

Self-discovery in the dark: The demand side of industrial policy in Latin America

Authors:

Seth Pipkin:

Affiliation: Department of Planning, Policy and Design, University of California, Irvine

Address: 218E Social Ecology 1, Irvine, CA, 92697

Phone number: 619.337-5582

Email address: spipkin@uci.edu

Biographical note: Seth Pipkin is an Assistant Professor in the Department of Planning, Policy and Design at the University of California, Irvine. His research focuses primarily on topics of economic development and industrial policy, with an emphasis on the role of cultural practices and habits in divergent project implementation and economic performance.

Alberto Fuentes:

Affiliation: Sam Nunn School of International Affairs, Georgia Institute of Technology.

Address: 1101 Juniper Street Apt. 1424, Atlanta GA 30309

Phone number: (717) 3815599

Email address: alberto.fuentes@inta.gatech.edu

Biographical note: Alberto Fuentes is a Post-doctoral Fellow at the Sam Nunn School of International Affairs in the Georgia Institute of Technology. He conducts research on managerial ideology and industrial transformation in the Global South, focusing on the role of business in international development.

Acknowledgments: We would like to thank Ben Schneider, Roberto Pires and the participants in our panel at the 2014 Society for the Advancement of Socioeconomics' (SASE) Annual conference for their comments and suggestions. Responsibility for errors is our own.

ABSTRACT

Under what conditions do businesses choose to reconsider their immediate, short-term competitive niches and engage in long-term, systematic thinking by searching for new business models? This crucial question is left aside by the contemporary literature on industrial policy insofar as it assumes that the primary barrier to industrial upgrading and learning is on the “supply side” of states facilitating private firms’ pursuit of their already-established drives. We inquire into the necessary conditions for businesses’ engagement with long-term thinking and innovation in contexts that reinforce preferences to stay in low-innovation, high-rent niches (Schneider 2013). Drawing from five cases in “inertial” Latin American competitive environments (two in Guatemala, two in Nicaragua and one in Colombia) where industries nevertheless voluntarily broke free of inertial trajectories to seek new approaches to business, we find that conditions of “systemic vulnerability” (Doner et al. 2005) – a combination of shocks in demand, sectoral competitiveness and civil/social conflict – force business elites to reconsider their constituents and investment timeframes in a manner analogous to political elites in Doner et al.’s model. Based on these observations, we contribute to theories of industrial policy and industrial upgrading by identifying the “demand side” factors that affect whether firms are prepared to be competent partners in today’s “assistive,” market-reinforcing models of industrial policy

Keywords: industrial policy, systemic vulnerability, hierarchical market economies, industrial upgrading, satisficing, Latin America

Word count: 11,948 (including abstract, tables, references, captions, and footnotes)

1. Introduction

In 2006, Dani Rodrik joined a growing choir in declaring the death of the Washington Consensus. Shaken by a flurry of disappointing results, the Consensus' theoretical edifice crumbled. Even its high priests at the IMF and World Bank eschewed its tenets. Yet, its replacement remained much less clear. As Rodrik playfully remarked, the Washington Consensus had given way to the "Washington Confusion" (Rodrik 2006).

In this context of confusion, a "new industrial policy paradigm" has slowly emerged as a possible alternative. This promising replacement builds on the discredited old industrial policy paradigm. It carries forward the emphasis on market failure, particularly as it relates to information, usually in the form of production and/or organizational know-how. From a pro-industrial policy perspective, market competition is seen as insufficient to disseminate this costly information, which low-productivity producers require to exploit their factor cost advantages. To address this debilitating imperfection, the new paradigm suggests "bringing the state back in" (Evans et al 1985).

At the same time, the new industrial policy literature nods to the Washington Consensus approach by lightening the strongly statist bias of the old industrial policy. As Birdsall and Fukuyama (2011:49) put it in their summary of the "Post-Washington Consensus," gone is the penchant for picking winners, and in its place is an emphasis on "addressing coordination problems and other barriers that discourage private investment..." This entails a shift from state direction toward business-state collaboration.

