**THE DIVERGENT INSTITUTIONAL LOGICS OF INDUSTRIAL CHANGE:**

**A COMPARISON OF EXPORT-CHEESE PROCESSORS IN NICARAGUA**

**Abstract.** According to the industrial policy literature, collective action dilemmas often generate market failures that hamper industrialization processes among private sector firms. The proposed solution, favoring state intervention, builds on a conception of these firms as solely profit-maximizing and largely unable to independently solve collection action dilemmas. This article offers a more nuanced portrayal of the private sector and its behavior. It draws upon the institutional logics literature to claim that the logics of institutional orders other than the market, such as the family or community, may similarly impinge upon firms, endowing them with contrasting organizational priorities and understandings of group boundaries, two factors which, together, produce divergent responses to collective action dilemmas. The article illustrates this theoretical contribution through the case of the industrial transformation of two types of Nicaraguan cheese processors imbued with competing familial and community logics. It concludes with a review of the article’s implications for industrial policy.

Keywords: Industrial policy, institutional logics, industrialization, manufacturing, developing countries, Latin America

JEL classification: 0140 (industrialization, manufacturing and service industries; choice of technology), 0250 (industrial policy)

**1. INTRODUCTION**

Industrial transformation, involving both diversification and upgrading, may be conceived as the process through which firms overcome a variety of collective action dilemmas and their consequent market failures. Those dilemmas often require firms producing similar goods to work with each other, as when they set common quality standards for the industry. But they may also involve interactions between manufacturing firms and their raw material suppliers, workers and buyers, to address issues such as the quality and price of inputs, the labor skills, or the entry into new markets, respectively. Failure to solve one or more of these collective action dilemmas has the potential to forestall an industry’s movement toward higher value industrial production (Doner 2009, Rodrik 2008, Sabel 2012).

Given this conception of industrial transformation, a broad industrial policy literature focuses on the ways in which the state can intervene to help the private sector solve collective action dilemmas. The literature departs from the premise that, absent state intervention, a laissez faire environment of unregulated markets will prevail. In such an environment, individual incentives will render profit-maximizing firms largely unable to coordinate, cooperate and collaborate; and thereby lead entire industries to underinvest in socially beneficial activities. The proposed solution is for the state to deploy its industrial policy arsenal to aid industries as they resolve collective action dilemmas and overcome market failures (Doner 2009, Hausmann and Rodrik 2003, Rosenstein-Rodan 1943, Sabel 2012).

This literature has been largely influential in shaping national policymaking in developing countries, both before and after the market-oriented Washington Consensus. At the same time, it raises at least two major questions. First, the capacity of the state to effectively undertake these interventions is in no way given. Indeed the literature on state corruption, rent-seeking, institutional capacity and the politics of state-business relations underscores significant concerns (Evans 1997, Schneider 1998 and 2015, Tendler 1997).

In this study, however, I take a different track, questioning the literature’s oversimplified conception of the private sector and its responses to collective action dilemmas. That is because, while most studies repeatedly invoke business, few delve into its specific dimensions and features (Schneider 2015). If anything, they assume a mass of undifferentiated firms operating under a market logic, their profit-making and efficiency-seeking priorities rendering them unable to solve most collective action dilemmas independently. Yet, this conception runs counter to significant empirical evidence and theoretical argumentation, which conveys a much more variegated landscape of firm types in emerging economies, and thus sets the stage for a more nuanced understanding of processes of industrial change (Amsden 2001, Cammett 2005, Granovetter 2010, Schneider 2015).

Building on this insight, this article problematizes the private sector of industrial policy accounts, and its responses to collective action dilemmas, by drawing upon the institutional logics literature. This literature suggests that society consists of different “institutional orders,” including the market, but also encompassing the state, family, religion, corporations, community and professions. Each of these society-level orders spawns a unique “institutional logic.” Institutional logics offer practical guides for action and advance distinct understandings of authority, legitimacy and identity. Insofar as they affect firms, varying institutional logics produce divergent organizational characteristics. It is the contention of this article that those distinct characteristics elicit contrasting responses to the collective action dilemmas of the industrial policy literature (Friedland and Alford 1991, Thornton and Ocasio 2008, Thornton et al 2012).

In particular, two characteristics shaped by institutional logics emerge as fundamental in firm-level responses to collective action dilemmas: the organizational priorities of the firm, and the bounded group to which firm decision-makers belong. The former refers to the way in which different logics influence firm goals, purposes and associated practices. The latter, in turn, addresses the manner in which separate logics draw distinct boundaries around the organizational field actors understood to be part of firm decision-makers’ group. The implication is that responses to collective action dilemmas involving those actors falling within group boundaries – a group brought together by shared understandings of authority, legitimacy and identity – are governed by the organizational priorities of the firm’s logic. For those excluded from the group, it is the market logic that applies.

To evaluate the argument, this study builds on a comparison of two types of export-cheese processors in Northern Nicaragua, each espousing a distinct institutional logic: a group of family-owned firms imbued with a “familial” logic, and a set of producer cooperatives with a “community” logic. The comparison shows how the two logics endowed the different sets of firms with divergent organizational priorities and bounded groups. Those organizational characteristics, in turn, produced contrasting responses to the same collective action dilemmas. By setting those responses side by side, and contrasting them with market-based and industrial policy alternatives, the study thus reveals how different logics may shape processes of industrial change.

Such a perspective, of course, does not deny a crucial role for the state, as envisioned in the industrial policy literature. Rather, it suggests a more tailored and targeted deployment of industrial policy tools – one that recognizes the wide array of firms and institutional logics co-existing in emerging economies. That deployment must consider the organizational priorities and group boundaries advanced by different institutional logics. It must strive to catalyze effective solutions to collective action dilemmas offered by non-market logics, while prioritizing interventions in areas devoid of such responses. Otherwise, it stands to garner only mixed results.

**2. INDUSTRIAL DEVELOPMENT, COLLECTIVE ACTION DILEMMAS AND INSTITUTIONAL LOGICS**

The recognition that the unresolved dilemmas of collective action in unregulated markets spawn market failures that constrain industrial diversification and upgrading in late developers is widespread. In an older industrial policy literature, for instance, scholars addressed developing countries’ problems with “external economies” that prevented firms from fully internalizing the returns on their investments in areas such as worker training. The problem, these scholars argued, related to a collective action dilemma: rather than pursuing their own initiatives, firms could simply free-ride on others’ efforts. The ensuing gap between private and social gains discouraged further investments, a market failure that undermined the expansion of manufacturing industries (Hirschman 1957, Rosenstein-Rodan 1943).

More recently, the “self-discovery” approach to industrial policy has made much the same argument. To explain the slow movement of emerging economy firms into new, more profitable activities, this literature points to different types of collective action dilemmas and market failures – including coordination problems, information spillovers, and technological externalities– that arise in areas such as input sourcing, research and development, quality standards, logistics, and market search (Hausmann and Rodrik 2003, Rodrik 2008, Sabel 2012). For instance, Sabel (2012) explains that, for industrial change to occur, firms must collaborate with multiple actors, and invest jointly. But, he contends, this is a highly unlikely outcome under unregulated market conditions. That is because, when firms diverge in their interest and levels of trust, knowledge, access to information and commitment; and when their investments generate benefits than cannot be fully internalized, the unregulated market will fail to coordinate them effectively. As a result, firms will under-invest in socially-valuable activities – a market failure that constrains economic diversification.

