Boltanski & Chiapello (2007), Cammett (2005), DiMaggio (1997).

<sup>17</sup> Tilly (2005) also develops a critique along these lines. He addresses what he calls “dispositional explanations.” He claims that explanations for why and how ideologies motivate economic actions remain “underspecified and mysterious” in these accounts (in particular, see his critique of Greenfeld).

<sup>18</sup> Dobbin (1994) makes a similar point with regard to religion: “All religious systems (i.e. rationalized meaning systems) orient institutions to the service of a higher power, with an eye to the achievement of grace in the afterlife. However, [the same putative] systems represent the higher power and the religious ethic variously, so that social practices oriented to salvation take markedly different forms.”

mills and the Nicaraguan cheese processing rancher cooperatives, it begins by stressing the independent explanatory role of ideology for human action. The general principles of an ideology articulate the values and beliefs that shape action.

As Chapter 3 explains, in Guatemala's sugar mills Vatican II Catholic social doctrine motivated and shaped the actions of the team of ideological carriers in top firm decision-making positions, the Apostles of Development, that transformed the sugar industry. Among its general principles, as captured primarily in Catholic Social Encyclicals, Vatican II Catholic social doctrine emphasized the earthly pursuit of the common good and salvation, the human solidarity and Christian brotherhood of mankind, respect for human dignity, and the subsidiarity of the state. Chapter 4, in turn, argues that in north central Nicaragua, a separate group of ideological carriers influential in firm decisions, the Cooperative Brigadistas, pursued the values and goals of Sandinismo. Declarations, speeches and documents published by the Sandinistas called for the construction of a revolutionary new society by a vanguard that pursued an independent economic policy, popular democracy, the creation of a "new man," and the defense of the rural lifestyle. Thus, in both cases ideologies provided principles to guide action.

Yet, at the same time, the two studied ideologies spawned different patterns of action. The Apostles of Development in Guatemala and the Cooperative Brigadistas in Nicaragua created and diffused new production models and business strategies for privately owned firms, contributing to their industries' capitalist development. But in contrast, many carriers of the same ideologies in the same countries actively promoted social mobilization (e.g. unions, peasant movements, community organizations), alternative economic projects (e.g. smallholder cooperatives, communes, state-led development initiatives) or revolutionary activities.

This variation suggests that ideologies are "less a blueprint than a set of architectural principles" (Sewell, 1985). As Sewell (1980, 1985) argues in his discussion of the worker organization and mobilization in the French Revolution,

the abstract principles of ideologies such as the Enlightenment provide room for carriers to formulate different and often conflicting “practical plans.”

In explaining how ideologies foster such distinct practical plans, this dissertation reveals the key intervening role of “moral-practical mindsets.” Moral-practical mindsets blend particular interpretations of an ideology with the professional background of that ideology’s carriers. This combination of ideological interpretations with professional backgrounds refracts the causal thrust of ideology; it fosters distinct ideological enactments. By shaping these enactments, moral-practical mindsets account for the predictable and consistent human action and behavior that ideologies elicit. In the studied cases, they explain the transformative actions of the Apostles of Development and Cooperative Brigadistas.

Ideological interpretations represent the first component of moral-practical mindsets. Commonly influencing different groups or factions of carriers, they flourish around the internal inconsistencies of ideologies (Silbey, 1998). Building on the “contradictory possibilities” offered by these inconsistencies (Sewell, 1985), they assert certain values and beliefs of a body of ideology while downplaying or obscuring others. In other words, they privilege particular “value postulates” (Kalberg, 1980).<sup>19</sup>

Consequently, while they coexist under the umbrella of the ideology, rival ideological interpretations and their associated substantively rational points of view often differentially influence action. This influence flows along two channels. First,

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<sup>19</sup> Mahoney's (2002) study of the 19<sup>th</sup> century Central American liberal reform period illustrates both the existence of varied interpretations of ideologies, and the consequences of their variation for action. He focuses on Central American liberalism, which included general principles such as the defense, as natural and desirable, of a hierarchical ordering of society; a vocal advocacy for land privatization and free trade; the active use of the state to promote economic development; and opposition to traditional corporate entities, such as the Church and Indian communities, within society. Given these principles, key liberals in the region chose between two variants of this ideology: radical or reformist liberalism. These two options, argues Mahoney, “reflected differences in the pace and scope of agrarian modernization and in how the state was used to promote commercial agriculture.” They triggered divergent “structural transformations” with long-lasting consequences for the political and economic development of the region’s countries.

ideological interpretations provide “causal maps” that entail distinct cause-effect relations. They identify problems, diagnose puzzles, highlight contrasting moral imperatives, provide general guidelines to devise solutions, and reconstitute interests (Blyth, 1997; Guillen, 1994; Hall, 1989). Second, ideological interpretations play a “taxonomic” role. They classify individuals and organizations into different groups, assigning them differing roles and tasks. Through this taxonomic channel, ideological interpretations form coalitions across certain collectivities portrayed as “allies,” and dig deep trenches that keep others, the “foes,” away.<sup>20</sup>

In the empirical cases of this dissertation, the motivating ideologies similarly spawned distinct interpretations, each invoking particular causal maps and taxonomies. In Guatemala, Elite Solidarism, a hierarchical interpretation of the Catholic Church’s Vatican II social doctrine, guided the Apostles of Development in the sugar mills. This interpretation embraced the authoritarian conception of authority of Dulles’ (1978) “institutional model of the Church.” It made an appeal for the privileged members of society to unilaterally promote the common good. Working jointly, these “electi” were to deploy their concentrated power through a program of social transformation that vanquished the indignity of poverty.

Elite Solidarism obscured the more democratic, grassroots aspects of Vatican II social doctrine captured by an alternative ideological interpretation, Liberation Theology. The Theology of Liberation openly criticized capitalism, and repudiated authoritarian rule. It explicitly related poverty to structural inequalities, or “institutionalized violence” (Gutierrez, 1970). Furthermore, emulating Dulles’

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<sup>20</sup> This argument builds on the cognitive theory of strategic decision-making (Daft & Weick, 1984; Porac & Thomas, 1990) to develop the distinction between these two roles of ideological interpretations – “causal map” and “taxonomic.” The cognitive theory emphasizes the “social psychological” factors that account for top management’s interpretation of organizational environments (through shared schema) and its consequent definition of firm strategy. Daft and Weick (1984) argue that managers scan the environment for data, interpret it using cognitive maps to translate and give meaning to this data, and then act upon this interpretation by developing business strategies. Porac and Thomas (1990) add that cognitive models not only suggest causal relations between environmental variables, but also consist of “internalized cognitive taxonomies of organizational forms that describe organizational similarities and differences.” Unfortunately, this literature largely overlooks the origin of such cognitive models.

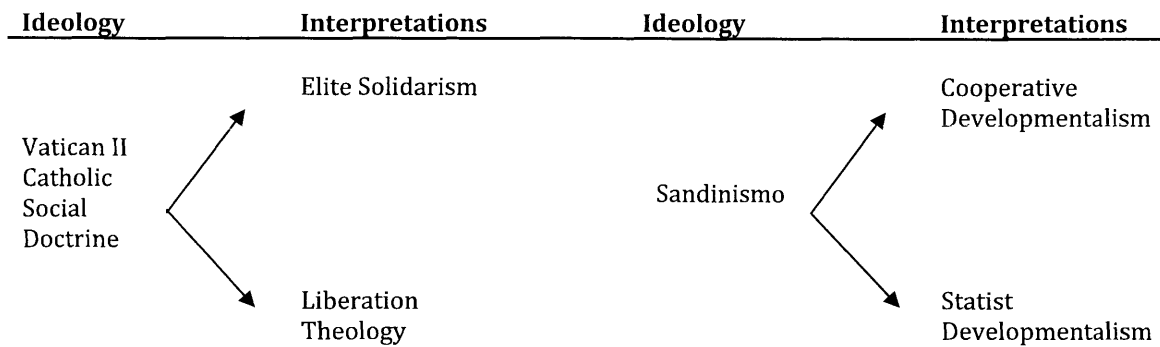


“model of the Church as servant,” Liberation Theology stressed popular activism, participation and empowerment, particularly among the poor. As Levine (1992) notes, the poor were “no longer to be taken simply as the uninstructed waiting to be led by their betters.”

In Nicaragua, Sandinismo spawned the “Cooperative Developmentalism” interpretation. This interpretation guided the Cooperative Brigadistas in the cheese processing rancher cooperatives. It gained prominence during the last years of the Sandinista Revolution. Echoing the views of Marxists such as Eduard Bernstein, it favored a mixed economy and the development of privately-owned processing facilities in the countryside to foster a thriving rural economy. In constructing the new society, it also championed producer cooperation and organization, and promoted socialization campaigns to create the “new man.” In these endeavors, it welcome the leading role of a relatively short-lived vanguard (FSLN, 1985; Hodges, 1986).

Like Elite Solidarity, the Cooperative Developmentalism interpretation grew alongside another interpretation of Sandinismo, Statist Developmentalism. The contrast between the two interpretations partly mirrored the Bernstein-Lenin controversy of the early 1900s. Influential throughout most of the 1980s in Sandinista Nicaragua, Statist Developmentalism drew for Leninism. It celebrated the transformative role of the state, through capital-intensive investments, in a largely centralized, independent economy (Harnecker, 1985; Nolan, 1984; Ryan, 1995). According to this hierarchical interpretation, popular democracy, foreign aid and the “new man” were to be subordinated to the state, the spearhead of modernization. The vanguard, in firm control of the state, would serve for an extended period of time. Figure 2.1 shows the two studied ideologies and their interpretations.

Figure 2.1 Ideologies and interpretations



Notably, the empirical evidence suggests that even if they share the same ideological interpretations (e.g. Elite Solidarism, Cooperative Developmentalism), ideological carriers often act in strikingly contrasting ways. As Chapter 3 details, in Guatemala the Apostles of Development acquired their Elite Solidarism interpretation in an Elite Jesuit school. However, not all their classmates, who underwent the same process of indoctrination, pursued comparable firm-level transformations. While they shared the Elite Solidarism motivation to hierarchically promote the common good, they directed their efforts to other realms of social life. Some, for instance, turned to social services such as public health, while others dedicated their efforts to politics. None developed Apostle-like production models and business strategies.

Likewise, as Chapter 4 describes, a number of other actors shared the Cooperative Developmentalism interpretation of the Cooperative Brigadistas in Nicaragua. In fact, a few directed and participated in rancher associations much the same as those transformed by the Brigadistas. Others organized a variety of agricultural cooperatives known as Cooperativas de Creditos y Servicios (CCSs). Yet, to a large extent, none pursued organizational transformations comparable to the Brigadistas’.

In both cases, the professional backgrounds of the Apostles and Brigadistas set them apart from comparable ideological carriers.<sup>21</sup> Professional backgrounds represent

<sup>21</sup> The idea is not new. Weber, for instance, examined how the “occupational experience of different social groups” or “carriers” and “the social strata” to which they belonged colored the economic ethic of different religions (Bendix, 1960; Swedberg, 2003). As Bendix (1963) has noted, he concluded that

the second component of moral-practical mindsets. They complement ideological interpretations, allowing carriers to devise and implement practical plans. While ideological interpretations supply casual maps and taxonomies favoring certain moral and political imperatives and aspirations, they leave significant leeway for action.

Professional backgrounds narrow and define action possibilities in two ways. First, they focus ideological carriers' actions on particular realms of social life, channeling their efforts to enact their ideological interpretations. Hall (1989) provides an illustration. He describes how the adoption of Keynesian ideas by different groups was associated with a focus on different "puzzles" highlighted by their occupational and professional backgrounds. For example, economists deployed the doctrine to solve puzzles in economic theory, while civil servants applied it to administrative puzzles associated with budgetary policy.

Second, ideological carriers rely upon the practices, skills and knowledge of their professional backgrounds to fulfill the demands of their ideological interpretations. Professions are often grounded in an "abstract body of theoretical knowledge" (Ranganathan, 2013, 903). They incorporate training, certification programs, licensing, educational requirements, and ethics codes that build on that body of knowledge. They may also involve standardized work practices, target settings and performance reviews. Through such mechanisms, they galvanize distinct communities of knowledge with shared approaches to problem-solving (Ranganathan, 2013). For instance, all of Bendix's (1963) English industrializers proceeded from a rising class of entrepreneurs with a unique knowledge of technology. Their shared occupational and educational origins shaped the enactment of their Evangelical- and Methodist-influenced entrepreneurial ideology. Jackall (2010) similarly underscores how managers, "the principal carriers of the

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the "predominant values of the occupational experience of different social groups tended to induce a certain variety" in both their respective "religious propensities" and associated economic ethics.

bureaucratic ethic in our era,” have shaped the corporate and broader bureaucratic landscape (12).

In the empirical cases of this dissertation, professional backgrounds played an analogous role. In Guatemala, the Apostles of Development graduated as industrial and agronomist engineers. Their engineering background channeled their moral mission toward agro-industrial activities. In contrast to other classmates who shared the Elite Solidarism interpretation but pursued degrees in law, medicine or architecture, engineering focused the Apostles’ efforts on business. To enact the moral imperatives of Elite Solidarism, the Apostles relied on their engineering knowledge, tools and skills. They consistently promoted technological innovation and imported practices from abroad. They introduced changes focused on taking control every aspect of production and prioritized efficiency considerations. Most generally, they emphasized issues related to their engineering expertise.

In Nicaragua, the Cooperative Brigadistas shared a profession as consultants. This background also turned their transformative initiatives to business. Serving as outside advisors and “knowledge brokers” (McKenna, 2010), they introduced “best practices” from abroad, and searched for model and strategy options ignored, neglected or overlooked by their advisees. That the knowledge and tools provided by their profession proved paramount in executing these organizational changes becomes apparent in the contrast with other, non-consultant, CCS and rancher association members. Lacking the consulting tools and knowledge, these competing Cooperative Developmentalists struggled to enact comparable translations.

In the empirical cases of this dissertation, the merger of the carriers’ ideological interpretations and professional background spawned two distinct moral-practical mindsets (see Table 2.1). In Guatemala’s sugar mills, the Apostles of Development relied upon a technocratic approach to Elite Solidarism. This moral-practical mindset combined their Elite Solidarism interpretation of Vatican II Catholic social doctrine and their engineering background. It blended Elite Solidarism’s

authoritarian concern with social transformation and human dignity, with engineering’s compulsive preoccupation with efficiency, technological innovation and control in private firms.

In north central Nicaragua’s rancher cheese processing rancher cooperatives, the Cooperative Brigadistas drew from a Best Practice Approach to Cooperative Developmentalism. This moral-practical mindset blended their rather conservative interpretation of Sandinismo, Cooperative Developmentalism, with their professional background as consultants. This Best Practice Approach to Cooperative Developmentalism concentrated the Brigadistas’ efforts on firm-level changes that would contribute to the construction of a society of new men. These new men would participate in cooperatives of private producers. They would employ superior practices imported from abroad to process their raw products and succeed in a capitalist economy. The Brigadistas, acting as the knowledgeable vanguard, would play a temporary role as leaders. They would retire once the Nicaraguan producers overcame their “backwardness” and caught up to their “level of development.”

Table 2.1 Moral-practical mindsets, ideological interpretations and professional backgrounds

	<b>Guatemalan sugar industry</b>	<b>Nicaraguan cheese industry</b>
<b>Moral-practical mindset</b>	Technocratic approach to Elite Solidarism	Best practice approach to Cooperative Developmentalism
<b>Ideological Interpretation</b>	Elite Solidarism	Cooperative Developmentalism
<b>Business-focused Professional background</b>	Engineering	Consulting

***Ideologies and the actions of industrial transformation***

Building on this discussion on ideologies and moral-practical mindsets, this work argues that Vatican II Catholic social doctrine and Sandinismo drove the industrial transformation of the Guatemalan sugar mills and the Nicaraguan cheese processing rancher cooperatives by shaping the actions of top firm decision-makers. Through

the technocratic approach to Elite Solidarism and the best practice approach to Cooperative Developmentalism, these two ideologies motivated and guided the actions of two teams of top firm decision-makers, the Apostles of Development and the Cooperative Brigadistas. As the following sections show, their actions involved first, the creation of new production models and business strategies (i.e. “neomorphism”), and second, the diffusion of these new models and strategies across the agro-industries (i.e. “isomorphism”).

*Neomorphism: the creation of a new production model and business strategy*

How do new production models and business strategies emerge? What accounts for their particular features and internal coherence? Rao (1998) argues that “new organizational forms are new embodiments of goals, authority, technology, and client markets,” representing “structural incarnations of beliefs, values, and norms.”

Yet surprisingly, the processes surrounding such “entrepreneurship projects” (Paul DiMaggio, 1982) of “neomorphism” receive relatively scant attention in the literature. Padgett (2001) notes that most studies on organizational genesis adopt “consequentialism” as their “epistemology.” They emphasize “performance, and hence death rates, of different forms in different environments” and fail to probe “the dynamics of emergence” of new organizational forms.<sup>22</sup> Padgett concludes that though “our approaches can deal with reproduction, or choice within given alternatives; none can deal with the genesis of the alternatives themselves.” While he overstates the scarcity of theories of organizational form emergence,<sup>23</sup> the point remains relevant: what often begin as explicit efforts to explain neomorphism often descend into either veiled studies of diffusion, or studies on the preconditions of

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<sup>22</sup> Padgett builds on a similar argument presented decades earlier by Stinchcombe (1965). Stinchcombe bemoaned the simultaneous abundance of observations of correlations between different variables (e.g., literacy) and the rate of founding of new organizational forms abounded, and absence of “direct evidence of the intervening process.”

<sup>23</sup> Some exceptions to Padgett’s edict: Rao (1998) nonprofit consumer watchdog organizations (CWOs); DiMaggio’s (1982) Boston “high culture” organizations (Boston Museum of Fine Art and Boston Symphony Orchestra); Westney’s (1987) Japanese police, newspaper and postal service. Also, see the recently published volume edited by Powell & Padgett (2012)

model emergence. The process of creation is largely overlooked in the neoinstitutional,<sup>24</sup> organizational ecology<sup>25</sup> and strategic management literatures,<sup>26</sup> among others.<sup>27</sup>

Given this theoretically barren landscape, this dissertation proposes an explanation that traces the process through which ideologies and moral-practical mindsets account for neomorphism. The explanation builds on the cognitive theory of management (Daft & Weick, 1984; Porac & Thomas, 1990) and the strategic choice theory of industrial relations (Kochan et al., 1986) to account for the creation of new production models and business strategies. Consistent with these theories, it recognizes that to plan and devise new models and strategies, firm decision-makers interpret their environments, the role of their organizations in those environments, and their own role in the organizations. In this dual process of interpretation and construction, the decision-makers draw upon their “ideologies” and “interpretive frameworks.” As Kochan, Katz and McKersie (1994) explain, “Changes in the external environment induce employers to make adjustments in their competitive

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<sup>24</sup> For instance, in the neoinstitutional tradition, Dobbin & Dowd (2000) claim to study how managers in the railroad industry devised new business models in the face of changes to antitrust policy in 1897. But in reality, rather than focusing on the process of development of their so-called “finance” and “predatory” models, most of their account centers on the eventual victory and diffusion of the former model.

<sup>25</sup> Haveman (1993), for example, relies on the common ecological explanations of legitimacy and competition to develop a set of preconditions for form emergence and diffusion, but never elaborates on how particular forms emerge. Other organizational ecology studies facing similar limitations include Baum & Haveman (1997), Deephouse (1999), McKendrick, Jaffee, Carroll, & Khessina (2003) and Ruef (2000)

<sup>26</sup> On the one hand, approaches emphasizing industry structure center on preconditions for change, but tend to neglect the process of strategy innovation (Davis & Cobb, 2010; Porter, 1980, 1996). On the other hand, the Resource-based View (RBV) accounts for firm strategy heterogeneity by pointing to the distribution of firm-specific, difficult-to-imitate human, organizational and physical “resources” (Teece et al., 1997; Wernderfelt, 1984), yet largely elides an account of how those resource differences arise.

<sup>27</sup> While this discussion only addresses the neoinstitutional and organizational ecology literatures, the problem haunts other literatures as well. For example, the literature on firm networks highlights the success or failure of efforts to exploit ties and status to enter new, existing markets. But it largely sidesteps accounts of the genesis of those ties or the motivation to explore new markets (Burton, Sorensen, & Beckman, 2002; Jensen, 2003; Phillips, 2002; Podolny, 2001) – for an exception, see Phillips & Zuckerman (2001). The resource dependence theory, which straddles the organizations and strategy literature, similarly focuses on environmental pressures that can generate a range of possible responses (Davis & Cobb, 2010; Pfeffer & Salancik, 1978). But it largely overlooks a description of how actors create those responses.

business strategies. In making these adjustments, the range of options considered are filtered and constrained so as to be consistent with the values, beliefs, or philosophies ingrained in the minds of key decision-makers, or, in some organizations, to reflect the norms that have diffused from founders or senior executives to lower levels and succeeding generations of managers” (12). As I argue, ideologies supply “causal maps,” moral imperatives and aspirations, and standardized practices and tools that guide these decision-makers as they diagnose and grapple with key problems.

However, though the cognitive theory of management and the strategic choice theory of industrial relations coincide in underscoring the role that ideologically-motivated carriers play in shaping firm outcomes, the question that arises is how carriers of a new ideology, distinct from the one that prevails in firms, rise to become top firm decision-makers in firms and industries in the first place? How do these unorthodox ideological carriers, the potential architects of industrial transformations, reach those positions of power?

To address this question, the proposed explanation underscores the role of short-term firm-level shocks that create windows for decision-making infiltration. The argument builds on previous work by Gould (1995) and Padgett (2001). Both suggest that short-term shocks “activate” new ties. Gould brings to the fore the war with Bismarck that galvanized the cross-class ties, formed in Paris during the Haussmann reconstruction, into a revolutionary force in 1871. Padgett, in turns, claims that bankers in 12<sup>th</sup> and 13<sup>th</sup> century Florence resorted to networks from “other domains” when their firms were “in a pinch.”<sup>28</sup>

Drawing on this literature, this work suggests that when cornered by short-term firm-level shocks, owning families may promote relative outsider ideological

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<sup>28</sup> More generally, a broad literature in the organizational and strategy fields emphasizes the importance of firm-level shocks for strategy change. In particular, this literature highlights the pressure on managers to reduce the uncertainty triggered by shocks (Dobbin & Dowd, 2000; Heinrich Greve, 1998; Heinrich Greve & Taylor, 2000; Porac & Thomas, 1990).



carriers to influential decision-making positions. As Chapter Three describes, in Guatemala the consistent decline in production and rise in labor unrest at one of the industry's mills, Tajumulco,<sup>29</sup> led the owning family to offer management positions to the innovative Apostles of Development. These Apostles would transform the mill. Chapter Four similarly shows that in Nicaragua a set of dairy rancher cooperatives, including Concepcion and San Cristobal, encountered severe difficulties as economic conditions worsened and Sandinista state-owned milk processing plants sharply reduced their raw milk demand in the late 1980s. These cooperatives, led by a small local rancher elite, entrusted a team of Finnish Cooperative Brigadistas to transform their organizations.

However, though instrumental in promoting the ideological carriers to top decision-making positions, firm-level shocks alone did not ensure the creation and diffusion of new, transformative models and strategies. In both studied cases, other firms faced similar short-term shocks. But lacking the guidance of the Apostles and Brigadistas, they failed to adopt comparable approaches. In Guatemala, labor unrest and volatile production affected the rest of the mills in the sugar industry, forcing many of them to open their doors to newcomers. Yet, only at Tajumulco did the widespread organizational changes arise. Similarly, in Nicaragua other rancher associations faced the same collapsing market as Concepcion and San Cristobal. But they found few outsiders with the ideological motivation and professional skills to offer guidance. As a result, they stagnated or collapsed. The contrast between Tajumulco in Guatemala, and Concepcion and San Cristobal in Nicaragua, on the one hand, and these similarly troubled firms, on the other, highlights the crucial role played by ideologically-driven Apostles and Brigadistas. Relying upon their particular moral-practical mindsets, they created the new production models and business strategies at these original firms.

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<sup>29</sup> Throughout this dissertation, I have changed the names of all firms and individuals to protect their anonymity.

In the process of neomorphism, the Apostles' and Brigadistas' accounts, actions and new production models and business strategies bespeak the influence of ideology and moral-practical mindsets. First, the Apostles of Development and Cooperative Brigadistas patterned their actions in accordance with the technocratic approach to Elite Solidarism and the best practice approach to Cooperative Developmentalism, respectively. In Guatemala, the Apostles hierarchically centralized control of production and laid particular emphasis on efficiency and productivity growth. They also unilaterally introduced improvements in labor conditions for cane cutters. In Nicaragua, the Cooperative Brigadistas took up residence in the isolated dairy-producing rural locations, integrated medium- and small-sized producers into cooperatives, and educated these "new men." Then, they replaced traditional production technology with sophisticated ranch and processing equipment, and opened new markets.

Second, the Apostles' and Brigadistas' accounts of their creative endeavors corroborate the observed effect of ideology on their actions. In interviews and written documents, the Apostles of Development and Cooperative Brigadistas justified their actions by explicit or implicit references to their shared ideologies. In Guatemala, the Apostles consistently referenced their efforts to promote the common good and uphold human dignity. In a number of instances, they even quoted Papal Social Encyclicals to prove their ideological loyalty. In Nicaragua, written documents left behind by Cooperative Brigadistas and evaluations conducted by their foreign aid agencies underscored their concern for reducing rural poverty, preference for cooperative organization, and support for Sandinismo. In interviews, the Brigadistas, their allies and some of their beneficiaries further acknowledged their allegiance to the Sandinista priorities.

Finally, the new production models and business strategies, and their internal coherence, corroborate the role of ideology. As the institutional literature in industrial relations and high-performance work organization suggests, firms can perform the same work by deploying a variety of practices and models (Appelbaum

& Batt, 1994; Osterman, 1994, 2000; Piore, 1990). Labor conditions, technologies, production processes and business strategies vary across different models encompassing distinct bundles of internally coherent practices. The crudest typology distinguishes between two models: “high-road” models that deliver economic and social gains, and “low road” models that can remain competitive without benefitting workers and other firm stakeholders. More elaborate typologies introduce a range of models with their concomitant implications for labor (e.g. Appelbaum and Batt 1994). Notably, the characteristics of those practices and the internal coherence of the organizational models reflect different understandings of the production process (Herrigel, 2007; Piore & Sabel, 1984).

Building on these insights, this work posits that ideologies and moral-practical mindsets can mold those understandings of production.<sup>30</sup> The features of the new models and strategies may embody the value postulates of the motivating ideologies, as filtered through the moral-practical mindsets of the ideological carriers. The coherence – as explained by the model architects – across labor and employment practices, work organization, technological choices, and products and markets can reflect the moral priorities of the organizational architects. In the studied cases, the distinctiveness and ideological roots become evident in contrasts drawn with models and strategies in comparable firms.

In Guatemala, the Apostles of Development created an unorthodox model and strategy whose internal logic can only be understood by reference to Vatican II Catholic social doctrine and the Technocratic Application of Elite Solidarism. For example, as Chapter 3 expounds, in the 1970s Cold War context in which most owners and managers in other Guatemalan mills favored repression and a cost-cutting approach, and where state regulation was largely absent, the Apostles of Development introduced improvements in the material conditions for most workers

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<sup>30</sup> Evidently, as the industrial relations literature notes, other variables, such as state regulatory policies or global buyer compliance codes, affect the characteristics of production models and business strategies as well.

at Tajumulco. Even as guerrillas and labor unions threatened their industry's continued production, the Apostles raised wages, improved living arrangements on plantations, and provided workers with proper meals, in the spirit of Elite Solidarism. Similarly, in an industry in which mechanization of cane cutting indisputably offered enhanced efficiency and lower costs of production, especially in the flat fields of coastal Guatemala, the Apostles chose to maintain a labor-based system of plantation production. As *the* Apostles of Development, their calling to reduce poverty and avoid the social dislocation stalled mechanization. While economically profitable, mechanization would produce unacceptable disruptions in cane cutters' livelihoods.

In Nicaragua, the Cooperative Brigadistas drew upon Sandinismo and the best practice approach to Cooperative Developmentalism in devising the new model and strategy. For example, as Chapter 4 details, in the spirit of Cooperative Developmentalism, they expanded the cooperatives, despite the vocal opposition of most ranchers dismissive of Sandinismo, the waning support of the neoliberal governments of the 1990s, and the numerous risks associated with this organizational form. The processing cooperatives they created in Nicaragua faced uncertain economic prospects. During the 1990s and early 2000s, they lacked the type of state protection and support common in other countries, and faced increasing competition at home. The Brigadistas also had to contend with the low education levels and limited skills of rural workers more suited to primary production. In fact, the human capital limitations were so acute that many rancher associations in Nicaragua, constrained by their lack of managerial capacities, continue to focus on raw milk production despite a growing international demand for Nicaraguan cheese.

*Isomorphism: the diffusion of a new production model and business strategy*  
Neomorphism, however, need not entail isomorphism and widespread industrial transformation. Indeed, the diffusion of new, more profitable production models and business strategies is often fraught with difficulties that perpetuate cross-firm

variation. As the institutional literature on industrial relations and high performance work (HPWO) organizations suggests, firms with different mixes of practices (e.g. high road and low road approaches) often coexist in time and space, even when the HPWOs and high road models prove more efficient or profitable.<sup>31</sup> As a result, one of the central questions in this literature is why HPWOs and high road models have failed to diffuse more broadly.

Four prevailing explanations for the limited diffusion of HPWOs and high road models curry favor. First, because full-fledged adoption of HPWOs and high road models is costly, most firms adopt the new practices piecemeal. But, as studies have shown, the returns from piecemeal adoption are unimpressive, leading firms to abandon these experiments prematurely (Kochan et al., 2013).<sup>32</sup> HPWOs and high road models prove much more profitable when adopted wholesale, but few firms are willing to tackle the full range of organizational changes required (Ichniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995).

Second, at least in the United States, the absence of an institutional framework to support adoption of HPWOs and high road models makes low-cost alternatives more attractive. Kochan & Weinstein (1995) offer one example of how this “hostile” United States environment limits diffusion: “the shortcomings of the public education system and the paucity of publicly funded training programs have forced firms [adopting transformed IR/HR systems] to either fully internalize the costs of skill upgrading or to turn to the external market to meet their new labor requirements...” (26). More generally, these authors conclude that “the absence of government support for a transformed IR/HR system produces greater variation, quality, and partial diffusion” (27).

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<sup>31</sup> Studies examining the varied consequences of HPWOs across different firm outcomes build on this observation to select their cases (Ichniowski et al., 1997; MacDuffie, 1995; Osterman, 2000).

<sup>32</sup> However, in contrast to this prevailing view, Osterman (2000) argues that many firms have found it in their best interest to adopt only pieces of the HPWO model. Specifically, he suggests that they have adopted the work arrangements of HPWOs but not the practices delivering the promised “mutual gains” for workers.