Such an agenda, while promising, raises at least two major questions. First, state capacity,

as well as trust between firm decision-makers and state bureaucrats is in no way a given. The literature on state corruption and the politics of state-business relations (e.g. Evans 1997, Tendler 1998, Chibber 2003) is vast and of great importance to articulating an effective industrial policy agenda. In this paper, however, we focus not on the capacities of the state, or business elites' faith in it, but rather the preparation and willingness of businesses themselves to supply the information and efforts that today's models of industrial policy require to function.

This second issue, of the knowledge, motivation, and capacities of the business elites, falls mostly to the background in a literature that places heavy emphasis on improving the capacity and knowledge of state agents. Yet there is ample evidence from a wide range of countries, examined in the sections below, that firm decision-makers are often single-mindedly focused on their short-term objectives and are largely uninterested in the type of long-term, systematic thinking that is industrial policy's irreducible goal. If one accepts that firms may easily "satisfice" (Cyert and March 1963) rather than maximize, then the "inertial" institutional environments of many developing countries produce a low propensity to innovate among firms which should give one pause before assuming that businesses arrive on the industrial policy stage already prepared to engage in a process to reach or extend the global frontier of a given industry.

This problem of firms' demand and preparedness for a contemporary vision of industrial policy must be addressed for any updated theories of industrial policy to adequately account for how firms and industries in the Global South will overcome market failures and

capability traps. Without a private sector that fully embraces the value of long-term over short-term returns, no amount of dialogue will enable the learning processes needed for business to move ahead. This paper draws from real-world cases of unlikely enthusiasm for risky innovation on the part of Latin American business managers to induce a theory of the conditions under which firms break from their inertial institutional environments and seek the innovative knowledge that is a prerequisite for fruitful collaborations with the state. By suspending the assumption in the contemporary industrial policy literature that firms maximize and therefore come prepared to inform the state on what costly know-how is most urgently needed, we develop a contingent model of firms' search behavior, where specific external pressures are a necessary impetus for firms' attempts to seek new knowledge about the opportunities for advancement through enhanced capabilities and productivity, not just the preservation of a stable market niche. This model is cumulative, insofar as more forms of pressure trigger more systematic, and therefore, potentially developmental searches.

To establish these contributions, the rest of this paper is organized as follows. Section Two reviews relevant literature by documenting the emergence of the new industrial policy approach and problematizing the role that business plays in it – its “demand side.” Section Three overviews the methods employed for this research, describing the case selection, analytical approach and data collection strategies. Section Four presents the five cases of this work in two steps: first by surveying the common elements pressuring firms to innovate across the cases, and then by focusing on the variation among the different industries' search processes and their corresponding antecedents. Section Five discusses

the results and Section Six offers concluding remarks.

2. An industrial policy renaissance?

Industrial policy emerges historically from the problem of late development – the fact that some countries have organizations with the technology, experience, and sophisticated coordination to outcompete late developers despite their lower factor costs (Hamilton 1913 [1791], List 1856, Gerschenkron 1962). From this perspective, the limiting factor is knowledge that is not freely available on the market. Thus, we agree with Amsden in defining industrial policy as showing *organizational* insight into the nature of firms' acquisition of capabilities and with Chang in defining the desired outcome as firms' shifting from narrow, short-term goals to systemic, long-term ones (Amsden 2008:23, Chang 2011:92).

By its very title, industrial policy suggests a role for the state in resolving these issues. And though the fall of Keynesian state-led development in the late 1970s and early 1980s resulted in dwindling support for industrial policy (Hall 1993), recent circumstances have renewed interest (Birdsall and Fukuyama 2011, Wade 2012, Stiglitz, Lin and Monga 2013, Schneider 2015). After multiple resulting crises (World Bank 2005, Rodrik 2006) and a post-recession shift of global economic power (Wilson and Purushothaman 2003, Dailami 2012), it is clear that the *laissez-faire* development approach known as “The Washington Consensus” has fallen from grace. Its potential successors, however, remain incipient (Stiglitz 2008, Wade 2010, Crouch 2011, Ban and Blyth 2013). A revived toolkit for industrial policy promises to be one of the key components of any plausible replacement.