If they share a concern regarding the presence of collective action dilemmas and market failures in unregulated markets, these different industrial policy perspectives also coalesce on the view that the state should intervene to address them. Thus, for instance, old industrial policy scholars favored a top-down approach in which the state single-handedly planned the entire process of industrialization, coordinating actors in ways that forestalled problems of collective action (Rosenstein-Rodan 1943). More recent industrial policy perspectives may downplay such a unilateral, heavy-handed approach, but they still call upon the state to engage with private producers to devise solutions to collective action dilemmas (Cimoli et al 2009, Hausmann and Rodrik 2006, Schneider 2015). In this sense, the self-discovery perspective, for instance, favors “an ensemble of public supports, ranging from agricultural and industrial extension services, to publicly supported research, to venture financing arrangements, that make it easier for entrepreneurs to locate and collaborate with public and private partners” (Sabel 2012, 8).

Despite their differences on the specific role the state should play, what remains evident is that, in underscoring the collective action dilemmas that “plague” economic change (Doner 2009), and in offering state-centered solutions, these varied perspectives have contributed significantly to the field of industrial diversification and upgrading. At the same time, they all share an abstract and oversimplified portrayal of firms in developing countries as largely homogeneous, governed by a distinct logic involving a single-minded focus on efficiency and profitability, and an unquestioned submission to market forces. As Schneider (2015) puts it, though there has been “a flood of recent publications on industrial policy,” none of them “delve into the existing distribution of firms by ownership (foreign, state, or domestic private), by size, by sector…” (Kindle Locations 1291-1292). In fact, “the discussion rarely gets into the details of the firms comprising the context,” a neglect that might make sense only in the highly unlikely scenario in which industrial policy solely targets “low-tech sectors with masses of tiny, undifferentiated firms” (Kindle Locations 1293-1297). Most generally, the majority of these industrial policy publications assume a clear dichotomy between an unregulated market of small atomized profit-maximizing firms, and a regulated alternative where the state intervenes to overcome collective action dilemmas and market failures.[[1]](#footnote-1)

This portrayal of firms, which suggests consistent responses across time and space to both collective action dilemmas and state-led solutions, is problematic. There are empirical and theoretical reasons to reconsider it. Empirically, a vast literature from management, political science and sociology evinces the heterogeneity of the private sector in developing countries. Whether it is diversified, family-owned business groups (Amsden 2001, Granovetter 2010, Schneider 2009, 2013, 2015), producer cooperatives (Tendler 1988), associations of small firms (Cammett 2005, Humphrey and Schmitz 2002, Pietrobelli and Rabellotti 2006) or multinational corporations (Schneider 2013), the profile of the “firm” in emerging economies can certainly vary. Such empirical diversity suggests that firm priorities and motivations might be quite varied, as might their responses to both collective action dilemmas, and the state policies devised to address them. It thus stands to reason that, on purely empirical grounds, scholars interested in industrial change and development might gain from a more nuanced portrayal of firm varieties.

There are also theoretical reasons to reconsider the highly generalized taken-for-granted portrayal of firms in developing countries. For one, were all the unregulated markets governed solely by a single-minded focus on efficiency and profitability, and an unquestioned submission to market forces, then “the whole world [could] be seen as a huge market failure!” (Cimoli et al 2009, 20). That is because all the ingredients required for profit-maximizing, atomized firms to overcome the myriad collective action dilemmas that arise in such markets are rarely, if ever, available.[[2]](#footnote-2) And yet, despite the failure of most contexts to meet this “yardstick” (Cimoli et al 2009), numerous instances arise – including the case discussed in this article – in which firms successfully address at least the most severe market failures.

How this paradox might be resolved thus calls for a revision of the standard industrial policy assumptions. And, as the following section explains, there are theoretical opportunities to pursue such a revision. In particular, we may draw upon the institutional logics literature in organizational sociology, which elucidates how different types of firms consistently vary in their organizing principles and practices, to reimagine our conceptualizations of emerging economy firms and their responses to the collective action dilemmas of industrial development.

**Problematizing the “unregulated market:” Institutional logics and the expanding the scope of firm responses to collective action dilemmas**

The institutional logics approach is premised on the notion that society encompasses a number of different institutional spheres (Friedland and Alford 1991). These institutional spheres include the market, state, family, corporation, community, religion and professions (Thornton et al 2012). Each of them is associated with a particular institutional logic – “a set of material practices and symbolic constructions which constitutes its organizing principles and which is available to organizations and individuals to elaborate…” (Scott 2013). Institutional logics provide practical guides for action, supplying cognitive frameworks, normative expectations, and material practices for individuals and organizations. They are based on distinct understandings of authority, legitimacy and identity, and elicit divergent systems of economic organization (Thornton et al 2012).

For our purposes, institutional logics are particularly relevant insofar as they impinge upon two fundamental factors which, as will become evident, may elicit varying firm-level responses to collective action dilemmas and market failures in the process of industrial change: firms’ *organizational priorities* and the *boundaries of the group* to which the firm’s decision-makers belong. First, by supplying cognitive frameworks, normative expectations, and material practices, institutional logics – whether market-based or rooted in a different sphere of society – shape organizational goals and purposes, and their associated approaches. The finding is well established in the literature. For instance, Thornton’s (2002, 2004) work on the higher education publishing industry distinguishes between the “professional” logic, which shifts attention to the social legitimacy of professionals; and the “market” logic, which underscores profitability.

The effect of such varied institutional logics and their priorities, however, extends beyond the firm to affect their relations within “organization fields” – that is, “those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services and products” (DiMaggio and Powell 1983, 148). Indeed, as Thornton et al (2002) explain, “the content of institutional order(s) specifies the parameters of network relations in organizational fields – the concepts of networks and field dynamics are vacuous without knowing on which of the institutional orders actors in the field draw” (41).

Building on this insight, the argument proposed in this article suggests that firms and their decision-makers rely on their logics to draw boundaries around actors in the organizational field that they understand to be part of their group. These group members – which may include suppliers, organizations producing similar goods, and consumers, among others – usually subscribe to the same institutional logic, and coalesce around the same understandings of authority, legitimacy and identity, as the firm’s decision-makers. Their relationship to the firm is governed by the priorities and practices associated with that shared logic. That is to say, it is within the boundaries of the group that the logic’s premises apply. Conversely, as the empirical material of this study will show, the mechanisms governing the interactions with organizations in the field excluded from the bounded group will depart from those specified by the firm’s institutional logic. Rather, absent the widespread state intervention envisioned by the industrial policy literature, they will be governed by the logic of the market. Firms will therefore engage with these excluded actors through arm’s-length exchanges, prioritizing profit maximization. They will essentially be participating in the industrial policy literature’s unregulated market.

The focus on organizational priorities and group boundaries is important because it allows us to address one crucial outcome of field-level actor interactions: how firms influenced by different institutional logics might diverge in their responses to the common collective action dilemmas that spawn market failures in processes of industrial diversification and upgrading. Each of the two highlighted organizational characteristics plays a distinct role in the proposed argument. On the one hand, bounded groups will determine *which* collective action dilemmas the firm addresses through non-market and market institutional logics. On the other, the organizational priorities, as specified by the firm’s particular institutional logic, will define *how* it responds to collective action dilemmas involving other actors from the organizational field included and excluded from the bounded group.

