

POLITICS AND INTERNATIONAL RELATIONS**Ideology, Expertise, and Industrial Transformations with Mutual Gains: Developmental Professionals in Nicaragua's Cheese Industry**

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How might industrial transformations with mutual gains unfold in late-developer contexts devoid of the state's helping hand or the pedagogical guidance of multinational buyers in global value chains? This article addresses this question through the study of a deviant case focused on a set of seven cheese-processing cooperatives in Nicaragua. It traces the cooperatives' adoption of a new, upgraded "Gebhardian" organizational model—incorporating improvements in primary production and export-oriented processing—to the actions of a team of "developmental professionals" employed by foreign aid agencies. Drawing on ideational accounts in political science and sociology, the article then suggests that two explanatory factors set these professionals apart from other comparable actors: their adherence to a social democratic ideology and their base of expert knowledge. It also highlights the prerevolutionary collective experience of targeted rancher communities, which is reminiscent of Hirschman's conserved "social energy," as an indispensable background condition for the transformation.

¿Cómo se pueden desarrollar transformaciones industriales con beneficios para capital y trabajo en contextos carentes del apoyo pedagógico tanto del estado como de empresas multinacionales insertadas en cadenas globales de valor? Este artículo aborda esta pregunta mediante el estudio del caso extremo de siete cooperativas queseras en Nicaragua. Sugiere que la intervención de un equipo de "profesionales del desarrollo" de la cooperación internacional explica la adopción en estas cooperativas de un nuevo modelo de organización "Gebhardiano," con mejoras en la producción primaria y de procesamiento. Con base en teorías de ciencia política y sociología sobre el papel de las ideas, el artículo apunta a dos factores que diferenciaban a estos profesionales de otros actores similares: su adhesión a una ideología socialdemócrata y su base de expertise. El artículo también describe la experiencia colectiva prerrevolucionaria de las comunidades de rancheros, que Hirschman describiría como "energía social" conservada, como condición indispensable para la transformación.

On March 9, 2012, Nicaragua's peak exporter association, the Asociación de Productores y Exportadores de Nicaragua (APEN), recognized the Masiguito Cooperative as the country's fastest growing exporter to the United States (COSEP 2012). A twenty-two-year-old cooperative at the time of the APEN award, Masiguito was owned, surprisingly, not by large cattle ranchers from Nicaragua's vibrant Pacific Coast region but by small and medium-sized ranchers from the ostensibly stagnant and largely destitute central region. Located in the department of Boaco, it processed a range of dairy products but specialized in Salvadorean-style cheeses for export to Central America and the United States. Though still modest in size by world standards, Masiguito ranked among Nicaragua's top dairy exporters (CETREX 2013; Banco Central de Nicaragua 2010).

Nevertheless, Masiguito is only one among a handful of similar export-oriented cheese-processing cooperatives that have emerged over the past three decades in the highlands of Nicaragua's central departments of Matagalpa, Boaco, Chontales, and Rio San Juan. Such a remarkable process of industrial transformation was highly unlikely in this area (Perez-Aleman 2011). Wedged between the Atlantic Autonomous Regions and Lake Nicaragua, most of the area's rugged territory is sparsely populated, isolated,

and impoverished. Unlike the dynamic Pacific plains of the country, where the sugar, peanut, and cattle industries flourish, the central highland region, for much of its history, largely remained beyond the reach of the national Managua-based Nicaraguan state and the multinational corporations investing in the country (Dunkerley 1988; Enríquez 2010). Even under Sandinismo's 1980s developmentalist and redistributive program, the region's mountainous area escaped widespread intervention, prompting local inhabitants to join the counterrevolutionary "Contra" forces en masse (Núñez 1995; Martínez 1993; Brown 2001).

And yet, over the past two and a half decades, in the post-Sandinista era, this seemingly unchanging, remote, war-torn area has experienced an unprecedented industrial transformation. During that period, seven cooperatives adopted what previous studies refer to as a "Gebhardian" organizational model, named for Hannes Gebhard, founder of the Finnish cooperative movement (e.g., Seppänen et al. 2013). Under this model, rancher cooperatives process dairy products for export, collect raw milk from small and medium-sized suppliers through vast refrigerated networks, and deploy "high road" sourcing and labor relations arrangements that ensure high stable milk prices and improved labor conditions and wages, respectively (Seppänen et al. 2013; Skurnik 2002). Its adoption has not only led to surging economic performance benefiting cooperative members but has also enhanced the incomes, skills, and upward mobility of workers and ranchers living in nearby communities, thereby delivering "mutual gains" (Osterman 2000).

What conditions might elicit industrial transformation is a classic question of international development theory. How those transformations might deliver mutual gains is a necessary complement to that fundamental query. This article addresses these two related questions. Exploiting a "deviant case study" design that deliberately narrows the explanatory potential of prevailing state-focused new industrial policy (NIP) and multinational-centered global value chain (GVC) theories, it offers a novel explanation that draws heavily on ideational accounts from political science and sociology. These accounts assert that a variety of socioeconomic and political processes and outcomes, including organizational changes, may be explained by actors' ideologies. Those ideologies frame actors' appraisals of different problems and their consequent responses (Geertz 1973; Sewell 1985; Campbell 1998; Schmidt 2008).

This article redeploys and refines those ideational arguments to account for the industrial transformation with mutual gains of the Gebhardian cooperatives in the highlands of Central Nicaragua. Relying on process-tracing and comparative methods, it reveals how distinct teams of professionals—labeled "developmental" for their transformative interventions—systematically negotiated and collaborated with groups of ranchers in the area to select and implement the new organizational model. Employed by the Finnish International Development Agency (FINNIDA), the Swedish International Development Cooperation Agency (SIDA), and the Italian Development Cooperation agency, these developmental professionals spearheaded three programs: FINNIDA's thirteen-year Rural Livestock Development Program (Proyecto de Desarrollo Ganadero, PRODEGA), SIDA's ten-year Agricultural Development Fund (Fondo de Desarrollo Agropecuario, FondeAgro), and the Italian Development Cooperation's ten-year Rice Rehabilitation and Peasant Development Project (Proyecto de Rehabilitación Arrocera y de Desarrollo Campesino, PRADC). In explaining the developmental professionals' actions, this study suggests that they were profoundly influenced by social democratic ideology and informed by a base of expert knowledge borne by their experience and training. These two key explanatory factors fueled and molded the professionals' transformative mission and their interactions with local ranchers, as well as influenced the practices of the organizations they created, fostering mutual gains, particularly in rancher communities that shared a crucial background condition: a prerevolutionary collective experience. That experience allowed those rancher communities to engage productively with the developmental professionals.

Industrial Transformation in Late Developers: An Overview of the Literature

As they undergo industrial transformations, firms acquire the necessary technology, experience, and coordination to effectively compete in world markets on the basis of price, quality, and timely delivery. Such processes demand substantial capital investment but especially depend on the adoption of knowledge necessary to shift into higher-value economic activities (Gerschenkron 1962; Gereffi 1999; Amsden 2008; Doner 2009). While those economic achievements are consistent with a variety of organizational models, only some will also offer improved conditions for workers and communities, or "mutual gains" (Piore and Sabel 1984; Pires 2008; Osterman 1994, 2000, 2018).

To account for industrial transformations in late developers, two competing literatures have emerged, each underscoring the galvanizing role of a distinct institutional actor. The new industrial policy perspective (NIP) places the state at the center of its analysis and emphasizes the strong economic nationalism that drives public bureaucracies responsible for industrial policy—an ideological commitment that motivates

and shapes their interventions (Johnson 1982; Gao 2002). This literature also underscores public-private consultation, collaboration, and assistance as an indispensable precondition for policy making, with institutional instruments including, among others, a diversity of state-business councils (Rodrik 2004; Sabel 2012; Schneider 2015) and much more extensive “national innovation systems” (Cimoli, Dosi, and Stiglitz 2009; Mazzucato 2013).

While this literature has shed light on the changes in firm technology, experience, and coordination that accompany industrial transformations, it has been much less explicit about the implications of these organizational changes for mutual gains. It is partly in this respect that a second literature proves instructive. In underscoring the leading role of multinational buyers in global value chains (GVCs), the GVC literature has inserted a concern with both “economic and social upgrading” into its arguments (Barrientos, Gereffi, and Rossi 2011; Gereffi and Lee 2016). It posits that, through a combination of pedagogical and disciplining interventions, global buyers spur shifts among their suppliers into higher-value activities. It also suggests that in response to advocacy campaigns and national regulations, these global buyers may deploy private certification and inspection systems and provide expert assistance to similarly propagate “high road” industrial relations systems among their suppliers. However, the evidence remains mixed, and deep disagreements persist about the developmental impact of global buyers on late developer firms and communities (Pipkin and Fuentes 2017).