Third, new HPWOs and high road models often encounter opposition within firms from different coalitions. Sometimes, opposition originates from “the fears of union leaders regarding the role that they as individuals, and the union as an institution, will play in the restructured workplace” (Kochan et al., 1986, xv). The introduction of high road practices requires relations of trust between management and workers that are not always present in firms (Ichniowski et al., 1997). In other instances, “holistic change” may be introduced with full senior management support, but without the involvement of middle level managers, supervisors and non-management employees. This can create opposition among the excluded factions (Appelbaum & Batt, 1994). Finally, often managers and workers have invested skills and work relationships that would have to change with the new practices, further inciting opposition (Ichniowski et al., 1997)

Fourth, and lastly, often management is unaware of the range of changes required. As Kochan, Katz and McKersie (1994) explain, managers may lack the requisite knowledge to “make complementary changes in managerial practices and production methods, and without such changes in management practices, change in work practices or labor-management relations has yielded limited payoffs” (xiv). Appelbaum and Batt (1994) echo this view, claiming that “managers themselves are often uncertain as to what is required to transform the production system to achieve continuous improvement in quality and efficiency” (148).

In addition to the institutional industrial relations literature on HPWOs, the neoinstitutional literature in organizational sociology also suggests that diffusion is anything but natural. This latter literature underscores that legitimacy, contention and power struggles shape the extent of diffusion of new organizational forms.<sup>33</sup> In

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<sup>33</sup> Other literatures address additional constraints. For instance, the network literature suggests that firm ties and status similarly place boundaries on the extent of isomorphism. Influenced by such foundational studies as Granovetter (1983), Burt (1992) and more recently, Podolny (2001), this literature underscores the importance of ties in transmitting information, and status in revealing firm reputation. In his study of commercial bank entry into investment banking, Jensen (2003), for example, highlights the importance of these characteristics in shaping firm strategy. He concludes that because “market ties and network status are transferable resources,” they may “represent an

this vein, DiMaggio and Powell's (1983) seminal work described three distinct isomorphic processes. First, coercive isomorphism resulted "from both the formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society" (150). Second, mimetic isomorphism involved imitation across organizations in response to uncertainty. And third, normative isomorphism was driven by professionals struggling to define the conditions and methods of their work, to control 'the production of producers,' and to establish a cognitive base and legitimation for their occupational autonomy" (152). In all these processes, influential actors, such as the professions, the state and other organizations in the organizational field, conferred legitimacy on new organizational forms to overcome barriers to diffusion (Paul DiMaggio & Powell, 1983; Meyer & Rowan, 1977).

However, more recent neoinstitutional studies underscore the agency and conflict that accompany these processes of isomorphism. For instance, in their study of the post antitrust US railroad market, Dobbin and Dowd (2000) argue that "the business model that reigns at any given time represents only one of several possible models that firms could have embraced" (633). The adoption of a particular model results from a "social process" in which selection of an "optimal" model is "shaped by the attempts by [different groups] to advance their different interests via persuasion and coercion."

Ingram and Rao (2004) also depict the political struggle involved in the replacement of independent retailers with chain stores. The enactment and repeal of anti-chain store laws spawned opposing social movements and interest groups that employed differing tactics. The case contradicts "explanations from economic history" that portray "rationalization as an inevitable response to efficiency opportunities presented by advances in transportation and communication technologies." It

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important base for market entry." Firms with different market ties and network statuses will likely pursue different diversification strategies.

suggests that isomorphic processes may often be “stalled, or even derailed, by resistance from those who do things the traditional way.”

In discussing isomorphism and the industrial transformations of the two studied industries, this dissertation builds on the institutional industrial relations literature on HPWOs and on this more recent neoinstitutional literature. In the Guatemalan sugar mills and Nicaraguan cheese processing rancher cooperatives, the original organizational experiments delivered substantial benefits for owners. For example, in Guatemala the introduction of the new model and strategy by the Apostles of Development at Tajumulco led to unprecedented production growth. Following years of declining output, Tajumulco quadrupled its production in a mere three years, becoming the industry’s top producer. Two of Nicaragua’s original cheese processing cooperatives, Concepcion and San Cristobal, exhibited a similar pattern. After they set up an efficient milk collection arrangement by building small cooling centers and new roads throughout the territory, the Cooperative Brigadistas upgraded their processing facilities. They introduced imported technology and laboratories. In a time of declining raw milk prices, the new plants offered Concepcion and San Cristobal producers the option of producing export cheese and accessing new, high standard markets.

Yet, as neoinstitutionalists such as Ingram and Rao (2004) suggest, opposition by, among others, traditional business elites often hampers isomorphic processes. These elites may undermine the legitimacy of the innovations, regardless of their efficiency. In the studied cases, such criticism of the new models and strategies arose among sugar barons and cattle ranchers. Their rejection initially stalled isomorphism and eroded the legitimacy of the new organizational forms.

At least part of their opposition rested on barons’ and ranchers’ commitment to hegemonic ideologies deeply critical of the Apostles’ and Brigadistas’ approaches. In the highly polarized Guatemalan and Nicaraguan contexts of the 1980s and 1990s, Vatican II Catholic social doctrine and Sandinismo elicited visceral responses



against boundary crossers like the ideological carriers. In Guatemala, economic results notwithstanding, other mills largely refused to apply the practices of the Tajumulco model and strategy. Sugar barons and managers at other mills pivoted from initial amused condescension to open and aggressive hostility after the Apostles – which they saw as a ragtag team of naïve “communists” – introduced the new practices, including improved labor conditions for indigenous cane cutters. The innovations, according to some of these traditional sugar barons and managers, threatened to subvert their control over the workforce.

A parallel conservative reaction swept through much of the Nicaraguan cheese industry following the introduction of the Concepcion and San Cristobal innovations. In post civil war Nicaragua, fiercely conservative cattle ranchers in the strongly anti-Sandinista and pro-Contra departments of Chontales and Boaco shuddered at the prospect of joining cooperatives. Associated with the Sandinista regime, cooperatives evoked painful memories of war. As armed units within the Sandinista army, Sandinista cooperatives often fought against many of these Contra producers. The organizational form, with its emphasis on cooperation, also challenged a deeply rooted individualist tradition among ranchers. As a result, the model and strategy triggered a vocal opposition that curbed its diffusion.

Crucially, in both cases these traditional elites could maintain their opposition because their low-cost alternative models were still attractive. As the institutional literature in industrial relations and HPWOs would suggest, without government policies or other interventions to block off this “low road,” elites lack the necessary incentives to transform their production models and business strategies. Unsurprisingly, in the studied cases, neither the Guatemalan or Nicaraguan governments introduced institutional changes supportive of the new models and strategies.

Given this hostile environment, how did the new production models and business strategies diffuse from Tajumulco in Guatemala, and Concepcion and San Cristobal

in Nicaragua, to other firms? To address this question, the proposed argument advances the concept of a hegemonic crisis as a pre-condition for diffusion and industrial transformation in such unlikely contexts. Hegemonic crises arise when new organizational field entrants credibly challenge the economic and political positions of elite organizations. Often emerging in times of economic distress for incumbents, the challenge usually forces traditional elites to reevaluate their hegemonic strategies and models.

As Silbey's (1998) has argued, during periods of "ideology" subordinate and dominant groups face off over the "dominant meanings" and "justice claims" suggested by their respective ideologies. These struggles may involve individuals, families, political factions and, as Stinchcombe (1965) notes, organizations. In established organizational fields, Silbey's periods of ideology often stem from challenges by new entrants. Dismissive of the prevailing "norms by which organizations change their relative ranks" (Stinchcombe, 1965), these new entrants dispute the hegemonic ideologies of organizational elites.

Their challenges may lead to "unlimited means of organizational competition," plunging organizational fields into a Hobbesian state of nature, as Stinchcombe (1965) suggests. But they may also trigger the healthier alternative of organizational innovation, spurred by a Gramscian reaction in which "the traditional ruling class" (and its organizations) "reabsorbs the control that was slipping from its grasp..." (Gramsci, 1971). What usually ensures the survival of the elite and its organizations, according to Gramsci, is the decision of the "traditional ruling class, which has numerous trained cadres," to change "men and programs..." In executing these necessary changes, elites and their "new men" usually rely upon subordinate ideologies. These subordinate ideologies, as interpreted by the new men, inspire

new programs. The new programs, in turn, allow the traditional ruling class and its organizations to survive and retain economic and political control.<sup>34</sup>

The Guatemalan sugar and Nicaraguan cheese industry transformations illustrate the role of hegemonic crises in encouraging adoption of new “programs” through isomorphism. In Guatemala, sugar mills, the incumbent elite organizations, faced a growing challenge in the economically turbulent 1970s from a growing federation of mill worker unions, a national-level peasant organization and a guerrilla movement at the peak of its strength. These challengers articulated the conflicts inherent in the elite’s prevailing hegemonic ideology, particularly in their treatment of workers. Similarly, in Nicaragua Salvadorian cheese merchants and large Managua-based industrial dairy plants sourcing raw milk from the north central region threatened the position of ranches as local elite organizations. The cheese merchants and the industrial plants enslaved the ranchers to unpredictable and volatile raw milk demand, highlighting the limitations of their prevailing strategy and model. In both cases, the challengers compelled the traditional elites to reevaluate their organizational “programs,” thereby creating an opening for diffusion.

Notably, while proving necessary to overcome opposition to new production models and business strategies and generate interest among the traditional elite, hegemonic crises in no way assured isomorphism or industrial transformation. For instance, unions, peasants and guerrilla forces in Guatemala also threatened the economically-troubled cotton and coffee industries. Yet unlike the sugar mills, firms in these comparable industries persisted in their ways, failing to adopt new organizational forms. Similarly, while all ranchers in north central Nicaragua faced a common context of hegemonic crisis, only a handful of rancher associations adopted the cooperative cheese processing model.

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<sup>34</sup> The role of crisis in encouraging diffusion has also been recognized by some authors in the institutional industrial relations literature. Appelbaum and Batt (1994), for instance, identify crisis as one of the three conditions that may enable widespread adoption of new high road models in contexts lacking the necessary institutional support. By rendering prevailing low cost models unworkable, they block the low-road.

The hegemonic crises raised Tajumulco in Guatemala, and Concepcion and San Cristobal in Nicaragua, to the status of “organizational archetypes” (Scott, 2008). They offered a “new program,” in Gramsci’s terms, serving as “models for individual actor roles and collective actors and organizations.” They provided templates of “rules, administrative systems and accounts of activities” (Scott, 2008) for other firms to replicate through mimetic isomorphism.

Yet, even in contexts of uncertainty and despite the existence of these organizational archetypes, mimetic isomorphism proved challenging. On the one hand, as the institutional literature on industrial relations and HPWOs would suggest, opposition among internal coalitions sometimes emerged in potential adopters, most notably in Guatemala. As Chapter 3 describes, disgruntled workers skeptical of the new approach and managers vested in the traditional approach obstructed the process of mimetic isomorphism across sugar mills.

On the other hand, as a literature on organizational ecology emphasizes, resource constraints also threatened mimicry in uncertain times.<sup>35</sup> According to this literature, new organizational forms require specific resources, such as a skilled labor force, that are often in short supply. Competition for those resources among would-be adopters thus slows processes of isomorphism (Carroll & Hannan, 1989; Haveman, 1993). The observation applies particularly to north central Nicaragua, where scarce managerial resources constituted the main break to imitation among rancher associations. As Chapter 4 details, despite the example set by Concepcion and San Cristobal, rancher associations struggled to emulate them, their leaders lacking the necessary managerial knowledge and administrative skills to reconstruct the new model and strategy. The finding mirrors the argument in the institutional literature in industrial relations and HPWOs according to which

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<sup>35</sup> A large number of ecological studies shed light on the resource constraints to diffusion of new organizational forms, including Baum and Haveman (1997), Ruef (2000), Deephouse (1999), and Hannan and Freeman (1984).

management is often unaware of the changes required for the new model to become workable.

In compensating for the limited extent of mimetic isomorphism in the two cases, the figure of the original architects of the new model and strategy, the ideological carriers in the two industries, looms large. The Apostles of Development in Guatemala and the Cooperative Brigadistas in Nicaragua played a pivotal role in fostering diffusion, largely through normative channels. This argument echoes a growing neoinstitutional literature. This literature suggests that in some cases firms, led by ideological carriers, will actively pursue diffusion of their practices.<sup>36</sup>

But why would ideological carriers engage in such active diffusion? After all, as an influential strategy literature emphatically argues, firms will “naturally” resist sharing the practices and resources that set them apart. Above all else, firms will strive to differentiate themselves from the rest, carving out special positions that shower them with monopolistic or Ricardian rents. In doing so, they will discourage diffusion of profitable resources and practices (Porter, 1980; Teece, Pisano, & Shuen, 1997; Wernderfelt, 1984).

The proposed argument centers on how ideological carriers’ substantive rationality, particularly their ideologies and moral-practical mindsets, affects their reasons for diffusion and the scope of their diffusion efforts. First, ideological interpretations provide a “causal map”, supplying a set of reasons and justifications for diffusion. The empirical cases elucidate this point. In Guatemala, Vatican II Catholic social doctrine’s principle of human solidarity and Christian brotherhood portrayed inter-firm sharing and collaboration as a self-evident solution consistent with the Apostles of Development’s interests. The contrast is stark with the industry’s

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<sup>36</sup> Recent neoinstitutional accounts recognize that to overcome opposition and encourage diffusion, supporters of a new model must mobilize. Some authors point to pressures by coalitions within organizations, across firms in the same industry and across industries as drivers of model selection and diffusion (Dobbin & Dowd, 2000; Dobbin & Sutton, 1989). Others focus on the role of skillfully organized multi-actor coalitions (Ingram & Rao, 2004).

previous competitive approach which, consistent with the strategy literature, disparaged sharing and collaboration as irrational and counterproductive.

In Nicaragua, in turn, Cooperative Developmentalism's vision of a mixed economy, rural industrialization and close producer cooperation prescribed strong cheese processing rancher cooperatives. As the vanguard of Sandinismo, Cooperative Brigadistas fulfilled this vision by promoting sharing among rancher associations and diffusing the Concepcion and San Cristobal model and strategy. The approach fundamentally contradicted the frontiersman-like devotion to individual pursuit of economic profit prevalent among most ranchers.

In addition to playing a role as causal maps, the Apostles' and Brigadistas' ideologies and moral practical mindsets assumed a taxonomic role. They largely determined the *scope* of diffusion by drawing distinctions between enemies and allies, forging coalitions or creating cleavages. Among allies, they encouraged collaboration and joint work. With foes, they severed all ties. As Sewell (1985) has argued, ideologies "inform... the nature of social cooperation and conflict." Gould (1995) has similarly claimed that ideologies "render a schematic image of the world in terms of collective actors... [They map] individuals into collectivities, both protagonists and foes..." Different ideologies accord "different kinds of social ties... dramatically different amounts of salience..." Along similar lines, Blyth (2007) has written that "ideas make collective action and coalition building possible..." They "build bridges... through the redefinition of agents' interests, and define the common end of action."

The empirical cases evince this taxonomic role. In Guatemala, Elite Solidarism created two distinct camps: the "electi," and the rest. It restricted collaboration to the "electi," a group composed of mill barons and managers. In their mission, the Apostles defied the mills' conflict-ridden relations and actively encouraged diffusion of their practices among these peers. At the same time, Elite Solidarism cast as foes all other non-"electi" actors, including "communist subversives" such as unions and guerrilla forces. More surprisingly, the antagonist net also caught landowners,

perceived as paternalistic anachronisms unfit to serve as electi. The Apostles steamrolled this group, composed mostly of large- and medium-sized sugarcane plantation owners, out of the sugar industry

The case of the Nicaraguan cheese processing cooperatives also highlights the consequences of ideological taxonomies for isomorphism. The Cooperative Brigadistas and their allies focused on developing a strong cooperative movement. They targeted only existing rancher associations in their diffusion campaigns. At the same time, they excluded individually-owned firms. They pursued this diffusion strategy even though, relative to individually-owned firms, processing cooperatives entailed higher costs and risks.

In promoting diffusion and industrial transformation, the Apostles and Brigadistas largely resorted to a normative “diffusion apparatus.” A diffusion apparatus – an analogue to Gramsci’s “ideological apparatuses” – encompasses the set of institutions and organizations built, redesigned or redeployed to promote close cross-firm collaboration and isomorphism. It includes business associations, professional networks, personnel mobility across firms, and joint industry-wide projects, among others.<sup>37</sup> In Guatemala, the Apostles created the diffusion apparatus by reviving the neglected practice of organized field visits, encouraging cross-mill personnel mobility, and creating a network of industry-wide organizations, with the business association at its core. In Nicaragua, the Cooperative Brigadistas created a matching diffusion apparatus. They initially intervened directly in other rancher associations, replicating pieces of the cheese processing cooperative model. But

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<sup>37</sup> These institutions and organizations have received significant attention in the literatures on the sociology of organizations and the political economy of business interests. In the sociological literature on organizations, for instance, authors emphasize isomorphism-producing organizations such as state regulatory agencies, interlocking directorates, consulting agencies, and professional and trade associations. They also point to institutions such as different types of cross-firm transactions (e.g., formal contractual relations), professional networks and informal ties across firm personnel (Paul DiMaggio & Powell, 1983; Scott, 2008; Tolbert & Zucker, 1996). In the literature on the political economy of business interests, in turn, authors focusing on firm collective action similarly underscore the role of developmental business associations, state-firm relations, institutions fostering collective learning and firm capabilities, and different types of product standards (e.g., quality) (R. Doner & Schneider, 2000; McDermott, 2007; Perez-Aleman, 2011).

more importantly, they shared their experiences with other aid agencies, which employed them as a template for their aid programs. They also indoctrinated Concepcion and San Cristobal cooperative members and professional staff on the need to collaborate, prompting sharing initiatives. And lastly, they promoted the creation of cross-cooperative associations.

Crucially, through these apparatuses of diffusion, the Apostles and Brigadistas overcame two of the central barriers to adoption highlighted by the institutional literature on industrial relations and HPWOs. First, they allowed managers and producers to acquire a detailed understanding of the new production model and business strategy. Field visits, activities initiated by cross-industry agencies and direct interventions by the Apostles and Brigadistas generated a wealth of available information for firm elites and managers. This was especially significant in Nicaragua, where managerial skills remained scarce.

Second, in both cases, the apparatuses of diffusion largely promoted the diffusion of the new production model and business strategy as a mutually reinforcing bundle of practices. The Apostles and Brigadistas spent considerable time instilling in other industry elites and managers the importance of introducing the entire organizational model. This effort largely foreclosed the possibility of piecemeal introduction of the practices. It also triggered the type of rapid – as opposed to slow and cautious – industrial transformations observed in the two cases.

Thus, through the normative channels of their apparatuses of diffusion, the Apostles and Brigadistas succeeded, to varying degrees, in diffusing their models and strategies, and promoting the industrial transformations of sugar mills and cheese rancher cooperatives. In Guatemala, all mills in the sugar industry adopted the Tajumulco approach. In Nicaragua, at least nine new rancher associations have upgraded into cheese processing, replicating the experience of San Cristobal and Concepcion.



## Summary

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This chapter has presented the central theoretical contribution of this dissertation, focused on the role of ideology as an explanation for industrial transformation. It begins with a discussion of prevailing theories of industrial transformation, evaluating them as explanations for the two cases of this dissertation, and underscoring the need to incorporate firm agency into their accounts. Given this need, the chapter develops the proposed explanation for industrial transformation, which centers on the role of upgrading firms. The proposed explanation, which works independently but likely also complements standard accounts, suggests that ideology accounts for the transformative action of top firm decision-makers.

In crafting this account, the chapter first develops a model of translation from ideology to action, generally conceived, among so-called “ideological carriers.” The model, which traces how ideological carriers enact the general principles of ideologies, reveals the intervening role of “moral-practical mindsets.” Moral-practical mindsets combine the moral and political imperatives and aspirations of particular ideological interpretations with the knowledge and skills of the ideological carriers’ professional background. By recognizing the intervening role of moral-practical mindsets, the model specifies how the general principles of an ideology drive and shape observed patterns of action.

The chapter then explores the role of ideologies and moral-practical mindsets in shaping the particular set of actions fostering industrial transformations: the creation and diffusion of new production models and business strategies by top firm decision-makers. Using the proposed model of ideological translation, it depicts the processes through which these top firm decision-makers, acting as ideological carriers, first devise and introduce the new production model and business strategy at one or two firms, and then actively disseminate the practices to other firms in their industries.

The empirical cases of industrial transformation in the Guatemalan sugar mills and Nicaraguan cheese processing rancher cooperatives offer an illustration of this explanation. They reveal the profound influence exerted by two ideologies, Vatican II Catholic social doctrine and Sandinismo, on the teams of top firm decision-makers, the Apostles of Development and Cooperative Brigadistas. The Apostles and Brigadistas created the new production models and business strategies that transformed the sugar mills and cheese rancher cooperatives. In drawing from their ideologies to foster these industrial transformations, these Apostles and Brigadistas relied upon their specific moral-practical mindsets, namely the technocratic approach to Elite Solidarity and the best practice approach to Cooperative Developmentalism.

### The Apostles of Development in Guatemala

In her 1991 assessment of the social and economic devastation caused by the civil war in Guatemala, Suzanne Jonas somberly concluded that “The Guatemalan experience abounds with lessons about the bankruptcy of the old order.” From her perspective, the country served as a “test case of [the United States’] ability to suppress social revolution in Latin America.” It was a place ruthlessly ruled by an illegitimate bourgeoisie-military coalition that refused to “permit reformist options.” But, she foreshadowed more optimistically, “Perhaps, as well, it holds some lessons about the possibilities for Latin American social transformation in the coming decades” (9).

Unbeknownst to Jonas, the Guatemalan sugar industry was undergoing deep changes as she wrote her more-bitter-than-sweet impressions. During the last two decades of the twentieth century, mills tore asunder their “old bankrupt order” and engineered a paradigmatic case of industrial transformation. In a national context in which agro-industries such as coffee and cotton struggled to survive,<sup>38</sup> the sugar mills profoundly transformed their production model and business strategy. As markets collapsed around them and the country became engulfed by a bloody civil war, they redesigned their work organization and technology, and diversified their products and markets. They also introduced entirely new and labor and employment practices that delivered significant social gains, including workforce skill development and improved worker conditions. Through these changes, and without the support of the state, the mills adopted an entirely new organizational form that set them apart not only from the Guatemalan traditional sugar processing approach, but also from the model and strategy of mills in neighboring sugar industries.

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<sup>38</sup> Although the Guatemalan coffee and cotton industries, sharing a geographical location with the sugar industry, faced the same domestic economic and political conditions of crisis, society-wide transformations and state policies, they deepened their reliance on their traditional practices instead of spawning a new model and strategy.

How did the industrial transformation of the Guatemalan sugar mills unfold in such an unlikely context in which comparable industries largely stagnated or declined? As this chapter argues, the engine of change in the case was a religious ideology known as Vatican II Catholic social doctrine. This ideology had garnered attention in the 1960s and 1970s as the source of some of the most searing critiques of capitalism in the region. It served as a launching pad for numerous new, often anti-capitalist grassroots movements (Levine, 1992). Yet paradoxically, in the Guatemalan sugar industry, Vatican II Catholic social doctrine kindled the remarkable industrial transformation in sugar mills. It spurred a team of top firm decision-makers, the Apostles of Development, as they pursued numerous organizational changes that not only delivered remarkable economic results, but also improved the material conditions for most workers.

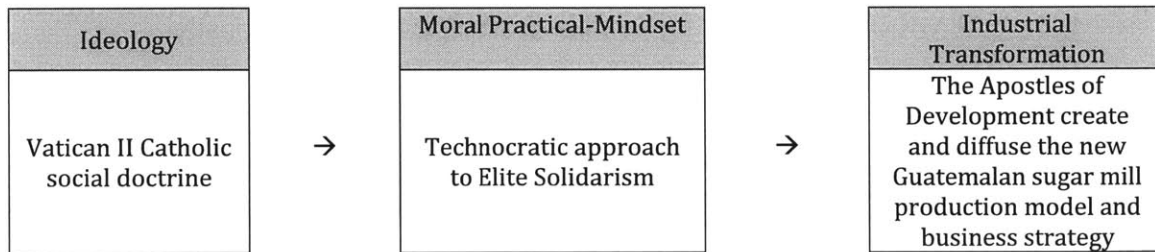
To understand how this ostensibly revolutionary ideology accounted for the industrial transformation in Guatemalan sugar mills, we must reveal the process of translation from the ideology's principles to the value-rational actions of the Apostles of Development. In this process of translation, a distinct interpretation of Vatican II Catholic social doctrine, "Elite Solidarism," played an indispensable role. Elite Solidarism emerged in Latin America in the 1960s. It most basically advocated a top-down interpretation of Vatican II Catholic social doctrine that exhibited traces of Dulles' (1987) hierarchical "institutional model of the Church." It sharply contrasted with the better known, radically grassroots Liberation Theology. As I will show, in the early 1960s, the teachers at an elite Jesuit high school in Guatemala City imbued the Apostles of Development with the substantive rationality of Elite Solidarism. This interpretation would drive and shape the transformation that the Apostles spearheaded in the sugar mills.

After high school, these Apostles studied engineering at Guatemala's public university. As a "directly productive profession" (Lipset, 1967), the practical business-oriented engineering directed the Apostles' efforts toward the secular

economic world. It allowed them to translate the principles of Elite Solidarism into concrete practices. In complementing the Elite Solidarism interpretation of the Apostles of Development, engineering bred a distinct moral-practical mindset among them, the technocratic approach to Elite Solidarism.

Through their technocratic approach to Elite Solidarism, the Apostles of Development initially devised an innovative production model and business strategy at one mill, Tajumulco. Following this creative endeavor, the Apostles of Development assumed a role as industry-wide champions of the new model and strategy. Impelled by the Elite Solidarism interpretation of the Catholic social doctrine principle of corporate solidarity and brotherhood of mankind, they actively disseminated their practices across the industry's mills (see Figure 3.1). Their diffusion efforts fostered an industry-wide transformation.

Figure 3.1 Vatican II Catholic Social Doctrine as an explanation for Industrial Transformation



The diffusion process of Tajumulco's model and strategy broadly resembled Powell & DiMaggio's (1983) mimetic and normative institutional isomorphism. It mirrored other processes of mimetic isomorphism to the extent that, in a highly uncertain context, several mills imitated Tajumulco. But in addition, the Apostles of Development exploited different normative channels, such as personnel mobility and cross-firm organizations, to spread their practices. These normative channels proved indispensable for diffusion, ensuring that all mills in the industry gradually adopted the new model and strategy. Furthermore, this process of normative isomorphism promoted by the Apostles spawned different institutions usually

associated with inter-firm learning and collaboration. Mills joined an encompassing, cohesive business association and instituted a number of supportive industry-wide agencies. Mill personnel actively participated in professional networks. These institutions have allowed the industry's mills to continue along their rapid development trajectory.

The rest of this chapter is organized as follows: Section 2 contrasts the industry's prevalent production models and business strategies before and after the transformation. The third section traces the transformation of the sugar mills in Guatemala. It describes Vatican II Catholic social doctrine, the technocratic approach to Elite Solidarism, and the processes of creation and diffusion of the Apostles of Developments' new model and strategy. The chapter concludes with a review and summary of the findings.

### **Contrasting production models and business strategies<sup>39</sup>**

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Between 1980 and 2000, mills in the Guatemalan sugar industry radically transformed their production model and business strategy. They introduced widespread changes, erecting a new, higher-road model and strategy over the wreckage of the old and discredited low-road traditional approach. This section describes this industrial transformation. It specifies the new practices along the four axes of comparison highlighted in this dissertation: production organization, work and employment practices, technology of production, and products and markets. Then it contrasts the new model and strategy with the traditional approach.

#### ***The new production and business strategy of the sugar mills***

The first two building blocks of the new, transformational production model and business strategy are a distinct organization of production, and state-of-the art

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<sup>39</sup> Unless otherwise stated, this section is informed by Bataillon, 2008; Bossen, 1982; COVERCO & International Labor Rights Fund, 2005; Figueroa Ibarra, 1980; Le Bot, 1995; Molina Calderon, 2005; Oglesby, 2002; Organizacion Revolucionaria del Pueblo en Armas, 1978; Valdez & Monzón, 2007; Wagner, 2007, and personal visits in January 2011.

technology. During the *zafra* season extending from September through May, teams of Guatemalan engineers obsessively direct production on plantations. They oversee highly trained seasonal migrant workers specialized in each step of the partially mechanized production process. Mills own or manage 70 to 80% of the plantations. They provide all tools, including the Australian machete and the cane packing vehicles, and invest heavily in R&D. Different mills have also introduced a variety of other innovations on plantations, including sophisticated irrigation systems and biological pest controls. Often, the mills share their agricultural breakthroughs with each other through different cross-industry organizations and institutions.

In the processing stage, a growing cadre of managers and engineers supervises the entire sugar production process. The execution of every processing step falls upon skilled technicians and operators. During the *zafra* season, they run the processing machinery continuously, crushing, wringing, draining and eventually burning the sugarcane in a seemingly endless cycle of transformation. In the off-season, the technicians and operators service all machinery, guaranteeing its smooth operation for the next *zafra*.

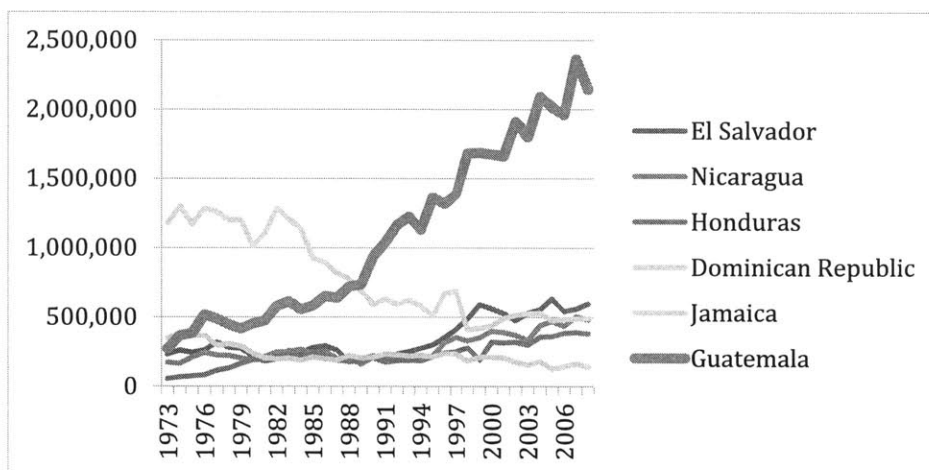
Through these work organization and technological innovations, the mills have multiplied their output and productivity (see Table 3.1). Between 1980 and 2000, the industry attained the highest average annual growth rates in production in Latin America, tripled its proportion of total world production (Food and Agriculture Organization of the United Nations, 2012) and left other sugar industries with comparable production levels in the late 1970s far behind (see Figure 3.2).