Many scholars have weighed in on an industrial policy “revival.” The key departure from older industrial policies is that instead of the former era’s laundry list of command-and-control tactics for the state (Chang 2011:84), the new mantra hews more towards such notions as “assistance,” “collaboration,” and “co-production” with the state and firms as equal partners in the process. Advocates for “assistive” industrial policy have focused either on enhancing businesses’ access to information by lowering the risks of innovation (Hausmann and Rodrik 2003, Rodrik 2004, Sabel et al. 2012), or by investment in large-scale “national innovation systems” to produce basic research and public goods that can reduce coordination costs (Cimoli et al. 2009, Mazzucato 2013, Stiglitz et al. 2013). The former, which we refer to as a “self-discovery” approach, recommends high-level public-private discussions, councils, and other coordinating efforts as the solution to firms’ hesitancy to enter into new product sectors. The latter, which we refer to as a “political economy of capabilities” approach, focuses on how states can invest in research and development, trade policy, government procurement, and intellectual policy regimes that will create incentives for firms to invest further in their organizational capacities.

Despite some differences, these approaches have significant overlaps,¹ and both offer numerous insightful ideas for how states can assist firms in reaching and perhaps surpassing the global frontier in a variety of technological and organizational tasks. Nevertheless, both assume that firms arrive on the scene ready and willing to engage in these processes of joint exploration and discovery. There are both intuitive reasons and a fair amount of research that raise significant questions about this assumption. For example,

¹ See for example Sabel (2012)’s consideration of how a self-discovery approach’s problems of knowledge appropriation bleed into a political economy of capabilities approach’s coordination problems.

Vivek Chibber's comparative historical research on industrial policy demonstrates forcefully that unless the state's industrial policies are met by business interests ready to act in the same spirit, even the best programs will be severely hampered (Chibber 2003). And as Schneider points out, the "embedded autonomy" model (Evans 1995) of close collaboration between business actors and highly capable state bureaucrats has thus far yielded precious little insight on how such relationships can be created, especially in the context of post-Washington Consensus political economies where the state may lack the clout of a Korea or Taiwan in the 1960s (Schneider 1998:117). Picking up on this thread more recently, Schneider has also noted that "nearly every publication on industrial policy makes extensive reference to business and the private sector, but in the abstract without mention of specific firms" (Schneider 2015:7). It would seem that the literature is more concerned with how qualified state agents facilitate industrial policy than with firms' readiness to render these efforts worthwhile.² It thus stands to reason that researchers interested in industrial policy can increase the novelty and scope of their contributions by elaborating a more robust account of factors mediating firms' responses to public policy efforts.

Problematizing the Demand Side of Industrial Policy

The notion that maximizing, in the sense of striving for the maximum achievable value of any given activity, is not the default behavior for economic actors is not novel. The

² This imbalance reveals a somewhat surprising commonality between the new industrial policy and the Washington Consensus that it is intended to supplant. The Washington Consensus, especially in its later "institutionalist" incarnation (Kuczynski and Williamson 2003), takes an equally mechanical "build it and they will come" view of firm behavior, with the shift in policy aim being to expose firms to, rather than protect them from, global competition (Pack and Saggi 2006). This raises the question of how far a "market-friendly" approach to industrial policy can be advanced before it converges back with the approaches it criticizes (Szalavetz 2015).

venerable Carnegie School behavioral model (Simon 1947, Cyert and March 1963) speaks well to the businesses we observe in Latin America by positing that businesses tend to “satisfice,” meaning that they carry with them a base-level aspiration that, once reached, triggers satisfaction and the suspension of further search for change. Competition will not necessarily drive actors’ aspirations toward maximization in the long run because optimal equilibrium cannot be assumed – a critical perspective shared with much of the literature on industrial policy.³ This highlights the importance of how aspirations are set and what renders them satisfied or conspicuously unresolved.