It is in this context that this article proposes an alternative explanation for industrial transformation with mutual gains—one that builds on the GVC and NIP literatures to offer a third path focused on the catalyzing role of a different institutional actor: the “developmental professional” of foreign aid agencies. Like the GVC literature, this proposed third path seeks to account for both economic and social upgrading. Yet, in highlighting the transformative interventions of actors employed by public agencies—namely, those devoted to foreign aid—it hews closer to the NIP literature. It also builds on this latter literature in its discussion of how the developmental professionals engage in ongoing collaboration and negotiation with their private sector counterparts. Finally, when it comes to the explanatory variables, the proposed account brings to the fore both the foreign expertise underscored by the GVC literature and the ideology that arises in some of the NIP arguments.

Developmental professionals and a third path for industrial transformation with mutual gains

The figure of the developmental professional as an agent of rapid industrial change emerges clearly from the review of the case of the Gebhardian cheese-processing cooperatives in Central Nicaragua, where teams of professionals spearheaded wide-ranging organizational changes at the seven studied cooperatives. Two key variables accounted for the developmental professionals' actions in their transformative campaign, distinguishing them from other comparable actors: their social democratic ideology and their expert knowledge. At the same time, the interventions of these developmental professionals proved conducive to full adoption of the Gebhardian model only when targeted ranchers shared a prerevolutionary collective experience—a crucial background condition.

Ideologies have long received significant attention in the ideational literature of political science and sociology. Geertz (1973) defines them as interpretive frameworks that render meaningful otherwise incomprehensible situations. They constrain certain actions by blocking out particular possibilities as inconceivable, and enable others by “ordering [actors'] understanding of the social world and of themselves, by constructing their identities, goals, aspirations, and by rendering certain issues significant or salient and others not” (Emirbayer and Goodwin 1994, 1441). Ideologies represent symbolic formations with “an internal logic and organization of their own” (Emirbayer and Goodwin 1994, 1441). They allow collectivities and individuals to understand their relations to one another (Guillén 1994; Silbey 1998), specify valued ends and interests, and offer cause-effect principles useful to elaborate “practical plans” (Sewell 1985).

Marxism, which specifies a unifying, overarching, timeless end by enshrining a “kingdom of equality” free of alienation and dehumanization (Pipes 2003, 9), represents a mainspring for various competing ideologies, including revisionism, or social democracy (Kołakowski 2005). Associated with the ideas of Eduard Bernstein and, before him, the British Fabians, social democratic thought adopts a gradualist and pluralist approach to socialism, denying the widely held Marxist assumption that revolution and a cataclysmic final battle are inevitable. Rather, it encourages the Marxist movement to further the immediate interests of the working class by degrees, through democratic means and legislation (Bernstein 1911). It also welcomes alliances with nonsocialists if they advance the interests of the working class, and specifically includes the petty bourgeoisie and peasantry in its reformist program. Furthermore, social democrats support the right of trade organizations to control production and claim that Marx explicitly fomented cooperative

societies. Social democracy thus offers “a program of laborious, gradual, and unspectacular improvement” (Kołakowski 2005, 446).

In Nicaragua, social democratic thought both enabled and constrained the actions of the developmental professionals that transformed the dairy industry. The foreign aid agencies that employed the developmental professionals had shared a close ideological affinity with the Sandinistas since the revolution, for Sandinismo embraced many of the same principles as social democratic thought.¹ In fact, FINNIDA, SIDA, and the Italian Development Cooperation played a crucial supporting role for some of the revolutionary government's main agro-industrial investment projects. FINNIDA, for instance, provided most of the resources to refurbish Managua's four largest milk-processing plants, managed at the time by the Sandinistas' Empresa Nicaragüense de Lácteos (ENILAC) (CIERA 1985a; Eskola 2003; Seppänen et al. 2013). Similarly, by 1985, SIDA had provided support for the construction of the Victoria de Julio sugar mill, and the Italian Development Cooperation funded nutritional and fishery programs (CIERA 1985a).

Former Sandinista leaders and even program evaluation documents recognized these agencies' ideological embrace of the revolution's ideals. For example, the former director of the Sandinistas' ENILAC, who negotiated PRODEGA with Finnish authorities, recalled that “they shared our political views, they supported the Revolution.”² That was a view echoed in PRODEGA's evaluation, which made clear that in the aftermath of the revolution, “Finland's continuing cooperation with Nicaragua” would emphasize “preserving some of the country's previous social gains” (Caldecott et al. 2012, 50).

That is why, from the beginning, the developmental professionals employed by PRODEGA, PRADC, and FondeAgro both focused on the social democratic priorities of improving the standard of living of peasants, workers, and small and medium-sized farmers (Eskola 2003, 61), and avoided alternative models benefiting mainly large producers. For instance, as the Finnish embassy, which worked closely with its aid agency's developmental professionals, made clear, the plan was not to aid “the largest” and “most privileged” farmers who concentrated land ownership, but to “[mitigate] poverty” and “[generate] permanent improvements to the standard of living of families that grow agricultural products on a small scale, particularly, but not exclusively, cattle owners” (Seppänen et al. 2013, 6). Similarly, for SIDA, the “main objective [was] poverty reduction of small and medium sized ... dairy producers” (Fajardo, Ammour, and Cruz 2006, 5). Those commitments were grounded in the enduring relationship between these agencies and Sandinista authorities, and drew from their shared ideology's valued ends and interests and cause-effect principles.

Yet, if ideology played a central role in guiding the developmental professionals' transformative actions in Central Nicaragua, so did their professional expertise. The developmental professionals—all specialists in engineering and consulting—and their agencies had acquired this expert knowledge through training and experience, some of it in Sandinista Nicaragua. It armed them with organizational repertoires (Johnson 2007; Baron, Hannan, and Burton 1999; Burton 2001) necessary to bridge the gap between the abstract ideological principles, terminology, and concepts of social democracy and Sewell's (1985) “practical plans.” These repertoires contained different organizational models, procedures, and practices that the professionals could deploy in Central Nicaragua. Expert knowledge also proved useful in clarifying what kinds of environmental resources the different models required, how different practices might coalesce, and what their likely social consequences might be. Additionally, expert knowledge endowed developmental professionals with both prestige among local actors and a keen awareness of the need to engage with “beneficiaries,” namely leading ranchers in Central Nicaragua.

The engagement with local ranchers that the developmental professionals pursued, however, produced divergent results, and that variation underscores the role of an important background condition: ranchers' prerevolutionary collective experience. The condition refers to the extent to which rancher communities

¹ Sandinismo rejected the existing social, political, and economic system and pursued the construction of a new society. Under the umbrella of this overarching goal, Sandinismo embraced a set of five second-order principles. First, drawing on the lessons of Marxists such as Antonio Gramsci, José Carlos Mariátegui, and Ernesto “Che” Guevara, it endorsed vanguardism (Hodges 1986). Second, inspired by Sandino's nationalism and virulent anti-imperialism, dependency theory, and Guevara's concept of underdevelopment, Sandinismo defended a model of independent economic development. Third, Sandinismo blended ideas from Vatican II, Catholic social doctrine, Sandino's heroic experience, and Marxists such as Mariátegui and Guevara to create a distinct cult of the new man, rid of egoism, exercising complete self-control, and devoid of the “bourgeois mentality”—namely, an ascetic (Nolan 1984, 117). Fourth, drawing on Sandino's thought and Catholic social doctrine, the Sandinistas pursued popular democracy, couching their actions in the language of the social and economic rights highlighted by Pope John XXIII in his *Peace on Earth (Pacem in Terris)* encyclical (Nolan 1984; Ramírez 1983; Ryan 1995). Lastly, Sandinismo venerated the impoverished rural worker. As Sandinista leader Daniel Núñez (1985, 366) put it, “the happiness of the Nicaraguan people is not going to lie in the cities. It is going to be in the countryside.”

² Interview with former director of ENILAC, March 7, 2013.

both participated in joint endeavors during the Somoza period and emerged from the Sandinista Revolution, and its agrarian reform, without major alterations to their leadership and land tenure patterns. It echoes Hirschman's (1984) "principle of conservation and mutation of social energy" insofar as it suggests that the ranchers' earlier "bent for collective action had not really left them." Rather, that "social energy" was renewed after the revolution, as ranchers already experienced in cooperative organizations or other forms of productive collaboration re-embarked on collective schemes, this time led by the developmental professionals. Having both encountered and, to a degree at least, resolved many common collective action problems during the Somoza years and jointly overcome what many of them saw as the hostile environment of the revolutionary years, these rancher communities were better positioned to actively collaborate and negotiate with the developmental professionals.

Research Design and Methods

During the 1990s and 2000s, the seven studied cooperatives in Central Nicaragua adopted the Gebhardian cooperative model (see **Table 1**). In accounting for the industrial transformation that produced the Gebhardian cooperatives, the design of this deviant case study deliberately narrows the explanatory potential of the two sets of arguments offered by the conventional wisdom, namely the industrial policy and global value chain (GVC) approaches. On the one hand, instead of exhibiting the type of nationalist bureaucratic intervention that industrial policy accounts would predict, the area has lacked a significant presence of the Nicaraguan state. This was particularly evident during the early years of the period under study, when post-Sandinista Liberal governments abandoned most policies of economic support and regulation. Indeed, as the region's first Gebhardian cooperatives flourished, the national state underwent a drastic process of retrenchment that began with the Chamorro administration. The move to liberalize financial markets and trade was felt especially acutely in the specific case of agricultural cooperatives, as Enríquez (2010) and Damiani (1994) have shown.