Table 3.1 Overview of the production and productivity changes in the sugar industry, 1978/1979-2009/2010

	1978/1979	2009/2010	% change
<b>Production metrics</b>			
Total sugarcane production (metric tons)	4,242,057	22,530,622	431.1%
Total sugar production (metric tons)	362,782	2,340,837	545.2%
<b>Capital and land productivity metrics</b>			
Cane (metric tons/hectare)	78.99	102.40	29.6%
Sugar (metric tons/hectare)	6.76	10.55	56.1%
Sugar (metric tons/ha/month)	0.59	0.92	55.9%
<b>Labor productivity metrics</b>			
Cane cutting (tons/worker day)	~1 - 2	~ 6	~200% - 500%

Source: CENGICANA 2008 and 2011; Oglesby 2000; Personal communications with managers, 2010.

Figure 3.2 Raw sugar production (in metric tons) for selected countries, 1973 – 2008



Source: International Sugar Organization (1976, 1981, 1986, 1992, 1997, 2001, 2006, 2010)

Upgraded work and employment practices complement the sugar mills' technology and organization of production, and offer significant social gains for most of their workforce. Permanent workers are employed mostly in administrative, technical and maintenance activities in mills. They reside in nearby towns, often in mill-provided housing. They undergo extensive training, receive a number of benefits and earn high wages relative to other industries. At the same time, mills curb union representation and worker voice, with management centralizing decision-making.



On plantations, mill human resource departments hire seasonal cane cutters – who represent over 70% of the workforce – on three- to six-month written contracts. Cutters sleep in clean, ventilated, barrack-like residences. They access an array of programs in nutrition, education, health and recreation. The debilitating work on plantations calls forth tremendous physical effort. But under the prevailing compensation scheme, piece-rates with additional bonuses match or more often exceed the national minimum wage (hovering around \$4 to \$5 per day in the early 2000s) and the prevailing wage in comparable industries (COVERCO & International Labor Rights Fund, 2005; Oglesby, 2002). Cane cutters also receive a series of benefits from mills, including low-cost housing, support for production cooperatives, life insurance, low-cost loans, end-of-harvest bonuses, and matching savings accounts.

The production model of these mills works alongside a business strategy valuing product diversification and export markets. Mills specialize in a wide range of products, including electricity, fuel alcohols, drinking alcohols, candy, refined sugar (about 25% of production), and low-grade raw and white sugar (see Table 3.2). They export over 70% of their sugar output to the competitive international spot market, pushing their way into Latin American, North American, European, Asian, and increasingly, African markets. Through this aggressive strategy, Guatemalan mills have rapidly moved up the ranks, becoming the fourth largest exporting sugar industry in the world in 2012 (FAO 2013). In a relentless bid to extend not only their export but also their production reach, the mills have also begun purchasing land and mills in nearby countries (e.g., Nicaragua, Honduras).

Table 3.2 Products for selected mills, 2012

Mill	Products
<b>Acatenango-Atitlan</b>	Range of sugar types, molasses, electricity
<b>Tacana</b>	Range of sugar types, alcohol, electricity
<b>Cerro Quemado</b>	Range of sugar types, alcohol, electricity
<b>Tajumulco</b>	Range of sugar types, alcohol, electricity, candy
<b>Santiaguito</b>	Range of sugar types, rum

***Alternative organizational form: the traditional production model and business strategy***

The new production model and business strategy of the Guatemalan sugar replaced the pre-transformation, traditional approach, which prevailed through the 1970s. This cost-cutting traditional model mirrored the “low road strategy” of industrial relations theory: it privileged low-productivity processes and technologies on plantations – 80% of them owned by independent sugarcane producers (i.e., plantations not owned by mills) – and mills. It also fostered conflicts across different industry actors and appalling labor conditions.

On plantations, a thin crust of untrained and autocratic field managers and supervisors assigned sugarcane plots to teams of malnourished migrant seasonal cane cutters. Pay was pre-set for the team. Cane cutters utilized their own tools, learned cane-cutting techniques from each other and independently defined the work process. Plantation owner investments on agricultural processes and equipment remained marginal. Mill production mirrored plantation processes. Untrained workers operated second-hand, imported machinery. Only one or two engineers supervised the entire operation. And price disagreements between the mills and their cane suppliers often paralyzed production.

The plantation and mill workforce labored under deplorable conditions. Seasonal migrant cane cutters, an indigenous force constituting the vast majority of the industry’s workers, slept with their families on the dirt floor of overcrowded Dante-esque galleys.<sup>40</sup> Recruited by abusive labor contractors in the highland regions of the country, cutters and their children toiled for over 14 hours per day. Average wages remained well below \$1 per day, and gun-brandishing supervisors often resorted to physical and verbal excesses.

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<sup>40</sup> Families settled in small sections of the cramped galleys, sleeping on the floor and setting up makeshift walls out of plastic or cloth. In only a few cases did cement walls or floors protect workers from malaria, polluted stagnant water, flies and insecticides. Most of these galleys lacked electricity or running water (Bossen, 1982; Figueroa Ibarra, 1980; Molina Calderon, 2005; Oglesby, 2002; Valdez & Monzón, 2007; Wagner, 2007).

Mills employed most of the remaining industry workforce on a year-round basis. These permanent workers lived in shantytowns, or *rancherías*, on the plantations. Employers furnished them with certain benefits, most notably plots of land. In exchange, they submissively complied with all employer demands. This manorial dynamic, however, began breaking down in the 1970s. An employer drive to raise production by removing these workers from mill land triggered militant opposition.<sup>41</sup> Permanent workers in at least 10 of the industry's 18 mills organized unions. By the late 1970s, constant strikes strained labor relations.<sup>42</sup>

This production model complemented a narrowly focused business strategy. The mills only produced low-grade unrefined white and raw sugar. Comparable to production to neighboring Nicaragua's and El Salvador's, their sugar production vastly trailed Cuban and Dominican output. The mills sold most of their product (over 70%) domestically through middlemen or in the US quota market.<sup>43</sup>

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<sup>41</sup> Similar contentious processes of change arose in other agro industries (e.g., coffee, cotton, cattle ranching) throughout Central America during this period (Dunkerly, 1988; J. Paige, 1997; Williams, 1986).

<sup>42</sup> Most union members worked as mill operators, although permanent year-round field workers and supervisors also participated in the union. Their commonalities – essentially their permanent worker status and claims to mill land – held these different worker groups together in the unions.

<sup>43</sup> They exported the remainder to the lower-priced international spot market.

Table 3.3 The pre- and post-transformation production models and business strategies in Guatemala's sugar industry

	<b>Pre-transformation</b>	<b>Post-transformation</b>
<b>Labor and Employment Practices</b>	<p>On plantations, poorly trained migrant seasonal cutters (80% of the industry's workforce) with substandard living conditions (<i>galeras</i>, poor quality meals, no personal hygiene facilities); negligible benefits; daily wages at or below the minimum wage; extensive use of contractors for recruitment; family work involving widespread child labor</p> <p>In mills, the mostly permanent workforce housed on plantation land with access to certain mill/plantation-supplied services (water, electricity, food); year-round employment with benefits; relatively high levels of unionization</p>	<p>On plantations, continuously trained migrant seasonal workers housed in specially constructed, clean dormitories with individual beds, bathrooms, showers, and washing areas; industrial kitchens provide workers with all meals; array of recreation facilities/opportunities; no child labor on mill plantations; HR departments responsible for most hiring through written contracts; daily wages above minimum wage; wide array of benefits</p> <p>In mills, the mostly permanent workforce provided housing off plantation land, in nearby towns; extensive training and relatively high wages; only one (weak) mill union survives</p>
<b>Work Organization</b>	<p>On plantations, seasonal cutters responsible for cutting, packing and loading cane; low levels of labor productivity; non-professional Spanish field administrators direct production</p> <p>In mills, engineering expertise for mills provided in part by Cubans; limited professionalization among mill workers</p>	<p>On plantations, a Taylorist organization of production; piece-rate wages for workers with bonuses; high levels of labor productivity on fields; professionalization of top echelons of the plantation command chain</p> <p>In mills, high professionalization of mostly Guatemalan engineers; training for all mill workers</p>
<b>Technology</b>	<p>On plantations, workers supplying their own tools; non-existent agricultural R&amp;D; reliance on imported cane varieties</p> <p>In mills, use of second-hand, wasteful mill machinery</p>	<p>On plantations, mill-provided tools; mechanized bundling and loading of cane; just-in-time cane delivery; high investments in agricultural R&amp;D</p> <p>In mills, hefty investments on processing equipment; some use of automated equipment</p>
<b>Products and Markets</b>	<p>Production of (raw and white unrefined) sugar for sale in the domestic and US quota markets</p>	<p>Production of (raw, white, refined) sugar, electricity, fuel alcohol, drinking alcohol, candy</p> <p>Primary focus on export market through strategies of internationalization of production, brand name commercialization</p>

## Tracing the transformation

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The industrial transformation of the Guatemalan sugar mills, involving the introduction of the new production model and business strategy, defies common explanations focused on the state or inter-firm collaboration. Drawing from the experience of other countries, accounts of transformations in sugar industries often emphasize supportive state policy or foreign direct investment. Yet in Guatemala, the mills could count on neither. Unlike the Brazilian, Mexican or Thai states, for instance, the fiscally weak and war-focused Guatemalan state failed to develop the bureaucratic, fiscal, technical and clientelistic capacities necessary for state-led modernization (Barzelay, 1986; R. F. Doner, 2009; Mertens, 2008; Pereira, 1997).<sup>44</sup> And in contrast to the 20<sup>th</sup> century industries of Peru and some Caribbean islands, Guatemalan mills remain domestically owned. Their only contact with international firms was restricted to brokers uninterested in production upgrading<sup>45</sup> (Ayala, 1999; Mintz, 1974, 1986; Paige, 1975).

So how did this transformation arise in Guatemala? Interviews with key informants suggest that a religious ideology, Vatican II Catholic social doctrine played a central causal role in this case of industrial transformation. This ideology spurred and shaped the value-rational actions of a team of ideological carriers, the Apostles of Development. Acting as top level decision-makers in the industry's mills, the Apostles created and diffused the new model and strategy. This central finding largely echoes a growing ideational literature linking ideology to economic policies and business practices. Profoundly influenced by Weberian arguments, this literature posits that ideology molds the interests of actors and, as a result, the

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<sup>44</sup> Nor did the Guatemalan state bureaucracy enjoy the necessary embedded autonomy (Evans, 1995). Rather, adversarial business-state relations characterized most of the 1970s and 1980s as the military increasingly sought to wrest control of economic policy from the traditional business sector (Dosal, 2005; Valdez & Palencia, 1998). Such friction extended to the sugar industry (Interview #3, June 8, 2010). As a result, the state provided the sugar industry with none of the developmental support policies documented elsewhere (Amsden, 2003; Evans, 1995; Kohli, 2009).

<sup>45</sup> At the time, these buyers focused on purchasing raw sugar.

solutions they devise for economic and business problems (Blyth, 2002; Geertz, 1963; Hall, 1989; Weber, 1905).

At the same time, the association between Vatican II Catholic social doctrine and a number of distinct actions inimical to capitalist development, most notably the formation of guerrillas, underscores the need to explain how this ideology translated into the transformative actions of the Apostles. As the following section reveals, Vatican II Catholic social doctrine inspired Liberation Theology, the well-known interpretation associated with such progressive actions. But crucially, it also spawned an alternative, more conservative interpretation, Elite Solidarism. This alternative interpretation prioritized certain moral and political imperatives and aspirations inherent in Vatican II Catholic social doctrine. In Guatemala, its causal map and taxonomy stimulated and guided the actions of the Apostles of Development in the sugar mills. Elite Solidarism urged them to first create the new model and strategy at one mill, Tajumulco, and later to diffuse it across the industry.

Notably, in enacting the moral and political imperatives and aspirations of Elite Solidarism, the Apostles of Development drew upon their professional background as engineers. This background played the necessary role of directing their actions toward the business realm and supplying practical knowledge and skills. It provided the Apostles with the required tools to foster an industrial transformation that responded to the moral concerns stressed by the Elite Solidarism interpretation of Vatican II Catholic social doctrine.

### ***The ideology and its interpretations***

Vatican II Catholic social doctrine emphasized the pursuit of the common good as its guiding principle. In this pursuit, the Church instilled a sense of mission and moral responsibility among its flock. Not unlike Weber's Calvinism, the post-Vatican II Church demanded that its followers put their faith to the test in secular life. During the 1960s and 1970s, Papal Encyclicals and other Church documents called upon the Church's "sons," especially the more able and privileged "apostles of development,"

(Pope Paul VI, 1967) to abandon a purely spiritual understanding of salvation (Berryman, 1973; Dulles, 1987; Gutiérrez, 1970). It urged them to actively work to “answer the cries” of “suffering peoples” and to create “an economy which is put at the service of man” (Pope Paul VI, 1967).

In its definition of the common good, Vatican II Catholic social doctrine developed a set of second-order principles. First, it demanded respect for human dignity and the rights “which pertain to the necessities of life, health care, education... professional training, housing, work, and suitable leisure and recreation (Pope John XXIII, 1961:11). The Church sought to “awake in [Latin American Catholics from the lower classes] a sense of personal dignity, hope and confidence that they [could] change their fate...” (Smith 1975, 23). Workers, for example, were not “mere cogs in the machinery” of firms. Like the rest of humanity, they were “the foundation, the cause of every social institution” (Pope John XXIII, 1961, 5).

Second, the Church urged subsidiarity in society (Stepan, 1978). It defended private property as inscribed in natural law. The State should refrain from performing functions readily fulfilled by “smaller or lower societies” (Pope John XIII 1961, 9). Instead, it should support private enterprise in the pursuit of economic development. In this vein, the Church starkly drew “the fundamental opposition between Communism and Christianity.” It made clear that “no Catholic could subscribe to even moderate Socialism” (Pope John XXIII, 1961: 5).

Third, building on a long Catholic tradition emphasizing the corporate solidarity of mankind (Smith, 1975), the Church underscored “the principle of human solidarity and Christian brotherhood” (Pope John XXIII 1961, 4). This principle stood in opposition to both the Marxist emphasis on class warfare and the Liberal preference for unrestrained competition. The Church strongly encouraged Catholics to “work together in harmony,” their individual efforts “proportioned to the needs of the common good” (Pope John XXIII 1961, 7).

However, despite the Church's effort to provide a clear, coherent doctrine, its principles drew varying, and at times even contradictory, interpretations among Catholics (Dulles, 1987; Smith, 1975). Throughout Latin America, these contrasting interpretations, which underscored different aspects of the doctrine's teachings, spurred distinct decisions and patterns of action. In a manner analogous to Berger's (1985) Catholics in France, these contrasting interpretations, rooted in the Church's historical narratives, "released fragments" of the existing "socio-religious order" to travel along diverging new paths, "onto terrain outside the influence of the Church." It often thrust them "into alliance and combination with groups of entirely different genesis and history." These "fragments" would "adapt to the new circumstances by reworking and reordering the load of historical experience, transcendent aspirations, and political visions they [brought] with them from the Catholic past." But, they would also "modify their new allies, by disrupting within them the old balances of force and interest, material and ideal" (23).

On the one hand, the Church spawned the better known, more progressive and even revolutionary Liberation Theology (Berryman, 1973; Gutiérrez, 1970; Smith, 1975). To pursue the common good, Liberation Theology encouraged bottom-up democratic and independent participation through such mechanisms as Freire-inspired conscientization campaigns<sup>46</sup> in impoverished areas. It envisioned transformative grassroots involvement, primarily among the poor, in the construction of a new society as constituent of individual human dignity. It also decried paternalistic approaches to change and resisted hierarchical initiatives, even from the European Church. It introduced a powerful critique of capitalism and linked poverty to structural inequalities (Levine, 1992). And though it inspired some revolutionary activity, many of the bearers of Liberation Theology strove for harmonious social relations and collective action through the creation of such organizations as Christian Base Communities, cooperatives and peasant movements.

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<sup>46</sup> According to Smith (1975), "the Paulo Freire method of conscientization, [combined] Biblical themes of Exodus and liberation with techniques for self-determination and community organization" (9).



However, Vatican II Catholic social doctrine also bred an alternative, more conservative interpretation often dismissed as a mere reaction to Liberation Theology or as an attempt to preserve the status quo. I call this interpretation, the conservative twin to Liberation Theology, Elite Solidarism. Elite Solidarism underscored the transformative role of society's more economically privileged individuals. Church bearers of this interpretation directed their energies to the private education of children from the upper and middle classes (Smith, 1975). They envisioned these children, the owners, managers and politicians of the future, as the most effective agents of change.

In opposition to Liberation Theology, Elite Solidarism advocated an understanding of social and economic reform that echoed many of the strongly hierarchical conceptions of authority in Dulles' "institutional model of the Church."<sup>47</sup> Its conception of the common good emphasized material needs and took a rather totalitarian turn, largely dismissing subaltern participation in social transformation. Children educated in elite Catholic private schools essentially became the electi. As the Church's "apostles of development," responsibility fell upon them to lead the flock in the pursuit of the common good.

In this pursuit, Elite Solidarism circumscribed human dignity to respect of the individual and "satisfaction of their basic needs... food, housing, clothing, education and recreation" (Interview #5, 07/14/2010). It curbed worker and peasant organization, deeming it detrimental to business. Elite Solidarism also limited corporate solidarity to collaboration among the privileged electi. And its interpretation of the principle of subsidiarity underscored the staunch defense of private property (Interview #12, 07/19/2010; Interview #01/26/2011).

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<sup>47</sup> Dulles (1987) explains that under this model, "The Church is not conceived as a democratic or representative society, but as one in which the fullness of power is concentrated in the hands of a ruling class that perpetuates itself by cooption" (30-31).

Table 3.4 Contrasting interpretations of Vatican II Catholic social doctrine

Vatican II Catholic social doctrine principles	Liberation Theology interpretation of principles	Elite Solidarism interpretation of principles
<b>Human Dignity</b>	Emphasis on the empowerment of the poor	Emphasis on the material needs of all members of society, satisfied by the hierarchical actions of the Apostles of Development
<b>Subsidiarity</b>	Rejection of paternalistic state approaches that constrains the actions of the poor	Uncompromising defense of private property and rejection of all state intervention in business matters
<b>Corporate Solidarity of mankind</b>	The poor as active, prioritized members of the brotherhood of mankind	Exclusive brotherhood of the Apostles of Development

***The Apostles of Development and the Technocratic Approach to Elite Solidarism***

In Guatemala, the young men who would become the Apostles of Development in the sugar industry studied at Saint Ignatius, an elite, all-boys Jesuit school in Guatemala City. Most of them graduated in 1963 as members of the school’s fourth class.<sup>48</sup> Saint Ignatius imbued the Apostles with the Elite Solidarism interpretation. At the school, the Apostles also forged close bonds and formed a cohesive team.

While at Saint Ignatius, the Apostles received the traditional Jesuit humanist education, influenced during the 1960s by the Elite Solidarism interpretation of Vatican II Catholic social doctrine. But their participation in summer “conscience-raising” courses, or “Cursillos de Capacitacion Social,” proved just as influential as their formal classes. Organized jointly by Saint Ignatius teacher-priests and teacher-nuns from the all-girls Maryknoll school, Heart of Mary, the short-lived Cursillos brought together over 50 students from Saint Ignatius, Heart of Mary and, to a lesser extent, other elite Catholic schools (e.g., Saint Marcellin Champagnat). Lasting only a few years in the 1960s, they covered theoretical and hands-on material. In theoretical classes, “we studied laissez-faire liberalism, capitalism, and neo-capitalism, and saw how these doctrines provided the rationale for the corrupt and

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<sup>48</sup> Five students from this class entered Tajumulco. One student a year older and another two years younger also entered in this first cadre of Saint Ignatius-educated managers.

exploitative labor practices... We learned how Marx and Engels developed the doctrine of Communism to explain class struggle as part of the historical evolutionary process... Finally, we turned to Christian social doctrine, as expounded in the key papal encyclicals... finding in its program of justice, equal opportunity, and charity to right the world's evils" (Melville & Melville 1971, 131-132).

The hands-on component, in turn, served to both awaken a sense of social responsibility and develop a methodical lifestyle akin to Weber's asceticism. Cursillo activities began at 5:30 a.m. and finished at 11 p.m. Students visited impoverished areas and prepared projects on social injustice in Guatemala. Discipline was "semimilitary" (Melville & Melville 1971, 130). Mentors assigned chores to students and encouraged them to work as a team.

According to Porras (2009), a graduate from Saint Marcellin Champagnat who participated in the Cursillos, the goal was to "awaken the social conscience of young people" who "given their social position and educational opportunities, were called upon to perform leadership roles in politics, the economy and society. The idea was to create a process of reforms and social changes motivated by the Christian ethic, but also to build an efficient barrier against Communism" (36). One participant described the success of the Cursillos: "the social Christian tradition had a huge impact on the students...People usually focus on the revolutionary effects [of these courses] but they don't realize how the moderate people of that group have had a very important influence on what has happened in Guatemala as well, and on the sugar industry's relative modernization specifically" (Interview #13, 07/20/2010).

In interviews, the Apostles of Development described how this education shaped their lives. They developed close friendships and some married women from Heart of Mary (Interview #6, 07/19/2010; Interview #14, 07/29/2010; Interview #21, 08/09/2014; Interview #26, 01/19/2011). More importantly for our purposes, the Jesuits and their courses inculcated in them "the same questions, the same interests... the commitment" to "participate and actively work to change this

country” (Interview #5, 07/14/2010; Interview #12, 07/19/2010; Interview #13, 07/20/2010; Interview #22, 08/13/2010). Much like Weber’s Calvinism, Elite Solidarism set a higher standard for its “electi” and instilled in them a vocation: it encouraged them to “pursue the Christian ideal of a career as an opportunity to serve those less fortunate rather than simply as a means of earning money...” (Melville & Melville 1971, 129). As a result, the Apostles of Development cast themselves as a team of enlightened leaders, morally responsible for unilaterally effecting change.<sup>49</sup>

After graduating in the mid-1960s from Saint Ignatius high school, the future Apostles entered the national public university. Without exception, they studied at the engineering department, becoming either industrial or agronomist engineers. They finished their professional training by the early 1970s. This professional background directed the Apostles toward the business realm. It also offered the necessary business knowledge, skills and tools for them to translate the moral and political imperatives and aspirations of Elite Solidarism into concrete business practices in the sugar mills. In particular, it focused their attention primarily on problems of inefficiency, and management arbitrariness and lack of control (Guillen 1994). It also legitimized their actions by underscoring “man’s obligation to transform nature, and a robust confidence in his ability to control and manage nature rationally” (Espeland 2001, 411). In Guatemala’s sugar mills, this engineering ethos readily complemented the Apostles’ Elite Solidarism interpretation to foster a particular moral-practical mindset, the technocratic approach to Elite Solidarism. Only by recognizing the intervening role of this moral-practical mindset can we understand the Apostles’ reasons for and actions of transformation.

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<sup>49</sup> As one manager put it: “We had been trained with this style of management of our subordinates very oriented toward social justice... We have been pioneers in the sugar industry, first in the labor changes... then we were at the vanguard” of production changes. (Interview #6, July 19, 2010).

### ***Neomorphism***

The Apostles of Development joined one of the most influential mills in the industry, Tajumulco, shortly after completing their engineering education. At the time, Tajumulco, which had once led the industry as the largest producer, faced mounting firm-level shocks. Its production stagnated, leading seven other mills to surpass its sugar output by 1973 (Asociacion de Azucareros de Guatemala, 1974). Furthermore, following the sitting management's clumsy attempts to remove permanent workers from mill-owned land, workers mobilized. They revitalized the mill's dormant union, turning it into one of the largest and most militant in the industry.

In the economic and social upheaval of the 1970s, comparable firm-level shocks affected other mills in the industry. But in contrast to these mills, only Tajumulco employed the Apostles of Development. Tajumulco's owning family, concerned with the fate of the mill, made the drastic decision to replace its entire management team. The young, French-educated scion of the family assumed the presidency of the organization, with the leading Apostle as his second-in-command. Over the next few years, this leading Apostle would form a team of Apostles of Development, placing his former schoolmates in the mill's top positions (e.g. mill production manager, human resource manager, agricultural production manager). By the mid-1970s, they controlled all but one of the top five management positions in the mill, forming a small cohesive team.

Scott (2008) has argued that both demand- and supply-side pressures can foster the development of new organizational practices: they may arise out of pervasive problems demanding solutions, or they may be pressed upon organizations by actors in privileged roles. Both types of pressures played a role at Tajumulco. Influenced by Elite Solidarity and challenged by the troubling state of the mill, the Apostles of Development defined their vocation to pursue the common good as a mission to transform the mill's business model. This mission combined the responsibility to transform the production model with the duty to improve worker conditions, especially for seasonal cane cutters. The existing sense of crisis at the

mill facilitated their project of transformation. Distressed by the mill's decline, the owning family gave the Apostles "carte blanche." The Apostles took the opportunity to craft a unique response to the crisis (Interview #5, 07/14/2010).

They spent considerable energy changing the "shocking" and "undignified" conditions of mill cane cutters. As one of them recalled, "one felt responsible for the situation. We could cry or we could see how to change [it]. It was a shock [to see those conditions], but our main goal [was to] raise wages and living conditions..." (Interview #26, 01/19/2011). According to another Apostle, "we had been taught that subordinate treatment must be directed toward social justice... the worker was not just another element in production, like machinery, but a human being with all the characteristics of dignity of a human being. So treatment of this human being must be dignified" (Interview #6, 06/19/2010).

Thus, Elite Solidarism provided a diagnosis of the problem and general guidelines to address it. But the Apostles of Development needed to translate this diagnosis and guidelines into concrete practices to transform the mill. In this process of translation, the evidence suggests that the engineering background of the Apostles complemented their Elite Solidarism interpretation. We can assess the importance of this professional background by drawing a comparison with a number of the Apostles' classmates from Saint Ignatius. Most of these classmates also enrolled in the school's extracurricular *Cursillos*, and acquired the same Elite Solidarism interpretation. Yet, in contrast to the Apostles, they pursued transformative efforts in other spheres of social life, particularly in social services and politics.<sup>50</sup> None toiled in a mission to foster industrial transformations with social gains, despite sharing the Elite Solidarism interpretation.<sup>51</sup>

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<sup>50</sup> For example, an interviewed doctor spent most of his time treating impoverished populations in rural Guatemala, particularly during his younger years. And some of the lawyers and religious students participated in politics, even taking top government positions.

<sup>51</sup> For a more detailed explanation, see Appendix 4.

What set the Apostles apart from these classmates was their engineering education. Engineering offered the necessary knowledge and tools to orient the Apostles' transformative actions toward business and industrial development. In contrast, their classmates pursued degrees in medicine, architecture, religious studies (i.e. clergy) and law – all of them “traditional elite professions” according to Lipset (1967). These professions lacked the practical business skills offered by engineering.

Thus, the Apostles deployed the engineering professional ethic to devise practical business solutions to the problems that Elite Solidarity diagnosed. However, it is important to note that other engineers, all of them graduates from the same national university of the Apostles, had been employed in the industry for some time before the arrival of the Apostles, many of them in high-ranking positions. Moreover, these older engineers often called upon Cuban exiled consultants with vast sugar industry expertise for advice. Yet, despite their broad access to the business-focused knowledge and tools of the profession, they lacked the sense of a larger mission and moral responsibility instilled in the Apostles by Elite Solidarity. Absent the urgent drive to execute change, they concentrated on shepherding marginal changes in production. Rather than demolishing the prevailing model and erecting an entirely new one, they were satisfied to oversee the continued operation of a slowly decaying, traditional approach. It would take an ideological shift to “break through the barriers of stagnation... ignite the imaginations of men [and] place their energies in the service of economic development...” (Gerschenkron 1952, 24).

This ideological shift arrived with the Apostles of Development. The Apostles followed the technocratic approach to Elite Solidarity, their moral-practical mindset, to methodically introduce their practices. They looked not only to take control of all aspects of production, but also to fulfill their responsibility as electi. One observer who participated in most of the process of organizational innovation recalled the “great change. They put buses [to transport workers]... Then we brought the nutritionist to see what menu we gave cane cutters. I remember the

firm [chose] the most expensive menu, with eggs, meat, milk, enough tortillas, vegetables, fruit... And [cane cutters received] housing, mattresses, lockers, showers, soap, dishes, an adequate eating area with tiles, hydration with sodium and potassium... [And] for every Quetzal the cutter saved, the firm gave them fifty cents” (Interview #27, 03/22/2011). These changes redounded in notable labor condition improvements. They also deepened manager control of the workforce.

Such improvements proceeded alongside the transformation of production processes. The Apostles faced an economic problem as pressing as the social problem of worker conditions. They urgently required productivity increases to improve the mill’s performance, appease the owning family and underwrite the costs of their human resource and employment practice innovations. As one of the leading Apostles explained, “what happens is that there are two easy systems. One was to say [to workers], ‘eat shit,’ we’ll pay you this [low wage]. The other said, ‘no, look, we’ll raise wages’” without changing anything else. “But [a third] more complicated system was to say, ‘no, look, we’ll raise wages, but we will also change the work systems [to raise productivity]” (Interview #26, 01/19/2011). The Apostles chose this third option. Their choice demanded a new production model and business strategy for the mill.

In developing this model and strategy, and instigating the transformation of the industry’s mills, the Apostles followed an uncharted upgrading path. Seeking inspiration to devise new production practices, for instance, they traveled abroad, a first in the industry. They visited Colombia, Brazil, Australia and other sugar producing countries to observe different sugar production models. They defied mocking and criticism by managers and owners from other mills, most if not all of them educated in schools other than Saint Ignatius.

Relying on their technocratic approach to Elite Solidarity, the Apostles of Development wove the observations from their travels into a unique quilt of production practices. The new production model rationalized every step of



production. On the plantations owned by Tajumulco, they introduced scientific management, an unsurprising choice given their engineering background. They took full control of decision-making in agricultural production by disbanding the traditional team-based system and separating work conception from execution. The Apostles then focused on individual cutters. They developed time-and-motion studies, spent copiously on worker training, and changed the wage setting mechanism to a piece-rate. Wages, complemented by performance-based bonuses, surpassed the minimum wage and rewarded individual performance rather than job category (Oglesby, 2002). The Apostles also introduced new technology. They imported and improved upon the Australian machete, and mechanized parts of the production process (e.g., cane transportation from field to mill).

In the mill, the Apostles devised a similar transformation. They hired a Miami-based Cuban engineer with vast experience in sugar milling to assist them in redesigning, renovating and expanding their processing facilities. They invested heavily in new machinery and trained lower level technicians and operators. Lastly, they hired an entire cadre of young engineers. As graduates of Saint Ignatius or the public university's engineering department, most of the newcomers moved in the same social circles as the Apostles. Along with new recruits at all levels of the organization of the mill, they underwent pervasive on-the-job-socialization emphasizing Tajumulco's new business approach.