To explore this hypothesis, I examine how two distinct non-market institutional logics, the familial and community logics, influenced firm responses to collective action dilemmas in Nicaragua’s export-cheese industry, and how those responses diverged from the expected outcomes of the industrial policy literature’s market logic. That market logic offers at atomized view of the firm, engaging in arm’s length interactions with other actors in its organizational field, and driven by the search for profit maximization, its single organizational priority. It is those impersonal interactions, coupled with firms’ primary concern for profits, which produce the wide array of collective action dilemmas, and associated market failures, documented in the industrial policy literature (see Table 1).

Table 1. The family, community and market logics: axes affecting firm responses to collective action dilemmas

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Market Logic** | **Family Logic** | **Community Logic** |
| **Organizational priority** | Profit | Family status, control, well-being | Community economic development and shared worldview |
| **Bounded group** | Atomized firm | Household Members | Territorial community |

By contrast, the familial and community logics supply distinct depictions of firms’ organizational priorities and bounded groups. As Thornton et al (2012) argue, the familial logic, which spawns an economic system based on family capitalism, is based on unconditional loyalty of members to the family, with kinship securing cohesion, trust and solidarity. Firm ownership remains highly concentrated in the family, its authority exerted through hierarchical patriarchal domination. Under this logic, enhancing the family’s status, control and well-being is the organizational priority of the firm.

Furthermore, group boundaries are drawn around the members of the household. Within this familial group’s boundaries, interaction between actors and their responses to collective action problems are governed by the family logic. That is, the impetus to not only ensure a constant source of income and wealth for the family, but also increase its status, and maintain centralized control of decision-making, shapes their behavior. Beyond the group’s boundaries, relations to non-household members and their organizations follow the logic of the market.

The familial logic inspires distinctive business approaches. For instance, family firms often diversify their assets to a greater extent than other firms, for diversification serves two purposes: it reduces the risk to family income and wealth from excessive reliance on a single revenue stream; and it allows family firms to avoid the main risk to their survival, namely succession crises. Triggered by competition for dominance among family members, those crises may be quelled by diversification schemes offering numerous top level positions in different family-owned firms (Granovetter 2010, Schneider 2013).

Human resource decisions provide another example of how the family logic affects firm behavior. As Schneider (2013) notes, family-run firms tend to favor family members in high-level positions, even at the expense of more talented or better trained managers. The purpose of this human resource approach is dual, reflecting similar concerns to those spurring diversification: to retain decision-making authority within the family; and to avoid intra-family conflict by appeasing those members who might otherwise be excluded from top management positions.

The community logic, for its part, establishes different group boundaries and organizational priorities. Usually territorially-grounded, bounded groups bring together members often sharing three conditions. First, they coincide in their ethnicity, class or historical experience. That homogeneity forecloses possible rifts. Second, members perceive a new “model of order” (Schneiberg 2002), often originating from outside the community, as imposed upon them or threatening local visions of order. That perception galvanizes joint action against “outsiders.” And third, they participate in a dense local institutional network that connects their firms to community organizations – including non-profits, community foundations, civic engagement groups, and churches – and fosters exchange and collaboration (Marquis et al 2007, Marquis and Battilana 2009, Schneiberg 2002, Schneiberg et al 2008).

The community logic induces cooperative capitalism – that is, an economic system in which different types of common-ownership organizations, including producer cooperatives, represent the backbone of production. If patriarchal despotism is the face of authority and kinship the source of loyalty and identity in firms imbued with the familial logic, in cooperative capitalism the commitments to reciprocity and solidarity, and the personal investments in the group, regulate action. Furthermore, whereas the organizational priority in the familial logic is to advance the family’s status, control and well-being, in the community logic it is to enhance the economic prospects of community members, and to protect their shared worldviews (Schneiberg et al 2008, Thornton et al 2012, Venkataram et al 2016).

Like the familial logic, the community logic spawns distinct approaches. Marquis et al (2007) have noted that those approaches are usually influenced by “local understandings, norms and rules” which “serve as touchstones” for legitimacy (927). For example, cooperatives tend to engage in production approaches that advance the economic prospects and models of order held by community members, affecting areas such as human resource practices, or input sourcing. In particular, they usually institute strategies that orient action toward their locales, seeking to enhance the economic standing not only of firms, but also of the wider community – including workers and input suppliers if they live in the area and are part of the community group. In fact, cooperatives may allocate substantial resources to their locales – through training, quality or even social programs (Schneiberg 2002).

Furthermore, in contexts where newer or incoming models of order are perceived as threatening, cooperatives provide alternative visions more attuned to local preferences – as in Schneiberg’s description of the “producerist or regional republican vision” that emerged in the U.S. in the late 1800s in response to the “‘corporate liberal’ idea of national markets and autonomous corporations” (58). This emphasis on locally-grounded approaches, and the rejection of outsider models, reinforces the high degree of homogeneity that maintains community and group cohesion. For, whereas succession crises pose the greatest threat to family firms, among community logic-influenced firms such as cooperatives, it is demographic change and growing local heterogeneity that may fatally undermine the bonds of trust and reciprocity that hold them together.

As the case below shows, each of these two institutional logics – the familial and community – defined distinct bounded groups and organizational priorities among cheese exporters in Northern Nicaragua. Their particular boundaries and priorities diverged not only from each other, but also from those associated with taken-for-granted market logic of industrial policy accounts. Within the boundaries of the group, each logic led to a particular business approach and, crucially, elicited contrasting responses to the collective action dilemmas that often forestall industrial transformation. Beyond those boundaries, however, the market logic prevailed.

**3. METHODS**

**Case Selection**

Nicaragua ranks among the poorest and least industrialized countries in Latin America (see Table 2). In this environment, a movement into agro-processing and manufacturing is highly prized. But such industrial development is also riddled with collective action dilemmas and market failures.

Table 2. Descriptive indicators for Nicaragua, Latin America (2014)

|  |  |  |
| --- | --- | --- |
|  | **Nicaragua** | **Latin America** |
| GNI/capita (PPP current international $) | 5,050 | 15,287 |
| Extreme poverty rate ($1.90 per day, 2011 PPP) | 6.2 | 5.4 |
| Agriculture share of GDP | 19 | 5 |
| Manufacturing share of GDP | 16 | 14 |
| Services share of GDP | 54 | 66 |

Source: World Bank 2016

The rapid emergence of an export-oriented cheese industry in the impoverished and war-ravaged northern region of the country during the 1990s and 2000s constitutes an unexpected example of this process of transition. It also illustrates the numerous collective action dilemmas and associated market failures that arise across a range of activities: from the organization of a high quality and consistent supply of raw milk; through the training of a competent workforce and purchase of suitable production technology; to the marketing and distribution of an export-quality processed product. These dilemmas have the potential to compromise the long-term viability of individual firms and the entire industry. That the Nicaraguan cheese industry has, to some degree, addressed most of them is remarkable, particularly in light of its context.