Although global capitalism makes profit-seeking a nearly ubiquitous *modus operandi*, local context determines to a great extent the opportunity-set and appropriate means of such profit seeking - a set of issues sometimes referred to by the concept of “embeddedness” (Polanyi 2001 [1944], Granovetter 1985).⁴ The literature on “varieties of capitalism” (VoC) offers a compelling approach to embeddedness in contemporary economies by showing how distinct, mutually reinforcing institutions of market competition, corporate governance, and capital-labor relations socialize actors into a set of “shared expectations” that may produce locally specific approaches to economic activity (Hall and Soskice 2001).

³ See Simon (1959:263) for comments on taking exception from the optimal equilibrium assumption. For an example of similar comments from industrial policy scholarship, see Hausmann and Rodrik (2003:4-5).

⁴ Note that to accept the importance of embeddedness, one does not need to abandon rational choice as the main model for economic behavior. Research on “varieties of capitalism” (discussed below) tends to leave unquestioned the primacy of rational utility maximization. Nevertheless, embeddedness and satisficing models of firm behavior show an “elective affinity” insofar as social embeddedness raises the possibility of alternative logics of behavior to rational choice.

One salient application of “varieties of capitalism” thinking to developing country contexts is Schneider’s (2013) work on Latin American “hierarchical market economies.” This variety, which may also have some applicability to developing countries in other regions such as Turkey, South Africa, and parts of Southeast Asia (Schneider 2009:572), identifies family-owned business groups, affiliates of multinational corporations, low workforce investments, and atomistic labor relations as exemplifying the array of institutions that establish actors’ expectations and the terms of competition (Schneider *ibid.*, 2013).

Economic policy is generally “business-led,” and the owners of the domestic family-owned business groups prefer their investments to be low-risk, low-technology industries with high barriers to entry. As one financial executive in a Chilean diversified business group put it, the priorities are “sectors with high profitability, regulated, but also, as a consequence, low risk and capital intensive” (Schneider 2009:559). It is these preferences and expectations – conditioned by large-scale institutions, but reproduced by actors – that we refer to as “inertial.”

Under these inertial conditions, it becomes less obvious how firms, in accordance with the expectations of the current literature on industrial policy, will participate as equal partners to the state. Indeed, the case selection discussion below shows that the propensity to innovate and rethink business is much lower in these contexts than OECD or many East Asian economies. Our observations across the five cases discussed below illustrate situations in which the business aspirations in inertial contexts may shift, offering an opportunity to better understand the enabling conditions for businesses’ exploration of the new possibilities and practices that are the substance of their necessary contribution in a

state-assisted model of industrial policy. The conditions appear as sources of pressure that render established aspirations impossible, leaving businesses to seek new goals and means of achieving them. The main sources of pressure can be characterized as:

- “Supply shocks,” whether in the form of a production process that has been rendered untenable by intra-industry competition or by national macroeconomic instability;
- “Demand shocks,” in which demand from a consumer market shifts, whether due to consumer preferences, government standards, or trade regulations;
- “Civil society conflict,” in which social groups place pressure on businesses, usually in the form of conflict between capital and labor.

We consider these pressures to be analogous to Doner et al.’s (2005) work on the “systemic vulnerability” of Asian states, wherein state actors’ satisficing goal of a minimum winning political coalition can be rendered unattainable due to extraordinary pressures. According to this approach, it is only when pressures mount from multiple directions that state agents take recourse to the kind of long-term, systemic investments in productivity and wellbeing that can be considered “developmental.” While our analysis of changes in business models departs from and builds on Doner et al.’s story in several important respects (see cases and discussion below), the parallel is noteworthy first because it analyzes actors’ decisions to engage in long-term, systematic, “developmental” thinking as the *contingent* result of shifts in aspirations. Second, like Doner et al., we posit a small set of distinct forces that push organizations out of strongly conditioned inertia via a series of search thresholds, each with its own consequences for agents’ search behavior, and with cumulative effects that

appear to be more than the sum of their parts. Identifying such a mechanism that can be adapted across institutional sectors and specific decisions would seem to hold much promise for theorizing the local contingencies of developmental decision-making.