These changes in production delivered almost immediate results. Between 1973 and 1976, the mill's sugar production quadrupled. The period was marked by booming international prices and a rising US quota allocation for Guatemala (Asociacion de Azucareros de Guatemala, 1977; United States Department of Agriculture, 2012). These international conditions triggered rapid growth across the industry. But Tajumulco's growth far surpassed that of all other mills. It doubled its proportion of the industry's total production. By 1977, it ranked as the top producer in the country, accounting for almost 20% of the industry's total production (see Table 3.5).

Table 3.5 Tajumulco total raw sugar production, percentage of total national production and rank in national industry, 1970 – 1977

Year	Tajumulco Production (quintals)	Tajumulco's Percentage of Total National Production	Tajumulco's rank in the national industry
1970/71	536,463	12.5%	4
1971/72	571,839	11.4%	4
1972/73	504,362	8.76%	8
1973/74	824,053	12.06%	4
1974/75	1,222,872	15.07%	1
1975/76	2,009,419	17.22%	2
1976/77	2,105,259	19.06%	1

Source: Asociacion de Azucareros de Guatemala (1971, 1972, 1973, 1974, 1975, 1976, 1977)

The dramatic efficiency gains on the agricultural front also prompted a shift in land tenure patterns, even though government land tenure regulations remained unchanged. Until then, independently owned plantations produced most of Guatemala's sugar cane. Yet, with the advent of the new production system on the plantations, the Apostles realized the magnitude of their field productivity gains and the potential economies of scale of the new production organization. They thus wrested land from independent producers. Constrained by their economic limitations and traditional views on production, and enticed by the high prices Tajumulco could offer, most independent producers rented or sold their land rather than trying to adopt Tajumulco's new field practices. For the few that resisted their onslaught, the Apostles and their growing professional mill bureaucracy would eventually offer guidance and inputs in a pedagogical fashion reminiscent of large buyers in global value chains (Gereffi, 1999; Navas-Aleman & Bazan, 2004).

In addition, the Apostles accelerated the removal of permanent workers from mill land against staunch union opposition. The method of removal sheds light on another facet of the industrial transformation: the hierarchical and autocratic manner in which they executed the changes. For the mill union, the question of permanent worker residence constituted a central mobilizing issue. Born and raised on mill land, depending on the mill for year-round employment and relying on mill-

provided plots for additional income, permanent workers organized in the union resolutely opposed removal.

For the Apostles, the challenge involved more than simply recovering mill land. They sought to regain total managerial control of all facets of production. As an opposing “coalition,” to use Cyert and March’s (1963) terminology, the union stood in their way. Their technocratic approach to Elite Solidarism once again steered the trajectory of their transformation, providing a powerful ideological justification for their decisions. Their hierarchical view of change undergirded the imposition of their version of the common good. From their unitary view of the firm, which rejected any notion of class conflict, unionists who opposed them simply ignored the potential benefits of the changes or worse, consciously pursued particularistic interests to the detriment of the good of the community.<sup>52</sup> This view echoes Espeland’s documented “insularity” among the “Old Guard” Arizona engineers, i.e. an inability to “imagine that their comfortable assumptions about the world” generate dissent and a tendency to perceive opposition as “both baffling and deeply threatening” (415).

Furthermore, the Apostles’ unswerving defense of private property, couched in their interpretation of the principle of subsidiarity, reinforced their resistance to unions. In the 1970s Cold War context of Guatemala, they vociferously accused unionists of promoting the “subversive” idea that “the firm is owned by those who work there” (Interview #26, 01/19/2011). They blurred the line between the union and the Guatemalan Marxist guerrilla. They conceived of the union as an enemy that brainwashed workers, infiltrated the workforce, and supported guerrilla attacks on

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<sup>52</sup> The following quotes evince managers’ view of themselves as agents of change, often facing ignorant or even immoral opposition: “We had to teach these people how to be clean, how to brush their teeth...” “We had to teach [cane cutters] how to eat with glasses, forks, plates.” “There was terrible promiscuity... so we said to the [male] worker, ‘now you’ll come work by yourself and you can send your money back to your woman.’” “At the time there were all those movements, socialists, communists, that went against what we were doing... but they themselves came to realize that what we were doing [was beneficial] and then they would even defend us.” Managers also claimed that once the union weakened, leaders took money, abandoned their followers and flew to Italy. (Interviews with managers, 2010).

mill facilities and personnel (Interview #5, 07/14/2010; Interview #12, 07/19/2010; Interview #26, 01/19/2011).

The position of the Apostles regarding the union also proved consistent with their restricted understanding of the principle of human dignity. While they zealously worked to improve the material conditions of the majority of the workers, the Apostles of Development labored with equal energy to quash any prospect of worker empowerment.

Thus, emboldened by the technocratic approach to Elite Solidarism, the Apostles summoned a number of strategies to remove permanent workers from the land and dissolve the union. They built them new subsidized housing projects and guaranteed them their jobs. Playing on the union's opposition to the project, they turned all those who moved to the new housing projects against the union. They also implemented more subtle strategies to undermine union cohesion and allegiance, such as "many committees to always have communication with workers: sports committee, culture committee, etcetera" as well as soccer tournaments and a firemen club (Oglesby, 2000; Interview #5, 07/14/2010). Additionally, the Apostles fired at least forty unionists in two waves: after a 1976 strike ruled illegal by the Ministry of Labor, and in the early 1980s, once their other strategies had severely weakened the union. Finally, while they vehemently denied any involvement,<sup>53</sup> the Guatemalan Truth Commission, created to investigate war crimes during Guatemala's 36-year civil war, reports that in the early 1980s the military, with employer acquiescence, kidnapped and disappeared three union leaders.<sup>54</sup> As a result of these strategies, by the mid-1980s the union existed only in name (Comisión para el Esclarecimiento Histórico, 1999).

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<sup>53</sup> An interviewee who participated in the "Cursillos" and then joined the guerrilla movement corroborated the managers' denials. This interviewee, who also served as one of the main organizers for a massive cane cutter strike in 1980, laid the blame for the human rights abuses squarely on the shoulders of the older generation of mill owners and managers (Interview #21, August 9, 2010).

<sup>54</sup> A fourth unionist reappeared later.

This type of justification for the autocratic imposition of change, couched in Elite Solidarism, extended to all areas of the mill's transformation. For instance, to overcome cane cutter resistance to the individualized approach to cane cutting, the introduction of the Colombian-devised cane cutting technique, or the imposition of the use of the Australian machete, the Apostles pursued strategies akin to those employed in removing permanent workers from the land (e.g., paying higher wages to workers who adopted the new methods and tools, leaving the more difficult tasks to non-cooperative workers or firing them, hiring Colombian cane cutters to demonstrate the benefits of the new techniques).

### ***Isomorphism***

Tajumulco's stellar performance during the mid-1970s ignited curiosity across the industry. Some of the younger owners and managers in mills like Tacana, Santa Maria, Zunil, Siete Orejas, and Acatenango-Atitlan quickly expressed interest in imitating the innovative practices. Notably, few if any of these interested owners and managers attended Saint Ignatius high school. Nor did they share the missionary zeal of the Apostles of Development.

Yet, with this interest also came criticism, reflecting an ideological barrier to diffusion. More conservative actors in the industry, many of them members of an older generation, called the Apostles of Development "crazy or communists" (Interview #6, 07/19/2010). They questioned the decision to improve worker conditions, and scoffed at all attempts to introduce production practices from abroad because "here in Guatemala, people can't do anything" (Interview #26, January 19, 2011). In the absence of the state regulatory infrastructure to block the low road model that they preferred, and insofar as that model continued to be economically viable, these conservative actors could reject the transformed higher road approach without incurring major losses.

However, a number of events in the 1970s and early 1980s softened this conservative hostility. The industry underwent a generational change. Many of the older owners retired. Younger family members replaced them.

This generational shift coincided with a period of profound political and economic turmoil constituting a hegemonic crisis in the industry. First, as in many other sugar industries (e.g., those in Brazil, Mexico, Peru<sup>55</sup>), permanent mill workers across the industry unionized and struck to demand higher wages, job security and an end to forced evictions from mill land (Le Bot, 1995; Wagner, 2007; Interviews with managers, 2010). Second, in the midst of the 1980 harvest season, cane cutters, along with coffee and cotton pickers, mobilized and organized an 80,000 worker strike. Led by the peasant organization Comité de Unidad Campesina (CUC),<sup>56</sup> the strike kindled elite fears of a broad indigenous uprising<sup>57</sup> as it paralyzed agricultural production in the region. It threatened mill hegemony and forced the military government to raise the minimum wage by 200% (Brockett, 1998; Jonas, 1991; Le Bot, 1995; May, 2001).

Third, in the late 1970s and early 1980s the industry faced a spectacular collapse in the demand for sugar that further weakened the position of mills. A 74% decline in international prices between 1976 and 1979 decimated comparable sugar industries in neighboring countries (e.g., Dominican Republic, Barbados<sup>58</sup>). Prices would remain depressed for most of the 1980s (United States Department of Agriculture, 2012). Additionally, between 1979 and 1981, the US Congress

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<sup>55</sup> See Mertens (2008), Paige (1975) and Pereira (1997).

<sup>56</sup> The CUC had strong ties to the guerrilla organization, Ejército Guerrillero de los Pobres (EGP). In fact, one of the main organizers of the strike, whom I interviewed, also participated in the EGP. At the same time, the strike was not necessarily driven only by military imperatives – as some mill owners and managers were quick to argue – but by the appalling labor conditions on sugar, cotton and coffee plantations.

<sup>57</sup> A member of the guerrilla movement who also studied in a Catholic high school described how “that harvest struggle” had “an enormous psychological impact on the Guatemalan bourgeoisie... Since we were kids and for generations they have told us, ‘when the Indians raise their machetes...’ And then I saw [a picture of the strikers] and said to myself, ‘now [the bourgeoisie] shat themselves’ as they did, in fact, shit themselves...” (Interview #14, July 29, 2010)

<sup>58</sup> See Drummond (1996), Macdonald & Demetrius (1986), Schrank (2008).

suppressed Guatemala's sugar quota as part of a larger reduction in the US sugar quota program. At the time, quotas represented close to 20% of Guatemala's production (Asociacion de Azucareros de Guatemala, 1981). Lastly, with the Latin American Debt Crisis that hit Guatemala in the early 1980s, domestic sugar demand fell by 25% between 1980 and 1983 (Centro Guatemalteco de Investigación y Capacitación de la Caña de Azúcar, 2010).

This hegemonic crisis called the beleaguered industry's traditional mill model into question. As DiMaggio & Powell (1983) have argued, such uncertainty may breed mimetic institutional isomorphism. Organizations often come to resemble each other as managers, weary of taken-for-granted theories relating means to ends, "actively seek models upon which to build." In this search, "organizations tend to model themselves after similar organizations in their field that they perceive to be more legitimate or successful" (152) – what Scott (2008) calls "organizational archetypes."

In Guatemala, Tajumulco emerged from the crisis as the most successful sugar mill, taking on the role of an organizational archetype. Despite the uncanny alignment of economic and political crises, Tajumulco kept its production stable throughout the period; the mill's 1980/1981 harvest production equaled its 1976/77 record and accounted for over a fifth of the industry's total production. The rest of the industry's mills, facing similar economic and social circumstances, adopted a "traditional war economy" approach.<sup>59</sup> They fared much worse as their production fell by an average of over 20% between 1975/76 and 1980/81 (Asociacion de Azucareros de Guatemala, 1982). At least four mills declared bankruptcy over this period.

In addition to Tajumulco's increased productivity, its management's ability to take full control of production by weakening the mill union became widely accepted by

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<sup>59</sup> See Molina Calderon (2005) for a description of this approach at one of the industry's mills. Most generally, the approach involved deep cuts in mill employment and sugarcane purchases.

other owners and managers as the “best” strategy in the industry. The decline of the industry’s two largest mills in the early 1970s, Toliman and Cerro Quemado, allegedly a consequence of the unchecked strength of their unions, bolstered this view. In contrast to these two mills, argued interviewees, the Apostles of Development neutralized the union, took full control of production and could thus introduce necessary changes (Interview #2, June 7, 2010; Interview #12, July 19, 2010; Interview #26, January 19, 2011). Of course, Tajumulco’s success in raising productivity and total production in the 1970s, well before the disbandment of the mill’s union in the 1980s, calls this interpretation into question.

Managers and owners from other mills also admired how the Apostles regained the upper hand in the fields following the 1980 seasonal worker strike. In the strike’s aftermath, the Apostles deepened their methods of control. They created a detailed database to keep track of seasonal workers and rehired only the more productive and obedient. They also substituted the mill’s human resource department for labor contractors; expanded the menu of benefits available to cutters; and provided written contracts for all workers. As a result, by the mid-1980s the Apostles could boast complete control of an “obedient” labor force.

Surprisingly, rather than exploiting their comparative advantage by jealously guarding their practices as the strategy literature would suggest (Porter, 1980; Teece et al., 1997; Wernderfelt, 1984), the Apostles of Development responded to the interest of managers and owners by encouraging imitation. In an industry traditionally burdened with acrimonious relations between mills, they provided a number of reasons for this seemingly counterintuitive decision. Some argued that with a saturated domestic market, competition shifted to the infinitely large international market where sharing practices posed no competitive threat. Others claimed that sharing indebted borrowing mills that would then pay back the favor if Tajumulco ever needed a spare part. In still other cases, the Apostles revealed a nationalist perspective: “Why would you be selfish? We were already number one,



and the more benefits workers receive, the more Guatemala rises..." (Interview #6, 06/19/2010; Interview #12, 07/19/2010).

In all cases, however, they emphasized that by sharing practices, they fostered cross-mill collaboration: "if we were an isolated mill in a small place, we couldn't do much. [Together] we could have an association, set up the research center... We needed better collaboration so it was logical to open up" (Interview #26, 01/19/2010).

Yet why did the previous generation (or contemporary managers from other mills) fail to grasp the seemingly evident need to share practices and collaborate? After all, saturation of the domestic market had haunted mills since the 1960s, eliciting confrontation and state intervention. Similarly, spare part scarcity represented an even greater problem in the past, when mills imported all their equipment from abroad. Finally, other mills (and even Tajumulco in the 1960s) had ranked as top producers, but none developed the kind of nationalist concern for Guatemala's "rise" that would lead them to promote collaboration.

Echoing Weber, Blyth (2007) has convincingly argued that "in order to specify the content of interests, one must have previously specified the beliefs that an agent has about what is desirable in the first place." In other words, one must understand the substantive rationality driving the value-rational action. In Guatemala, the Apostles' decision to share their practices, and the reasons they provided for this decision, shed light on their substantive rationality. They bring into relief the powerful influence that ideology exerted over their interests.

The principle of human solidarity and Christian brotherhood, which drove the teamwork at the Cursillos and later at Tajumulco, shaped the Apostles' understanding of what was desirable. It suggested a distinct approach to address the industry's collective action problems. This approach set forth inter-firm sharing and collaboration as a self-evident solution consistent with their interests. But at the

same time, the hierarchical emphasis of Elite Solidarity set bounds to this collaboration. It restricted it to other mill owners and professionals, excluding organizational field actors such as independently owned plantations, sugarcane transportation companies and, especially, unions. Only mill owners and professionals qualified as “electi.” The contrast between the newfound emphasis on collective action and the industry’s previous competitive lenses, which emphasized the advantages of acting independently, is stark. Under those previous lenses, sharing and collaboration, even among the electi, seemed irrational and counterproductive.

However, despite the Apostles’ openness to sharing, other mills still faced significant challenges to imitation and adoption of the new model and strategy. As the institutional literature on industrial relations and high performance work organizations (HPWOs) would suggest, the transition demanded costly investments in such areas as training, equipment and process design.<sup>60</sup> As this literature further predicts, it also faced resistance from two coalitions within the mills: disgruntled and, in some instances, unionized workers distrustful of management initiatives; and surviving conservative owners and managers who remained skeptical of any labor condition improvements, especially for indigenous seasonal workers.<sup>61</sup> This contentious nature of diffusion sheds light on the complications associated with mimetic isomorphism. It suggests that even under extreme uncertainty, significant barriers may stifle imitation.

Recognizing these barriers to diffusion and availing themselves of their increasingly respected positions within the industry, the team of Apostles of Development took an active stance as “champions”<sup>62</sup> of the model. DiMaggio & Powell’s (1983) concept of normative institutional isomorphism captures this Apostle-led process of

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<sup>60</sup> For example, see Kochan et al (2013) and Appelbaum and Batt (1994).

<sup>61</sup> This contention echoes Kochan, Katz and McKersie’s (1986) claim that sometimes opposition originates from “the fears of union leaders regarding the role that they as individuals, and the union as an institution, will play in the restructured workplace” (xv).

<sup>62</sup> DiMaggio (1988) describes champions as a set of individuals spearheading institutional diffusion.

diffusion. According to these authors, normative isomorphism involves “the collective struggle of an occupation to define the conditions and methods of their work, to control the production of producers, and to establish a cognitive base and legitimation for their occupational autonomy.” (152) They further note that in driving isomorphism two “instances of professionalization,” universities and professional networks, play a central role. These instances of professionalization ensure that professionals of the same type (e.g. managers, engineers) “view problems in a similar fashion, see the same policies, procedures and structures as normatively sanctioned and legitimated, and approach decisions in much the same way.” (153)

Yet, the Guatemalan sugar industry differed in two important respects from this ideal situation, suggesting important extensions to the normative isomorphism literature. First, DiMaggio & Powell posit that professional affiliation, or “desire to secure” their position and “further their own careers,” drives agents to promote practice diffusion. But in Guatemala, Elite Solidarity’s interpretation of the principle of human solidarity and Christian brotherhood largely explains the Apostles’ efforts to promote elite collaboration and sharing.

Second, the industry lacked DiMaggio & Powell’s instances of professionalization. Only a handful of professionals worked in the other mills of the industry, their networks barely drew members, and mills seldom followed their norms and standards. Therefore, the Apostles had to make up for their absence. To foster normative isomorphism, they built an apparatus of diffusion, encompassing new institutions, from the ground up. The apparatus of diffusion also included existing institutions originally created for other purposes.<sup>63</sup> In this endeavor, they often faced significant opposition.

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<sup>63</sup> This finding echoes Cammett's (2005) argument that “ideas do not spread spontaneously” and “collective action... is never assured.” Instead, leaders must promote them. Furthermore, in fostering collaboration, leaders can “revitalize” existing organizations.

The Apostles resorted to three channels of diffusion throughout the 1980s and 1990s: organized field visits, personnel mobility, and an encompassing business association. Interestingly, such institutions are often portrayed as “preconditions” for upgrading and organizational transformation in the literature (A. H. Amsden, 2003; R. Doner & Schneider, 2000). Yet, while these institutions certainly accelerated the diffusion of the new model, they largely emerged as byproducts of the isomorphic process. Tajumulco’s Apostles of Development and their allies created them as they sought to promote diffusion.

The first channel of diffusion that the Apostles employed built on the existing but neglected practice of organized field visits, a favorite among the technocratic Apostles. During these visits, Tajumulco employees showed their new practices to colleagues from other mills. This sharing helped overcome the knowledge barriers to diffusion, particularly among managers unacquainted with the new models, identified by the institutional literature on industrial relations and HPWOs (Kochan et al, 1986; Appelbaum and Batt, 1994). It provided detailed instructions for managers to follow.

Importantly, employees, like the Apostles, understood and described the entire model, including both the production and labor practices, as internally consistent. Engaged in a process of theorization,<sup>64</sup> they portrayed each individual practice as indispensable for the adequate performance of the whole. By emphasizing the whole over the parts, this theorization addressed another barrier to diffusion commonly identified in the institutional literature on industrial relations and HPWOs: the piecemeal adoption of practices (Kochan et al, 2013; Ichniowski, Shaw & Pernusshi, 1997)

When visitors returned to their mills and imitated Tajumulco, they also assumed this causal link between the complete bundle of practices, on the one hand, and the

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<sup>64</sup> Scott (2008) defines theorization as “a formulation of why and how the innovation is effective and an identification of the class of problems or organizations for whom it is suitable” (126).

observed productivity outcomes, on the other.<sup>65</sup> In other words, institutionalization of the practices proceeded as they became objectified (Tolbert & Zucker, 1996). Notably, the labor practices in this production model acquired an almost mythical aura as sources of high productivity. In fact, the labor practice-productivity relationship carries such acceptance that, in an instance of Tolbert and Zucker's (1996) "sedimentation,"<sup>66</sup> the current younger generation of owners and managers consistently presented it in interviews as a fact.<sup>67</sup>

In addition to promoting imitation, these field visits stimulated initial interactions and exchange of ideas among professionals from different mills, laying the groundwork for future processes of normative institutional isomorphism. In particular, the visits eventually spawned the creation of the Sugar Technician Association (STA), which further lowered the knowledge barriers to diffusion. Saxenian (2004) and Amsden (1989), among others, point to such concentrations of technical expertise as preconditions for organizational transformation. But in Guatemala the STA emerged in the late 1980s, well into the industrial transformation. Currently, it gathers most of the upper-level mill technicians in the industry.

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<sup>65</sup> The manner in which managers in Guatemala recast this set of practices, initially motivated by Elite Solidarity, in purely efficiency terms, bears a striking resemblance to Dobbin & Sutton's (1989) description of the firm level consequences of the "Rights Revolution" in the United States. They argue that while the different legal requirements of this Revolution stimulated firms to establish different offices to manage compliance, firm middle managers later "reconstructed these departments as components of human resource management and articulated theories of how each contributed to productive efficiency" (455).

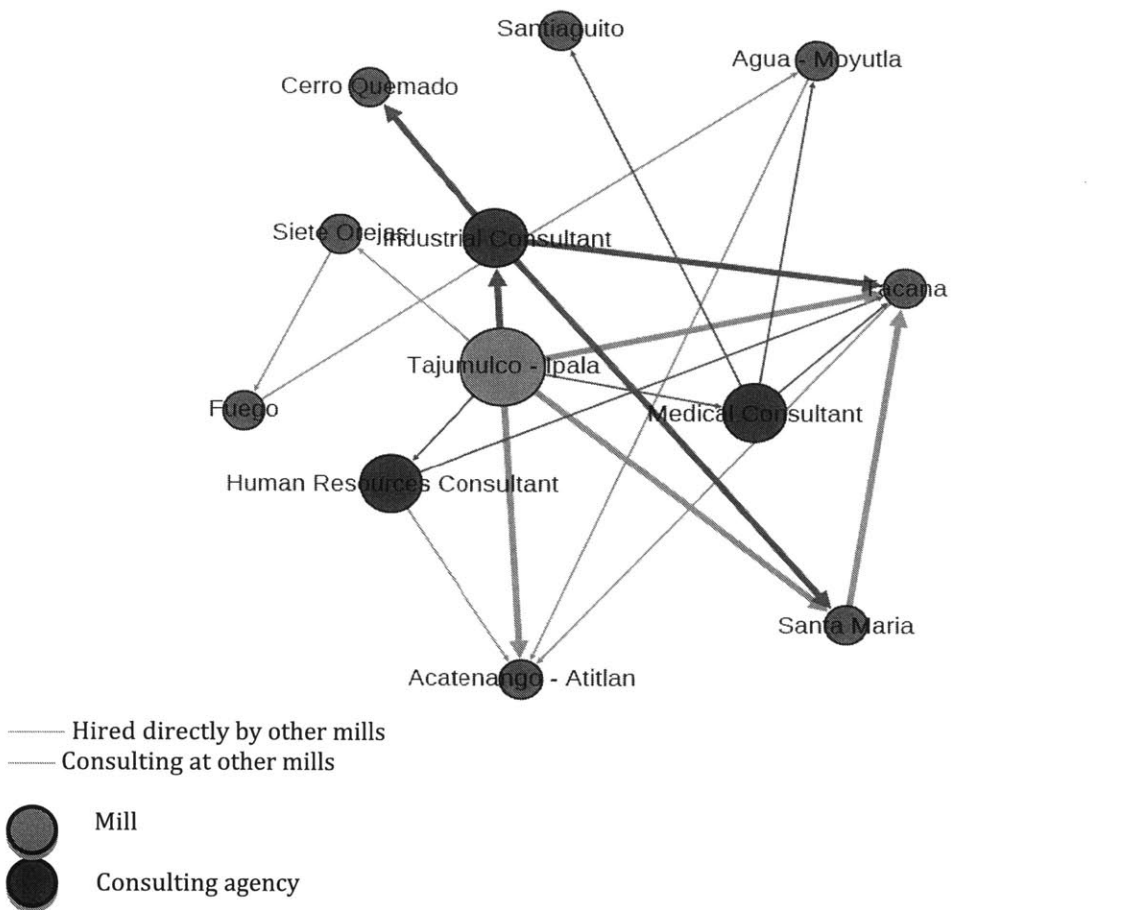
<sup>66</sup> Tolbert and Zucker (1996) argue that when sedimentation has occurred, typifications are transmitted to new members of organizations "who, lacking knowledge of their origins, are apt to treat them as 'social givens'" (181).

<sup>67</sup> For example, one young mill owner explained that "the fact that we transformed the worker who came with his family into a worker who must be an adult, who receives adequate nourishment, all the protections of the law and health services... that has a cost, but workers perform better and that lowers your production costs, and over time it's beneficial for us." A middle-aged manager at another mill echoed similar arguments: "When I arrived in the sugar industry 27 years ago [in 1983], the conditions in which cane cutters lived were inhuman... But administrators and mill owners realized that if they had their worker well fed, he would be more efficient and produce more" (Interview #1 and #2, 06/07/2010; Interview #4, 06/09/2010).

A second channel that the Apostles of Development relied upon to promote the diffusion of practices involved personnel mobility across the industry (see Figure 3.2). At least five upper-level managers created consultancy firms that simultaneously disseminated the Tajumulco practices to multiple mills. Scott (2008) has emphasized the importance for diffusion of such “intermediary” organizations and actors. In Guatemala, they advised on such areas as mill upgrading, field production upgrading, human resource management, and even medical and dental services and worker nutrition.

More commonly, Tajumulco employees took permanent high-level positions at other mills and industry organizations. These employees had “already learned the lessons” because “[Tajumulco had] developed a school... they were trained with the [Tajumulco] philosophy” (Interview #27, 03/22/2011). As they moved to other mills, they disseminated the bundle of practices – as opposed to piecemeal adoption – and replicated the hierarchical strategies used to impose them. In addition, they engaged in experimentation and developed new practices.

Figure 3.3 Mobility across the industry of selected top Tajumulco employees during the 1980s, 1990s and 2000s<sup>68</sup>



Name*	Mills where employed and/or consulting after Tajumulco	Area of expertise
Hugo Romero	Siete Orejas, Acatenango-Atitlan, Agua-Moyutla, Fuego	Field production
Luis Benitez	Tacana, Acatenango-Atitlan	Human resources
Leonardo Hernandez	Pacaya, Acatenango-Atitlan	Mill management
Ramon Gomez	Santiaguito, Agua-Moyutla, Zunil, Tacana	Medical services
Jaime Medina	Ipala, Acatenango-Atitlan	Mill management
Manuel Ramirez	Santa Maria, Tacana, Siete Orejas	Industrial production

<sup>68</sup> In addition to top-level employees, interviewees described the mobility of numerous lower level workers, and I interviewed at least four mid and lower level employees at other mills who had previously worked at Tajumulco.

Lazaro Vega	Santa Maria, Tacana, Siete Orejas	Industrial production
Arturo Aguirre	Santa Maria, Tacana, Acatenango-Atitlan	Industrial production
Juan Figueroa	Tacana	Chemical processes
Pablo Mansilla	Santa Maria, Tacana	Industrial production

Source: Molina, 2005; Personal communications with managers and doctor, 2010.

\*All names have been altered to protect the anonymity of interviewees. All of them entered Tajumulco in the 1970s.

In fact, soon other mills added production and employment practices to the original Tajumulco production model (e.g., new pest controls, irrigation mechanisms, improved worker meals).<sup>69</sup> For example, Luis Benitez, the former human resource manager at Tajumulco and one of the Apostles of Development, introduced life insurance for cane cutters at his new place of employment, the Acatenango-Atitlan mill (Interview #12, 07/19/2010). Such initiatives contributed to a healthy competitive environment. Teams of employees at each mill strove to outperform their peers in other mills. Soon, Tajumulco-like schools encouraging employee-led innovation and sharing had taken hold across the industry.

In addition to raising production and eliciting sharing and innovation, the diffusion of the model affected other areas of business. Although mills raised labor standards, they also quashed unions by employing the anti-union tactics pioneered at Tajumulco. Furthermore, competition across mills prompted changes in land tenure. Mills increasingly preferred to buy or rent independent producer plantations. The collapse of the similarly located cotton industry,<sup>70</sup> as well as the government's decision to liberalize sugarcane prices in 1987, accelerated this process of land concentration (Interview #11, 07/05/2010). Finally, mills diversified into new

<sup>69</sup> See Wagner (2005) for examples of the innovations developed at different mills.

<sup>70</sup> If an agro-industry in Guatemala seemed poised for a transformation in the early 1970s, it was the cotton industry. Receiving significant support from the state, cotton production boomed throughout the 1950s, 1960s and early 1970s. However, as in the sugar case, international prices for cotton collapsed in the late 1970s and early 1980s, and the industry faced labor mobilization. However, unlike the sugar industry, it never recovered from these shocks and by the late 1980s few producers remained. For more on the cotton industry, see Williams (1986).



products, such as alcohol and electricity. Encouraged by the Tajumulco example, owners and managers traveled abroad to learn about them.

The mill business association constituted the third channel that the Apostles of Development relied upon to diffuse their practices and promote collaboration. As DiMaggio and Powell (1983) would predict,<sup>71</sup> the Apostles rose to occupy top-level positions in the association. They replaced the small mill owners who had traditionally held those positions. The Apostles also encouraged representatives from other large mills, such as Santa Maria and Acatenango, to actively participate in the association.

As they sought to encourage collaboration in the association, however, they encountered resistance and distrust from older members. To overcome it, the Apostles pursued a number of strategies. They forged close relations with younger owners and managers from larger mills. In addition, “instead of managing the discussion at the owner level,” they engaged managers or engineers – the technocrats sharing the business focus of their moral-practical mindset – and gradually introduced these professionals into industry-wide organizations. The Apostles also actively sought out other owners. One described how he “went personally from one mill to another... We went to talk with each one because they wouldn’t talk to each other...” (Interview #26, 01/19/2011).

Lastly, the Apostles and their allies built on existing but dysfunctional association projects and created new industry-wide initiatives. For instance, they completed construction of an R&D center in 1992, and an export terminal in 1993, both unfulfilled dreams of previous association leaders (Asociacion de Azucareros de Guatemala, 1977). Similarly, they devised and implemented an aggressive industry

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<sup>71</sup> They argue that “managers in highly visible organizations may have their stature reinforced by representation to participate in the boards of other organizations, participation in industry-wide or inter-industry councils, and consultation by agencies of government” (DiMaggio & Powell 1983: 153)

export strategy to drastically diversify their markets. They also created an industry-wide social responsibility agency.