That context offers an excellent illustration of an unregulated market. The state is notoriously absent. Not only does it lack the capacity to offer the type of industrial policy envisioned in the industrial development literature – a condition made even more acute in the neoliberal fervor that followed the end of the Sandinista Revolution in 1990, when Nicaraguan governments consistently reduced the interventionist role of the State (Enriquez 2000). It has even failed to supply a basic regulatory framework offering much needed institutions, such as secure property rights and contracts (Acemoglu and Robinson 2013).

Though ostensibly inhospitable to industrial development, such a context provides an ideal stage to examine the role of different non-market institutional logics in shaping firm responses to collective action dilemmas. For, as the Nicaraguan cheese industry case shows, two other, distinct institutional logics – the familial and community logics – influenced local dairy processors’ patterns of industrial diversification and upgrading.

**Case Methods**

To examine how these two non-market logics shaped firm behavior and responses to collective action dilemmas, I employ a comparison of two types of processing plants coexisting within the Nicaraguan cheese industry. The first type includes a number of family-run firms, owned by Salvadorian, Honduran and Nicaraguan families. Cattle ranchers from Nicaragua’s northern region, organized into producer cooperatives, represent the second type.

Both family- and cooperative-owned firms process raw milk. Both produce different cheeses largely for export. And, though the producer cooperatives are, on average, larger in terms of output and number of workers, such aggregate measures mask the size similarities of the two sets of firms. Thus, for instance, La Montaña and Matiguás, the two largest family-run firms match both the processing capacity and export revenue of the leading cooperative, Masiguito. Similarly, the smallest visited cooperative, COOPROLECHE, is not substantially larger, in terms of daily milk collection, than the smaller family-run processors of Las Tucas and Las Mesas. Table 3 displays some of the main characteristics of the family-run and producer cooperative processors visited during fieldwork.

Table 3. Characteristics of visited family-run and producer cooperative processors

|  |  |  |
| --- | --- | --- |
|  | **Family-Run Processors** | **Producer Cooperative Processors** |
| Number of processing firms visited | 6 | 5 |
| Cheese export markets (2014) | U.S., El Salvador, Honduras | U.S., El Salvador, Honduras |
| Daily average raw milk collection (2014) | 32.5 thousand liters | 44 thousand liters |
| Average yearly exports (2012) | $1.7 million | $3.5 million |
| Average number of processing workers per firm (2014) | 35 | 70 |

Source: CETREX 2014, Personal interviews

What is remarkable is that, despite their similarities, these two sets of processors responded in consistently different ways to the same collective action dilemmas. This study’s comparative design deliberately narrows down the possible sources of variation in their patterns of response. That is because all processors considered, regardless of their approach, shared a number of contextual conditions: they were located in the northern region of the country, sourced their raw milk from the same herd population, employed local workers, sold in the US and Central American markets, and dated their foundation to the early to mid 1990s. This combination of a common environment and divergent outcomes thus allows me to focus on the causal role of different institutional logics.

To obtain the information to develop an understanding of this causal role, I spent five months in the field during the Fall of 2012 and Spring of 2013. Fieldwork involved 59 semi-structured interviews with family-run firm owners, cooperative leaders, managers and engineers, cheese traders, cattle ranchers, factory workers, current and former state officials, academics, and input suppliers. I complemented those interviews with field visits to cattle ranches and processing plants, as well as archival research in government offices and public libraries. It was with the information collected using these methods that I induced the following empirical argument.

**4. INSTITUTIONAL LOGICS AND VARIED RESPONSES TO THE COLLECTIVE ACTION DILEMMAS OF INDUSTRIALIZATION**

In the aftermath of the Sandinista Revolution, as the Nicaraguan state reduced its control over the economy, and the warring Sandinista and Contra factions demobilized, the country’s northern region, sandwiched between Lake Nicaragua and the Caribbean, witnessed the rapid growth of a new export-oriented cheese industry. The region had long been known for its time-honored, extensive and low-productivity approach to cattle ranching and artisanal cheese production. But what emerged after the 1990s was entirely new: numerous medium-sized processing plants producing a variety of cheeses and processed dairy goods for domestic and, especially, export markets.

This new industry of export-oriented processors, however, was far from monolithic. Rather, it encompassed two types of producers: family-run and producer cooperative processing plants. Imbued with the familial and community logics, respectively, these two types of producers identified contrasting group boundaries and organizational priorities. Those organizational characteristics delivered divergent responses to the same collective action dilemmas.

On the one hand, much production took place in processing facilities owned mostly by Salvadorian, Honduran and Nicaraguan families. Their family logic drew group boundaries around household members and their organizations, primarily located in the processing and marketing segments of the organizational field (see Figure 1). Within those boundaries, firms emphasized family control, status and well-being – the organizational priorities of the family logic – in their interactions and relations. Those priorities shaped their firms’ approaches.

Figure 1. Bounded groups and the institutional logics regulating interactions in the organizational fields of Nicaragua’s family-run and producer cooperative processors

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Thus, for instance, under the familial form of capitalism found in Northern Nicaragua, a single family, whose business and expertise had usually been passed down from generation to generation, often owned two or more processing plants. Such a horizontal (and spatial) division of production offered at least two benefits for owning families. First, where multiple adult male siblings competed for influence, it provided an opportunity to evenly distribute control of the business. In doing so, it allowed the family to maintain a firm grip over production, and avoid intra-family disputes and succession crises (Granovetter 2010; Schneider 2013). Second, this horizontal division of production served to reduce the risk posed to family income and wealth by unexpected changes in the supply of raw milk. Specifically, if one of the family-owned processing plants encountered problems in securing a stable supply of raw milk, the family could still rely on the cheese production from the other processing plants it owned.

If the family logic’s organizational priorities and group boundaries impinged upon this horizontal division of production, much the same applied to their far-reaching trade networks. That is because almost all family firms had originated in cheese trading and only later transitioned into processing. For instance, almost all of the Salvadorian families hailed from the town of Santa Rosa de Lima, a long-established center of cheese commercialization in El Salvador. By virtue of their origin, these families had, for the most part, originally specialized in cheese trading.

As a result of this background, while processing cheese in northern Nicaragua, they could rely on well-established and deeply loyal family trade networks to effectively commercialize their new products. Those networks not only ensured market access. Inasmuch as at least one family member often focused entirely on the commercializing aspects of the family business, they also guaranteed family control over the more lucrative segments of the value chain (i.e. manufacturing and marketing), drew investment for new market searches, and forestalled any type of distrust between manufacturers and traders (i.e. principal-agent problems).

Yet, while the family logic applied its organizational priorities to the management of the processing and marketing segments of the organizational field included within group boundaries, conditions were remarkably different when it came to suppliers of necessary production inputs. Excluded from household bounded group, these suppliers interacted with owning families on the basis of the market logic. That was the case, for example, of production technology providers and lower level workers. Thus, in family-owned plants, production was organized in accordance with a Taylorist approach that involved narrow tasks for workers, heavy-handed and even despotic oversight by family members, and the use of a few specialized, though low-cost, machines (e.g. the stove for “quesillo” production, the standardized presses for “morolique” production). Owning families refrained from any additional investment in more sophisticated equipment– unless required by law, as with the costly pasteurizers required by a Salvadorian regulation after 1998 (Perez-Aleman 2013) – or employment practices as they sought to lower their costs.