If the post-Sandinista governments largely abandoned Sandinista industrial development plans, large dairy buyers in Managua—the "lead firms" of global value chains—proved equally disinterested in spurring local development. GVC accounts would predict a mentoring and regulatory role for these lead firms. Instead, large dairy buyers in Nicaragua, some of them subsidiaries of multinational corporations, extended their sourcing tentacles to the central region only after the emergence of the first cooperatives.³ And even when they did, they failed to establish mentorship relationships with supplier cooperatives. Rather, they pressured ranchers to lower raw milk prices and often opposed cooperative processing altogether because it both strengthened rancher bargaining power and increased competition in the domestic processed dairy good market.⁴

The absence of these two driving forces of industrial change with mutual gains in Central Nicaragua thus sets the stage for this detailed deviant case study. Its heuristic design is devised to generate new hypotheses (Bennett 2004). The following section describes how I collected and analyzed the evidence.

Data collection and analysis

To develop this case study, I gathered evidence through fieldwork combining sixty interviews (see **Table 2**), archival research, and site visits. Interviews with a wide range of informants lasted between one and four

Table 1: The Gebhardian cooperatives of Central Nicaragua.

Name	Source of foreign aid support (program)	Location (department)
Masiguito/La Embajada*	Finland (PRODEGA)	Boaco
San Francisco de Asís	Finland (PRODEGA)	Boaco
San Felipe/Santiago*	Finland (PRODEGA)	Chontales
COOPROLECHE	Italy (PRADC)	Rio San Juan
Nicacentro	Sweden (FondeAgro)	Matagalpa

* These are cases in which two original cooperatives have merged to supply a jointly owned processing plant.

³ For instance, though cooperatives like Masiguito were created in the early 1990s, Parmalat, the first major global buyer to arrive, did not begin to source its raw milk from the region until the late 1990s (Perez-Aleman 2013).

⁴ Interview with Mayales cooperative president, March 20, 2013; interview with Acoyapa cooperative former president, February 7, 2013.

Table 2: Interviewees, by category.

Category of interviewee	Number of interviewees*
Industry firm owners/managers	18
Consultants	7
Industry employees	8
Union/peasant organization members/organizers	3
Trade association representatives	5
Government officials	14
Civil war veterans	10
NGO employees	2
Academics	9
Businessmen from related activities	2

* Some interviewees straddle more than one category.

hours and were usually recorded. I also conducted archival research in government, university, industry, and foreign aid agency offices and websites, analyzing the content of the industry-related material to corroborate or refute interviewee accounts. Finally, I visited over ten production sites and collection centers to observe the production process and conditions of work.

To analyze the data, I relied on process-tracing and cross-case comparisons. As George and Bennett (2005, 224) explain, process tracing is “the only observational means of moving beyond covariation alone as a source of causal influence.” It is ideally suited for asking “how” questions, focusing on sequential processes within a particular historical case (Van Evera 1997; Mahoney 2010). Thus, using the abundant material collected and drawing on process-tracing methods, I developed narratives describing the historical trajectories of the seven successful Gebhardian cooperatives. Those narratives revealed the central explanatory role of developmental professionals' ideology and expert knowledge. They also showed how these two factors interacted with each other and with environmental conditions—most notably, ranchers' prerevolution collective experience—to shape processes and outcomes of change.

In addition, the collected evidence clarified the sequences through which six different clusters of dairy producers in Central Nicaragua adopted alternative organizational approaches during the same period. For one, as previous studies have noted (e.g., Artola and Parrilli 2006), at least three other approaches continued to play a prominent role in the area by the 2000s: rancher cooperatives and associations, both of them supplying large Managua-based pasteurizing plants but failing to process export dairy goods themselves; and independent family-owned corporations with export-oriented processing facilities in the area but devoid of “high road” labor and supplier relations systems. In addition, other available (though much less prevalent) models included the common-ownership Sandinista Agricultural Cooperatives (CAS), the model farm approach with independent ranchers, and the locally established processing cooperatives. However, none offered the Gebhardian approach's combination of economic (i.e., lucrative export-oriented processing) and social gains (i.e., significant improvements in small and medium-sized rancher and worker conditions) (see Appendix 2). I therefore used this information to carry out comparisons that complemented the process-tracing analysis. The findings are presented in the following section, which begins with an overview of the Gebhardian cooperative model.

Transforming Nicaragua's Cheese Industry: Upgrading with Mutual Gains

The organizational model of the Gebhardian cooperatives in Central Nicaragua incorporates three critical components. First, each cooperative owns and manages an industrial facility. In that facility, workers employ local and imported technology to produce processed dairy goods for domestic consumption and especially for export. Second, each cooperative manages a broad and complex network of suppliers to source the requisite raw milk (see **Table 3**). That network is connected to a fully refrigerated, cooperative-owned supply chain that includes collection centers, quality testing labs, and specialized trucks to transport the cold milk. Members and nonmembers alike daily deliver their raw milk to either collection centers or trucks. Lastly, each cooperative has introduced novel “high road” labor and supplier relations systems. The new systems place emphasis on worker and supplier loyalty by providing incentives such as higher-than-

Table 3: Cooperative supply networks (2012).

Name	Number of suppliers	Number of collection centers	Average daily raw milk collection (1,000s of liters)
Masiguito/La Embajada*	900	4	100
San Francisco de Asís	400	3	50
San Felipe/Santiago*	400	n/a	30
COOPROLECHE	435	17	22
Nicacentro	830	10	55

Source: Author interviews, 2012.

* These are cases in which two original cooperatives have merged to supply a jointly owned processing plant.

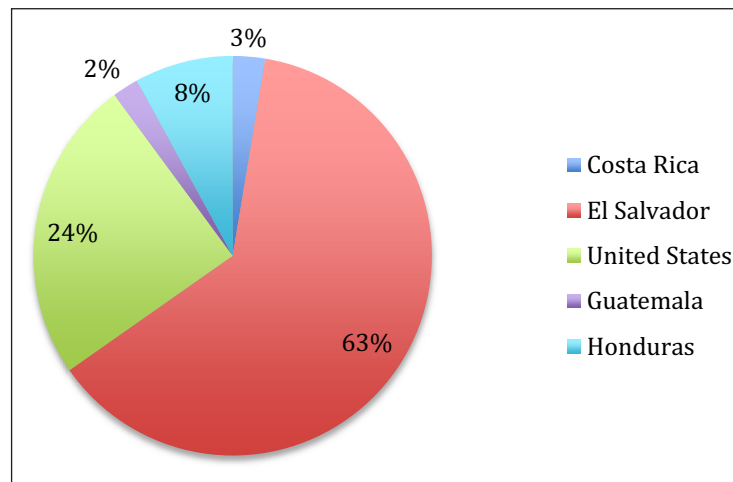


Figure 1: Distribution of the 2012 value of cooperative cheese exports, by recipient country. Source: CETREX 2013.

average wages and benefits for the former and steady raw milk prices and a variety of on-ranch services (e.g., veterinary, pasture upgrades, artificial insemination) for the latter.

The adoption of this new organizational model delivered mutual gains over the studied period. Cheese exports from these cooperatives boomed after the early 2000s, almost doubling between 2007 and 2012 despite the fallout from the Great Recession (CETREX 2013). Cooperatives also increasingly sold to the stringent American market, which, by 2012, absorbed almost a quarter of all their exports (CETREX 2013) (see **Figure 1**).

In addition, observers and participants report remarkable improvements in the cooperatives' raw milk productivity and quality, as well as worker and rancher conditions. Thus, for instance, at the two largest and oldest Gebhardian cooperatives, San Francisco de Asís and Masiguito, average individual supplier production grew by 20 percent between 1990 and 1997 (Seppänen et al. 2013). Similarly, at Nicacentro, another leading cooperative of more recent creation, separate evaluations revealed "notable improvements in milk quality" (Berra and Galetto 2010) and significant increases in raw milk prices (Prins et al. 2008).

For employees, cooperatives have proven beneficial as well. Ranch workers received enhanced training in cattle herding and husbandry, milking procedures, and raw milk handling, leading to lower turnover and rising wages (Fajardo, Ammour, and Cruz 2006; Seppänen et al. 2013). Workers in collection centers and processing plants have been similarly trained in the skills needed to manage the processing equipment, comply with clean manufacturing practices, produce a variety of dairy products, and conduct a full battery of laboratory tests on raw milk. Their "high level of technical ability" (Artola and Parrilli 2006) is compensated with long-term contracts, vacation time, wages in excess of the legal minimum, and a full menu of benefits above those required by law (e.g., transportation and access to some of the cooperatives' social services), which render these as some of the more attractive jobs in the area.⁵

⁵ Interviews with COOPROLECHE and Masiguito employees, October 3, 2012, and February 18, 2013; with Masiguito engineer, February 18, 2013; with COOPROLECHE president, October 3, 2012; with Masiguito manager, February 18, 2013; and

An ideational account of industrial transformation with mutual gains

How can we account for this process of industrial transformation with mutual gains? The proposed argument emphasizes the explanatory role of two central variables: the developmental professionals' social democratic ideology and base of expert knowledge. It also underscores the influence of rancher communities' prerevolutionary collective experience, a crucial background condition that supplied them with the requisite "social energy." As the following description shows, those three factors set the Gebhardian cooperatives apart from the previously described organizational clusters operating simultaneously in the same region and industry (see **Table 4**).