Slowly, through these strategies, the Apostles of Development and their allies overcame opposition and the numerous barriers to diffusion. They ensured participation of all mills in the association, promoted the emergence of a number of industry-wide institutions and successfully diffused their model to across the industry. Indeed, by the late 1990s most mills in the industry shared Tajumulco's model. They relied on authoritarian labor relations, but had also improved material conditions for workers. They focused on exporting and rapidly increased their production. Through heavy investments, they redesigned their production processes, introduced new technology, and diversified into more sophisticated products. Moreover, they adopted a collaborative approach to address industry-wide problems. These changes produced an industrial transformation.

## **Summary**

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This chapter has revealed the explanatory role of ideology for the industrial transformation of the sugar mills in the unlikely Guatemalan context. It has shown how Vatican II Catholic social doctrine, a religious ideology, accounted for the value-rational actions of a team of top firm decision-makers, the Apostles of Development. The principles of this religious ideology inspired a particular interpretation, Elite Solidarism, which motivated the Apostles. But as the chapter argues, in enacting the moral and political imperatives and aspirations of Elite Solidarism, the Apostles also drew upon their business-focused engineering background. Engineering complemented their Elite Solidarism interpretation. It endowed them with a distinct moral-practical mindset, the technocratic approach to Elite Solidarism.

Through this moral-practical mindset, the Apostles of Development transformed Guatemala's sugar mills. They first succeeded in creating the transformative new production model and business strategy at one mill, Tajumulco. In top management

positions at that mill, they devised and introduced most of their innovative practices. These practices set the mill apart not only from other mills in the Guatemalan sugar industry, but also from most mills in neighboring Latin American sugar industries. In addition, they fostered social gains, offering significant benefits for most workers. Following their experience at Tajumulco, the Apostles, impelled by their Elite Solidarism interpretation, promoted its diffusion to other mills. By building a diffusion apparatus, they overcame different barriers to dissemination and spread the Tajumulco model and strategy to the rest of the industry's mills, spawning an industrial transformation.

## The Cooperative Brigadistas in Nicaragua

The 1990 electoral loss consummated the collapse of the Sandinista revolutionary regime in Nicaragua. Hailed as the first piece in the Central American revolutionary domino, the regime succumbed to economic depression and war. After a decade of dismal performance, its economic approach appeared destined for oblivion and its reputation as a radical Central American alternative shattered. As Damiani, writing in 1994, put it, “most of the literature on Nicaragua sees the Sandinista policies as an example of what should *not* be done to promote economic and agricultural development” (italics mine, 3).

Yet, not all was lost after the painful defeat in 1990. Nor was Sandinismo the purely destructive, anti-capitalist ideology portrayed by the enemies of the regime. Contrary to popular lore, Sandinismo also played a remarkably constructive role in post-1990 Liberal Nicaragua, when conditions seemed most adverse for its proponents. As this chapter will argue, Sandinismo drove an industrial transformation among a number of Nicaraguan cheese processing rancher cooperatives. This industrial transformation delivered not only economic, but also social gains.

The industrial transformation unfolded in Nicaragua’s dry, impoverished, isolated and strongly conservative cattle ranching north central region. In this region, the revolutionary ideology spurred a team of foreign aid consultants, the Cooperative Brigadistas, to introduce an innovative production model and business strategy that turned a set of (non-processing) rancher associations<sup>72</sup> into cheese processing rancher cooperatives. The Brigadistas’ efforts took place against a backdrop of post-civil war distress and economic recession, with a state struggling to recover from the decade-long conflict.

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<sup>72</sup> I will refer to non-processing rancher cooperatives as “rancher associations” to distinguish them from the cheese processing rancher cooperatives.

The organizational model they introduced set the newly formed cooperatives apart from the traditional Nicaraguan cheese processing approach and the multitude of rancher associations in the region. It also diverged from the model and strategy of more modern rural Salvadorian-owned processing plants located in the area. As they blossomed to become full-fledged processors, the transformed cooperatives introduced new technology, work organization and labor and employment practices. They included both medium- and small-sized ranchers, their economic benefits spilling to the most isolated and destitute corners of the region.

To account for how this seemingly revolutionary ideology explains an industrial transformation, this chapter reveals the process of translation from its principles to the value-rational actions of the Cooperative Brigadistas. I argue that Sandinismo spawned a distinct ideological interpretation, "Cooperative Developmentalism." This interpretation most generally favored a mixed economy with broad popular organization and participation. It contrasted sharply with the now-infamous alternative interpretation, "Statist Developmentalism," which shaped the Sandinistas' strongly authoritarian and collectivist policies of the first half of the 1980s.

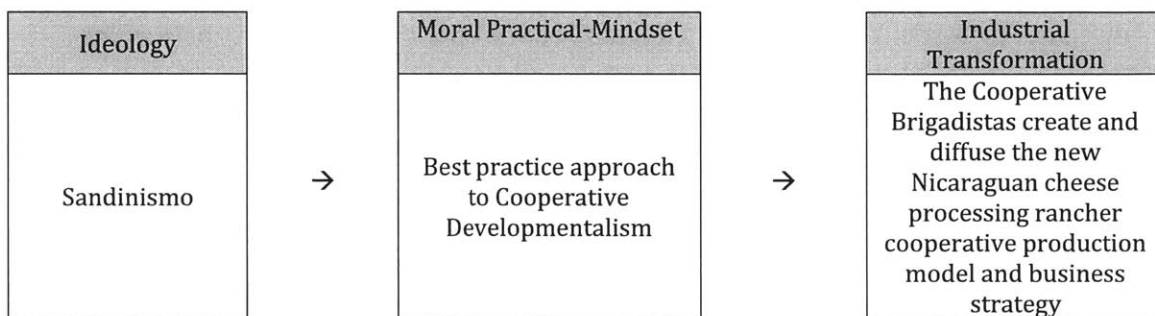
In the late 1980s, Cooperative Developmentalism garnered support among the Sandinista leadership and some of the European aid agencies active in revolutionary Nicaragua. These aid agencies, led by the Finnish International Development Agency (FINNIDA), organized teams of consultants to pursue economic change consistent with the tenets of this interpretation. Among them were the Cooperative Brigadistas. Acting as mentors and managers, they fostered the emergence and diffusion of the new model and strategy.

The Cooperative Brigadistas relied upon their consulting background, a "directly productive profession" (Lipset, 1967) comparable to the Apostles of Development's engineering background, in their developmentalist campaign. Consulting steered the

Brigadistas' transformative actions toward the business realm. It allowed them to enact the moral and political imperatives and aspirations of Cooperative Developmentalism, crafting concrete practices. As it complemented this ideological interpretation, consulting fostered a distinct moral-practical mindset among the Cooperative Brigadistas, the best practice approach to Cooperative Developmentalism.

Heavily reliant upon this moral-practical mindset, the Brigadistas began their transformative campaign by working at nine cooperatives and successfully creating the new production model and business strategy at two of them, Concepcion and San Cristobal. In the heels of this creative endeavor, they encouraged the diffusion of their new approach. Urged by Cooperative Developmentalism's emphasis on cooperation and rural development, they resorted to direct and indirect channels to spread their practices to other rancher associations (see Figure 4.1). As the new model and strategy diffused, a broad industrial transformation unfolded.

Figure 4.1 Sandinismo as an explanation for Industrial Transformation



Like the Guatemalan Apostles of Development, the Cooperative Brigadistas initially encountered some ideological opposition to their new approach, particularly among would-be allied ranchers. To overcome this opposition, they relied upon DiMaggio and Powell's "normative" channels of isomorphism: they deployed their professional networks and organizations to foster adoption among rancher associations. Consistent with predictions of the organizational ecology literature and the institutional literature on industrial relations and high performance work

organizations (HPWOs), these normative efforts encountered some managerial and administrative constraints at these rancher associations. These constraints limited the speed and extent of diffusion (Haveman, 1993). But despite these limitations, to a large extent, the Brigadistas succeeded in spurring isomorphism. They also effectively induced a significant change in the behavior of industry elites, encouraging them to share and cooperate, and to participate in cross-industry organizations.

This rest of this chapter is organized as follows: the next section describes the new production model and business strategy of the cheese processing rancher cooperatives, contrasting it with three alternative organizational models observed in the region. Section 3 traces the transformation of the cheese processing cooperatives. It describes the motivating ideology and moral-practical mindset of the Cooperative Brigadistas, and walks through the processes of neomorphism and isomorphism. The last section reviews and summarizes the findings.

### **Contrasting production models and business strategies**

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Between the late 1980s and the late 2000s, an industrial transformation unfolded in the conservative, cattle-ranching north central region of Nicaragua. This transformation produced a cottage industry of cheese processing rancher cooperatives. Through this transformation, these cooperatives adopted a production model and business strategy distinct from the region's rancher associations, traditional artisanal cheese processors and Salvadorian-owned cheese plants.

This section explores the characteristics of this new production model and business strategy. It contrasts it with these three alternative organizations along the four axes of comparison highlighted in this dissertation: production organization, work and employment practices, technology of production, and products and markets.

***The production model and business strategy of the cheese processing rancher cooperatives***

During their industrial transformation, the new cheese processing cooperatives introduced a distinct organization of production in ranches and processing plants. The medium- and small-sized cooperative ranchers closely follow health and safety standards, adopting ranch worker specialization, adequate milking facilities, pasture improvements, fencing and smaller corrals. In pursuing these improvements, they usually cooperate closely with each other. Cooperatives also offer them a range of extension, training, veterinary and social services, and, in an otherwise highly volatile market, guarantee relatively stable year-round prices for their raw milk. To collect this milk, ease delivery and ensure continued refrigeration, cooperatives rely on vast networks of cooling centers. In these cooling centers, technicians test the delivered milk for quality.

These innovations have intensified cattle ranching, at least doubling raw milk production per cow among processing cooperatives ranchers. Their cow productivity easily surpasses both the national average and the average at the largest rancher association (see Table 4.1). Cooperatives also dampen the year-round cyclicity of raw milk production, increasingly stabilizing output through on-ranch interventions (Interview #44, 01/29/2013). Finally, cooperative ranchers have rapidly improved milk quality. For instance, Perez-Aleman (2011) reports that by 2004, 96% of the raw milk collected in her studied cooperative qualified as Grade A.



Table 4.1 Productivity and production comparison, 2012

	Liters of milk per cow	Raw milk production per day
<b>Nicaraguan National Average</b>	~3 - 4	~2,100,000 - 2,500,000
<b>CENCOPEL (association of cheese processing cooperatives) Average</b>	~7 - 8	213,000
<b>Momotombo (largest rancher association) Average</b>	~4 <sup>1</sup>	55,000 - 70,000

Sources: Author with data from Banco Central de Nicaragua (2012), CENCOPEL (2012), Personal interviews.

<sup>1</sup>While productivity at this rancher association is similar to the Nicaraguan average, the quality of the association's milk is significantly higher (Interview #62, 02/08/2013), at least in part because it provides members with a range of extension services and has set up a vast refrigerated collection network. According to Momotombo, 80% of its raw milk production qualifies as Grade A (Nicacentro, 2013).

The production organization innovations extend to the processing stage. On a daily basis year-round, trucks with refrigerated tanks transport the raw milk from the collection centers to cooperative cheese plants, where technicians test the milk a second time and separate it according to quality. Multi-functional workers, supervised by a robust bureaucracy of professionals, quickly process the different quality milk batches. They follow a set of standardized steps to produce a range of products.

This organization of production relies on a relatively sophisticated technological package. On ranches, processing cooperatives pursue genetic improvements to raise productivity, combining European and local cattle breeds through artificial insemination and select cattle purchase programs. They also favor a tropical cattle health program to control common diseases (e.g. mastitis) and enhance nutrition. Teams of veterinarians deliver these services to cooperative members, and cooperative-owned stores supply all necessary inputs.

Similarly, the collection and processing technology fosters high-quality, efficient production. Refrigeration tanks and labs at collection centers and plants guarantee high grade raw milk. In processing, pasteurization ensures compliance with domestic and foreign regulations. Imported processing equipment – at some plants, partly automated – allows them to produce a range of high standard dairy products.

A particular set of work and employment practices complements cooperatives' transformed organization of production and technology. On ranches, the increasing specialization of work tasks has triggered enhanced worker training in milking and cattle husbandry. Training emphasizes cattle herding, milking procedures, handling of raw milk, and the use of milking and storage equipment. With this increased specialization, observers described declining worker turnover and rising wages (Interview #36, 09/07/2012; Interview #78, 02/19/2013).

More notably, however, in a largely rural region marked by high poverty rates and low levels of education, cooperatives have invested heavily in training workers and managers at collection centers and processing plants. These training initiatives coach workers on the specifics of managing sophisticated processing equipment, clean manufacturing practices, laboratory testing and the production procedures for a variety of dairy products. The cooperatives also recruit professionals from national universities. As an Inter-American Development Bank study found, in cooperative plants “both workers and management possess a high level of technical ability” (Artola & Parrilli, 2006).

Given these investments in their labor force, the cooperatives value low turnover.<sup>73</sup> They offer their workers long-term written contracts. During the slow dry season months, rather than cutting their workforce, they encourage their personnel to use their vacation time. Cooperatives also furnish workers with wages in excess of the minimum wage, a full menu of benefits above those required by law, variation in

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<sup>73</sup> The few workers who leave usually move either to multinational corporation subsidiaries in Managua or to higher positions in neighboring plants.

daily tasks and even job ladders. As a result, employment at these plants represents, in the words of an interviewed worker, “hands-down the best alternative in the region” (Interview #76, 02/19/2013). This view was shared by the local representative of the Ministry of Labor (Interview #79, 02/19/2013). Not surprisingly, all processing cooperatives visited store large datasets of job seekers avid for employment opportunities.

The transformed production model of these cooperatives is premised on a business strategy that prizes increasing product and market diversification and value-added. They manufacture pasteurized cheese, particularly the Salvadorian *morolique* cheese, and export it to other Central American countries, especially El Salvador and, increasingly, the high-standard United States. This latter market absorbed about 25% of their exports in 2012. Indeed, while they represent less than 20% of the total number of medium-sized exporting cheese plants in the country, by 2012 they accounted for almost 40% of the country’s cheese exports to the United States (Author, with data from Centro de Trámites de las Exportaciones (CETREX) (2013).

In addition, because they collect close to 10% of the raw milk produced in the country, the cheese processing cooperatives supply all large industrial dairy plants – many of them owned by multinational corporation (MNC) subsidiaries – located in Managua. In these supply relationships, their diversified product market strengthens their bargaining power. It allows them to avoid the monopsonistic pressures exerted by these large dairy plants on other less diversified suppliers. Lastly, despite lacking the type of domestic market protection (e.g. tariffs) observed in other countries where such cooperatives flourish (e.g. Costa Rica, New Zealand), a growing number of these processing cooperatives sell a range of dairy products in national grocery stores. Their products include varied cheeses, cream and yogurt. Adopting sophisticated marketing schemes, their brand name products compete with imports and products from MNC subsidiaries.

Table 4.2 Products and markets of selected cooperative plants, 2013

Plant	Products	Markets
<b>Mombacho</b>	Raw milk, morolique cheese, Chihuahua cheese, fiesta cheese, Nicaraguan and Italian cheeses (e.g. mozzarella, fresco, quesillo), yogurt (10 flavors), cream, cuajada (Brand name: Papa Chente)	Nicaragua, El Salvador, United States
<b>Concepcion</b>	Raw milk, morolique cheese, Nicaraguan cheese, mozzarella, smoked cheese	Nicaragua, El Salvador, Guatemala, Honduras, Mexico, United States
<b>Maderas</b>	Raw milk, morolique cheese, Chihuahua cheese, cheddar cheese, Nicaraguan and Italian cheeses (e.g. criollo, mozzarella, quesillo), cream, butter (Brand name: Nicarao)	Nicaragua, El Salvador
<b>San Cristobal</b>	Raw, pasteurized and flavored milk, morolique cheese, Nicaraguan and Italian cheeses (e.g. criollo, mozzarella, quesillo), cream (Brand name: Camoapan)	Nicaragua, El Salvador, United States, Costa Rica

Sources: [www.camoapan.com](http://www.camoapan.com), [www.coopConcepcion.worldpress.com](http://www.coopConcepcion.worldpress.com), [www.copanicarao.zz/org](http://www.copanicarao.zz/org), Personal interviews

***Alternative organizational forms: the traditional artisanal approach, the rancher associations and the Salvadorian plants***

A growing institutional literature in industrial relations and HPWOs suggests that the same work can be performed in different ways and through different mixes of practices (Appelbaum & Batt, 1994; Osterman, 1994, 2000; Piore, 1990). Building on this finding, this literature makes three additional points. First, it recognizes that certain types of practices usually tend to cluster in internally consistent models, the two most common being the so-called “low-road” and “high-road” models. In these models, practices reinforce and complement each other. Second, different mixes of practices, though largely enabling similar work, entail sharply distinct consequences for workers. Only a few provide “mutual gains,” i.e. significant benefits for workers and employers. Third, firms with different mixes of practices can coexist in time and space, even when one mix proves more efficient than the other. Diffusion is thus anything but automatic (Kochan et al, 2013; Osterman, 2000).

To a large extent, the north-central region of Nicaragua confirms these findings. In the area, at least three competing organizational models coexist with the cheese processing rancher cooperatives. They involve distinct mixes of practices, and for the most part, fail to afford social gains for workers and producers comparable to cheese processing cooperatives'.

First, the transformed production model and business strategy of the cheese processing rancher cooperatives represents a significant break with the traditional artisanal cheese processing approach. While declining in importance, traditional producers continue to process a significant percentage of the country's raw milk. These producers employ unpaid, unskilled family workers in cramped, fetid sheds. The workers process raw milk collected on site or in nearby ranches, especially during the abundant rainy season. Treating the milk in hollowed-out tree trunks and stirring it with wooden poles and paddles, they produce unpasteurized cheeses for sale in local or regional markets. Because they perform no tests on the raw milk, the bacterial content vastly exceeds the regulated limits, a problem exacerbated by the unhygienic processing conditions. The sheds also lack electricity, concrete floors and refrigeration facilities.

The cooperative cheese processing model and strategy also differs from the raw milk rancher associations. Like the processing cooperatives, the rancher associations value rancher cooperation, encourage inclusion of smaller ranchers, and, in a few cases, have built sophisticated raw milk collection networks. They also sell their raw milk to Managua-based industrial dairy plants. But they lack the processing stage, with its associated sophisticated technology, improved worker conditions, and additional benefits (e.g. independence from the large Managua dairy monopsony, raw milk price stability) for small- and medium-sized ranchers.

Finally, the cheese processing rancher cooperatives have also diverged from the lower-road model and strategy adopted by their main competitors, the Salvadorian-

owned cheese processing plants. Established between the late 1980s and the late 2000s by Salvadorian merchants, these plants produce a single product, the unpasteurized *quesillo salvadoreño*. They export over 90% of it to El Salvador and Honduras. The plants purchase their raw milk from independent ranchers through spot market transactions, prioritizing prices and disregarding the origin and production standards of the raw milk. As a result, raw milk quality varies significantly, as does year-round milk availability and price. The Salvadorian plants process the raw milk in linear fashion, with workers specializing in simple, repetitive tasks. Worker turnover remains high – largely as a consequence of the instability of the raw milk supply – and training limited. While wages usually match the legally set minimum, workers complain about their poor benefits and the unpredictability of wage payments, since plant owners often fail to pay workers on a timely basis.

Table 4.3 The three cheese processing production models and business strategies

	<b>Traditional Artisanal</b>	<b>Salvadorians</b>	<b>Processing Cooperative</b>
<b>Labor and Employment Practices</b>	On ranches, poorly trained, low paid workers; widespread family work; no written contracts In artisanal shops, unpaid, unskilled family workers; volatile employment	On ranches, poorly trained, low paid workers; widespread family work; no written contracts In processing plants, on the job training; volatile employment; limited mobility	On ranches, increasingly trained, higher paid cattle hands; stable employment In processing plants, year-round employment, numerous job classifications; extensive training; upward mobility linked to skills
<b>Work Organization</b>	On ranches, no worker specialization; poor milking standards In artisanal cheese shops, no worker specialization, professionalization; low quality production standards	On ranches, no worker specialization; poor milking standards In processing plants, specialized job positions with narrow tasks; thin crust of professional and administrative staff	On ranches, increasing employment of wage workers; growing task specialization; rising on-ranch milking, health standards In processing plants, specialized job positions with task variation; short job ladders; significant crust of administrative and professional staff
<b>Technology</b>	On ranches, milking in fields; no refrigeration, electricity; no raw milk testing In artisanal cheese plants, wooden tools; no pasteurization or refrigeration; production of a single cheese	On ranches, milking in fields; no refrigeration, electricity; limited raw milk testing (upon delivery at plant) In processing plants, locally made stainless steel equipment; refrigeration; production of a single cheese	On ranches, increasing use of veterinary services, specialized cattle breeds and grasses; milking stations; refrigeration; laboratories In processing plants, imported, turn-key, semi-automated imported equipment; refrigeration and pasteurization; production of a wide range of products
<b>Products and Markets</b>	Single cheese (Nicaraguan) production for local market	Single cheese (Salvadorian) production for export Salvadorian market	Raw milk for large Managua dairy plants; varied dairy products such as yogurts and mozzarella cheese for domestic Nicaraguan consumption; and export cheese for Central American and United States markets

## Tracing the transformation

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The industrial transformation of the Nicaraguan cheese rancher cooperatives, involving their adoption of the new production model and business strategy, poses a challenge to traditional accounts of agro-industrial transformation focused on the state or inter-firm collaboration. Building on studies from other regions and countries, explanations for industrial transformations among cooperatives usually emphasize state policies or multinational corporation (MNC) support. However, in contrast to countries like Costa Rica, Uruguay or New Zealand, where national states played a major role in promoting the development of local dairy and cheese cooperatives (Valliant, 1999; Zúñiga-Arias, 2011), in Nicaragua few state regulatory and industrial programs targeted dairy firms during the 1990s and 2000s. If anything, state officials championed MNC subsidiaries as engines of development for the sector, often obstructing rancher cooperative processing. Yet, despite state official hopes, MNC subsidiaries in Managua failed to trigger organizational upgrading among Nicaraguan ranchers. Indeed, as opposed to Argentina, Chile or Colombia, where MNCs fostered dairy ranch upgrading (Bravo-Ureta et al., 2008; Dirven & Ortega, 1998; Suarez-Gomez, 1999), no clear association exists between MNC sourcing and production model and business strategy innovations.<sup>74</sup>

Thus, the question that arises is how we account for the industrial transformation of the Nicaraguan cheese processing rancher cooperatives. The evidence collected suggests that Sandinismo lies at the root of the widespread organizational changes. This radical political ideology ignited the transformational drive of a group of

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<sup>74</sup> MNCs purchase raw milk from all types of producers, from processing cooperatives and rancher associations, to a few large Salvadorian firms. But I found no association between these sourcing relations and organizational changes. Eskola (2003) corroborates this finding, "The present government sees much of the achievement in milk production to have been due to PARMALAT, which serves as a good example of the benefits of attracting private foreign investment to the country. It should be noted, however, that PARMALAT only entered the market when much of the basic extension, organizational and infrastructure work had already been done..." (66)



ideological carriers, the Cooperative Brigadistas. Employed as consultants by foreign aid agencies, most notably by FINNIDA, these Brigadistas upgraded rancher associations into processing. Through mentoring and direct intervention, they created and diffused a new production model and business strategy.

In performing this role, the Brigadistas patterned their actions in accordance with Weber's concept of substantive rationality. Engaging in value-rational action, they directed their efforts toward the pursuit of the value-postulates of their ideology (Kalberg, 1980). Sandinismo shaped their behavior, influenced their decisions, and inspired their choice of business practices.

To the extent that a radical political ideology influenced the development and transformation of a cottage industry, the case of the Nicaraguan cheese processing cooperatives parallels the experience of the Italian producers in Emilia Romagna. In that region, Communism shaped the organization of production, technology and labor and employment practices of producers (Brusco & Pezzini, 1990; Piore & Sabel, 1984; Trigilia, 1990). For example, Criscuolo (2002) claims that the Communist ideology affected the "strategic approach to small business" by casting support for small producers as part of a "progressive fight against the monopoly of big business." In addition, the "idea that the competitive advantage of small business cannot rely on the exploitation of the workforce" inspired "constant pressure" to "introduce labor standards." This "preclusion for ideological reasons of a low-cost competitive strategy" forced firms to "seek alternative strategies: product and process innovation, the rationalization of the productive process, and the search for more lucrative markets became alternative sources of competitiveness." Lastly, "the creed of Communist economics that large firms would hinder the development of small businesses by exerting their oligopolistic power over the market" forced business associations to devise "highly developmental policies." For example, they

created consortia for the acquisition of raw materials,” and built “industrial sites for the relocation of clusters of artisanal firms” (39).<sup>75</sup>

The case of the Nicaraguan cheese rancher cooperatives suggests a similar role for Sandinismo, an ideology in many ways parallel to Communism, in driving industrial transformation. But how exactly did Sandinismo, a preeminently revolutionary ideology, translate into the value-rational actions of the Brigadistas? After all, Sandinismo is best known for its role in the guerrilla movement of the 1970s and the statist and collectivist policies normally blamed for the decline of the Nicaraguan economy in the 1980s.

As the following section elaborates, Sandinismo spawned two distinct interpretations, each prioritizing different political and moral imperatives and aspirations, and providing contrasting causal maps and taxonomies. The first, radical and authoritarian “Statist Developmentalism” partly echoes the Leninist interpretation of Marxism. The second, more conservative “Cooperative Developmentalism,” stands closer to the “social evolution” view of Marxists such as Eduard Bernstein. Statist Developmentalism shaped most of the Sandinista policies of the early to mid 1980s. Cooperative Developmentalism, in turn, guided the Cooperative Brigadistas in their 1990s campaign to create and diffuse a new model and strategy at rancher associations.

Yet, the evidence also suggests that the observed translation required a practical, business-focused professional background among the Cooperative Brigadistas. Consulting for the Brigadistas played a role analogous to engineering for the Apostles of Development in Guatemala’s sugar industry. It directed their efforts toward the business realm. In this realm, much like the Apostles of Development, the Brigadistas drew upon the tools, practices and abstract knowledge supplied by

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<sup>75</sup> Criscuolo argues that the support of the left-leaning artisan association CAN, and its three-pronged approach (i.e. formalization, upgrading and rationalization, and a “solid” system of industrial relations), explains, at least in part, the “brilliant” performance of small artisan firms in Emilia Romagna.

their shared professional background in their transformative endeavor. They relied upon them to mentor and lead the rancher associations. Only by deploying this professional background could they enact their ideological commitments into practices.

### ***The ideology and its interpretations***

As a revolutionary ideology, Sandinismo rejected the existing social, political and economic system, and pursued the construction of a new, revolutionary, socialist society. Influenced by Marxist thought, it embarked on a “conscious attempt to transform the superstructure” (Ryan 1995, 37). As Jaime Wheelock, one of the nine commanders of the Sandinista Revolution, put it, “we have pledged ourselves to a broad program of construction of a new society. Our aim is to integrate all sectors of the nation under revolutionary hegemony.” (Harnecker 1985, 133).

Under the umbrella of this overarching goal, Sandinismo embraced a set of five second-order principles. First, it endorsed vanguardism (Hodges, 1986).

Introducing a “strong voluntarist and activist bent,” vanguardism extolled the actions of a small group of charismatic professional revolutionaries in bringing about the necessary changes. The vanguard would first lead the revolution and then transform society through its control of the state. Its actions proved especially necessary in “backward, underdeveloped” Nicaragua. The ideological and organizational capacity of the vanguard revolutionaries would compensate for the “weakness” of the working-class (Nolan 1984, 65). Yet, as Ryan (1995) has noted, this hierarchical scenario would only be temporary. The self-extinguishing vanguard remained necessary only as long as the “level of development” of the masses lagged behind.

Second, Sandinismo defended a model of independent economic development. Stimulating the production of foodstuffs and basic goods, ensuring sovereign exploitation of Nicaragua’s resources and emphasizing the development of the

“backward” countryside constituted central goals (FSLN, 1985; Harnecker, 1985).<sup>76</sup> In building this model, the Sandinistas looked to change Nicaragua’s role in the international division of labor, shifting from raw material to processed good exports (Enriquez, 2010).

The third second-order principle espoused the creation of a new man. This new man, an ascetic devoid of egoism, constituted the foundation of the ongoing transformation of society. His actions reflected his “love without humility, the disposition to sacrifice, the preferential option for the poor...” (Hodges 1986, 262) The new man combined a “sense of duty to the revolution” with “an epic and heroic sense of life” that drove him to sacrifice for a great cause (Hodges 1986, 180).

Fourth, the Sandinistas pursued popular democracy. They recognized the UN Human Rights Declaration’s individual rights, but emphasized the social and economic rights highlighted by Pope John XXIII in his Peace on Earth (*Pacem en Terris*) encyclical. This encyclical focused on “the right to work, the right to a decent wage in keeping with human dignity, and the right to shape the social system under which one lives” (Hodges 1986, 268). The pursuit of these rights called forth the creation of a new political party and a number of collective organizations to solve individual and common problems related to economic and social rights.

Lastly, and somewhat inconsistently given its concern with rural “backwardness,” Sandinismo venerated the rural lifestyle and its “patriotic producers.” It promoted policies aimed at ensuring the survival of some semblance of the rural way of life, with its ties to the land and its aversion to urbanization. As Sandinista leader Daniel Núñez put it, “the happiness of the Nicaraguan people is not going to lie in the cities. It is going to be in the countryside” (Nuñez 1985, 366).

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<sup>76</sup> They would modernize the “considerable holdovers from the aristocratic economy of colonial origin,” most notably the “primitive cattle raising of the kind that dominates great expanses of land in the center of the country.” (Wheelock, cited in Harnecker 1983).

These Sandinista principles spawned at least two distinct interpretations (see Table 4.4). Each interpretation endowed the principles with contrasting and even contradictory meanings. They drew upon distinct diagnoses, prioritized varied moral imperatives, and inspired clashing visions of the ideal society. They offered different causal maps and taxonomies. Unsurprisingly, the two interpretations motivated divergent actions among ideological carriers, leading to sharply distinct outcomes.

The first, better-known interpretation, highlighted by the Reagan administration and the Contra army as evidence of the “communist” leanings of the Sandinista Revolution, encouraged “Statist Developmentalism.” This interpretation displayed prominent traces of Leninist thought. Founded on the premise that the “new man” should be a “conscious” proletariat willing to fight for the revolutionary project, it cast the peasant as an “anachronism.” Echoing Leninism, it also regarded petty bourgeois, including artisans and small proprietors, as “the principal enemy of socialism” (Lenin, 1902) and urged its elimination.<sup>77</sup> This interpretation, which held sway among the Sandinista leadership through most of the 1980s, extolled an autocratic vanguard in firm control of the state. Representing the popular will, this vanguard should develop a long-term, strongly centralized program to imbue the requisite revolutionary consciousness among the “new men” of the revolutionary society. For Statist Developmentalism, as for Lenin (1902), this task was crucial since “consciousness is something introduced into the proletarian class struggle from without and not something that arose within it spontaneously...”