Alongside the family-owned processing plants, a second set of industrial cheese processors thrived: the producer cooperatives. These cooperatives, many of them beneficiaries of the solidarity of foreign aid agencies and international non-governmental organizations (e.g. the Finnish aid agency FINNIDA, the Farmer-to-Farmer Program), increasingly competed with family firms for both inputs (i.e. raw milk) and markets (e.g. the Salvadorian wholesale market). Imbued with the community logic, cooperative owner-members, all of them ranchers, viewed themselves as leaders within a territorially-rooted group that also included other cattle ranchers, local workers and suppliers of key inputs, and even the foreign aid agencies with offices in the region’s towns (e.g. the Finnish offices in the town of Boaco) (see Figure 1 above). Group members, especially cooperative owner-members, shared a homogenous background.

For example, at COOPROLECHE, a cooperative in the department of Nueva Guinea, owner-members and even some workers had not only fought side by side in a Contra battalion during the civil war of the 1980s. They had also originally moved to the region together, enticed by Somoza’s 1970s colonization program. The example of the Rios de Leche cooperative is similarly instructive: located near the town of Santo Tomas, in the department of Chontales, this cooperative was founded by leading ranchers during the 1980s. Like many cattle ranchers in the region, most of Rios de Leche’s owner-members held strong anti-Sandinista views, and initially joined to resist the threat of a Sandinista agrarian reform. They feared not only the expropriation of their land, but more generally the heavy-handed intervention in their daily lives of an erstwhile remote Nicaraguan national state.

It is perhaps not surprising then that, whereas loyalty to the family played a central role among the first set of processors, it was solidarity, reciprocity, common understandings of authority and identity, and shared ideologies – many times conservative and opposed to “outsider” interference – that ensured cohesion and guided interactions among the owner-members of the producer cooperatives, and other members of their group. Indeed, within group boundaries, members coalesced around the logic’s emphasis on a common worldview, and an interest in the advancement of the community’s economic well-being – the priorities of their business organizations. It was not uncommon for interviewed owner-members across different cooperatives to express the same concern for the conditions of poverty and low skill in their communities; and to describe their efforts to transform these environments.

These community-logic-inspired efforts primarily shaped the cooperatives’ interactions with input suppliers and processing managers. In stark contrast to the family-owned processors, processing cooperatives invested heavily in their local input suppliers, including ranchers, workers and technology providers, insofar as the advancement of the community’s economic well-being represented a central thrust of their logic. In a similar vein, they sought to enhance the economic prospects of their locally-sourced upper level processing personnel (i.e. processing management) through training, opportunities for upward mobility within the firm, and relatively generous wages and benefits.

However, whereas the group boundary included input suppliers and processing management, it excluded the marketing management segment of the organizational field. This is not entirely unexpected. For, while the community logic emphasized territorial bonds of trust and reciprocity, it could also isolate cooperatives from the world. In essence, given its emphasis on protecting homogenous group membership and its sometimes virulent reaction to outside interference, the community logic tended to undermine the possibility of incorporating individuals or organizations with connections to outside markets into the group. The upshot was that the community logic ceased to shape cooperatives’ organizational priorities when it came to the marketing management segment. Rather, it was the market logic that exerted its influence. Arms-length interactions and profit-making thus largely defined organizational behavior.

In sum, these two logics – familial and community –shaped both the boundaries of the groups to which the processors’ decision-makers belonged, as well as the organizational priorities their firms pursued. In doing so, they defined the processing firms’ business approach when it came to sourcing, production and marketing. Yet, the two logics’ provided more than simply guidance on general approaches. As I will argue, they also impacted firm decisions with regard to a central concern for scholars of development and industrialization: their response to the collective action dilemmas seen as inherent to the process of industrial diversification and upgrading in unregulated markets (see Table 4).

Specifically, across studied firms, the familial and community logics produced *contrasting* responses to the *same* collective action dilemmas. Within their bounded groups, the two types of firms’ pursued responses that, in remaining consistent with organizational priorities of their institutional logics, diverged from each other and from those suggested by state- and market-based approaches. Moreover, as expected, beyond their group boundaries, their respective non-market logics failed to apply. Instead, it was the market logic that prevailed. In the following sections, I describe this variation by addressing in greater detail four examples of common collective action dilemmas that arise in in the industrialization of dairy production: training workers, sourcing raw milk (both raising milk quality and maintaining a consistent supply), and acquiring market knowledge.

Table 4. Divergent responses to collective action dilemmas

|  |  |  |
| --- | --- | --- |
| **Collective Action Problems** | **Expected Outcome** | **Observed Outcomes in Nicaragua** |
| **Market logic** **(market failures)** | **State industrial policy****(illustrative responses)** | **Familial Logic:** **Family-Run Processors** | **Community Logic:** **Producer Cooperatives** |
| Training Workers | Under investment in worker training  | State-provided training and/or top-down coordination of producer provision of training | Substantial on-the-job training of family managers; under-investment in non-family operator training | Substantial investment in training programs for administrators, technical staff and operators |
| Improving Milk Quality | Under investment in on-ranch production services (e.g. veterinary, artificial insemination, animal feed) | State-provided extension services; enforcement of quality standards by regulatory agencies | Under investment in on-ranch production services (e.g. veterinary, artificial insemination, animal feed) | Substantial investment in on-ranch production; enforcement of cooperative milk quality standards |
| Maintaining a Consistent Milk Supply | Under investment in on-ranch production services (e.g. animal feed, irrigation) | State-provided extension services | Under investment in on-ranch production services (e.g. animal feed, irrigation) | Combination of on-ranch investment in production improvements and a stable pricing system  |
| Obtaining Specialized Manufacturing Technology | Under investment in new production technology | Production technology taxes/subsidies; top-down coordination of private sector investment decisions | Under investment in new production technology | Alliance with other cooperatives and foreign aid agencies, to obtain high quality equipment  |
| Acquiring market knowledge | Under investment in market search | State agency-led market search and information programs | Substantial investment in family trading network-led searches, expansion of family trader networks | Under investment in market search |
| Organizing distribution of finished goods | Under investment in distribution infrastructure | State coordination and market access negotiation, subsidies for logistics investment | Substantial investment in family distribution facilities, offices, vehicles and security | Under investment in distribution infrastructure |

**Training workers**

In his influential work, Rosenstein-Rodan (1943) noted that, under a market logic-dominated laissez faire, the provision of training for an industrial workforce is an area subject to collective action dilemmas and, as a result, prone to market failure. As he explained, “there are no mortgages on workers – an entrepreneur who invests in training workers may lose capital if these workers contract with another firm” (205). Therefore, individual firms will underinvest in training. The solution advocated by Rosenstein-Rodan and others, centers on the State. The state could, for instance, provide training directly through public agencies, or coordinate private provision by groups of firms.

The case of the Nicaraguan cheese industry suggests that the group boundaries and organizational priorities afforded by the alternative familial and community logics may produce other responses to the skills and training problem. Thus, in the case of family-run processing plants concerned with maintaining the family’s status, well-being and control of production, the training arrangement combined a two-tiered approach. In the upper tier, managers tended to proceed from the ranks of the family, especially from among the patriarch’s male offspring. As household members, they received long-term training, working alongside the owner as they learned about every step of production and marketing. Unconditional loyalty to the family ensured that these firms would retain such valuable “capital,” to use Rosenstein-Rodan’s term, as the patriarch’s offspring were loath to leave the family business.