Background condition: The conserved social energy of the pre-Sandinista Revolution collective experience

Although the seven Gebhardian cooperatives only emerged in the 1990s and 2000s, a review of their members' histories reveals that they shared a significant collective experience during the Somoza years. The role and uniqueness of that background experience among the studied cooperatives vis-à-vis cooperatives similarly targeted by developmental professionals but failing to adopt a full Gebhardian model becomes evident through an examination of the land tenure patterns and production activities prevalent in the central region, both before and during the Sandinista Revolution (see **Table 5**).

Table 4: The explanatory factors compared across organizational clusters.

Organizational cluster	Background condition: conserved social energy	Independent variable: social democratic ideology	Independent variable: expert knowledge
Gebhardian cooperatives*	Yes	Yes	Yes
Nonprocessing rancher cooperatives*	No	Yes	Yes
Sandinista CAS	Yes/No**	Yes	No
Model farms	Yes/No**	No	Yes
Locally established processing cooperatives	Yes	No	Yes
Family-owned processing corporations	No	No	Yes
Nonprocessing rancher associations	Yes/No**	No	No

* These organizations were targeted by developmental professionals.

** These organizational clusters exhibit internal variation, with only some located in rancher communities with prerevolutionary collective experience.

Table 5: Prerevolutionary collective experience: A comparison of cooperatives targeted by developmental professionals.

Type of organization	Location in the studied central departments	Prerevolutionary production system	Impact of Sandinista agrarian reform
Studied Gebhardian cooperatives	Highlands	Smallholder-based pasteurizer supplier and/or cooperative grain production	Low
Nonprocessing rancher cooperatives	Lowlands	Large Somocista landholdings	High

with Juigalpa-based inspector of the Ministry of Labor, February 19, 2013.

Program evaluations also report significant improvements in the environmental sustainability of producers practices, as they now use improved pastures and "bio-digestors," for instance; and in the gender inclusiveness of cooperatives, insofar as women participate more widely in, for example, cooperative boards and land ownership (Prins et al. 2008; Seppänen et al. 2013).

On the eve of the revolution, two distinct production systems coexisted in the region's departments of Matagalpa, Boaco, Chontales, and Rio San Juan. In the drier lowland areas by Lake Nicaragua (e.g., the municipalities of Acoyapa, Juigalpa, and Comalapa), the Somozas and their associates owned massive landholdings dedicated to export-oriented beef, milk, and rice production and well-connected to necessary production infrastructure.⁶ By contrast, in the mountainous highland area farther from the lake's shores (e.g., the municipalities of Matiguás, Muy Muy, Camoapa, Boaco, and Nueva Guinea), a small and medium-sized peasantry, mostly displaced by the Pacific Coast cotton boom of the 1960s and 1970s, had gradually pushed back the agricultural frontier.⁷

It was among this peasantry that the collective experience was forged during the Somoza years, albeit through two distinct paths. Some, located in Rio San Juan's municipality of Nueva Guinea, were beneficiaries of the Somocista agrarian reform's Rigoberto Cabezas project, which, with support from the United States Agency for International Development (USAID) and Inter-American Development Bank (IDB), organized peasants into production and credit cooperatives that sold grain to Salvadorean, Honduran, and Costa Rican merchants.⁸ Others, in municipalities such as Matiguás, Muy Muy, Camoapa, and Boaco, had begun selling raw milk to large processing plants in Managua and Matagalpa during the 1970s, becoming increasingly prominent suppliers throughout the decade.⁹

With the revolution, conditions changed substantially in this central region as the Sandinistas implemented their agrarian reform. But the reform also affected the region's two production systems differentially, since the bulk of expropriations targeted Somocista land (Dunkerley 1988; Luciak 1987; Martinez 1993). Thus, in the largely Somocista-owned lowland municipalities, Sandinista expropriations were swift and widespread. They concentrated expropriated land into massive state-run farms (e.g., Roberto Huembes, Modesto Duarte, Heroes de Pancasan), which supplied Managua-based pasteurizing plants run by the Sandinista's ENILAC (CIERA 1984, 1985b, 1986).¹⁰

In the highland municipalities, by contrast, expropriations, which targeted mostly National Guard members and "Contras," were fewer in number and smaller in acreage. They were also overshadowed by the more prevalent Sandinista process of land titling for individual peasants (Luciak 1987). That is why the reform was much less disruptive of land tenure patterns in these areas. If anything, it was its neglect of the peasantry—especially its "anti-peasant policies" (Martinez 1993)—that had a greater impact among local residents, since many of them, disappointed with the revolution, joined the Contras (Martinez 1993; Brown 2001).

After the revolution, the legacies of both the pre-reform tenure patterns and the agrarian reform's expropriation process affected the long-term prospects of industrial transformation among local cooperatives. The combination of large-scale Somocista landholdings during the 1970s and Sandinista state-run farms during the 1980s deprived the lowland municipalities of any inherited collective experience. New ranchers in places like Juigalpa and Acoyapa formed cooperatives during the 1990s. But despite their prime location and substantial access to foreign aid, they failed to establish fully functioning Gebhardian models.¹¹ Instead, a variety of obstacles, such as distrust, disagreements over leadership, and an absence of a shared vision, undermined their efforts.¹² As the Acoyapa cooperative's former president bitterly recalled, "I spent ten years trying to get us to move into processing ... But it's impossible here! It all ended in an assembly, when I stupidly asked for a vote [to approve a foreign aid project that would fund a new processing plant] and lost. I should have divided that cooperative, and formed a new one with the fifty [members] who voted yes."¹³

In contrast to the lowlands, the frontier highland municipalities, though devastated by the war, retained the collective experience from the prerevolution years. For despite the reform's expropriation of some of the largest National-Guard-member and Contra landholdings, most of the same groups who had supplied the

⁶ CIERA (1986); interview with former Sandinista Political Secretary, February 7, 2013.

⁷ Interview with former Sandinista political secretary, February 7, 2013; interview with COOPROLECHE president, October 3, 2012; Dunkerley (1988); CIERA (1989).

⁸ CIERA (1980); interview with COOPROLECHE president, October 3, 2012; interview with former FINNIDA consultant residing in Nueva Guinea, February 27, 2013.

⁹ CIERA (1984, 1985b, 1987); Prins et al. (2008); interview with the former director of the Sandinista's ENILAC, March 7, 2013; interview with Nicacentro president, March 13, 2013.

¹⁰ Later in the decade, the Sandinistas would begin to redistribute that land to cooperatives and individual peasants. That shift responded, at least in part, to both political pressures within Sandinismo and defense needs in the Contra war (Martinez 1993).

¹¹ These cooperatives currently produce raw milk for large pasteurizing plants in Managua. Interview with Mayales cooperative president, March 20, 2013; interview with Acoyapa cooperative former president, February 7, 2013.

¹² Interview with Mayales cooperative president, March 20, 2013.

¹³ Interview with Acoyapa cooperative former president, February 7, 2013.

Managua- and Matagalpa-based pasteurizing plants, or formed cooperatives as part of Somoza's Rigoberto Cabezas project in Nueva Guinea, continued to live in these areas. It was among them that an earlier "bent for collective action" remained "even though the movements in which they had participated [were] aborted or petered out" (Hirschman 1984, 43). Despite lacking the type of "radical" prior experiences that Hirschman (1984) examines, these groups—and particularly their leading families—were ready to renew their commitment to joint productive action.

As COOPROLECHE's president put it, "We had worked with the National Bank of Nicaragua from '73 to '80 in Nueva Guinea and Boaco, organizing two cooperatives.... We received help from people specialized in cooperativism, and we were convinced by the doctrine of cooperatives, we were convinced of its benefits."¹⁴ That experience, which had led to the emergence of a few leading local families, allowed them to productively engage with foreign aid developmental professionals.

Tracing the process of transformation: Ideology, expert knowledge, and the adoption of the Gebhardian cooperative model

While prior collective experience offered a crucial background condition, it was the intervention of foreign aid agencies' developmental professionals that proved indispensable for the emergence of Central Nicaragua's Gebhardian cooperatives. It was only in those places where these professionals worked closely with leading ranchers that successful processes of industrial transformation with mutual gains unfolded.¹⁵ And it was by drawing on their social democratic ideology and substantial expertise to negotiate and collaborate with those local partners that they instituted the new organizational model.