Although our cases provide a partial confirmation and extension to Doner et al's argument that greater developmental potential corresponds to more "systemic" vulnerability, we do not claim to provide a full-spectrum theory of search and its results; rather, we propose a theory regarding the proximal causes to the initiation of search, whose pathways of exploration and implementation over time are beyond the scope of this paper. The cases below demonstrate how, under institutional inertia that conditions firms to be satisficers rather than maximizers, business decision-makers can nevertheless be prompted to seek the information that state actors need from them to engage in successful state-assisted industrial policy.

3. Methods

Case Selection

Throughout most of Latin America, the prevalence of business innovation of the kind that an assistive form of industrial policy requires is quite low. Schneider (2009, 2013) ascribes this to a "hierarchical" market structure in which leading firms direct economic policy and hedge against market and policy volatility by focusing on economies of scope in low-technology sectors. More innovative activities are undertaken by multinationals, which tend to import skilled labor and to reserve their highest levels of research and development work for facilities in more advanced nations (ibid.) These and other aspects of hierarchical market economies (e.g. low workforce investments and atomized industrial

relations) mutually reinforce into feedback loops, shaping actors' preferences, further entrenching incentives and expectations for local firms to maintain their stable niches and shun the kind of game-changing innovations that are the goal of industrial policy.

As Table 1 below shows, R&D expenditures as a proportion of GDP in Latin America lag far behind East Asian and advanced OECD nations by a factor of approximately two to four. Moreover, the Latin American private sector's proportion of these anemic R&D expenditures is disproportionately low, historically in the range of only about 10% (Katz 2001:117). Local business formation occurs under highly constrained conditions, with informality historically high and increasing since the era of neoliberal reform (Perry et al. 2007:37), and firms' access to domestic credit only a small fraction (20-33%) of the amount available to firms in countries in East Asia and OECD members (see Table 1). Post-liberalization, inertial Latin American economies expanded exports rapidly without increasing their portion of value-added, leading Moreno-Brid et al. to conclude that "it is past time to give attention to the long-standing problem of Latin America's elite failure to invest domestically in a significant way" (2005:352-3).

[Insert Table 1 here]

Colombia, Guatemala and Nicaragua, the three countries where our five case studies take place, represent the type of "hierarchical market economies" whose institutional arrangements elicit inertial environments and aspirations. Large diversified business groups and multinational corporations (MNCs) capture large swathes of the national

economy.⁵ The workforce's education and skill levels remain low relative to advanced industrial countries and East Asia.⁶ And atomistic labor relations mean that weak labor unions, high turnover, faulty mechanisms of worker-employer mediation, and high levels of labor informality prevail.⁷ The combination of these “core factors” (Schneider 2009) commonly prompts firm decision-makers to pursue low-risk, low-technology investments in industries with high barriers to entry.

These issues are not exclusive to Latin America; as we discussed in the previous section, many other developing countries have institutional environments that reinforce a reticence on firms' part to take risks and engage actively in structural economic change. Instead, these comparative indicators set the stage for introducing a set of critical cases to be compared in this paper. Specifically, if the institutional environment pressures overwhelmingly toward behavior that maintains niches and shuns path-breaking innovation, what can we learn about the factors motivating innovative behavior from cases where industries deviate from their inertial status quo?

Case Methods

To address this question, we employ a two-step comparative case study – using the method of agreement to gather cases with unexpected search outcomes, followed by the method of

⁵ Bull, Castellacci and Kasahara (2014) document a growing presence of MNCs in Central America, coupled with increasing diversification of large domestically-owned business groups as they consolidate their positions in domestic markets.

⁶ According to the results of the 2012 Programme for International Student Assessment, Colombia ranked among the bottom 9 countries (out of 65) evaluated in three areas: math, reading and science (Bos et al, 2014).