In the lower tier, by contrast, these same family-run plants underinvested in training for the operators responsible for processing the cheese. Excluded from the household group, and thereby subject to the market logic in their relation to the processors, these operators often faced high turnover and received limited opportunities for upskilling. The standard for new hires usually involved a maximum of two days of on-the-job training, and focused on a narrow task (e.g. filling tubs with raw milk, separating the curd for a single type of cheese, placing the cheese in presses). Owners and managers justified limited training by pointing to the ostensibly inherent flaws of the workforce. Thus, a manager at Las Mesas, one of these family-run plants, echoed the sentiments of many of his peers when he matter-of-factly explained that *“what our workers lack is responsibility… it’s the alcohol… and their cultural level…”*  (Personal interview, February 9, 2013). Given these flaws, he continued, operators – portrayed as outsiders to the family group – would often shirk their responsibilities, proving undeserving of training. Such an approach led to market failure and constrained local development: underinvestment in training not only limited operators’ opportunities for upward mobility, but also undermined family-run firms’ profitability, productivity and diversification prospects.

Whereas the family-run processing plants relied on this two-tiered approach to training, the producer cooperatives built on the community logic’s group boundaries and organizational priorities to pursue a strikingly different alternative that overcame the collective action dilemma and associated market failure. Concerned not only with the profitability of the firm, but more broadly with the economic well-being of their territories, they invested quite heavily in local worker upskilling. After all, these workers were part of firm decision-makers’ community group, and their economic prospects thus proved inherently valuable to cooperative owner-members.

For training, cooperatives sent some workers abroad, especially those in higher-level administrative or management positions. For example, at the time of fieldwork, a few of them, employed in cooperatives such as Masiguito, had recently returned from a three-month training program at Denmark’s Dalum Agricultural College. But, in sharp contrast to their peers in family-run firms, lower level operators in producer cooperatives also received significant training. Many of them participated in courses in Nicaragua, often provided by umbrella cooperative organizations such as the National Federation of Cooperatives (FENACOOP), or international organizations that had supported cooperative development in the country (e.g. the Italian Cooperation). Unlike the narrow training of the family-run firm, operator training at producer cooperatives fostered the type of multi-tasking associated with Piore and Sabel’s (1984) “craft production.” That is, workers learned not only to perform a variety of different tasks in the production of cheese, but also to produce numerous processed dairy product by using flexible production technology.

To prevent worker turnover and poaching, cooperatives relied on a combination of local, community-based solidarity and reciprocity, as well as improved worker conditions. The latter included higher wages, a range of benefits, and clearer upward paths than in family-run firms. Those conditions not only cemented worker commitment to the firm. They also advanced the community logic’s goal of enhancing local economic well-being.

**Sourcing raw milk**

The sourcing of raw milk for industrial dairy production involves at least two collective action dilemmas that often spawn market failures. The first relates to the quality of the milk, and echoes the issues that arise with worker training. Specifically, processing plants require relatively high quality raw milk – especially as it relates to fat content – to produce processed goods such as cheese. However, under Rosenstein-Rodan’s market-based laissez faire conditions, when raw milk quality is suboptimal, individual processors will fail to invest in ranch-level interventions, such as veterinary services, artificial insemination or improved animal feed, to raise the quality of their suppliers. This market failure is a result of the threat of rancher poaching by other processing plants, a possibility which makes such investment unprofitable.

A second, similar collective action dilemma refers to processing plants’ need to maintain a consistent supply of raw milk throughout the year. The problem follows from the seasonal oscillations that Nicaragua’s prevalent extensive approach to cattle ranching spawns: raw milk supplies rise sharply during the rainy period, when grazing is plentiful, only to fall in equally dramatic fashion during the dry season, leaving processors scrambling for their key input. To address the problem, processors could invest in more intensive ranching techniques for their raw milk suppliers, such as the provision of animal feed during the dry months, or irrigation for their fields, to smooth production. Yet again, absent assurances that competitors will refrain from poaching, processors will avoid such unprofitable ventures in unregulated markets, leading to underinvestment and market failure.

As with worker training, the industrial policy perspective offers some possible responses to these two dilemmas and their associated market failures. For instance, states may introduce public extension programs to supply needed inputs for cattle ranchers. Public agencies may also impose quality standards for raw milk. They may even favor top-down coordination mechanisms to encourage processors to jointly invest in cattle rancher improvement programs. At the same time, the industrial policy perspective is not the only source of alternatives. As the Nicaraguan cheese industry suggests, a review of the familial and community logics – with their particular organizational priorities and bounded groups – adds nuance to our understanding of the universe of responses.

Among the producer cooperatives, the community logic brought to the fore a concern with local economic well-being, and the protection of the local worldview of group members, including, most prominently, ranchers. Cooperatives thus devoted significant resources to on-ranch upgrading. Producer cooperatives such as Masiguito, COOPROLECHE and the emerging Nicacentro, for instance, instituted programs in cattle herd health and milk handling, tested varied feeding alternatives, supported artificial insemination, provided cheap credit, and built networks of cold storage facilities to preserve milk quality. Both member-owners and non-members who supplied the processing plants could access these services. The overarching goal was not only to improve the plants’ raw milk quality, but also to enhance suppliers’, and community, economic prospects.

In addition, cooperatives developed a raw milk pricing system that built upon local bonds of trust and reciprocity to maintain stable year-round raw milk prices for suppliers, notwithstanding the seasonal variation in production. The system guaranteed ranchers above-market prices during the rainy season, when surpluses ran high. But it also provided below-market prices during the dry season, when demand soared. According to cooperative leaders, the pricing system ensured a higher average year-round price per liter. Coupled with local bonds of trust and reciprocity, it cemented the loyalty of most cattle ranchers to the cooperatives, a primary safeguard against costly defection – especially during the dry season.

At the time of fieldwork, these cooperative practices and interventions had substantially raised raw milk quality and smoothed out the production cycle of many of their suppliers, thereby effectively addressing the market failures associated with milk sourcing. Cooperatives enforced quality through tests – focused not only on water and chemical content, but also bacterial, fat and sediment measures – conducted in sophisticated labs at both cooperative processing plants and cold storage facilities. Practices to smooth raw milk production, in turn, also raised rancher productivity (Berra and Galetto 2010, CENCOOPEL 2011). Such improvements advanced the development objectives of diversification and upgrading, particularly as they allowed processing plants to consistently produce increasingly high quality cheeses for more demanding markets (e.g. United States).

Family-run processors, for their part, pursued a strikingly different set of responses to the collective action dilemmas of milk sourcing. With ranchers located outside the family group boundaries, processors acted in accordance with the market logic. They thus avoided investments in, and eschewed long-term agreements with, ranchers. Instead, they engaged in aggressive price-based competition for raw milk. They raised their prices significantly during the scarce dry months, and then lowered them sharply during the abundant rainy ones. To ensure a minimum level of quality (i.e. milk water content), they conducted basic tests in rudimentary labs at their processing plants. Sourcing relations with suppliers who failed these tests were immediately severed.