The process of transformation began as the Sandinista Revolution drew to a close in early 1990, when the first team of developmental professionals, employed by FINNIDA's PRODEGA (1990–2003), arrived in Nicaragua. The product of an agreement following the 1987 state visit to Finland by Sandinista Minister of Agriculture Jaime Wheelock, PRODEGA was intended to raise farm incomes, expand the country's waning milk production, and foster milk and cheese processing in Nicaragua's central departments of Boaco and Chontales, where anti-Sandinismo had flourished (Eskola 2003). However, the original agreement included little guidance regarding implementation, leaving decisions on the favored dairy-production organizational model to the program's developmental professionals.

Much the same occurred with the Italian Development Cooperation and SIDA dairy programs, which would follow PRODEGA. The developmental professionals of the former agency, under the aegis of its PRADC (1997–2006), first approached the cattle ranchers of the region of Nueva Guinea, who would soon form the successful COOPROLECHE, in the late 1990s. But in the initial stages of the aid program, they remained undecided about the specifics of implementation.¹⁶ That echoed the events that unfolded in Matagalpa under SIDA's Agricultural Development Fund (FondeAgro) (2001–2010). There, developmental professionals in the program's coordinating unit (particularly those involved with the agribusiness component) pursued a gradual and experimental process of selection and implementation (Fajardo, Ammour, and Cruz 2006; Prins et al. 2008).

This lack of a predetermined organizational approach in the initial stages of the three programs, however, should not conceal the general ideological agreement and expertise among all the professionals. For, as a review of their early activities reveals, they all built on their shared social democratic ideology, with its emphasis on equality and gradual improvements in working class conditions through diverse cross-class alliances. Furthermore, their professional training and experience furnished them with organizational repertoires, prestige, flexibility, and the capacity to negotiate with local leaders.

The combination of ideology and expertise clearly informed organizational model selection among FINNIDA's PRODEGA developmental professionals. The program's records show that they considered at least two alternatives before choosing the Gebhardian cooperative approach. First, they explored the possibility of upgrading the so-called Sandinista Agricultural Cooperatives (CASs). Created through the Sandinista agrarian reform, the CASs were consistent with social democratic thought, bringing together former hacienda workers who jointly owned and managed expropriated hacienda land. However, during the revolution, efficient CAS

¹⁴ Interview with COOPROLECHE president, October 3, 2012.

¹⁵ For instance, absent a similar kind of developmental professional intervention, two separate Somoza-era colonization projects analogous to Rigoberto Cabezas–Tasba Raya in the North Atlantic Region, and the INBIERNO settlements in Matagalpa and Jinotega (CIERA 1980)—failed to spawn Gebhardian cooperatives. Similarly, the locally established Cooperativa Santo Tomás, located in the highland town of Santo Tomás, where a pasteurizing plant collection center operated in the 1970s, was able to move into processing, but lacked the Gebhardian model's mutual gains.

¹⁶ Interview with COOPROLECHE president, February 18, 2013.

production remained elusive, partly due to a dearth of expertise among leaders (Damiani 1994). Moreover, the ideologically motivated but also pragmatic FINNIDA developmental professionals soon realized that the changing political tide in the country eroded the necessary environmental resources for CAS upgrading: the unexpected electoral loss of the Sandinistas in February 1990 elicited relentless opposition by the newly elected, anti-Sandinista Liberal government (Caldecott et al. 2012). Additionally, local ranchers unequivocally resisted a model tainted with memories of war and destruction.¹⁷

Given this environment, the FINNIDA developmental professionals evaluated a second possible organizational model from their repertoire: the model farm. Under this plan, ten model farms would serve as points of dissemination and centers for agricultural extension. The model farm approach seemed to fulfill the preferences of both anti-Sandinista leading ranchers and the Liberal government. As one of the program's reports argues, the new government in particular favored "the idea that wealth created in pre-selected clusters of private companies in locations with optimal conditions for their performance would inevitably 'trickle down' to the poor" (Caldecott et al. 2012, 76). Yet, the model encountered an insurmountable obstacle: the ideological opposition to excessive income inequality and concentrated land ownership expressed by professionals, FINNIDA and the Finnish embassy. As the program's final evaluation matter-of-factly explains, the professionals abandoned the plan because "the ten model farms were obviously among the largest, and as such, most privileged from the start" (Seppänen et al 2013, 6).

Only then did the FINNIDA developmental professionals turn to the Gebhardian cooperative form. The model brought together small and medium-sized private ranchers to process dairy products, promising a transformation with mutual gains. Ideologically, it was consistent with their social democratic thought. Hannes Gebhard, the inspirational figure behind this organizational model, had opposed unrestrained competition, which he believed engendered excessive egoism, undermined solidarity, and alienated people. However, he also feared revolutionary and state socialism and thus supported "the cooperation of those with small means ... trade unions and cooperative societies" (cited in Skurnik 2002, 107).

In practice, the Gebhardian model also offered promising economic and social prospects. In Finland, these cooperatives accounted for 97 percent of the country's total dairy production by the early 1990s (Bager and Michelsen 1994). According to Finnish historiography, they had also contributed to national integration by "tying rural folk and occupations to ... rapid industrialisation" and wedding the countryside to the "embryonic industrial-commercial market" (Skurnik 2002, 121).

The developmental professionals hoped it would play much the same role in Central Nicaragua. Above all, it appeared to provide an ideal compromise that could garner the necessary legitimacy in Nicaragua's turbulent context. As a PRODEGA evaluation stated, it seemed "sufficiently 'socialist' to make the Sandinistas happy, but sufficiently 'capitalist' so that the former 'contras'—and the new Government—could accept it" (Seppänen et al. 2013, 24).

Although such discussions on model selection were most extensively recorded throughout FINNIDA's PRODEGA experience, the evidence suggests that similar debates unfolded in the Italian Development Cooperation's PRADC and SIDA's FondeAgro programs (see **Table 6**). And though the routes they took to select the Gebhardian model differed somewhat from PRODEGA's path, the role of ideology and expert knowledge proved equally important in that final determination. Take the example of SIDA's FondeAgro in

Table 6: Organizational models considered by the teams of developmental professionals before selecting the Gebhardian alternative.

	Sandinista CAS	Nonprocessing rancher cooperative	Nonprocessing rancher association	Corporation	Model farm
PRODEGA (Finland)	X				X
PRADC (Italy)		X	X		
FondeAgro (Sweden)			X	X	

Sources: Information from Caldecott et al. 2012; Prins et al. 2008; Seppänen et al. 2013; interview with COOPROLECHE president, October 3, 2012.

¹⁷ Interviews with Masiguito general manager, February 14, 2013; and with FENACOOP president, February 1, 2013.

the department of Matagalpa. In that case, the debate centered on whether to pursue one of three models: a corporation with producer-owned shares that emulated existing Salvadorean family-owned processors;¹⁸ a rancher association supplying raw milk to large domestic and international processors, such as Parmalat or Eskimo; or the Gebhardian alternative (Prins et al. 2008).

FondeAgro's developmental professionals assessed these options on the grounds of their ideology's emphasis on gradual improvements in the conditions of the most vulnerable (particularly small and medium producers with incomes ranging from \$0.50 to \$2.50 per day; Prins et al. 2008), and its preference for cross-class alliances with actors such as Liberal state authorities and, especially, leading local ranchers. But they also surmised the different models' resource demands, undertaking "technical studies" and learning about the experience of the trailblazing Finnish PRODEGA (Berra and Galetto 2010; Prins et al. 2008; Fajardo, Ammour, and Cruz 2006; Seppänen et al. 2013). As in PRODEGA, that assessment engendered the preliminary decision to pursue the Gebhardian alternative.

Yet, preliminary model selection represented only the first step in a drawn-out process. Once they settled on the Gebhardian alternative, the developmental professionals moved on to implementation, a stage in which they encountered obstacles especially prominent in the 1990s. For one, the anti-Sandinista Liberal government authorities downplayed the overarching goal of building a "kingdom of equality" and questioned the desirability and economic viability of producer cooperatives (Enríquez 2000). More importantly, most of the prevalently anti-Sandinista ranchers in the region expressed reservations, notwithstanding both their Somoza-era cooperative experience and the cautious receptiveness to cooperative organization articulated by leading families in the area. That rejection was largely because the planned Gebhardian organizational form, advanced by aid agencies closely linked to the revolution, evoked the reviled specter of Sandinista collectivization campaigns among rank-and-file ranchers.¹⁹

In this adverse context, ideology certainly fueled the developmental professionals' transformative process. Indeed, motivated by their commitment to salvage some of the gains of the revolution and gradually improve the conditions of the more vulnerable members of society, the professionals and their agencies stubbornly persisted in their efforts (Caldecott et al. 2012). But that ideology also interacted with the professionals' base of expert knowledge. In addition to offering an organizational repertoire and allowing them to assess the environmental fit of different models early on, expert knowledge served three complementary purposes during the implementation stage.