In this revolutionary society, state capitalism would represent a fundamental intermediate step in the road to socialism. To some extent, the state assumed the leading economic role through direct ownership of production and financial organizations in early to mid 1980s Nicaragua. To modernize the “backward”

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<sup>77</sup> As interviewees supportive and critical of the Sandinistas noted, Statist Developmentalists did not hesitate to follow Lenin (1918) suggestion to use “barbarous methods” in fighting “barbarism,” primarily in the country’s northern region. As Lenin (1902) would suggest, they were “imbued with intolerance against those who” retarded their revolution.

economic conditions of the country, particularly in rural areas, the vanguard created large scale, capital-intensive state-owned enterprises that employed the “conscious” proletariat.<sup>78</sup> The prevalent perspective built on Lenin’s (1918) view that “Socialism is inconceivable without large scale capitalist engineering based on the latest discoveries of modern science.”

Under this arrangement, the rural lifestyle acquired distinct characteristics. Rather than spatially dispersed private owners employing landless, migrant, “culturally backward” peasants, the state would concentrate the rural, socially undifferentiated proletariat in specific locations. It would also provide them with a range of social services.

However, an alternative interpretation, dismissed as reactionary or bourgeois by some Sandinista leaders, emerged alongside Statist Developmentalism. This interpretation, “Cooperative Developmentalism”, was infused with more democratic and reformist views reminiscent of Marxists such as Eduard Bernstein. It gained ascendancy in the last few years of the revolutionary regime. It adopted a broader understanding of the “new man,” including not only the urban and rural proletariat, but also people in the “middle class position” (Bernstein, 1897) such as “patriotic” peasants, self-employed artisans, shopkeepers and even small and medium-sized members of the “national bourgeoisie.”<sup>79</sup> Above all else, these new men shared the will to sacrifice for the socio-economic and political goals of the revolution. Cooperative Developmentalism also endorsed a more pluralist conception of popular democracy that, like Bernstein’s Social Democracy, recognized the importance of “conquering” the “bourgeois liberties.” While still emphasizing collective action, it supported numerous avenues of democratic popular representation beyond the state. These included community associations, labor and

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<sup>78</sup> For example, in the dairy sector they founded the Empresa Nicaraguense de Lacteos (ENILAC), and thirteen massive cattle ranching projects (Interview #68, 02/15/2013). These public enterprises relied upon state of the art, imported technology to enable industrialization in the countryside.

<sup>79</sup> As Bernstein (1897) had argued, Marx and Engels “proclaimed that the Communists had to support the bourgeoisie wherever it acted as a revolutionary progressive class.”

peasant associations, and crucially, cooperatives of private owners known as Cooperativas de Creditos y Servicios (CCSs).<sup>80</sup>

In opposition to Statist Developmentalism, Cooperative Developmentalism favored shorter interventions by the vanguard. Rather than single-handedly trying to transform the country through the policies of the state, the vanguard should raise the “cultural level” of the masses to create “new men,” and encourage their independent learning and action. At root lay a fundamental disagreement with Statist Developmentalism’s perception of the “people” and their abilities. For the Statist Developmentalists, “these [were] pusillanimous people. They [didn’t] have ideological substance, they [lacked] the required culture and education to... sustain an ideological position... Without a high degree of paternalism, the people are not ready anywhere in the world, not to say Nicaragua...” (Interview #68, 02/15/2013) This view mirrors Lenin’s (1902) belief that “there could not have been social democratic consciousness among the workers. It would have to be brought to them from without. The history of all countries shows that the working class, exclusively by its own effort, is able to deploy only trade union consciousness...”

In contrast, for Cooperative Developmentalists, this hierarchical perspective “was one of the great weaknesses of the Revolution.” Cooperative Developmentalists lamented that for most of the 1980s that “We did not believe in the people.” (Interview #32, 02/15/2013). They welcomed some bottom-up participation, departing from the disdain for “spontaneity” inherent in Leninism and Statist Developmentalism.

Accordingly, Cooperative Developmentalism favored a more decentralized, mixed economy. Like Bernstein’s (1911) reading of Marxism, this interpretation proclaimed that rather than resulting from a collapse of the “bourgeois economy,”

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<sup>80</sup> According to Damiani (1994), CCSs amalgamated 35 members on average, each holding an average of 17 manzanas of land. Most of these members had been landowners in the pre-revolutionary period.

the “social evolution” toward socialism would be long. The state would play a central, guiding role, directly controlling key industries. But other types of economic decision-makers, including a national bourgeoisie and private producers organized in cooperatives, would also support the national modernization and industrialization program. This did not entail an absence of state regulation and intervention. Controls to prevent the “exploiting tendencies of capital” would be necessary: heavily regulated by the state, these private agents, mostly small and medium-sized producers, would fulfill not only their profitability objectives, but also broader social goals associated with the revolution.<sup>81</sup>

In rural areas, the more decentralized, mixed economy entailed a distinct lifestyle. Drawing on the veneration of the peasant life captured in Sandino’s writings, Cooperative Developmentalism encouraged property owners and peasants to permanently settle on farms and ranches. It also supported the development of local economic activities by artisans, members of the industrial bourgeoisie and, to some extent, merchants.

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<sup>81</sup> The position exhibits similarities with Bernstein’s (1911) view that “In all advanced countries we see the privileges of the capitalist bourgeoisie yielding step-by-step to democratic organizations... a social reaction has set in against the exploiting tendencies of capital... Factory legislation, the democratising of local government, and the extension of its area of work, the freeing of trade unions and systems of cooperative trading from legal restrictions, the consideration of standard conditions of labor in the work undertaken by public authorities – all these characterize this phase of the evolution.”



Table 4.4 Contrasting interpretations of Sandinismo

Sandinismo principles	Statist Developmentalism interpretation of principles	Cooperative Developmentalism interpretation of principles
<b>The new man</b>	Proletariat fully compliant with state directives	Various independent and revolutionary economic agents
<b>Promotion of Popular Democracy</b>	State represents the popular will	Pluralist representation
<b>Leadership of vanguard</b>	Long-lasting intervention through the state	Shorter-lived interventions through a variety of mechanisms
<b>Pursuit of independent economic development</b>	State-led economy supported by collectivized organizations	Mixed economy combining state, private and cooperative organizations
<b>Veneration of the rural lifestyle</b>	Concentration of rural proletariat in specific locations	Decentralized rural life involving a variety of economic agents

***The Cooperative Brigadistas and the best practice approach to Cooperative Developmentalism***

Toward the late 1980s, as the country’s political and economic circumstances eroded the legitimacy of Statist Developmentalism, the influence of Cooperative Developmentalism grew among leading Sandinista circles. The Sandinista newspaper *Barricada* revealed this shift, arguing that after 1985 the government “changed its development strategy,” replacing its overwhelming support for the “state sector” with a “strategic emphasis on small and medium farmers” (August 1986). With this change, the Cooperativas de Credito y Servicios (CCSs), endorsed by the Cooperative Developmentalism interpretation, garnered increasing approval among the vanguard.<sup>82</sup> In contrast to previous collectivist projects (e.g. the Cooperativas Agrícolas Sandinistas, CASs), these new cooperatives brought together individual producers who cultivated their land independently (Damiani, 1994; Enriquez, 2000).

Cooperative Developmentalism, with its emphasis on the creation of a mixed economy and a pluralist popular democracy, drew significant international support

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<sup>82</sup> This support spurred their growth: by 1989 they accounted for 62% of all cooperative members in the country (Damiani, 1994).

from Canada and different Western European and Scandinavian countries. Its rise coincided with an international intellectual environment increasingly critical of the type of top-down, modernizing and paternalistic approaches to development of Statist Developmentalism.<sup>83</sup> Donor governments and their aid agencies welcomed the new “strategy” as a third way of development independent of the United States and the Soviet Union. They valued an interpretation that combined “social justice and economic growth with respect for the principles of economic pluralism, mixed economy, and non-alignment” (Barracough, Buren, Gariazzo, Sundaram, & Utting, 1988). This third way fit the donors’ changing priorities. As a Swedish agency representative put it, “the aims of the Nicaraguan government development policy coincide exactly with the principles upon which our policy is based...” (cited in Barracough, Buren, Gariazzo, Sundaram, & Utting, 1988).

Among those aid agencies, the Finnish agency FINNIDA emerged as a major supporter of the Revolution.<sup>84</sup> Like the Sandinistas, the agency emphasized the reduction of inequality both within and across countries.<sup>85</sup> In the aftermath of the revolution of 1979, it had selected Nicaragua as its sole Latin American “long-term partner.”<sup>86</sup> In 1983 it established its first project in the country, which drew heavily upon the modernizing Statist Developmentalism interpretation that prevailed at the time in both Sandinista circles and international development thinking. Through

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<sup>83</sup> Writing in 1996, Koponen & Mattila-Wiro noted that “international development thinking has continued to evolve... Perhaps the main changes in development theory have been the abandonment of modernization thinking in favour of a direct poverty reduction approach; the triumph of the free market model over its state-centered challenger; an intensifying demand for ‘good governance’; the emergence of stress on sustainability both in an environmental sense and in the sense of the ability of the recipients to maintain the activities and benefits introduced by foreign aid; and increased attention to the role of women and gender in development” (13)

<sup>84</sup> As a Sandinista leader explained, FINNIDA came to Nicaragua “because they supported the Revolution. They came because they shared our political positions...” (Interview #88, 03/07/2013). In one of its reports, the Finnish government also recognized this ideological affinity, noting that the “context for the establishment of [the aid] relationship was the Nicaraguan revolution itself, which began in a phase of euphoria and optimism, and widespread approval in Europe...” (Caldecott, van Slujis, Aguilar, & Lounela 2012, 50)

<sup>85</sup> Koponen & Mattila-Wiro (1996) explain that among the “underlying continuities in Finnish goals and aims” is “the stress on the reduction or elimination of discrepancies and inequalities in wealth and welfare between and within developing and developed countries...” (44)

<sup>86</sup> The other long-term partners were Tanzania, Mozambique, Zambia, Kenya, Egypt, Nepal and Vietnam (Koponen & Mattila-Wiro 1996).

this project, FINNIDA equipped four government-run industrial dairy plants with Finnish “stainless steel tanks and state-of-the-art (for the times) pasteurisation and refrigeration systems...” (Seppanen et al. 2013, 19) That project concluded in 1987.

Relations between the two countries grew even closer after a social-democrat became the Finnish Minister of Foreign Affairs in 1987. As the “ideological solidarity” between the Finnish and Nicaraguan governments deepened, a delegation headed by then-Nicaraguan Minister of Agriculture Jaime Wheelock visited Finland. The visit engendered the Rural Livestock Development Programme (PRODEGA) that would transform the cheese processing cooperatives in Nicaragua.<sup>87</sup> The project would draw on the Finns’ experience in agricultural aid to increase the country’s waning supply of raw milk. It would foster the development of the prevalently small- and medium-sized dairy ranchers through a long-lasting intervention involving mentoring and other forms of assistance (Seppanen et al., 2013). It would also reflect the changing objectives in both Sandinista and FINNIDA thinking, as a paternalistic, state-led approach gave way to a broader, more participatory exercise.

Originally called the Integrated Rural Development Programme (PIDR), PRODEGA took close to three years to set up. According to Seppanen et al. (2013), “Nicaragua assigned the Fifth Region (Region V) to Finland as a field of action... given that it was a cattle ranching area where the Sandinista Front did not have a strong traditional support... as it did in the coffee-growing areas to the North, and the revolutionary government wanted to strengthen its presence and reputation through cattle ranching cooperatives...” (20)

In this north-central region, the Finns would initially focus on the department of Boaco. This department proved ideal for the Sandinistas because they were already

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<sup>87</sup> The delegation and their hosts also agreed that Finland would dedicate 80% of its aid to Nicaragua to the agricultural sector (Seppänen, Eriksson, Aguilar, Boman, & Pijnenburg, 2013).

working there to strengthen local production.<sup>88</sup> As the head of the Sandinista Empresa Nicaraguense de Lacteos (ENILAC) explained, “In 1988 I became involved with the [agrarian reform] project in Camoapa and Boaco. [The individuals responsible for the agrarian reform] were trying to strengthen [local ranchers], but there were a lot of problems... Because my go-to strategy is to call a team of experts and because the Finns and their social-democratic government supported us, I sold them the project of Camoapa and Boaco... I even traveled to Finland in 1989, before we lost the election, to make sure we kept the program...” (Interview #88, 03/07/2013) Furthermore, the Sandinista vanguard felt that they owed these ranchers. As Seppanen et al. (2013) explain, a project known as TECNOPLAN, proposed for Boaco and Camoapa in 1987, “did not prosper.” The Sandinista vanguard concluded that “the Finnish project was suitable for compensating that shortfall...” (23)

PRODEGA would focus on developing dairy production in two of the department’s municipalities, Boaco and Camoapa. It would promote the creation of the cooperatives known as CCSs among selected rancher associations. This type of cooperative, inspired by Cooperative Developmentalism, “was sufficiently “socialist” to make the Sandinistas happy, but sufficiently “capitalist”... given that it was based on private property” for the predominantly counterrevolutionary, or Contra, ranchers of the region (Seppanen et al. 2013, 24).<sup>89</sup> The emphasis was on “raising farm incomes and milk production” and fostering “milk and cheese processing

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<sup>88</sup> According to CIPRES (2008), at least one rancher association held close ties to the Sandinista Union Nacional de Agricultores y Ganaderos (UNAG), which also sent a delegate in Wheelock’s mission to Finland. CIPRES further argues that after the bankruptcy of the Sandinista Empresa Cooperativa de Productores Agropecuarios (ECODEPA), UNAG saw the PRODEGA model as an alternative to face the growing political and economic crisis.

<sup>89</sup> Seppanen et al. (2013) argue that in bringing Sandinistas and Contras together, PRODEGA promoted reconciliation and pacification: “Another project impact in this initial phase was not planned: pacification or reconciliation. Following the demobilisation of the armed groups and the formation of the service cooperatives, the project was able to convince the area’s cattle ranchers that they had to forget about political rivalries and work together to improve the standard of living and increase milk production for the benefit of all.” They explain that in a 1993 meeting of PRODEGA’s board of directors “the producers thanked the Finnish government for the strong support and interest they have had towards the Boaco and Camoapa producers, proof of which is that all political tendencies were put aside, and work was carried out jointly, as in a large family” (27).

cooperatives, and rural self-help groups” (Eskola 2003, 61). Based on a study carried out by a Finnish delegation, activities would include “plant nurseries and reforestation for ecological reasons (soil and water source conservation) and to produce firewood; improvement of infrastructure (rural roads) and agricultural mechanization; agricultural extension services, improved feed for cattle, commercialization and processing of milk; genetic improvement of herds... [and] the improvement of the situation of women...” (Seppanen et al. 2013, 21).

At the same time, it is worth noting that fostering cooperatives represented a risky endeavor in Nicaragua. Their selection as the preferred organizational models thus suggests an ideological motivation. As much of the literature on dairy production around the world argues, because they often entail high transaction costs, few cooperatives survive without significant state protection and support (Dirven & Ortega, 1998; Valliant, 1999). Large-scale ranches and industrial plants often prove more efficient. Moreover, the domestic Nicaraguan context of civil war and a collapsing economy in the late 1980s challenged any type of business activity, whether cooperative or individually owned. But despite these risks, Sandinismo required that the PRODEGA project promote this type of organization.

It is also important to underscore that the promotion of cooperatives was not inherent to foreign aid projects. For example, during the 1990s and 2000s, the United States Agency for International Development (USAID) became the strongest international supporter of the post-Sandinista governments. In this position, it implemented at least one project to support dairy production in the north-central region (Financial Markets International, 2008). However, in contrast to PRODEGA, USAID targeted all types of firms, without distinction of organizational form. Moreover, it focused only on those firms already exporting to the United States, prioritizing compliance with the Food and Drug Administration’s (FDA) health and safety regulations (Financial Markets International, 2008). While this single project cannot be taken as proof of the overall approach of USAID, it highlights some central contrasts between the agency and its pro-Sandinista counterparts. Most evidently,

the USAID project favored well established and profitable organizations, as opposed to struggling associations of small- and medium-sized ranchers. It assumed that if it supported the more developed producers, benefits would trickle down to the rest. This USAID approach bears a striking resemblance to the agricultural policy – profoundly at odds with the Sandinista objectives – of the post-Revolutionary Liberal governments.<sup>90</sup> It sharply contrasts with the FINNIDA approach, further highlighting the important influence of ideology in PRODEGA.

To staff the project, FINNIDA recruited the first Finnish and Nicaraguan consultants, the original Cooperative Brigadistas who would begin to mentor and assist the ranchers. These Brigadistas would change over time as the project, and Finland's international aid program more generally, was hampered by deep personnel cuts during the early 1990s, a relatively small bureaucracy, and the "persistent problem" of "a high rate of internal staff turnover" (Koponen & Mattila-Wiro, 1996). In Nicaragua, Cooperative Developmentalism and FINNIDA's deep commitment to agricultural development and inequality reduction guided the Brigadistas. They were closely monitored and supported by the Finnish Embassy in Nicaragua, which played a crucial role from the outset.<sup>91</sup> In particular, the Finnish aid attaché and rural development counselors consistently intervened. On the ground, a Finnish Chief Technical Advisor (CTA) led the Brigadista team. The CTA changed with every phase of the project. Because PRODEGA extended over three phases, at least three different Finnish CTAs served during the project's thirteen years of operation.<sup>92</sup> This individual supervised at least four Brigadistas – usually Nicaraguan-born – charged with farm improvement, cattle feed, farm mechanization, and project

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<sup>90</sup> In fact, the absence of any USAID programs in the 1990s akin to PRODEGA (Finland), FondeAgro (Sweden) or PRADC (Italy) further corroborates the crucial role of the ideological interpretation.

<sup>91</sup> The significant Embassy intervention probably responded to changing policies in FINNIDA. As Koponen & Mattila-Wilo (1996) explain, a "potentially important change in Finnida's modalities was the delegation of more authority to Finnish embassies in primary cooperation countries following the reorganization in 1991. The embassies no longer have to refer all major decisions concerning aid activities back to the responsible officer in Helsinki, but are now in charge of the implementation of the activities within the framework of agreed plans and budgets."

<sup>92</sup> Rural sector counselors from the Embassy also changed quite often, as did the Nicaraguan staff. The longest serving staff member was the National Director of the program, a Nicaraguan who served for 10 years (Phases I and II of PRODEGA).

monitoring and safety. The CTA also received assistance from different Finnish consultants who spent shorter periods in the country.

In their mentoring campaign, the Brigadistas drew upon the practical guidance and vast experience supplied by their professional background as consultants. In translating from ideology to action, they introduced a much needed “business focus” (*enfoque empresarial*), contributing with essential managerial skills (Interview #67, 02/14/2013). They used their expertise in dairy cooperative organization and product marketing, as well as their access to financial resources, to advance their Cooperative Developmentalism interpretation of the main Sandinista principles. Acting as “knowledge brokers” (McKenna, 2010), they encouraged imitation of best practices and searched for options and markets unknown to their advisees. This consulting background complemented the Brigadistas’ Cooperative Developmentalism interpretation to spawn a particular moral-practical mindset, the best practice approach to Cooperative Developmentalism. As the following discussion shows, through this moral-practical mindset the Brigadistas devised the new production model and business strategy that came to characterize Nicaragua’s cheese processing cooperatives.

### ***Neomorphism***

On February 22, 1990, only three days before the unexpected Sandinista electoral loss, the Nicaraguan and Finnish governments officially launched PRODEGA. The electoral loss meant that, though created under the aegis of the Sandinistas, most of PRODEGA’s developmental activities took place under the Liberal governments of the 1990s and 2000s. These new Liberal regimes adopted policies antithetical to the general principles of Sandinismo. For instance, they favored large, independent producers and over the years withdrew almost all support for small producers and cooperatives.<sup>93</sup>

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<sup>93</sup> As Enriquez (2000) explains, with the governments of the 1990s came a significant drop in credit. In agriculture, credit available in 1996 was 51.5 percent of what it had been in 1992. Furthermore, the share of agricultural credit for small- and medium-sized producers dropped from 56% 1990 to

In the new, hostile Liberal environment of trickledown economics, privatization, deregulation and liberalization, the Brigadistas pursued their PRODEGA campaign. The government change led the Brigadistas to focus not only on promoting dairy production, but also more broadly on salvaging previous Sandinista gains (Caldecott et al., 2012). They arrived in the north-central Nicaraguan department of Boaco in early 1990.<sup>94</sup> Over the next thirteen years, numerous Brigadistas would work in the region, operating from their offices in the town of Boaco, and living in what came to be known as the town's "Finnish houses" neighborhood (Seppanen et al., 2013)

Originally, the project plan called for the development of the cooperatives known as CCSs in seven existing rancher associations, but the Brigadistas and the Embassy expanded this number to nine. Six were located in the municipality of Boaco (i.e. Cosiguina, Masaya, Cerro Negro, El Hoyo, Apoyeque, Telica, Isla Zapatera). Two operated in the neighboring municipality of Camoapa (i.e. San Cristobal, Concepcion).

At the time of the Brigadistas' arrival, the specter of bankruptcy haunted ranchers in these associations. Many had supplied either the Sandinista state-owned industrial dairy plants located in Managua, or the Nestle-owned PROLACSA industrial plant located in the neighboring department of Matagalpa. But with the collapse of the Sandinista economy, demand for their milk plummeted. In the midst of this firm-level shock, paralysis seemed to set in, as the ranchers and associations lacked a leadership versed in the required business knowledge and skills to find market alternatives.

Confirming Scott's (2008) insight and mirroring the experience in Guatemala's Tajumulco mill, both demand- and supply-side pressures played a role in driving the

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29% in 1992, while the share of credit given to large producers grew from 31 to 71% during this same period.

<sup>94</sup> The first CTA, Jussi Ojala, arrived in January 1990 (Seppanen et al., 2013).



industrial transformation that the Brigadistas promoted, with varying degrees of success, at these associations. Influenced by their Cooperative Developmentalism interpretation, the Finnish-employed Cooperative Brigadistas set upon reorganizing them in PRODEGA's Phase I (1990-1993). In this campaign, they combined an emphasis on enhancing productivity, product quality, marketing capacity and profitability, with a moral duty to educate ranchers in cooperative work and social behavior, and empower and benefit the smaller producers. The country's poor economic conditions and the waning state support for small producers and cooperatives during most of the 1990s, in turn, spurred financially troubled ranchers to seek outside support, as their traditional models proved increasingly unprofitable.

The Brigadistas spent considerable time enacting the central tenets of Cooperative Developmentalism. As a FINNIDA evaluation explained, they emphasized "further entrepreneurial development among cooperatives, especially to avoid disadvantaging the small producers" (Eskola 2003, 61). The goal was to "maximize the amount of resources that reached producers, especially to benefit the smaller ones," in order to improve their living conditions (Interview #21, 01/19/2013). They also focused on promoting cooperation across ranchers (Gomez & Ravnborg, 2011). Cooperatives were as central to the Brigadista project as banks were to Gerschenkron's (1962) Saint Simonian socialism in France: they bore the "great task" of "organization and development of the economy" (Gerschenkron 1962, 23).

But establishing these cooperatives proved difficult, despite the ranchers' need for outside support. As Seppanen et al. (2013) explain, "the idea of cooperatives faced strong opposition from cattle ranchers given that the term cooperative in and of itself had been discredited by the experience of the previous decade when peasants had been forcefully "co-operativised"" (25). The concept also clashed with a prevalent individualist tradition in the region (Cody, 1986).

Creating the “new cooperative man” thus required “considerable investment in training in cooperative principles and business management...” (Eskola 2003, 62). Indeed, Seppanen et al (2013) argue that “The fact that the project set out to promote cooperatives... can be seen as a courageous decision in these circumstances, and great strength of conviction was needed, along with a little of blackmail, to convince the cattle ranchers of the area to create cooperatives (“or there are cooperatives or there is no project”, in the words of some of those interviewed)” (25). After much struggle, the Brigadistas officially created the first nine cooperatives in the second half of 1991.

Yet while Cooperative Developmentalism encouraged cooperativization and rural development, and extolled entrepreneurship among smaller ranchers, the Cooperative Brigadistas needed to translate these general goals and aspirations into firm-level practices. In this process of translation, the evidence suggests that their consulting background played a preeminent role. We can assess the importance of this professional background by drawing a comparison with other actors driven by Cooperative Developmentalism but bereft of the consulting tools and knowledge. Damiani (1994) offers one example. He reports that most of the cooperatives known as CCSs created by the Sandinistas in Nicaragua during the late 1980s, and therefore strongly supportive of Cooperative Developmentalism, encountered a mined economic terrain in the 1990s. He argues that because their leaders and members lacked the required “management skills” (7) to reorganize and adapt to the new neoliberal environment, many of them floundered, disbanded, and sold off their land.

A number of rancher associations in the north central region of Nicaragua corroborate this finding. Organized as CCSs, the associations upheld to the principles of Cooperative Developmentalism. Yet, deprived of the requisite practical business skills, the largely uneducated ranchers struggled to fully enact these moral tenets into the cheese processing rancher cooperative model and strategy. At best, some of these rancher associations succeeded in developing a sufficiently

sophisticated collection network and marketing strategy to sell their raw milk to Managua dairy plants. None moved into processing.<sup>95</sup>

What set the Brigadistas apart from these ranchers was their consulting background. Consulting offered a set of tools, skills and abstract knowledge that allowed the Brigadistas to pursue the industrial transformation. At the same time, knowledge and skills alone were insufficient to account for the characteristics and extent of the changes they promoted. In fact, the creators of the lower road Salvadorian model and strategy, for example, benefited from a long experience as both merchants and producers. They marshaled an impressive arsenal of production and market knowledge specific to the dairy sector. However, lacking the moral imperatives, causal map and taxonomy provided by Cooperative Developmentalism, their production model and strategy lacked many of the redistributive features of the cheese processing rancher cooperatives (e.g. inclusion of smaller producers, improved conditions for workers). They could process cheeses, but the benefits often failed to “trickle down.”

Thus, it was the combination of their consulting background with their Cooperative Developmentalism interpretation that distinguished the Brigadistas. This combination offered the Brigadistas a distinct moral-practical mindset, the best practice approach to Cooperative Developmentalism. The Brigadistas relied upon this moral-practical mindset to foster an industrial transformation by devising practical, business-friendly solutions, and adapting the old structures unsuccessfully promoted by the Sandinistas to the new times and purposes.

For instance, in PRODEGA’s Phase I they strengthened the rancher associations’ raw milk production and collection by setting up a project-managed extension service. The service provided “technical assistance to the selected reference farms in the project area...” It transferred “relevant technology to the farmers, especially in the

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<sup>95</sup> For a more detailed discussion of these comparisons, see Appendix 4.

areas of improved livestock nutrition, animal health and farm management” (Eskola 2003, 62). Those innovations reduced the need for transhumance and improved basic hygiene. The Brigadistas also introduced new cattle breeds through a genetic improvement program (Interview #66, 02/14/2013), as they looked to raise productivity at the farm level, particularly among the smaller producers. In addition, they built the first linkages of the collection network, installing four raw milk cooling stations and building over 450 kilometers of roads to connect some of the more isolated (and hence poorer) producers.<sup>96</sup> Spread across the territory, the new roads and cooling stations expedited raw milk delivery and assured refrigeration. The Brigadistas also organized cooperatives of truckers to transport the refrigerated raw milk from these cooling stations to larger collection centers located near the small town of Boaco (Interview #71, 02/18/2013).<sup>97</sup>

In addition, the Cooperative Brigadistas developed a new business strategy. Given the dire market conditions of the late 1980s and early 1990s, immediate increases in rancher profitability became imperative.<sup>98</sup> The first, albeit not fully satisfying, opportunity to address this problem arose with the electoral defeat of the Sandinistas in 1990. Soon after assuming control of the executive, the new Liberal Chamorro government returned the handful of large industrial dairy plants in Managua to their pre-Revolution owners. The Brigadistas quickly offered to supply their raw milk demand. However, the arrangement proved disappointing. Because they enjoyed a monopsonistic position, the plants consistently varied prices and demand unilaterally in response to national raw milk availability.

In accordance with the Cooperative Developmentalism’s glorification of both industrial production of foodstuffs and a strengthened position of smaller producers

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<sup>96</sup> At Concepcion alone they built over 50 kms. of road (Leguizamón et al., 2002)

<sup>97</sup> During this time, they also provided lines of credit for cooperative members to upgrade their ranch practices and facilities (Leguizamon et al., 2002).

<sup>98</sup> As Seppanen et al. (2013) explain, “upon the launch of PRODEGA there were many small producers that could not sell their milk, even to traditional cheese makers, but rather ended up throwing away the quantities which were not consumed by their families (in these cases, milk was an almost worthless sub-product)” (44).

vis-à-vis powerful interests, the PRODEGA plan called for the construction of a cheese plant in the community of Rancho Rojo, home to the San Cristobal cooperative. The plant would diversify ranchers' markets and overcome their dependence on large raw milk buyers. However, disagreements over the viability of the plant arose both among the Brigadistas and between them and cooperative members. On the one hand, the Finnish CTA worried that "the supply of milk did not allow for an industrialisation of the milk into cheese" (Seppanen et al. 2013, 26). Furthermore, Finnish aid budget cuts after a sudden devaluation of the country's currency in 1991,<sup>99</sup> and the decision to expand the number of associations served by PRODEGA from seven to nine, constrained the project's resources.

On the other hand, some of the Brigadistas, Embassy personnel<sup>100</sup> and leaders from the newly-formed Concepcion and San Cristobal cooperatives favored plant construction. These two cooperatives were already more consolidated than the other seven cooperatives originally targeted by PRODEGA. For them, the plant offered the opportunity to access urgently needed new markets.

The disagreements led to the construction of the plant in a contentious environment. The CTA sought to postpone construction in 1991 under PRODEGA. But the cooperative leaders, with support from their Brigadista and Finnish Embassy allies, obtained a loan from the World Food Program for a small plant. The two cooperatives built this plant, which lacked pasteurization capacity, in the early 1990s in Rancho Rojo.<sup>101</sup>

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<sup>99</sup> In and of itself, FINNIDA's decision to continue the program for 13 years and spend almost \$20 million in the midst of a deep economic crisis in Finland and widespread budget cuts evinces the high priority the agency gave to Nicaragua and PRODEGA. This priority was evident from the outset: in its first mission to Nicaragua, FINNIDA sent Reino Uronen, Director of the Cabinet of the Ministry of Agriculture and Forestry. The future ambassador to Nicaragua, Kari Karanko, also joined the mission (Seppanen et al., 2013).