In the early years of the industry, with the region largely bereft of processing facilities, family-run processors benefitted from an oversupply of raw milk to successfully source their key input through this market-based approach. Plants such as La Montaña, Lacteos Nueva Guinea, or Matiguas grew rapidly during this time. Despite their negligible investments in on-ranch production, they could overcome the dual problems of raw milk quality and supply consistency by leveraging their power in a buyers’ market: where one rancher failed, many others were willing to supply the few buyers.

However, over time, the drawbacks associated with the market-based response have become increasingly evident for family-run processors. Two problems closely related to their failure to invest in on-ranch production now bedevil them. First, with rapid growth in the region’s population of processing plants has come increased competition for raw milk. This tightening market is both putting pressure on processing plants in high demand regions to raise prices, and making the problems of low milk quality and inconsistent supply more acute. Second, as ranchers have learned about the family-run processors’ ruthless, market-based negotiations, they have grown increasingly defensive, some of them even refusing to sell to family-run firms altogether. Their decision is eroding the family-run processing plants’ market power even further.

In this context, family-run processors have marshaled two responses, though neither entails a long-run solution to the market failure of underinvestment in on-ranch activities. First, the previously described strategy of spatial diversification, whereby single families own two or more processing plants, has alleviated some of these pressures, at least in the near term. Often, families set up new plants in relatively isolated areas (e.g. in Rio San Juan, the Autonomous Atlantic Region, or northern Matagalpa), where competition for raw milk remains low, and local ranchers amenable to market-based exchange. Yet, given the expanding opposition to the market-based approach of the family-run plants, and the growing size of the cheese processing industry, the prospects of this diversification strategy for both securing the longer term survival of these processing plants, and providing a solution to the collective action dilemmas of raw milk sourcing, appear dim.

So does the future outlook for the family-run processing plants’ alternative response: free-riding on the cooperatives’ investments. Unsurprisingly given the influence of the market logic, some of the larger family-run firms are attempting to poach upgraded cooperative suppliers by offering higher raw milk prices during the dry season. But, with a few exceptions, those efforts remain largely unrewarded. Until now, the community logic’s emphasis on reciprocity, solidarity and suspicion of “outsiders” – alongside continued on-ranch investment and the stable year-round raw milk pricing system – has ensured rancher loyalty to the cooperative.

**Acquiring market knowledge**

In many industries, acquiring knowledge to exploit markets for finished products represents another arena of collective action dilemmas. Learning about a new market characteristics (e.g. type of consumers, regulations) usually requires a hefty investment. That investment might not only be too high for any single firm to absorb. In addition, under conditions of laissez faire, free-riding by competitors may discourage likely first movers, leading them to underinvest in acquiring this socially-valuable asset.

The industrial policy perspective provides some possible solutions to this collective action dilemma. For example, state agencies can set up market search and information programs aimed at specific sectors. The goal of these programs is to subsidize access to market information, making up for private underinvestment.

Yet, this industrial policy option represents only one possible response. As with other collective action dilemmas, a review of the familial and community logics expands the scope of possible alternatives. In the case of the family-run processing plants in Nicaragua, the familial emphasis on unconditionally loyal kinship, and its concern with family control and well-being, complemented the long-term experience of patriarchs and their ancestors in cheese trading to provide an effective response. This response involved a heavy reliance on family networks to obtain the necessary market knowledge, while partly preventing others from free-riding. It led to the discovery and opening of a variety of new export markets, first in Central America and later in the “nostalgic” immigrant markets of North America.

Four conditions related to the familial logic and the history of the owning families buttressed such an approach. First, the importance given to family control and distribution of responsibilities ensured that prominent family members led these marketing networks, securing sufficient investment from the family to explore and exploit new opportunities. Second, their extensive participation in the commercial circuits of Central America – even before their diversification into cheese processing – had already endowed the families with a detailed understanding of these markets. Knowledge additions related to the specific exports from Nicaragua were therefore relatively economical. Third, since loyal family members controlled trading networks, the family-run plants avoided a principal-agent problem that proved costly to other types of firms: the misinformation about markets (e.g. on local demand, prices, quality concerns) that independent merchants, who sought to increase their own earnings at the expense of manufacturers, often supplied processing plants. Lastly, such family loyalty also emerged as an indispensable asset in protecting the acquired knowledge, and forestalling free-riding. Unlike independent merchants who could contract with different firms and thereby share market information, the specialized trading agents of the family – normally siblings of the patriarch – were single-mindedly focused on the family business.

For their part, cooperatives found the marketing management segment to be beyond their group’s boundaries. Those group boundaries followed from the community logic, which encouraged them to look toward their local territorial base, but largely eschewed bonding opportunities with “outsiders” knowledgeable of possible sales opportunities. Boundaries were reinforced by cooperative owner-member experiences: located in relatively isolated areas in northern Nicaragua, most cattle ranchers had traveled only as far as Managua, if they had left their region at all. For them, export markets seemed far removed.

Given this situation, cooperatives pursued two complementary responses, informed by the market logic, in their efforts to acquire market knowledge. First, they imitated the family-run processors by generally targeting the same Central America and, later, North American markets. The first-mover activities of the family-run firms thus allowed for a degree of free-riding, lowering some of the significant costs involved in market knowledge acquisition.

However, family secrecy, a consequence of their firm control over their trading operations, also ensured that cooperatives could learn little more about the specific characteristics and demands of new markets discovered by family-run firms. To enhance their understanding and gain access to those markets, cooperatives therefore followed a second response: they employed specialized cheese merchants through market-based transactions. However, such relations came riddled with problems, most notably those related to the principal-agent problem regarding merchant misinformation and manipulation. For example, during fieldwork it was not uncommon to learn about cooperatives whose products either mysteriously disappeared while in transit to Salvadorian and Honduran markets, or fetched much lower prices than promised. Even worse, in one case, a merchant registered a cooperative’s brand in El Salvador under his own name, and then demanded a commission for each sale.

Some cooperatives responded to this principal-agent problem by attempting to learn about and enter those export markets independently, through their own salesmen. But substantial upfront costs, coupled with family-run firm opposition, did not take long to deter such action. Indeed, beyond collusion with local bureaucrats (e.g. border control agents who confiscated the products sent by cooperatives), some family merchants resorted to violence to intimidate cooperatives. For example, one of the leaders of the Rios de Leche cooperative described how their trucks were twice robbed at gunpoint after the cooperative established its own distribution center in El Salvador. As he explained, “[the robberies] were not about stealing, but about forcing us to withdraw from the market. And they succeeded, since after that none of us wanted to go there…” (Personal Interview, February 27, 2013).

In light of these obstacles, other producer cooperatives, influenced by the community logic, attempted to work together to gather information and enter markets. Most prominently, Masiguito and Camoapan, the first two cooperatives to successfully export to El Salvador after finding a trustworthy merchant, encouraged others, such as COOPROLECHE and San Felipe, to contract his services too. And indeed, during fieldwork, these latter two cooperatives had achieved some success by employing the trusted trader.