First, it bestowed prestige on the professionals, which was instrumental in overcoming opposition and laying the groundwork for the industrial transformation. Developmental professionals' training and knowledge assuaged reticent ranchers' concerns. In contrast to Sandinista authorities, viewed by ranchers as inexperienced novices or, worse, haughty enemies, the developmental professionals, who often chose to live in the area,²⁰ celebrated their business-oriented approach, offering both improved ranch performance (i.e., raw milk quantity and quality) and higher profits.

In addition, expert knowledge endowed the developmental professionals with a deep understanding of the different building blocks of the Gebhardian cooperative model. That understanding, which bolstered their prestige among ranchers, allowed them to deftly and swiftly introduce various modernizing practices and processes across the emerging cooperatives. It also provided them with significant flexibility in the enactment of the model, insofar as their deep knowledge reduced their reliance on standardized or rigid organizational blueprints.

Third, through their expertise—and especially their knowledge of the severe criticism leveled at the Sandinista revolutionary regime for its excessively authoritarian and anti-peasant approach²¹—the developmental professionals understood the need to negotiate with local leaders. Those negotiations involved descriptions of the Gebhardian model, which usually emphasized its preservation of private land ownership, and required developmental professionals to remain open to model alterations that suited rancher expectations. In fact, in

¹⁸ These corporations were set up by professional Salvadorean merchants who shared the developmental professionals' base of expertise but lacked the social democratic ideology. Unsurprisingly, their processing plants thus advanced neither the "kingdom of equality" through cross-class alliances nor a "mutual gains" approach. Instead, they aggressively negotiated down wages and raw milk prices in their bid to cut costs and raise profits.

¹⁹ Interviews with COOPROLECHE president, February 18, 2013; with Masiguito general manager, February 18, 2013; and with Nicacento president, March 13, 2013.

²⁰ The developmental professionals of FINNIDA's PRODEGA, for instance, operated from their offices in the town of Boaco, lived in a neighborhood popularly known as the "Finnish houses" (Seppänen et al. 2013), and impressed locals with their knowledge of cattle and dairy production.

²¹ Martínez (1993); interview with former Sandinista political secretary, February 7, 2013.

all cases, leading families gave their full support in exchange for significant concessions from developmental professionals. For instance, in contrast to the ideals favored by the professionals and their agencies, these powerful local families monopolized top positions in the newly formed cooperatives. They remained in those positions for decades, centralizing all decision-making (e.g., the Aragon family in San Francisco de Asís, the Fernandez family in Masiguito, and the Carranza and Lazo families in COOPROLECHE). Their continued control of these cooperatives partially undermined developmental professionals' lofty egalitarian vision. But it also ensured that leading ranchers' retained a vested interest in the Gebhardian cooperatives.

Likewise, soon after the creation of the Gebhardian cooperatives, leading families demanded that developmental professionals build the processing facilities. That "cart-before-the-horse" alternative of rapid movement into processing—likely motivated by ranchers' sour experience of dependence on powerful buyers and merchants before and during the revolution²²—countered developmental professionals' plans. Those plans called for a gradual process of development focused first on improvement in ranches and milk collection networks, and only much later on a transition into processing. Yet, in all the studied Gebhardian cooperatives, the developmental professionals eventually conceded on this point.

PRODEGA's implementation, which unfolded in three phases, offers an illustration of the combined role of developmental professional ideology, with its emphasis on gradual improvements through cross-class alliances and the prestige, knowledge, flexibility, and negotiating capacity afforded by their expertise. Early in Phase 1 (1990–1993), the developmental professionals demonstrated their flexibility, prestige, and negotiating capacity by engaging with, and obtaining the approval of, leading local families to create nine small and medium-sized Gebhardian cooperatives—all of them located in the departments of Boaco and Chontales. From the beginning, those leading families established themselves as leaders of the new cooperatives. For instance, in the San Francisco de Asís cooperative, "the presidency never changed. It's always been Fernández, for a very long time."²³

During this first phase, professionals followed their plan to raise ranch-level production and productivity. They established a generous extension service, introduced new cattle breeds through a genetic modification program, installed four raw milk cooling stations, built a road network of over 450 kilometers, and set up a transportation system (Eskola 2003; Caldecott et al. 2012; Seppänen et al. 2013). However, in response to demands of leading local ranchers, the professionals, exhibiting their flexibility and knowledge, also grudgingly supported the construction of the first cooperative cheese-processing plant (Seppänen et al. 2013).

That plant, initially built as a nonpasteurizing artisanal facility with funding from the World Food Program (WFP) but later upgraded by PRODEGA, was owned jointly by two of the PRODEGA cooperatives—Masiguito and San Francisco de Asís. It encouraged professionals and local ranchers to jointly devise a novel commercialization strategy that combined the sale of raw milk to large Managua-based dairy plants, with manufacturing of different cheeses (e.g., *queso fresco*, *queso criollo*) and other dairy products (e.g., sour cream, butter) for domestic and, later, Salvadorean consumption. This strategy proved remarkably successful, in part because Salvadorean demand for cheese was expanding rapidly at the time (Eskola 2003; Caldecott et al. 2012; Seppänen et al. 2013).

During PRODEGA Phases 2 (1994–1998) and 3 (1998–2003), the developmental professionals once again demonstrated their knowledge, negotiating capacity, and flexibility as they further upgraded the facilities at the original plant, by then managed independently by San Francisco de Asís. They also complied with rancher demands by building two more plants at the successful Masiguito and San Felipe cooperatives, all equipped with pasteurization, testing, processing, and refrigeration facilities. The professionals trained cooperative leaders on management and accounting procedures, and plant workers on production practices. They paired their capacity-building initiative with a "high road" human resource approach inspired by their social democratic ideology, which valued long-term contracts, constant skill upgrading, living wages, and benefits. During these later phases of the program, they also pursued their egalitarian goals by expanding activities of particular use for small, traditional, and isolated ranchers, such as diversified pastures, veterinary services, and an extension of the raw milk collection network (Eskola 2003; Caldecott et al. 2012; Seppänen et al. 2013).

The same ideology and expertise shaped the developmental professional interventions as part of both Italy's PRADC and Sweden's FondeAgro. PRADC's developmental professionals launched an initial consultation round in 1997, enlisting support from leading ranchers in Nueva Guinea. Building on that support, they

²² Before the revolution, they sold to either large pasteurizing plants or Central American merchants. During the revolution, Sandinista SOEs controlled commercialization. In both instances, the ranchers encountered significant problems with buyers (Prins et al. 2008).

²³ Interview with former consultant for the Dutch foreign aid agency, February 14, 2013.

created COOPROLECHE, constructed fourteen collection centers, and offered ranchers a variety of extension and technical services. As the long-serving president of COOPROLECHE explained, between 1998 and 2004, the program employed a veterinarian, two extension technicians, several economists, and specialists in raw milk management. Acquiescing to rancher demands, PRADC also hired Italian cheese production experts in the early 2000s to swiftly prepare the cooperative for its transition to manufacturing. Following their recommendations, the program built the cheese-processing plant between 2004 and 2006.²⁴

SIDA's FondeAgro, for its part, pursued three phases that mirrored PRODEGA's, and involved the same pattern of professional-rancher negotiation that elicited an accelerated transition into processing. In Phases 1 (2001–2003) and 2 (2004–2007), the professionals focused on organizing five cooperatives, building collection centers, offering extension services to raise productivity and raw milk quality, and broadening cooperative membership. But early on, ranchers also expressed an interest in building a processing plant, and by the mid-2000s they were vocally demanding its construction (Prins et al. 2008). As the president of Nicacentro, FondeAgro's largest cooperative, recalled, ranchers felt it was time to "take decisive steps to set up the plant."²⁵ In response, FondeAgro professionals began planning for the plant at the end of Phase 2. That plant, owned and managed by Nicacentro, was built at the community of Caño de Agua during Phase 3 (2008–2010), thereby completing the Gebhardian model.²⁶

Discussion and Conclusion

In accounting for a "high road" transformation in a Central Nicaraguan context devoid of widespread state or global buyer intervention, the proposed argument underscores the ideology and expert knowledge of a distinct institutional actor spearheading the process: the developmental professional of foreign aid agencies. The explanation shows how developmental professionals' social democratic ideology and considerable expertise shaped both the selection of the new Gebhardian organizational model and its implementation. That model fell at the intersection of the organizational repertoire offered by developmental professionals' expert knowledge with the guiding principles and cause-effect understandings of their ideology. It was selected largely on the basis of its ideological implications and resource demands. Indeed, FINNIDA, SIDA, and Italian Development Cooperation developmental professionals considered a variety of alternative models before settling on the Gebhardian approach—a choice far from inevitable in a region where, for example, Salvadorean family-owned processing corporations flourished, and nonprocessing cooperatives and associations supplied large buyers.

Furthermore, the Nicaraguan case also reveals that at the implementation stage, ideological motivations ensured continued support among developmental professionals and their agencies for the selected Gebhardian model, despite encountering local opposition. Likewise, their expert knowledge—which set them apart from, for instance, leaders of the Sandinista CASs of the 1980s—supplied the required skills to effectively enact the model's different components, negotiate and collaborate with cooperative members and, in the process, gain their trust. Significantly, as the evidence collected and analyzed through process-tracing reveals, those negotiations involved not only imposition of the model but also concessions to leading families. That is why processing facilities were built ahead of schedule in these cooperatives and why powerful local families retained control of cooperative leadership positions for decades. Ideology and expert knowledge persisted as causal factors, but they interacted with each other, and with environmental conditions—most notably ranchers' prerevolutionary collective experience—to shape the final outcome.