<sup>100</sup> The Embassy and some of leading Brigadistas often disagreed on the preferred course of action. As Seppanen et al. (2013) explain, "This clash, which at times became verbally violent, had its expression in the Embassy's intervention..." (27)

<sup>101</sup> Concepcion and San Cristobal, both from the municipality of Camoapa, had become close partners early on in the project. As Seppanen et al. (2013) explain, in the early 1990s "[Concepcion] in Villa Revolución-La Calamidad was not connected to the national electric grid..." Aware of this problem,

This decision proved visionary. The plant initially produced different cheeses (e.g. *queso fresco*, *queso criollo*) and other dairy products (e.g. sour cream, butter) for domestic sale. But soon after its construction, a new market opportunity emerged: the Chamorro government opened the country's border to El Salvador and, reversing the policy of the Sandinista regime, withdrew from direct intervention in foreign trade. With expanding demand in El Salvador and the example of a growing number of Salvadorian merchants, the Concepcion and San Cristobal processing plant became the first cooperative firm, and one of the first cheese producers in the country, to export to the Salvadorian market (Gomez & Ravnborg, 2011; Leguizamón, Berríos, & Ayca, 2002).<sup>102</sup> This new market, however, demanded widespread improvements in the production process to expand the scale of production and, later, fulfill Salvadorian health and safety standards.<sup>103</sup>

Recognizing the opportunity (and perhaps also reflecting the first change in CTA), during PRODEGA's Phases II (1994-1998) and III (1998-2003) the Brigadistas promoted processing in two ways: they upgraded the facilities at the original plant, and provided processing equipment for at least two other well-performing cooperatives. At the original San Cristobal plant, and in two new plants at the Concepcion and Masaya cooperatives, the Brigadistas purchased sophisticated pasteurization equipment (i.e. rapid pasteurization technology) and imported processing machinery (e.g. cooling tanks, presses, refrigerated rooms, packaging machines). They also built large labs to test the raw milk. With these investments, the cooperatives could produce a variety of high quality, pasteurized dairy products.

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the "[San Cristobal] Cooperative offered [Concepcion] a plot of land in Ranch Rojo to place its milk collection centre, given that Rancho Rojo was connected to the national electric grid; and since then both cooperatives coexist in harmony side by side..." (26)

<sup>102</sup> Entering the Salvadorian market became a significant challenge for the processing cooperatives. They initially attempted to establish their own commercial offices in El Salvador, but after facing threats and robberies, they decided to employ Salvadorian merchants (Interview #71, 02/18/2013).

<sup>103</sup> For a description of these standards, see Perez-Aleman (2013).

In addition, the Brigadistas complemented the technology and work organization innovations with labor condition changes. They heavily trained workers in production practices, often sending them abroad for short courses in places like the Dalum College of Food and Technology, also known as the Danish “Harvard of Dairy.” In addition, they introduced a human resource arrangement that valued long-term contracts, constant skill upgrading and relatively high wages and benefits.

During these later PRODEGA phases, the Brigadistas also expanded activities that particularly benefited the smaller, less technified and more isolated producers: they trained workers on clean collection practices, advocated increased cattle-hand task specialization, introduced more efficient ways of dividing stables, improved and diversified ranch pastures, built on-ranch milking facilities, and provided veterinary services.<sup>104</sup> Furthermore, they expanded the collection area by installing three new cooling centers and adding collection routes. In addition, they added quality controls at cooling centers by setting up small labs to test the raw milk. Finally, they introduced “an important range of environmental conservation methods” that practically eliminated environmentally-harmful practices such as transhumance and controlled burning of pastures. In introducing these environmental methods, the Brigadistas couched their appeals in a message that, like Sandinismo, belittled “backward” attitudes and lauded modernization: they insisted “that modern men use modern techniques and that these are good for the environment” (Seppanen et al. 2013, 49).

These changes rapidly delivered results. Overall, between 1990 and 1997, a time when most Nicaraguan ranchers focused on growing the size of their herd but disregarded cow productivity, average production per cow/day among targeted producers rose from 3 to 6 liters (Seppanen et al. 2013). By 1997, argue Seppanen et al. (2013), the PRODEGA cooling centers were handling 30% of national milk

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<sup>104</sup> During this period, the Brigadistas introduced a number of additional social services for local residents, including a gas station, a health clinic, funeral services, and a grocery store (Leguizamón et al., 2002; Núñez et al., 1998).

production. This was high quality milk: by 2013, 80% of all milk collected qualified as Grade A.

However, outcomes varied significantly across the cooperatives (see Table 4.5). On one hand, by the end of Phase II, some cooperatives had been disbanded (i.e. Apoyeque, Telica, Cosiguina and Isla Zapatera) while others faced mounting difficulties (i.e. El Hoyo, Cerro Negro). These cooperatives had lagged behind since the early stages of the program.<sup>105</sup>

Table 4.5 Situation of the original PRODEGA cooperatives in 2003

<b>Name</b>	<b>Municipality</b>	<b>Situation in 2003 (end of PRODEGA)</b>
<b>San Cristobal</b>	Camoapa	Successful operation, processing cheese
<b>Concepcion</b>	Camoapa	Successful operation, processing cheese
<b>Masaya</b>	Boaco	Recovering operation, processing cheese
<b>Cosiguina</b>	Boaco	Still in existence, but only offers members credit
<b>Cerro Negro</b>	Boaco	Disbanded
<b>El Hoyo</b>	Boaco	Disbanded, some members joined Masaya
<b>Apoyeque</b>	Boaco	Disbanded
<b>Telica</b>	Boaco	Disbanded
<b>Isla Zapatera</b>	Boaco	Disbanded

Source: Seppanen et al., 2013

On the other hand, the San Cristobal and Concepcion experienced unprecedented growth (see Table 4.6). In these cooperatives, the average raw milk production per rancher rose from 15 to 18 gallons over the dry months, and 18 to 22 gallons in the rainy season. 70% of these producers were small. Furthermore, the average “calving interval” (i.e. the amount of time between births) decreased from 24 to 18 months

<sup>105</sup> The explanation for the varied success, with Boaco cooperatives largely failing and the ones in Camoapa expanding, lies outside the scope of this dissertation. However, Seppanen et al. (2013) offer two hypotheses: the shorter distances and better roads between cooperatives in Boaco increased competition; and in Boaco a more numerous contingent of artisan cheese manufacturers purchased most of the raw milk, limiting the appeal of cooperatives.



(Eskola, 2003). Lastly, Eskola (2003) and Seppanen et al. (2013) both report that raw milk prices for ranchers in these cooperatives increased and, more importantly, stabilized during this period. Remarkably, these changes took place as the two cooperatives rapidly enrolled new ranchers who lacked the original producers' on-ranch investments and thus lowered average yield and production measures. Concepcion, for instance, grew from an original 23 members in 1990 to 132 members and 768 independent suppliers in 2013. Similarly, San Cristobal, originally formed by 44 members, collected milk from 400 members in 2013.

The on-ranch production changes and growing membership raised the amount of raw milk collected and processed by the expanding cooperative cheese plants. Concepcion's collection, for example, grew tenfold in less than ten years, from 500 gallons of raw milk per day in 1994 to 5,000 in 2002 (Artola & Parrilli, 2006). By 2012, the plant collected close to 35,000 gallons per day (Interview #71, 02/18/2013). On that same year, San Cristobal collected almost 20,000 gallons per day.

While these two processing cooperatives continue to sell at least a quarter of their raw milk to the Managua dairy plants, they also process a significant portion. They market their brand-name dairy products domestically – especially San Cristobal, which processes 75% of its milk to produce its brand-name dairy products, placing them in grocery store chains across the country. They also sell abroad, positioning themselves among the country's leading exporters: by 2007 – the earliest year for which firm-level export figures are available – the two cooperatives were ranked as the third and fourth largest medium-sized cheese exporters in the country (CETREX, 2013).<sup>106</sup> They place their high quality processed products not only in other Central American markets but also, most impressively, in the high-standard United States market. In fact, in 2012 USAID recognized Concepcion as the fastest growing

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<sup>106</sup> Since then, Concepcion's exports have continued to grow (it ranked 3<sup>rd</sup> in 2013) while San Cristobal has shifted its marketing focus to the domestic market, where it enjoys unparalleled success.

Nicaraguan exporter to the United States (Consejo Superior de la Empresa Privada (COSEP), 2012).

Table 4.6 PRODEGA cheese processing cooperatives descriptive measures

Name	Milk collection per day (liters)			Number of producers (2013)	Liters/day/producer (2013)
	1991	2003	2013		
San Cristobal	4,000	30,000	40,000	400	N/A
Concepcion	2,000	20,000	100,000	768	~143

Source: Seppanen et al. (2013) and personal interviews

In building these cooperatives, the Cooperative Brigadistas diligently pursued the moral guidelines, political aspirations and causal maps delineated by their ideological interpretation. They cultivated a “new man” by encouraging cooperation and a concern for the collectivity.<sup>107</sup> They also promoted the participation of a diverse range of individuals in the cooperatives, including both smaller, isolated producers and medium-sized ranchers. By eventually introducing sophisticated processing facilities, the Brigadistas strengthened coop members’ economic capacity and bargaining power vis-à-vis large multinational subsidiaries. In addition, they continually strove to transfer capacities to cooperative members. Indeed, after 13 years, the Brigadistas withdrew entirely from the two cooperatives.

Their endeavors often conflicted with the ideological position of the Liberal governments of the 1990s. Premised “on the idea that wealth created in pre-selected clusters of private companies in locations with optimal conditions for their performance [i.e. urban areas] would inevitably ‘trickle down’ to the poor” (Caldecott et al., 2012), these Liberal ideological commitments sharply contrasted with the tenets of Cooperative Developmentalism. As Damiani (1994) describes, the Liberal governments of the 1990s often viewed associations and cooperatives as “political adversaries” and “inefficient producers,” and tailored their policies to

<sup>107</sup> From the beginning, PRODEGA included a “women’s development and gender issues awareness” component that “engaged in some gender training activities and achieved some success in improving the lives of local women...” (Eskola 2003)

individual farmers instead. Yet, despite this environment, the Brigadistas found sufficient latitude to carry forward their transformational campaign.

### ***Isomorphism***

Notwithstanding the mixed results of PRODEGA as a whole, Concepcion and San Cristobal's stellar performance during the 1990s enticed a few other ranchers. For example, in the mid 1990s ranchers from the neighboring department of Chontales approached the Brigadistas to inquire about the possibility of extending the program to their area (Eskola 2003). And in the nearby RAAS region, a different group of ranchers suggested that rather than initiating a planned roots and tubers development program, the Italian aid agency should focus on promoting milk and dairy production (Interview #73, 02/18/2013).

However, as the literatures on organizations, and industrial relations and HPWOs would predict, diffusion of the Brigadista practices encountered obstacles, despite these early signs of interest. From the outset, the contention and legitimacy constraints underscored by the neoinstitutional literature curbed diffusion (Paul DiMaggio & Powell, 1983; Ingram & Rao, 2004; Meyer & Rowan, 1977). In a parallel to Guatemala's conservative sugar mill owners and managers, many ranchers in the north central region distrusted the new model and strategy. Openly supportive of the counterrevolutionary Contra during the 1980s, they associated the cooperative organizational form with Sandinismo, and particularly with the Statist Developmentalism interpretation. With memories of the recent Sandinista-Contra war still fresh, and despite the growing presence of Sandinista ranchers in the region, this association between cooperativism and Sandinismo generated a deep, visceral reaction.

The cooperative organizational form also clashed with the region's cattle rancher tradition of private ownership, masculinity and individual autonomy. As an interviewee explained, "all these ranchers are agricultural frontier peasants with a sense of identity as peasants. The large landowners expelled them, but they've

moved to the agricultural frontier to continue as peasants. For them, the dream is to own more land, milk and cattle... And the imposition of the cooperative with its emphasis on the collective threatens that dream..." (Interview #93, 03/22/2013) In other words, the region's "tradition of individualism, personal independence and cowboy bravura" limited the appeal of this new organizational form (Cody, 1986).

This resistance would abate in the mid to late 1990s, when the accelerated entry of new organizations to the "established organizational field" (Stinchcombe, 1965) of the region's ranches triggered a hegemonic crisis. This hegemonic crisis challenged the ranchers' ascendancy as local elites and, coupled with the exemplary performance of Concepcion and San Cristobal, softened their opposition to the Brigadista model. The crisis originated with the rapid expansion of collection networks established by the privatized Managua industrial dairy plants. In a context of post-war ranch resettlement and growing raw milk production, these plants increasingly enjoyed a monopsonistic position, especially in their interactions with the smaller, independent ranchers. This position allowed them to fully control prices and demand, quashing any attempt by ranchers to exert their independence and undermining their position as local leaders.

The burgeoning presence of Salvadorian-owned cheese processing plants further hastened the erosion of the ranchers' local privileged position. Founded by a growing stream of Salvadorian cheese merchants, these plants focused on export cheese production.<sup>108</sup> Perhaps inevitably, given the Salvadorian model's reliance on spot market raw milk purchases, confrontations soon emerged between the merchants-turned-processors and the ranchers. Because, like the Managua large dairy plants, they enjoyed a monopsonistic position, the Salvadorians often gained the upper hand in these struggles. The constant defeats acutely reminded ranchers of their fading power and the inherent limitations of their models and strategies.

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<sup>108</sup> Initially, the Salvadorian merchants that flowed into the region in the 1990s sought to buy local cheeses for export to El Salvador. But not finding an adequate supply, they eventually established their own cheese processing plants.

This hegemonic crisis called the traditional rancher model into question and, to some extent, blocked the “low road” represented by the traditional approach. In a Gramscian turn, the ranchers, as a “traditional ruling class,” increasingly explored the possibility of changing their organizational model to recover their lost position. Their decision seemed to set the stage for straightforward imitation, or “mimetic isomorphism” (DiMaggio & Powell 1983) in the organizational literature jargon, of the Concepcion and San Cristobal model and strategy.

However, in trying to imitate the Brigadista model and strategy, most rancher associations ran into a seemingly insurmountable constraint: the dearth of indispensable managerial and administrative resources. As the institutional literature on industrial relations and HPWOs suggests, adoption of new, more sophisticated practices requires managerial knowledge. A firm’s managerial staff must understand the new practices, their interrelations, and their organizational and technological demands for mimetic isomorphism to occur.<sup>109</sup> But the cattle ranchers of the Nicaraguan north central region, deprived of such professional skills, could not absorb the lessons from Concepcion and San Cristobal. Lacking mentoring by Brigadistas, paralysis prevailed and mimetic isomorphism stalled.

Insofar as it sheds light on the resource constraints to diffusion, this finding also echoes the organizational ecology literature. That literature suggests that as a new type of organization emerges, the conflicting forces of legitimacy and resource competition will define its rate of diffusion (Carroll & Hannan, 1989; Haveman, 1993). On the one hand, as the novel organizational form becomes legitimate among likely adopters, its diffusion will accelerate. But on the other hand, the form’s new requirements often produce resource scarcities, triggering competition and restraining dissemination. Skilled labor may become a scarce resource in such

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<sup>109</sup> From Japan’s modernizers (Westney, 1987) to Massachusetts’ railroad firms (Dobbin & Dowd, 2000), professionals (e.g. managers, engineers) played a fundamental role in imitation. Even in Guatemala’s sugar mills, engineers and managers from other mills actively borrowed from Tajumulco.

circumstances. Such was the case of Nicaragua's central northern region, where the limited number of professionals stymied the initial diffusion of the increasingly legitimized Brigadista model and strategy.

Yet, imitation is not the only channel of diffusion, and scarce resources are not fixed. In this discouraging context, the Cooperative Brigadistas mounted a dissemination campaign. They began with direct interventions, personally introducing innovations in a few rancher associations to overcome the knowledge constraints. But aware of their time and financial constraints, they also employed normative avenues that exploited their professional contacts. The Brigadistas enlisted a growing number of allies, many of them foreign aid consultants, on a campaign to expand the scope of diffusion. The campaign, as DiMaggio and Powell (1983) would predict, rested on the shared educational base of the allied consultants and professionals, and on their networks. In a manner akin to the Apostles of Development in Guatemala, ideology colored the interests and actions of the Cooperative Brigadistas, energizing their effort to diffuse their model and strategy in Nicaragua. Moreover, their professional background largely affected the normative avenues they chose to travel.

This diffusion initiative began with PRODEGA's Phase III. The Brigadistas pursued the goals of "raising milk quality at the farm level," improving "productivity of agricultural cooperative members," and facilitating the "adoption of an adequate organization" among "agricultural cooperatives." In this pursuit, they expanded their area of focus. At the behest of the Nicaraguan government and local ranchers, they included four additional municipalities in the dry zone of the neighboring department of Chontales: Acoyapa, Cuapa, Juigalpa and Comalapa. In accordance with their Cooperative Developmentalism ideological interpretation, they targeted struggling small- and medium-sized rancher associations in these municipalities. Deploying their consulting expertise, the Brigadistas focused on strengthening these associations by developing extension services, building cooling centers and introducing farm-level innovations to raise milk output and productivity. Their mentoring also extended to include "improved marketing systems" that bolstered

cooperative bargaining positions with their main raw milk buyers, the large Managua dairy plants (Eskola, 2003).

Nonetheless, PRODEGA's conclusion in 2003 cut short the full transformation of these rancher associations into cheese processing cooperatives. The Brigadistas left behind organizations capable of supplying high quality milk to a growing number of industrial dairy plants in Managua. But the latecomers did not upgrade into processing. As interviewees explained, even after four years of support, association members lacked the necessary professional skills for this final step. For example, the leader of the Apoyo rancher association in Juigalpa argued that, "[the Brigadistas] worked and supported the people of [Concepcion and San Cristobal] for over twelve years. With us, they only came for four years. So the problem was that their mentoring was too short... Even if they'd only been with us one more year, we would have been able to reach the point where we could add value to the raw material, which is what we're missing..." (Interview #92, 03/20/2013)

Despite failing to complete the full transformation at these particular rancher associations, the Finnish Cooperative Brigadistas ensured continued diffusion through three normative channels constituting an apparatus of diffusion. First, they shared their experiences with other aid agencies. Second, they indoctrinated cheese processing cooperative members and their professional staff, the "new men," on the need to cooperate. And third, they promoted the creation of cross-cooperative associations.

In describing normative "pressures," DiMaggio and Powell (1983) recognize the role of "professional networks that span organizations and across which new models diffuse rapidly." In these networks, professionals will often share the same views, policies, procedures and structures, make similar decisions and favor comparable approaches. In Nicaragua, the FINNIDA Cooperative Brigadistas availed themselves of their agency's position as a leading coordinator of donor activities to exploit the

network of international aid agencies and consultants.<sup>110</sup> Through this network, they shared their approach with other donors. Employing discussions, presentations and visits, the experiences at Concepcion and San Cristobal soon became templates for future interventions by other donor agencies. As the final report of the project noted, “PRODEGA was the precursor of a more extensive intervention of international cooperation in the dairy sector; and its experiences and methodology have inspired subsequent interventions in other areas, in one form or another” (Seppanen et al., 2013). In fact, even the Nicaraguan government tried to apply the “PRODEGA model” in other regions.

Emulating FINNIDA, these agencies organized their own teams of Cooperative Brigadistas. The new Brigadistas became “champions” of the processing cooperative model and strategy, spearheading the “promotion of the new structure” (Tolbert & Zucker, 1996). They replicated the interventions at other cooperatives, including the Italian-supported Mombacho and the ongoing Swede FondeAgro project at Momotombo (Perez-Aleman 2013, Nicacentro 2013, Seppanen et al., 2013, Personal Interviews).

As replication proceeded, the steps of the transformation reached Tolbert & Zucker’s (1996) stage of “objectification”: a “degree of social consensus” arose “among organizational decision-makers concerning the value of a structure” (182). This growing consensus allowed the new Brigadistas to institute the new practices. First, they organized ranchers and introduced a number of on-ranch innovations to boost productivity and product quality. Second, they built a milk collection network to test the milk and maintain refrigeration. Only after completing these first two steps did the new Brigadistas build processing plants.

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<sup>110</sup> Finland participated in a number of thematic and sectoral funds, as well as European Union and Nordic+ meetings with aid agencies from countries such as the Netherlands, Sweden and Italy (Caldecott et al., 2012).



We should note, however, that in each stage the new Brigadistas introduced bundles of practices that jointly delivered substantial economic benefits. Their introduction of these bundles helped overcome the disappointing results that the institutional literature on industrial relations and HPWOs associates with piecemeal adoption. As this literature explains, piecemeal adoption and its disappointing results can often derail diffusion of new production models (Kochan et al, 2013; Ichniowski, Shaw & Pernusshi, 1997).

Yet, beyond its specific characteristics, the diffusion process to other cooperatives pursued by the new Brigadistas proves puzzling from the perspective of materialist accounts. Most importantly, as the PRODEGA experience clearly suggested, cooperative organization entailed significant risks. While Concepcion and San Cristobal emerged as examples of success, six out of the nine original PRODEGA cooperatives disbanded before the end of the program. The remaining cooperative, Masaya, struggled to survive.

In addition, the north central region of Nicaragua offered donors other more cost-effective alternatives to promote industrial transformations and economic development. For example, by the late 1990s, a number of rural independent cheese processing plants modeled on the Salvadorian approach were exporting cheeses to El Salvador. Armed with the generic goal of promoting rural development, the aid agencies could have easily focused on these more established plants. They could have instituted upgrading projects with benefits trickling down – a central goal of the Liberal Nicaraguan governments of the 1990s and early 2000s – to the local economy.<sup>111</sup> In fact, the previously mentioned United States Agency for International Development (USAID) project followed this approach (Financial Markets International, 2008).

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<sup>111</sup> Another alternative was to strengthen rancher production. In fact, a report prepared for the Swedish aid agency counseled against building a processing plant at Nicacentro. The report, which is reminiscent of PRODEGA's first CTA perspective, argued that the rancher association lacked the required milk quality, capital, organization and administrative and managerial capacity (Galletto, 2012). Yet despite this warning, Nicacentro is currently concluding construction of a cheese plant.

However, the new Brigadistas embarked upon the much costlier and, in a low tariff and increasingly competitive domestic dairy market, highly uncertain route of spurring transformations in the cheese processing rancher cooperatives. This decision reveals the central role of ideology. The taxonomic priorities of the Cooperative Developmentalism interpretation of Sandinismo, which these aid agencies shared, defined the scope of action. They targeted only struggling associations of impoverished small- and medium-sized ranchers.

Like the original FINNIDA Cooperative Brigadistas, the new Brigadistas organized their targeted ranchers into blossoming associations. They introduced innovations to raise on-ranch productivity and milk quality. They developed sophisticated marketing systems for their raw milk and, later, processed dairy products. They overcame knowledge constraints by guiding the associations as they upgraded into processing, and providing the specifications and funding for processing capital. Finally, the new Brigadistas trained the workforce and promoted improved labor and employment practices.

The second channel through which the FINNIDA Cooperative Brigadistas fostered diffusion of their model and strategy and a broad industrial transformation was their socialization program for the “new man.” In essence, they impressed the importance of cooperation with other ranchers upon processing rancher cooperative members and their growing professional staff. In a surprising twist, akin to the decision by Tajumulco sugar mill managers in Guatemala to share their practices with other mills, cooperative members from Concepcion and San Cristobal encouraged diffusion. They organized visits to their production facilities for other ranchers, provided technical support as these associations built processing plants, and most importantly, offered marketing guidance to their budding processing

peers.<sup>112</sup> Their decision to share challenges some of the fundamental assumptions of the strategy literature, with its emphasis on differentiation and monopolistic rents (Porter, 1980; Teece et al., 1997; Wernderfelt, 1984).

Among the “new men” at Concepcion and San Cristobal, the need to share has become a matter of fact. For instance, the general manager of Concepcion characterized such cooperation as “common.” For him, it was the foundation of “the spirit of cooperativism” that lifted all boats (Interview #71, 02/18/2013). Seppanen et al., (2013) also found that “all individuals interviewed explained technical and financial assistance” to other cooperatives “in terms of solidarity between cooperatives” (37). Once seen as a sign of “communism” in this strongly individualistic region, cooperation was now taken for granted. As other cooperatives developed, they too celebrated sharing.<sup>113</sup>

Remarkably, through these sharing initiatives, a handful of rancher associations succeeded in developing processing capabilities despite lacking international donor support. In these rare cases, a crust of homegrown professionals set these associations apart from comparable organizations. For instance, the Maderas cooperative benefited from a professional leadership supportive of Cooperative Developmentalism, and a membership of mostly university graduates (Interview #54, 10/10/2012).<sup>114</sup> Located in the Pacific coast, this association learned from the San Cristobal and Concepcion experience and transformed its model and strategy. Sharing the best practice approach to Cooperative Developmentalism, the Maderas

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<sup>112</sup> Seppanen et al. (2013) describe the experience of the San Felipe cooperative as an example: “The San Felipe Cooperative in Boaco, which had declined, finds itself in the process of recovery with support from the [Concepcion] Cooperative. Following an internal crisis due to poor management and the lack of trust of the members, the San Felipe Cooperative turned to [Concepcion] to request technical assistance, and the Camoapa Cooperative granted it a significant loan free of interest. San Felipe was able to reimburse the loan in less than two years and renewed its operational systems, currently finding itself in a strong boom” (37).

<sup>113</sup> The experience is not unique to Concepcion and San Cristobal. Latecomers, such as Mombacho and Momotombo, also aided neighboring associations.

<sup>114</sup> The president, for example, directed a government dairy plant during the 1980s and then worked in the Managua dairy plant Eskimo before turning his attention to Nicaragua. (Interview #54, 10/10/2012)

ranchers could closely follow the Cooperative Brigadistas' lead. Their case illustrates a larger point: Nicaraguans unrelated to the donor agencies could still play a role as Brigadistas as long as they combined a business-oriented profession with the Cooperative Developmentalism interpretation.<sup>115</sup>

The last mechanism the FINNIDA Cooperative Brigadistas used to catalyze diffusion of their model and strategy and promote industrial transformation was an umbrella association. While their initial effort to create the association – the Alianza Amerrisque – capsized with the end of the PRODEGA project,<sup>116</sup> it laid the foundation for the more successful Central de Cooperativas Lacteas R.L. (CENCOOPEL), founded in 2007. Currently, CENCOOPEL coordinates the joint activities of eleven cheese processing rancher cooperatives.<sup>117</sup> Managed by a professional staff, it acts as a “developmental association” (Schneider & Doner 2000, 274), offering a range of services for members: it organizes forums and training activities, provides access to credit and technical assistance, and negotiates bulk prices for inputs (e.g. salt, rennet, packaging). In addition, CENCOOPEL is developing a project to build a pasteurized milk plant to compete with the Managua dairy plants. The large industrial plant, tentatively located near the San Cristobal and Concepcion plants in Boaco, would collect raw milk from all member cooperatives and produce primarily for the domestic market.

Through these three normative channels, the FINNIDA Cooperative Brigadistas promoted the diffusion of their model and strategy, and the industrial

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<sup>115</sup> Damiani (1994) corroborates this point. In his study on Nicaraguan cooperatives, he argues that those CCSs that succeeded in reorganizing and adapting to the 1990s economy received substantial guidance and support from well-staffed and professionalized Nicaraguan agencies, such as the strongly Sandinista National Federation of Cooperatives (FENACOOPEL). In addition, they benefited from leaders who, having served in political positions during the Sandinista government, participated in courses on “organizational and management techniques” (Damiani 1994, 22). FENACOOPEL and these leaders shared the professional background and ideological interpretation to transform these CCSs.

<sup>116</sup> They also contributed to the creation of a dairy sector umbrella association, CANISLAC, which includes representatives from rancher associations, large industrial plants, independently-owned Salvadorian plants, artisanal plants and cooperatives (Seppanen et al., 2013).

<sup>117</sup> The cooperatives participating in CENCOOPEL are Concepcion, San Cristobal, Nicarao, COOPAGROS, Alianza Nova, COOPROLECHE, San Felipe, Tioyaca, COOPAC, Quebrar and El Congo.

transformation of the cheese processing cooperatives. To varying degrees, the CENCOOPEL member cooperatives have all adopted their practices, raising product quality and productivity, processing their raw milk, and developing marketing schemes that benefit both small- and medium-sized producers. Yet, despite the growing number of professionals in Nicaragua, their scarcity continues to hamper a more rapid process of isomorphism in the north central region. As a result, in contrast to Guatemala's sugar mills, diffusion across Nicaraguan rancher associations has only been partial. Many continue to focus on raw milk production rather than processing.

## **Summary**

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Like the Guatemalan sugar industry, the Nicaraguan cheese processing rancher cooperative case reveals the explanatory role of ideology for industrial transformation. This chapter shows how Sandinismo, a political ideology, drove the transformative actions of a team of top firm decision-makers, the Cooperative Brigadistas. In particular, Cooperative Developmentalism, an interpretation of Sandinismo, motivated and guided the Brigadistas. Yet, in enacting Cooperative Developmentalism's moral and political imperatives and aspirations, the Brigadistas also drew upon their professional background as consultants. The merger of their Cooperative Developmentalism interpretation and professional background as consultants engendered a moral-practical mindset among the Brigadistas that I call the best practice approach to Cooperative Developmentalism.

Through this moral-practical mindset, the Brigadistas engaged in the sequential processes of neomorphism and isomorphism. Closely mentoring rancher associations in the department of Boaco, they first created a transformative production model and business strategy that upgraded two rancher associations, San Cristobal and Concepcion, into processing. The practices of these newly formed cheese processing cooperatives set them apart from most other cheese producers in the country and allowed them to become one of the first Nicaraguan cheese

exporters. They also offered social gains, benefitting smaller producers and workers. After this experience, the Cooperative Brigadistas, motivated by their Cooperative Developmentalism interpretation, actively diffused the model and strategy to other rancher associations in the region. In this pursuit, they built an apparatus of diffusion to overcome barriers to dissemination, and trigger a remarkable industrial transformation.

## Conclusion

Two categories of explanations are usually offered to account for industrial transformations. The first centers on a broad ranging set of conditions established through state policies. This category of explanations usually associates the presence (or absence) of a bundle of policies, such as certain kinds of industrial policy, with successful (or aborted) industrial transformation. The second favors a different set of conditions emerging from specific, pre-established patterns of inter-firm relations. Like the first category of explanations, it causally connects a particular type of inter-firm relation, such as vertical buyer-supplier relations, with industrial upgrading. In both cases, explanations put forth different mechanisms to account for the observed correlations between the preferred conditions and industrial transformation.

This dissertation suggests that while insightful and influential, these various explanations and their proposed mechanisms largely sidestep a discussion of firm agency. Both categories are constrained by deterministic assumptions. They conceive of firms undergoing rapid transformation as purely reactive to the conditions previously set through state policies or inter-firm relations. Furthermore, those firm reactions are assumed to be predictable.

In contrast, I bring firms to the fore in accounting for industrial transformations. I argue that top firm decision-makers can embark on ambitious projects of organizational restructuring unilaterally, even in the absence of those conditions underscored by prevailing accounts. To explain why top firm decision-makers might vary in their decisions to pursue transformations, and how those transformations might unfold, I introduce ideologies as explanatory variables. Deploying a model of translation from ideology to human action, I argue that ideologies and the intervening moral practical mindsets, account for industrial transformations.