At the same time, it is clear that, while allowing them to enter markets discovered by the family-run processors, cooperative responses have failed to furnish them with market knowledge acquisition capabilities of their own. That is because the management of marketing activities is still beyond the group boundaries as defined by the community logic. Governed by the market logic, this segment of the organizational field remains instead subject to pressing collective action dilemmas and market failures among cooperatives. Costs, in particular, have proven too high for individual cooperative processors to gather significant information about new, unexplored opportunities. It is unsurprising, then, that it is the family-run processing plants that have largely developed the industry’s knowledge about novel sources of demand.

 **5. DISCUSSION AND CONCLUSION**

The central contention of this article is that distinct institutional logics influence different types of firms, shaping their contrasting responses to the same collective action dilemmas. In particular, the proposed argument underscores the explanatory role of two organizational characteristics largely defined by institutional logics: the priorities of firms, and the bounded group to which firm decision-makers belong. The empirical material illustrates this argument by comparing not only general business approaches, but also the responses to common collective action dilemmas inspired by the familial and community logics in the Nicaraguan cheese industry. The comparison shows how, despite operating in the same environment, family-run and producer cooperative processors enacted divergent practices that were consistent with their respective logics. Their responses also deviated from the expected outcomes of the market logic and state industrial policy. The article therefore expands the scope of firm action that may be considered by the industrial policy literature.

In contributing to this literature, the findings suggest some general guiding principles for state intervention. Those principles fall into three general categories. First, the empirical material reveals that collective action dilemmas and market failures will be most prominent in interactions involving actors located outside the bounded group established by the particular non-market logic. Governed by the market logic – and therefore sharing a close affinity to the unregulated market exchanges of the industrial policy literature – it is these interactions that should be prioritized in standard industrial policy interventions (e.g. patent-like protections (Hausmann and Rodrik 2006), institutions providing necessary public goods (Sabel 2012)).

This study’s case offers some illustrations. Among the family-run processors, for instance, cattle ranchers were excluded from the household group, leading to market-based interactions, unresolved collective action dilemmas, and underinvestment in activities designed to improve raw milk quality and consistency. To the extent that these milk sourcing issues are becoming increasingly acute for the family-run processing plants, even threatening their survival, state intervention – involving either extension services or top-down coordination of processor provision of necessary on-ranch assistance – might prove especially valuable. Similarly, producer cooperatives might benefit from state interventions in the marketing segment of their organizational field. Located outside the community logic’s group boundary, actors involved in this segment – mostly independent traders – have largely engaged with cooperatives through market-based, arms-length relations. The ensuing collective action dilemmas have left cooperatives bereft of the capacity to search for, and effectively enter, new markets. Marketing thus seems ideally suited for state industrial policy involving, for example, support from public market search and information programs.

A second category of general guiding principles for industrial policy relates to the opportunities posed by the organizational priorities of non-market logics. Inasmuch as those priorities deviate from the single-minded focus on profit-making and efficiency, they may foster developmentally-beneficial firm-level action. Crucially, such action need not be limited to the type of solution to collective action dilemmas extensively discussed in this study. It may also pursue other ends valued by the literature on industrial policy, such as diversification of the economy and domestic ownership of firms (Amsden 2009, Hausmann and Rodrik 2006).

In pursuing first valued end – diversification– the familial logic presents promising opportunities for collaboration with policymakers. The logic’s overriding concern with both stymieing succession crises and reducing the risk of excessive reliance on a single revenue stream, incorporates a built-in incentive for family-run organizations to multiply the number of firms they own. That is what the family-run processors have done in the Nicaraguan cheese industry, continuously adding new plants to their holdings. Such an expansion, however, could also extend to other economic activities, particularly if public officials dispense necessary guidance and support, as in Schneider’s (2009) “policy-induced” diversified business groups.

When it comes to domestic ownership, a second goal of the industrial policy literature, policymakers may look to harness the community logic instead. With its bias toward local economic development and, especially, conspicuous suspicion of “outsiders,” the logic is well-placed to advance nationalistic production objectives. Indeed, it is unsurprising that ownership of all studied processing cooperatives in Nicaragua remained in local hands. Moreover, insofar as they prioritize broad economic progress as opposed to narrow profits, leaders in firms imbued with the community logic may emerge as ideal interlocutors for policymakers. They will likely be motivated to discuss solutions to the problems facing their firms, especially since they espouse interests well aligned with public officials’.

A final category of guiding principles for industrial policy speaks to the inherent weaknesses of the different institutional logics, some of which may stall processes of industrialization by undermining firm operations. Of particular concern are existential threats that compromise the bonds that hold group members together, cast doubt on commonly-held assumptions, and thereby erode their ability to jointly address collective action dilemmas effectively. Such threats are evident in the case of the two logics examined. For the familial logic, succession crises constitute the most serious challenge. Borne by an inability to agree upon the distribution of responsibilities among family members, these crises may strain loyalties, lead to intra-family disputes, and even tear family organizations apart. For the community logic, in turn, the greatest vulnerability arises from demographic changes, specifically those that add heterogeneity to group membership. After all, it is the shared characteristics of a homogenous population, with a common network of institutions and a consensus on a preferred model of order, which bound members together.

In responding to these inherent weaknesses of institutional logics, the state might resort to industrial policy alternatives that temper their likelihood. Thus, for instance, encouraging diversification among family-run firms not only advances the interests of industrial development. It may also forestall succession crises. At the same time, the state might be better served by seeking to avoid unwittingly triggering these threats, rather than consciously working to thwart them. That is because some of the development interests of the state (e.g. democratization of ownership in activities dominated by family firms; broader distribution of the benefits of upgrading among larger populations in cooperative areas) might actually exacerbate those challenges. Therefore, in pursuing those interests, state officials should carefully assess their implications for the vulnerabilities of different logics.

These considerations, and the more general argument of this article, suggest at least two avenues for future research. For one, the central argument should be tested and validated against a wider array of cases in different contexts and imbued with alternative institutional logics. How the corporate, religious or professional logics might, for instance, affect firm responses to collective action dilemmas; or whether it is sufficient to examine bounded groups and organizational priorities in accounting for those responses, represent central areas of inquiry for future work. The further elaboration of existing case studies, such as those collected by Sabel and colleagues (2012), could offer a useful starting point.

A second avenue to explore pertains to the consequences of different industrial policy interventions for firms influenced by non-market logics. The foregoing discussion draws from the analysis of the empirical case to present some general guiding principles for industrial policy. But the characteristics that make the studied case in Nicaragua ideal for examining the patterns of action associated with the familial and community logics, namely the absence of state involvement, also foreclose the possibility of evaluating the impact of industrial policy. Future research could therefore build upon the proposals offered here to systematically review the implications of specific state interventions for firms with divergent institutional logics. The rigorous documentation of such events promises to add invaluable tools to our existing industrial policy kit.

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1. There are some notable exceptions that recognize firm embededdness in local contexts. For instance, Cimoli et al (2009) suggest that non-market institutions “are at the core of the very constitution of the whole socio-economic fabric… they offer the main governance structure in many activities where market exchanges are socially inappropriate or simply ineffective…” (21) [↑](#footnote-ref-1)
2. Among these ingredients, Cimoli et al (2009) list “market completeness, perfectness of competition, knowledge possessed by economic agents, stationarity of technologies and preferences, rationality in decision-making, and so on…” (20) [↑](#footnote-ref-2)