At the same time, the proposed argument, informed by a deviant case study design, also entails scope conditions that limit its generalizability. Indeed, because its outcome is not predicted or well explained by existing theories, a deviant case study like the one presented here is especially useful as a heuristic device to reveal previously ignored variables. It thus represents only a first step in theory development. As Levy (2008, 13) explains, "The examination of deviant cases is not the end of inquiry, as the theory refined on the basis of deviant case analysis must be subject to subsequent testing against new evidence, whether in either large N or small-N analysis, by applying the revised hypotheses to other cases."

It is in this sense that the proposed argument provides the contours for an expanded new industrial policy and global value chain research agenda on industrial transformations. That expanded agenda calls for future scholarship to address the transformative role of ideology and expert knowledge in instances of

²⁴ Interview with president of COOPROLECHE, February 18, 2013.

²⁵ Interview with Nicacentro president, March 13, 2013.

²⁶ Interview with Nicacentro president, March 13, 2013; Berra and Galetto (2010); Prins et al. (2008); Fajardo, Ammour, and Cruz (2006).

industrial change. Certainly, other works have unearthed similar findings. For example, in Italy a number of studies documented the motivating role of communism among the small artisanal producers in the Italian region of Emilia Romagna, renowned for their remarkable clusters (Criscuolo 2002; Brusco and Pezzini 1990). As Criscuolo (2002, 36) argues, this communist ideology influenced the industry's association, its firms and artisans in their "fight against the monopoly of big business," their "idea that the competitive advantage of small businesses cannot rely on the exploitation of the workforce," and their "preclusion for ideological reasons of a low-cost competitive strategy." However, such studies, though compelling, remain scarce, and their conclusions are largely ignored in domestic and international models of development policy. The addition of new cases therefore promises to enhance our understanding of the studied variables and their consequences for the multiple paths toward industrial transformation available to late developers.

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References

- Amsden, Alice. 2008. "The Wild Ones: Industrial Policy in the Developing World." In *The Washington Consensus Reconsidered: Towards a New Global Governance*, edited by Narcís Serra and Joseph E. Stiglitz, 95–118. New York: Oxford University Press. DOI: <https://doi.org/10.1093/acprof:oso/9780199534081.003.0007>
- Artola, Ner, and Davide Parrilli. 2006. "The Development of the Dairy Cluster in Boaco and Chontales, Nicaragua." In *Upgrading to Compete: Global Value Chains, Clusters, and SMEs in Latin America*, edited by Carlo Pietrobelli and Roberta Rabellotti, 43–70. Washington, DC: Inter-American Development Bank.
- Bager, Torben, and Johannes Michelsen. 1994. "The Dynamics of Cooperatives: Lessons from Scandinavia." *Annals of Public and Cooperative Economics* 65 (1): 3–12. DOI: <https://doi.org/10.1111/j.1467-8292.1994.tb01503.x>
- Banco Central de Nicaragua. 2010. "Estadísticas Macroeconómicas Anuales, 1960–2009." Banco Central de Nicaragua.
- Baron, James N., Michael T. Hannan, and M. Diane Burton. 1999. "Building the Iron Cage: Determinants of Managerial Intensity in the Early Years of Organizations." *American Sociological Review* 64 (4): 527–547. DOI: <https://doi.org/10.2307/2657254>
- Barrientos, Stephanie, Gary Gereffi, and Arianna Rossi. 2011. "Economic and Social Upgrading in Global Production Networks: A New Paradigm for a Changing World." *International Labour Review* 150 (3–4): 319–340. DOI: <https://doi.org/10.1111/j.1564-913X.2011.00119.x>
- Bennett, Andrew. 2004. "Case Study Methods: Design, Use and Comparative Advantage." In *Models, Numbers, and Cases: Methods for Studying International Relations*, edited by Detlef Sprinz and Yael Wolinsky-Nahmias, 19–55. Ann Arbor: University of Michigan Press.
- Bernstein, Edward. 1911. *Evolutionary Socialism: A Criticism and Affirmation*. New York: B. W. Huebsch.
- Berra, Carlos, and Alejandro Galetto. 2010. "La estrategia asociativa de la red de frío para el desarrollo lechero de Nicaragua: El caso de las cooperativas de la 'via lactea' apoyadas por el programa FONDEAGRO." Nicaragua.
- Brown, Timothy Charles. 2001. *The Real Contra War: Highlander Peasant Resistance in Nicaragua*. Norman: University of Oklahoma Press.
- Brusco, S., and M. Pezzini. 1990. "Small-Scale Enterprise in the Ideology of the Italian Left." In *Industrial Districts and Inter-Firm Co-operation in Italy*, edited by F. Pyke, G. Becattini, and W. Sengenberger, 142–159. Geneva: International Institute for Labour Studies.
- Burton, Diane. 2001. "The Company They Keep: Founder's Models for Organizing Firms." In *The Entrepreneurship Dynamic: Origins of Entrepreneurship and the Evolution of Industries*, edited by Claudia Bird Schoonhoven and Elaine Romanelli, 13–39. Stanford: Stanford University Press.
- Caldecott, Julian, Fred Van Sluijs, Aguilar Benicia Aguilar, and Anu Lounela. 2012. "Evaluation: The Country Programme between Finland and Nicaragua." Helsinki, Finland: Ministry of Foreign Affairs.
- Campbell, John L. 1998. "Institutional Analysis and the Role of Ideas in Political Economy." *Theory and Society* 27 (3): 377–409. DOI: <https://doi.org/10.1023/A:1006871114987>

- CETREX (Centro de Trámite de las Exportaciones). 2013. "Exportaciones autorizadas de productos lácteos, período 2007–2012." Nicaragua: CETREX.
- CIERA (Centro de Investigaciones y Estudios de la Reforma Agraria). 1980. "Estado y agro durante el somocismo." Nicaragua: CIERA.
- CIERA (Centro de Investigaciones y Estudios de la Reforma Agraria). 1984. "Inventario preliminar de los principales proyectos del sector agropecuario." Nicaragua: CIERA.
- CIERA (Centro de Investigaciones y Estudios de la Reforma Agraria). 1985a. "Inventario de proyectos alimentarios nutricionales." Nicaragua: CIERA.
- CIERA (Centro de Investigaciones y Estudios de la Reforma Agraria). 1985b. "La ganadería en Nicaragua y sus perspectivas." Nicaragua: CIERA.
- CIERA (Centro de Investigaciones y Estudios de la Reforma Agraria). 1986. "Estudio sobre cooperativas de la zona seca de la Región V." Nicaragua: CIERA.
- CIERA (Centro de Investigaciones y Estudios de la Reforma Agraria). 1987. "Organización territorial de la producción y del intercambio: Caso, proyecto lechero 'Héroes de Pancasán' Muy Muy, Matiguás." Nicaragua: CIERA.
- CIERA (Centro de Investigaciones y Estudios de la Reforma Agraria). 1989. "Economía campesina." Nicaragua: CIERA.
- Cimoli, Mario, Giovanni Dosi, and Joseph E. Stiglitz. 2009. *Industrial Policy and Development: The Political Economy of Capabilities Accumulation*. Oxford: Oxford University Press.
- COSEP (Consejo Superior de la Empresa Privada). 2012. "APEN: Reconoce esfuerzo exportador del año 2011." *Nicaragua Empresaria*, no. 22: 18–19.
- Crisuolo, Alberto. 2002. "Artisan Associations and Small-Business Development in the 'Third' Italy." Massachusetts Institute of Technology, Dept. of Urban Studies and Planning.
- Damiani, Octavio. 1994. "Collective Responses to Crisis: Agricultural Cooperatives and Intermediaries in the Post-Sandinista Nicaragua." Massachusetts Institute of Technology, Dept. of Urban Studies and Planning.
- Doner, Richard F. 2009. *The Politics of Uneven Development: Thailand's Economic Growth in Comparative Perspective*. New York: Cambridge University Press. DOI: <https://doi.org/10.1017/CBO9780511819186>
- Dunkerley, James. 1988. *Power in the Isthmus: A Political History of Modern Central America*. New York: Verso.
- Emirbayer, Mustafa, and Jeff Goodwin. 1994. "Network Analysis, Culture, and the Problem of Agency." *American Journal of Sociology* 99 (6): 1411–1454. DOI: <https://doi.org/10.1086/230450>
- Enríquez, Laura J. 2000. "The Varying Impact of Structural Adjustment on Nicaragua's Small Farmers." *Revista Europea de Estudios Latinoamericanos y del Caribe/European Review of Latin American and Caribbean Studies*, no. 69: 47–68.
- Enríquez, Laura J. 2010. *Reactions to the Market: Small Farmers in the Economic Reshaping of Nicaragua, Cuba, Russia, and China*. University Park: Pennsylvania State University Press.
- Eskola, E. 2003. *Rural Development Cooperation: Learning from Finland's International Projects and Programmes*. Finland: Ministry of Foreign Affairs.
- Fajardo, Raul, Tania Ammour, and Roger Cruz. 2006. "Apoyo de ASDI al desarrollo de la agricultura en Nicaragua: Programa FondeAgro." Nicaragua.
- Gao, Bai. 2002. *Economic Ideology and Japanese Industrial Policy: Developmentalism from 1931 to 1965*. New York: Cambridge University Press.
- Geertz, Clifford. 1973. *The Interpretation of Cultures: Selected Essays*. New York: Basic Books.
- George, Alexander L., and Andrew Bennett. 2005. *Case Studies and Theory Development in the Social Sciences*. Cambridge, MA: MIT Press.
- Gereffi, Gary. 1999. "International Trade and Industrial Upgrading in the Apparel Commodity Chain." *Journal of International Economics* 48 (1): 37–70. DOI: [https://doi.org/10.1016/S0022-1996\(98\)00075-0](https://doi.org/10.1016/S0022-1996(98)00075-0)
- Gereffi, Gary, and Joonkoo Lee. 2016. "Economic and Social Upgrading in Global Value Chains and Industrial Clusters: Why Governance Matters." *Journal of Business Ethics* 133 (1): 25–38. DOI: <https://doi.org/10.1007/s10551-014-2373-7>
- Gerschenkron, Alexander. 1962. *Economic Backwardness in Historical Perspective*. Cambridge, MA: Belknap Press of Harvard University Press.
- Guillén, Mauro F. 1994. *Models of Management: Work, Authority, and Organization in a Comparative Perspective*. Chicago: University of Chicago Press.
- Hirschman, Albert O. 1984. *Getting Ahead Collectively: Grassroots Experiences in Latin America*. New York: Pergamon Press.