Because they unfolded in unlikely scenarios lacking the favored conditions of prevailing accounts, the two cases of this dissertation allow us to isolate the explanatory role of ideology in driving firm transformation. This central finding offers lessons for leaders of industry and policymakers. The contributions also extend to scholars of industrial transformation. In the following sections, I explore them in turn.

### **Long-term prospects for the cases**

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In this dissertation, I have argued that both cases represent examples of industrial transformations with social gains. In Guatemalan sugar mills and Nicaraguan cheese processing rancher cooperatives, the radical reorganizations delivered rapid growth in production, increased value-added, and access to more profitable markets. They also improved conditions for most workers and producers.

However, I would be remiss if I were to ignore some of the problems associated with these industrial transformations. For example, in Guatemalan sugar mills, owners and managers introduced the new model and strategy in a highly authoritarian manner reliant on repression of the opposition. As they adopted the new production model and business strategy, they forcefully removed permanent workers from plantations and undermined their unions. Indeed, if there was a losing faction in this process of industrial transformation, it was the permanent workforce that resided in *rancherías*. Though mills built many of these workers new housing units in nearby locations, their removal from plantation land and the disbandment of their unions generated significant employment insecurity and loss of their relatively privileged status within the industry's workforce.

In addition to its effect on the permanent workforce, the new model and strategy exacerbated land and capital concentration. As mills upgraded their production model, they increasingly preferred to produce their own sugarcane, thereby reducing their purchases from independent sugarcane producers. Mills rapidly



accumulated land as they expanded their agricultural operations. In the process, they drove most independent producers out of the industry. With the increased integration of agricultural and processing operations, the wave of concentration also swept independently owned sugarcane transportation firms. Whereas in the 1970s all mills contracted independent trucking companies to transport sugarcane from plantations to mills, by the mid 2000s most mills owned the trucks. Lastly, concentration extended to the processing stage, where an increasingly smaller number of mills controls national production. The number of operational mills has more than halved between 1979 and 2012, falling from eighteen to eight.

The increased concentration of land and capital is also evident in Nicaraguan cheese processing cooperatives. For example, the Nicaraguan research institute CIPRES offers a sobering study of agro-industrial cooperatives in the country. It suggests that the majority of producers in leading cheese processing cooperatives are medium- rather than small-sized (Núñez et al., 1998). In an interview, the main author of the study went further, making the hyperbolic claim that “in some cooperatives, everyone is rich” (Interview #89, 03/14/2013). Regardless of this exaggeration, land and income inequality do appear to be growing within cooperatives, as a handful of members rapidly expand their cattle herds while most others accumulate at a much slower pace.

However, these problems, though significant, should not obscure the remarkable economic and social gains of the two industrial transformations. The emergence of sugar mills in Guatemala offering adequate living and working conditions for the majority of their workers, a menu of benefits, and wages well in excess of the legally set minimum represents an unparalleled episode in the country’s strongly conservative agricultural record. It also challenges the history of most sugar industries around the world, commonly infamous for their appalling labor conditions. The same is true for the Nicaraguan cheese processing plants, which are successfully spreading the economic benefits of processing and exports to some of

the more marginalized members of society. The contrast with the alternative, lower cost “Salvadorian” model in Nicaragua makes these social gains even more apparent.

Perhaps, then, the observed problems should be seen as the inevitable consequences of industrial transformation. Such radical reorganizations bring about changes that inescapably punish some. As Ichniowski, Shaw, & Prennushi (1997) recognize, even when firms introduce HPWOs, they affect managers and workers who “have invested in skills and relationships that would have to change” (308).

The more pressing question is whether these problems will deepen as the two groups of firms continue to develop. And more generally, to what extent are the new organizational models, with their mix of practices eliciting economic and social gains, sustainable? We can begin to address these questions by noting that the Apostles and Brigadistas unleashed processes of industrial transformation in contexts lacking the institutional support necessary to curtail the excesses of capitalist development. Absent effective state regulatory policy or strong worker organizations, the ideologies of these top firm decision-makers offered a Polanyi-esque curb on those excesses. They spread the benefits of the economic takeoff in the two sets of firms to workers and producers.

Yet, as Appelbaum and Batt (1994) have noted in their study of different work systems, without the necessary “institutional infrastructure,” the organizational changes may become “overly dependent on the personalities and commitments of key individuals” (159). This perspective implies that processes of high road organizational restructuring might unravel when those key individuals abandon the firms and industries. This would seem to be a possibility in the two studied sets of firms, where the Apostles and Brigadistas have largely withdrawn from the studied firms. In Guatemala, the Apostles have reached the age of retirement, and a new cadre of owners and managers is taking control of the mills. In Nicaragua, most of the Brigadistas no longer reside in the country, their foreign aid projects all but concluded.

What emerges from a review of this transition is a somewhat mixed picture, particularly in Guatemala, where the transformation has reached a more mature stage. In both cases, concentration of land and capital continues unabated. For instance, in Guatemala, production of sugarcane now extends to the Pacific shoreline, largely displacing cattle production, formerly a major activity in the area. There is also some evidence of piecemeal introduction of new practices that conflict with the high road approach instituted by the Apostles and Brigadistas. For instance, in Guatemala, some mills are experimenting with mechanization on their plantations, thereby lowering their labor demand. And in Nicaragua, faced with the harsh competition of the Salvadorian processors, some cheese processing cooperatives are smuggling lower quality, and even unpasteurized, cheeses into El Salvador.

Yet, though we might find some fraying at the edges, we should also recognize that the revamped organizational models have largely survived the generational change and appear to have become institutionalized. As Tolbert & Zucker (1996) argue, the “process of institutionalization” of organizational structures involves progression through three stages: habituation, objectification and sedimentation.

Habituation pertains to the creation of a new organizational structure. Often, “organizational decision-makers that share a common core of knowledge and ideas” are responsible for the innovation (181). In the objectification stage, actors reach “some degree of social consensus” on the value of the new structure. In this stage, theorization plays a central role, as supporters of the innovation connect it to more abstract or generic problems in order to convince skeptics. In the final sedimentation stage, the organizational innovation spreads widely, and becomes taken for granted.

In the two studied cases of this dissertation, similar processes of institutionalization of organizational structures have occurred. After crafting the new models and strategies, the Apostles of Development and the Cooperative Brigadistas “theorized”

them, linking them to more generic concerns than those of their particular ideologies, such as efficiency and profitability. In both cases, they championed their diffusion against conservative opposition. Over time, they succeeded in their dissemination endeavors, albeit to varying degrees and despite overcoming different, additional obstacles (e.g. internal coalitions in sugar mills, the absence of managerial knowledge and skills in rancher associations). They slowly quelled opposition, expanded their coalition of supporters and delivered desired outcomes.

Ample evidence suggests that this process of institutionalization is now in the sedimentation stage, with owners and managers in the two industries taking the new organizational models, and the complementarities between their practices, for granted. As Chapter Three noted, in Guatemala's sugar industry even younger managers, unrelated to the Apostles and in no way influenced by Vatican II Catholic social doctrine, value the economic benefits from improved conditions for cane cutters. They consistently expressed the view, reminiscent of arguments in the institutional literature on industrial relations and HPWOs,<sup>118</sup> that, because they raised labor productivity, adequate working and living conditions for workers were "good for business." Analogous matter-of-fact claims were made with regard to the blessings of other emblematic practices of the new model, such as cross-mill collaboration or significant investments in worker training.

Chapter Four similarly noted that cooperative leaders and members in Nicaragua came to view sharing and collaboration with other producers and cooperatives as the way cooperatives work. Indeed, several of the well-established cheese processing cooperatives now support their less developed organizational peers in upgrading their production models and business strategies.

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<sup>118</sup> As Kochan et al (2013) argue, studies on HPWOs reached the "common finding" that "achieving and sustaining high levels of performance requires a *combination* of workplace innovations that produce and sustain a high positive workplace culture and practices that develop and leverage employees' knowledge and ability to create value and coordinate their efforts to work together." (4)

Most interestingly, recent shocks have not derailed the industrial transformations in the two countries. This suggests institutionalization not only of the organizational models of the industrial transformations, but also of the patterns of action favored by the Apostles and Brigadistas. These patterns of action, explained by their particular ideologies, balance the pursuit of firm profit with broader social considerations, and the emphasis on individual firm endeavors with cross-firm collaboration.

For example, in the 2010/2011 season, unexpected weather-related events caused the sugarcane in Guatemala's southern coast to flower early. Unprepared for this premature maturation process, the mills lost at least 10% of their sugar production for the season. The loss is comparable to the decline in output of some of the most turbulent years of the late 1970s and early 1980s. It came in the heels of other weather-related incidents in the last few years, most notably widespread flooding. Yet, rather than shifting to a lower cost strategy to offset the losses, mills in the industry have invested quite significantly in different initiatives to study and develop solutions for changing weather patterns associated with global warming. For example, working jointly, they are devising different strategies to control river flooding, introducing foresting programs to prevent soil erosion, and creating the "Southern Coast Climate Change Initiative" (Interview # 3, 07/08/2010; Interview #8, 07/14/2010).

The same is true for the Nicaraguan cheese processing cooperatives, where a rapidly growing number of multinational corporations (MNCs) compete in the domestic market. The MNCs pose a threat to the processing cooperatives insofar as these studied rural processors sell a significant portion of their processed output domestically. However, instead of choosing to undercut the MNCs by adopting low-road alternatives, some of the cooperatives are investing in sophisticated marketing campaigns and broadening their product range. Others are growing more reliant on export markets. Most notably, the nine cooperatives participating in the association have come together to build a large processing facility to produce pasteurized milk.

Rather than supplying their excess raw milk to MNCs, the cooperatives plan to process it in this new facility. And they intend to compete head-on with the MNCs in the national pasteurized milk market (Interview #59, 02/06/2013).

In sum, though we find evidence of the erosion of some of the practices of the new models, for the most part they seem destined to remain firmly entrenched in the two sets of studied firms. Even significant shocks threatening the viability of the two transformed organizational forms failed to dislodge them. The transformed production models and business practices have reached a stage of sedimentation, with new owners and managers largely taking the causal relations they imply, and the complementarities across the practices, for granted.

### **Lessons for theories of industrial transformation**

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The overarching assumption in much of the literature on industrial transformation is that firms respond to various conditions in a predictable manner. This assumption leads to the conclusion that under a favored set of conditions, industrial transformation will unfold naturally. Theories of industrial transformation vary in their favored conditions, but the deterministic, agency-less view of firms cuts across most of them.

The two cases of this dissertation offer an opportunity to examine and revise this prevalent assumption. The studied transformations took place in unlikely scenarios lacking the varied conditions highlighted by standard theories. In these contexts, the studied sets of firms diverged from the trajectories of comparable firms and industries, embarking in dramatic processes of industrial transformation. The combination of the divergence in outcomes between the studied cases and the shadow comparisons, on the one hand, with the absence of conditions prioritized by the different prevailing theories, on the other, brings to the fore one of the main lessons of this dissertation for scholars and policymakers: abandon over-simplified conceptions of firms and introduce firm agency into theory and policy.

This crucial lesson points to an additional contribution of this dissertation: it enriches the literature on industrial transformation by drawing on ideas from organizational, management and industrial relations theories. If we are to take firm agency seriously and discard deterministic assumptions, we need new theoretical tools to enhance standard accounts. Theories from organizational studies, industrial relations and management offer a range of perspectives that share the objective of explaining variation in firm actions and outcomes. Thinking about industrial transformations as instances of organizational model emergence and diffusion, incorporating broader measures of firm variation beyond output or exports, and recognizing the role of owners and managers in shaping firm trajectories are just a few examples of how these theories can strengthen prevailing accounts. Their incorporation also opens a broader menu of options for industrial policy interventions that may even include management education. This should be of interest not only to policymakers and scholars, but also to leaders of industry interested in playing a role in the transformation of their firms and cross-firm organizations.

Lastly, in light of the demonstrated role of ideologies and moral-practical mindsets for industrial transformation, this dissertation brings to the fore the importance of introducing process-tracing as an analytical approach. This approach complements more traditional cross- and within-case comparisons. It offers a window to explore the personal histories, professional experiences and cultural moorings of top firm decision-makers, which would otherwise remain hidden.

### **Ideologies and Industrial Transformations**

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In the two studied cases, Vatican II Catholic social doctrine and Sandinismo engendered surprising industrial transformations with improved conditions for workers and producers in Guatemalan sugar mills and Nicaraguan cheese rancher cooperatives. The two ideologies, one religious and the other political, triggered

these transformations by shaping the actions of top firm decision-makers, the Apostles of Development in Guatemala and Cooperative Brigadistas in Nicaragua, respectively. Through the intervening role of distinct moral-practical mindsets, these ideologies unleashed the creative energies of the two teams of ideological carriers as they crafted new production models and business strategies at Tajumulco in Guatemala and San Cristobal and Concepcion in Nicaragua; and then built apparatuses of diffusion to promote the dissemination of their organizational models across other sugar mills and rancher cooperatives.

These two cases offered a unique opportunity to isolate and explore the explanatory role of ideologies and the mechanism of translation from ideological principles to transformative human actions. Both cases occurred in “unlikely scenarios” bereft of the prevalent explanations for industrial transformation. In neither did major state interventions nor constructive inter-firm collaboration arise prior to the transformative actions of the Apostles and Brigadistas. Moreover, in both cases the studied firms underwent remarkable organizational changes unmatched by comparable firms and industries.

Yet, an ongoing argument of this dissertation has been that ideologies not only play a role as independent explanations for industrial transformations, but may also complement and interact with the explanatory variables of prevailing accounts. In scenarios in which we find that the conditions prioritized by one theory or another impact firms, firm reactions might also be contingent on the decisions and actions of top firm decision-makers. How firm decision-makers view their environment and the role of their firms in that environment, and what cause-effect relations and taxonomies they rely upon to inform their behavior might affect those actions and decisions. The argument of this dissertation is that those perceptions, causal maps and taxonomies are shaped by ideologies and moral-practical mindsets of firm decision-makers. If those ideologies and moral-practical mindsets vary across the top decision-makers of different firms, firm reactions to the same conditions might vary as well.



The promising possibilities of integrating ideational accounts with theories of industrial transformation become most apparent in “divergence scenarios” in which the same condition elicits different outcomes across firms or industries. The two cases of this dissertation offer a glimpse of these possibilities. Though both industrial transformations unfolded in unlikely scenarios lacking the explanations of standard accounts, certain conditions often associated with organizational change – though perhaps not with full-blown industrial transformations – emerged after the original takeoff.

For example, after the Apostles of Development created most of the new production model and business strategy at Tajumulco, a wave of labor mobilization swept the Guatemalan sugar, cotton and, to a lesser extent, coffee industries. This mobilization generated significant concern among national elites, given the context of civil war and the growing strength of the guerrilla. The military government responded by, among other things, raising the agricultural minimum wage by 200%.<sup>119</sup> The mobilization and minimum wage increase produced contrasting interpretations and reactions among sugar mills. Most mills – and also coffee and cotton producers – interpreted the context of upheaval as evincing the extent of the guerrilla’s Communist “brainwashing” activities among the labor force. Fearing that the “brainwashed” workers would attempt to confiscate property, they responded with outright repression, mass firings and a refusal to pay the new minimum wage.

In contrast, though not entirely devoid of the brainwashing interpretation, the Apostles of Development also construed the mobilization of labor as influenced by the “undignified” conditions of work. Influenced by their Vatican II Catholic social doctrine ideology, they diagnosed worker unrest as largely responsive to the appalling living conditions on plantations, low wages and mistreatment by field administrators. They devised a two-pronged response that combined more

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<sup>119</sup> The minimum wage increase was part of a carrot-stick approach that also involved widespread repression of peasant and labor organizations.

elaborate mechanisms of labor force control (e.g. databases of all their employees with detailed descriptions of their activities) with the introduction of additional condition improvements (e.g. they substituted the mill's human resource department for labor contractors; expanded the menu of benefits available to cutters; and provided written contracts for all workers) that complemented the transformational organizational model.

A similar divergence scenario arose in Nicaragua recently, when a large number of independent (i.e. not cooperative members) raw milk producers organized a strike to demand higher prices. Though most supplied the Salvadorian-owned plants, many sold their milk to the cooperatives as well. The varied reactions to this strike are instructive. The Salvadorian-owned plant owners and managers interpreted the strike as driven by greed. They responded by closing ranks and refusing to budge on the lower prices. Some went so far as to threaten to close their plants and abandon the country altogether. Betrayed by the need to sell their raw milk daily, since most lacked refrigeration, the producers supplying the Salvadorians eventually desisted from their strike.

The cooperative leaders followed a different path. Recognizing the dire need for higher prices and continued raw milk sales among the producers, they negotiated and, in most cases, agreed to pay higher prices. Those prices would apply to all suppliers, not just independent producers. Driven by the emphasis on cooperation, and rural and smallholder development, which the Sandinismo-influenced Brigadistas ingrained in them, they diagnosed producer mobilization as resulting not from greed, but rather from their condition of poverty. As a result, they agreed to negotiate. What proves especially interesting is that, in contrast to the Salvadorian-owned firms, the cooperatives were much less reliant on these independent producers. While the operations in Salvadorian-owned plants came to a halt with the strike, the cooperative cheese processing plants could continue their activities by processing the raw milk sourced from their members. Furthermore, relations between the cooperatives and these independent producers were not

always amicable. Lacking the “loyalty” of cooperative members, independent producers often sold their raw milk to the highest bidder, to the chagrin of cooperative leaders. And yet, in contrast to the Salvadorian-owned plants, they negotiated with the independent producers and agreed to higher prices.

These two examples suggest that firm responses to the same conditions might diverge as a function of top firm decision-maker ideologies and moral-practical mindsets. In both Guatemala and Nicaragua, top firm decision-makers in the studied firms, driven by their ideologies, pursued markedly different trajectories from their competitors. Their ideologies offered diagnoses that contrasted with hegemonic understandings, and prescribed distinct solutions.

Furthermore, though the conditions explored in these examples are not usually associated with industrial transformations, they at the very least offer a glimpse of the possibilities of integrating ideational accounts with prevailing theories of industrial transformation. They suggest that scholarly work would benefit from tracing how ideologies and moral-practical mindsets shape firm decision-maker interpretations and reactions to, for example, the types of new industrial policies advocated by authors such as Rodrik and Hausman (2003) or inter-firm collaborations extolled by Gereffi (1999) and others. What those policies and inter-firm collaborations mean to top firm decision-makers, how they diagnose their causes and make sense of their objectives, should play a role in determining their responses.

Ultimately, this dissertation emphasizes that how actors understand and make sense of their environments profoundly affects their decisions and actions. In this vein, it suggests that the different conditions that prevailing explanations for industrial transformation advocate may acquire varied interpretations among different individuals and groups, including top firm decision-makers, but also other managers, workers, producers and policymakers. Accounting for how those

interpretations arise and what their implications are for transformative action should constitute a central area of inquiry for industrial transformation research.

## Appendix 1. Interviewees by type

Table A1. Interviewee counts by type, country\*

Type of interviewee	Guatemala	Nicaragua
Industry firm owners/ managers	10	18
Transformational agents	4	7
Industry employees	8	8
Union/peasant organization members/ organizers	8	3
Trade association representatives	5	5
Government officials	6	14
Civil war veterans	3	10
NGO Employees	3	2
Academics	4	9
Businessmen from related activities	3	2

\* Note that some interviewees straddle more than one category

## **Appendix 2. Sample interview questions for top firm decision-makers**

### **1. Firm history:**

What is the story of the firm's foundation? Follow-up questions focused on the characteristics of the individuals involved in the creation of the firm, their source of capital, their initial product and market specialization, their technological package, and their raw material sourcing schemes.

### **2. Development process of the firm:**

How did the firm undergo its reorganization process? Follow-up questions focused on new technologies and how they found out about them, definition of new products and the process of changing them, definition of new markets and the process of changing them, major new investments, main crises faced, and reasons for success.

### **3. Personal history of firm owners and managers:**

Tell me about the history of your family. How did you come to be involved in this economic activity? Follow-up questions focused on family origin, previous economic activities, personal education, political interests/affiliations, and experience during the wars.

### **4. Business strategy and production model:**

How do you organize your supply chain? Follow-up questions focused on raw material sourcing, prices and quality of raw material, relationships with suppliers.

What are your main products and markets? Follow-up questions focused on product and market characteristics, marketing channels, competition with other firms.

How do you organize work in your firm? Follow-up questions focused on personnel recruitment, job tasks and responsibilities, extent of worker

specialization, worker training, wages, benefits, employment stability, and cross-firm mobility.

Describe your technological package. Follow-up questions focused on the origin of their technology, and comparisons with other firms.

#### 5. The state:

To what extent do you benefit from state support? Follow-up questions focused on tax breaks, tariffs, price setting, credit, worker training, and market information.

How often do inspectors from the following regulatory agencies (i.e. labor, environment, health and safety, social security, tax) visit your firm? Describe a standard visit. Follow-up questions focused on their relationships with inspectors, and the main regulatory problems that arise.

#### 6. Inter-firm collaboration

To what extent do you collaborate with other firms in the industry? Follow-up questions focused on their participation in different cross-firm organizations, associations, and joint projects; and their relations with larger buyers (MNCs in GVCs).

#### 7. General firm characteristics:

Location

Main products

Markets

Average daily production

Average monthly revenues from sales

Number of workers, by type

Production and productivity measures (e.g. tons of sugar/day, liters of milk/day)

Vertical integration measures (e.g. area of sugarcane plantations owned, number of raw milk collection routes owned)

### **Appendix 3. Visited processing sites and cross-firm organizations**

#### **Guatemala**

##### Processing facilities

- Ingenio La Unión
- Ingenio Los Tarros
- Ingenio Tzulá

##### Cross-firm organizations

- Asociación de Azucareros de Guatemala (ASAZGUA)

#### **Nicaragua**

##### Processing facilities

- Bronco Lazo
- COOPROLECHE
- La Montaña
- Lácteos Nueva Guinea
- Las Mesas
- Las Tucas
- Masiguito
- Nicarao
- Ríos de Leche
- Umanzor

##### Cross-firm organizations

- Central de Cooperativas Lácteas (CENCOPEL)
- Cámara Nicaragüense del Sector Lácteo (CANISLAC)



#### **Appendix 4. The distinctive moral-practical mindsets**

The role of ideology as an explanation for action remains controversial. This dissertation highlights two problems associated with ideational accounts. On the one hand, as different authors note, often diverse types of actions are associated with a single ideology (Swidler, 1986; Tilly, 2005). On the other hand, the general principles of an ideology usually allow significant leeway for interpretation, eliciting diverse patterns of action (Campbell, 1998; Schmidt, 2008).

To address these problems, this dissertation develops an explanation that brings to light the intervening role of ideological carriers' moral-practical mindsets. By merging the moral and political imperative and vision of an ideological interpretation with a professional background, moral-practical mindsets account for varied patterns of action associated with the same ideology. They offer an explanation for how actors enact the principles of their ideologies. This appendix draws upon comparisons in the two studied cases to shed light on the importance of moral-practical mindsets in accounts of value-rational action, particularly of actions conducive to industrial transformations.

##### ***The Guatemalan sugar mills***

In Guatemala, the account focuses on the Apostles of Development and their technocratic approach to Elite Solidarism. To shape their patterns of action, this moral-practical mindset blended an interpretation of Vatican II Catholic social doctrine, Elite Solidarism, with the professional, business-focused background of the Apostles of Development, engineering.

However, the question that inevitably arises is whether either of the components of this moral-practical mindset single-handedly accounted for the observed actions. In other words, did Elite Solidarism alone explain the neomorphism and isomorphism processes? Or alternatively, could we account for these processes of change by turning solely to engineering as a causal variable?

The Apostles' class at Saint Ignatius provides an ideal setting to evaluate Elite Solidarism's independent causal role. A number of the Apostles' classmates from Saint Ignatius, most of them also enrolled in the school's extracurricular Cursillos, similarly pursued university degrees at the national university after their high school graduation. But in contrast to the Apostles, they enrolled in medicine, architecture, religious studies (i.e. clergy) and law. Bereft of the practical business skills offered by engineering, these professions fostered less technocratic moral-practical mindsets among these alternative "alternative" Apostles. They complemented Elite Solidarism with a strikingly different set of tools. So how did the actions of these alternative Apostles and the sugar industry Apostles of Development compare?

The evidence suggests that, despite sharing the Elite Solidarism interpretation, these alternative Apostles failed to play a role akin to the Apostles of Development in the economic realm. Deprived of the knowledge and tools oriented toward business and industrial development, but still impelled by Elite Solidarism, they turned their transformative efforts to other spheres of social life. For example, an interviewed doctor spent most of his time treating impoverished populations in rural Guatemala, particularly during his younger years. And some of the lawyers and religious students participated in politics, even taking top government positions.<sup>120</sup> None, however, toiled in a mission to devise, introduce and diffuse radical business innovations, despite sharing the Elite Solidarism interpretation.

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<sup>120</sup> The fourth class to graduate from Saint Ignatius followed different paths after graduation (importantly, not all of them participated in the Cursillos). Of the twenty-nine graduates, five entered the engineering department of the national university and then the sugar industry; five joined Jesuit training (only one completed the training to become a member of the Jesuit order); at least four also entered the national university but graduated as doctors and architects; and at least two actively participated in politics (former President Oscar Berger (2004-2008) and Vice-President Eduardo Stein (2004-2008)). Furthermore, Melville & Melville (1971) recount how four graduates of the Maryknoll's Heart of Mary all-girls school, trained as teachers, left their privileged Guatemala City life to teach in an Indigenous community in the highlands.

Alternatively, before-and-after comparisons within the industry clarify the extent of the engineering professional background's independent explanatory role in the process of organizational change. As the preceding argument suggests, the Apostles drew upon their knowledge and professional tools to construct and diffuse the new practices. They also expanded and professionalized mill bureaucracies, employing mostly engineers and managers to accelerate the process of organizational change.

However, an examination of the pre-1980s Guatemalan sugar industry shows that all mills already employed engineers in the 1970s. Most of them were also educated in the Guatemalan public university (Molina, 2000). These older engineers occupied high-ranking positions in mills, and often called upon Cuban exiled consultants with vast sugar industry expertise for advice. Yet, despite their broad access to the business-focused knowledge and tools of the profession, they lacked the sense of a larger mission and moral responsibility instilled in the Apostles by Elite Solidarism. Absent the urgent drive to execute change, they concentrated on shepherding marginal changes in production.

Table A4.1 Alternative explanations: the independent role of ideological interpretations and business-focused professional backgrounds in Guatemala

		Business-focused professional background	
		Yes	No
Elite Solidarism	Yes	Apostles of Development in Guatemalan mills (Technocratic approach to Elite Solidarism)	"Alternative" Apostles studying law, medicine, religious studies, architecture
	No	1970s Guatemalan mill engineers and their Cuban advisors	

***The Nicaraguan cheese processing rancher cooperatives***

As in Guatemala, the question that arises in Nicaragua is whether the value postulates of the ideological interpretation, on the one hand, or the practical skills of

the profession, on the other, could have independently accounted for the transformative actions of the Cooperative Brigadistas. The former possibility implies that even Sandinistas adopting a Cooperative Developmentalism interpretation but bereft of the business skills of a professional background like consulting could have crafted the cheese processing rancher cooperative model and strategy. However, ample evidence suggests that the absence of such practical skills hampered comparable transformation campaigns. Damiani (1994) offers an example. He reports that most of the cooperatives known as CCSs created by the Sandinistas in Nicaragua during the late 1980s, and therefore strongly supportive of Cooperative Developmentalism, encountered a mined economic terrain in the 1990s. He argues that because their leaders and members lacked the required “management skills” (7) to reorganize and adapt to the new neoliberal environment, many of them floundered, disbanded, and sold off their land.

A number of rancher associations in the north central region of Nicaragua corroborate this finding. Organized as CCSs, the associations upheld to the principles of Cooperative Developmentalism. Yet, deprived of the requisite practical business skills, and stripped of the support of professional consultants, the largely uneducated ranchers struggled to fully enact these moral tenets into the cheese processing rancher cooperative model and strategy. At best, some of these rancher associations – including those receiving a limited amount of consulting support through Phase III of PRODEGA – succeeded in developing a sufficiently sophisticated collection network and marketing strategy to sell their raw milk to Managua dairy plants. None moved into processing.

A second, alternative account champions a business-centered profession, such as the Brigadistas’ consulting expertise, as the single causal variable for action. The explanation implies that even non-Sandinista professionals with business expertise could devise the new cheese processing rancher cooperative production model and business strategy. Yet, once again the evidence suggests otherwise.

The creators of the Salvadorian model and strategy offer a first example. They patterned their actions in accordance with a set of practical business skills. Indeed, with a long experience as both merchants and producers, they marshaled an impressive arsenal of production and market knowledge specific to the dairy sector. However, lacking the moral imperatives, causal map and taxonomy provided by Cooperative Developmentalism, their production model and strategy lacked many of the redistributive features of the cheese processing rancher cooperatives (e.g. inclusion of smaller producers, improved conditions for workers). They could process cheeses, but the benefits often failed to “trickle down.”

The previously mentioned USAID project provides a second example of the limits of an account focused exclusively on the practical approach of a profession. Like the Cooperative Brigadistas, the USAID consultants focused on the cheese industry in the north-central region of Nicaragua. But in contrast to the Brigadistas, the USAID consultants (understandably) pursued ideological objectives contrary to Sandinismo. The resulting project targeted both individual and cooperative plants, making no distinctions between the two types of organization. Moreover, it focused only on those firms already exporting to the United States, prioritizing compliance with the Food and Drug Administration’s (FDA) health and safety regulations (Financial Markets International, 2008). While this single project cannot be taken as proof of the overall approach of USAID, it highlights some central contrasts between the agency and its pro-Sandinista counterparts. Most evidently, the USAID project favored well established and profitable organizations, as opposed to struggling associations of small- and medium-sized ranchers. It assumed that if it supported the more developed producers, benefits would trickle down to the rest. This USAID approach bears a striking resemblance to the agricultural policy – profoundly at odds with the Sandinista objectives – of the post-Revolutionary Liberal

governments. Not surprisingly, USAID supported these governments extensively during the 1990s and 2000s.<sup>121</sup>

Table A4.2 Alternative explanations: the independent role of ideological interpretations and business-focused professional backgrounds in Nicaragua

		Business-focused professional background	
		Yes	No
Cooperative Developmentalism interpretation	Yes	Cooperative Brigadistas in cheese processing cooperatives (best practice approach to Cooperative Developmentalism)	Rancher association members Damiani (1994) failed CCS members
	No	Salvadorian merchants/processors USAID consultants	

<sup>121</sup> In fact, the absence of any USAID programs in the 1990s akin to PRODEGA (Finland), FondeAgro (Sweden) or PRADC (Italy) further corroborates the crucial role of the ideological interpretation.

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