- Hodges, Donald C. 1986. *Intellectual Foundations of the Nicaraguan Revolution*. Austin: University of Texas Press.
- Johnson, Chalmers. 1982. *Miti and the Japanese Miracle: The Growth of Industrial Policy: 1925–1975*. Stanford, CA: Stanford University Press.
- Johnson, Victoria. 2007. "What Is Organizational Imprinting? Cultural Entrepreneurship in the Founding of the Paris Opera." *American Journal of Sociology* 113 (1): 97–127. DOI: <https://doi.org/10.1086/517899>
- Kořakowski, Leszek. 2005. *Main Currents of Marxism: The Founders, the Golden Age, the Breakdown*. Translated from the Polish by P. S. Falla. New York: W. W. Norton and Company.
- Levy, Jack S. 2008. "Case Studies: Types, Designs, and Logics of Inference." *Conflict Management and Peace Science* 25 (1): 1–18. DOI: <https://doi.org/10.1080/07388940701860318>
- Luciak, Ilja A. 1987. "Popular Democracy in the New Nicaragua: The Case of a Rural Mass Organization." *Comparative Politics* 20 (1): 35–55. DOI: <https://doi.org/10.2307/421919>
- Mahoney, James. 2010. "After KKV: The New Methodology of Qualitative Research." *World Politics* 62 (01): 120–147. DOI: <https://doi.org/10.1017/S0043887109990220>
- Martinez, Philip R. 1993. "Peasant Policy within the Nicaraguan Agrarian Reform, 1979–89." *World Development* 21 (3): 475–487. DOI: [https://doi.org/10.1016/0305-750X\(93\)90159-7](https://doi.org/10.1016/0305-750X(93)90159-7)
- Mazzucato, Mariana. 2013. *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*. London: Anthem Press.
- Nolan, David. 1984. *Ideology of the Sandinistas and the Nicaraguan Revolution*. Coral Gables, FL: University of Miami Center for Advanced Studies.
- Núñez, Daniel. 1985. "The Producers Support Our Government." In *Nicaragua, the Sandinista People's Revolution: Speeches by Sandinista Leaders*. New York: Pathfinder Press.
- Núñez, Orlando. 1995. *La guerra y el campesinado en Nicaragua*. Nicaragua: Centro para la Promoción, Investigación y Desarrollo Rural Social (CIPRES).
- Osterman, Paul. 1994. "How Common Is Workplace Transformation and Who Adopts It?" *ILR Review* 47 (2): 173–88. DOI: <https://doi.org/10.1177/001979399404700202>
- Osterman, Paul. 2000. "Work Reorganization in an Era of Restructuring: Trends in Diffusion and Effects on Employee Welfare." *ILR Review* 53 (2): 179–196. DOI: <https://doi.org/10.1177/001979390005300201>
- Osterman, Paul. 2018. "In Search of the High Road: Meaning and Evidence." *ILR Review* 71 (1): 3–34. DOI: <https://doi.org/10.1177/0019793917738757>
- Perez-Aleman, Paola. 2011. "Collective Learning in Global Diffusion: Spreading Quality Standards in a Developing Country Cluster." *Organization Science* 22 (1): 173–189. DOI: <https://doi.org/10.1287/orsc.1090.0514>
- Perez-Aleman, Paola. 2013. "Regulation in the Process of Building Capabilities Strengthening Competitiveness While Improving Food Safety and Environmental Sustainability in Nicaragua." *Politics and Society* 41 (4): 589–620. DOI: <https://doi.org/10.1177/0032329213507553>
- Piore, Michael J., and Charles F. Sabel. 1984. *The Second Industrial Divide: Possibilities for Prosperity*. New York: Basic Books.
- Pipes, Richard. 2003. *Communism: A History*. New York: Modern Library.
- Pipkin, Seth, and Alberto Fuentes. 2017. "Spurred to Upgrade: A Review of Triggers and Consequences of Industrial Upgrading in the Global Value Chain Literature." *World Development* 98 (October): 536–554. DOI: <https://doi.org/10.1016/j.worlddev.2017.05.009>
- Pires, Roberto. 2008. "Promoting Sustainable Compliance: Styles of Labour Inspection and Compliance Outcomes in Brazil." *International Labour Review* 147 (2–3): 199–229. DOI: <https://doi.org/10.1111/j.1564-913X.2008.00031.x>
- Prins, Cornelis, Ruth Junkin, Milka Barriga, Pedro Orozco, Elias Melo, and Amilcar Aguilar. 2008. "Abriendo puertas de confianza: Reconstrucción y análisis de la experiencia de FondeAgro." Technical report, Nicaragua. DOI: <https://doi.org/10.13140/RG.2.1.3554.3926>
- Ramírez, Sergio. 1983. "Vigencia del pensamiento sandinista." In *El Sandinismo: Documentos básicos*, edited by Instituto del Estudio del Sandinismo. Managua: Editorial Nueva Nicaragua.
- Rodrik, Dani. 2004. "Industrial Policy for the Twenty-First Century." SSRN Scholarly Paper ID 666808. Rochester, NY: Social Science Research Network. DOI: <https://doi.org/10.2139/ssrn.617544>
- Ryan, Phil. 1995. *Fall and Rise of the Market in Sandinista Nicaragua*. Montreal: McGill-Queen's University Press.

- Sabel, Charles F. 2012. "Self-Discovery as a Coordination Problem." In *Export Pioneers in Latin America*, edited by Charles Sabel, Eduardo Fernández-Arias, Ricardo Hausmann, Andrés Rodríguez-Clare, and Ernesto Stein, 1–46. Cambridge, MA: Inter-American Development Bank; David Rockefeller Center for Latin American Studies, Harvard University. DOI: <https://doi.org/10.2139/ssrn.2080388>
- Schmidt, Vivien A. 2008. "Discursive Institutionalism: The Explanatory Power of Ideas and Discourse." *Annual Review of Political Science* 11 (1): 303–326. DOI: <https://doi.org/10.1146/annurev.polisci.11.060606.135342>
- Schneider, Ben Ross. 2015. *Designing Industrial Policy in Latin America: Business-State Relations and the New Developmentalism*. New York: Springer.
- Seppänen, Maria, Lars Eriksson, Benicia Aguilar, Kristina Boman, and Thomas Pijnenburg. 2013. "Evaluation of Rural Sector Cooperation between Nicaragua and Finland." Impact Consulting Oy Ltd.
- Sewell, William H. 1985. "Ideologies and Social Revolutions: Reflections on the French Case." *Journal of Modern History* 57 (1): 57–85. DOI: <https://doi.org/10.1086/242777>
- Silbey, Susan. 1998. "Ideology, Power and Justice." In *Justice and Power in Sociolegal Studies*, edited by Bryant Garth and Austin Sarat, 272–308. Evanston, IL: Northwestern University Press.
- Skurnik, Samuli. 2002. "The Role of Cooperative Entrepreneurship and Firms in Organising Economic Activities – Past, Present and Future." *Finnish Journal of Business Economics* 1 (2): 103–124.
- Van Evera, Stephen. 1997. *Guide to Methods for Students of Political Science*. Ithaca, NY: Cornell University Press.

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