⁷ Gasparini et al. (2007) show that informal workers represented 61% of the workforce in Colombia, 69.6% in Guatemala and 64.7% in Nicaragua.

difference to exploit variations within types of search among them (Mill 1843:450-63, Ragin 1987:34-53). Our five cases are from the three countries listed at the bottom of Table 1: Colombia, Guatemala and Nicaragua. In Guatemala, we explore the searches that took place in the apparel industry, located primarily in Guatemala City, and among the country's sugar mills, which operate in the country's southern, Pacific coast. In Nicaragua, we examine two sets of producers involved in the country's cheese industry: first, a group of cheese processing cooperatives of cattle ranchers; and second, a group of Salvadorian-owned cheese processing plants. Both groups of processors are located in the largely rural, central northern region of the country. Lastly, in Colombia we turn to the actions of producers in the apparel industry, primarily located in Medellín.

These cases share a number of important similarities, while varying in their search patterns. For one, they all pursued remarkable search processes despite operating in inertial environments. Indeed, all three countries have been low-to-medium performers within Latin America in terms of some of the basic indicators of structural transformation, such as capital formation, labor productivity growth, and research and development (Paus 2014, World Bank 2014). Furthermore, we find no evidence that any of these sectors had any prior history of being especially progressive or forward-thinking in any way so as to influence the events we documented. In addition, none of our cases involve sectors whose searches were prompted or shaped by deliberate state industrial policy. That does not mean that state actions did not affect the search processes observed in the studied industries. To the contrary, in some cases, decisions by particular governments to change policy – for instance, by eliminating tariffs or introducing new regulations – created new

vulnerabilities for the studied firms, launching them on clearly defined searches. In others, though unprompted, firm owners reached out to state agencies as they conducted their searches. However, neither the policy changes nor the attempts at engagement by business were part of a deliberate plan by state bureaucrats to pursue the type of joint business-state problem-solving and exchange envisioned in the new industrial policy literature.

To be sure, the case methods employed raise some questions that cannot be answered by this research design. For example, although the causes observed in these cases were sufficient to instigate search, their apparent sufficiency might have been facilitated by certain commonalities across the case settings, such as shared regional or historical features of institutions or social groups. We readily accept some limitations of external validity, as well as the possibility of omitted variables, in exchange for the opportunity to undertake an in-depth examination of the phenomenon based on stringent criteria of non-probabilistic relationships (Ragin 1987) between firm behaviors and their environments. The diversity of our case contexts along with the rarity of the outcomes help to mitigate the limitations of the methods. That said, it behooves us to recognize some of the scope conditions of the theoretical implications of our case studies, most notably the existence of these industries in hierarchical market economies with inertial environments, and the relatively uncommon nature of the seismic events that lead to conditions of vulnerability.

To prepare these cases, the authors spent anywhere from three to five months in the field, with unique interviewees ranging from 25 in Colombia to 59 in Nicaragua. Interview methods were semi-structured for the sake of learning about managers' experiences of

competing and dealing with market pressures. The first research study, regarding Guatemalan apparel, began in 2004 and ended in 2006, and the most recent research on cheese producers in Nicaragua, was conducted from 2012 to 2013. Table 2 below clarifies the timing, duration, and number of interviews involved in each case.

[Insert Table 2 here]

In terms of study design for this paper, we have been able to draw from extensive research completed on these distinct cases to draw new patterns and implications that were not apparent in their original, separate research contexts. The power of examining all of these cases in parallel is twofold: first, they are all rare instances that diverge markedly from the normal outcomes prevailing in these environments. And second, the case selection is helpful insofar as it provides a range of variation that illustratively reinforces or “replicates” the logic of search for business innovation as an outcome of cumulative systemic pressures (Yin 1989).⁸ Figure 1 below illustrates visually the processes discussed in the following section on the cases.

[Insert Figure 1 here]

4. Variations in systemic vulnerability and firm search responses

Despite their inertial environments, firms in our five studied cases engaged in active searches for new business practices and models, defying deeply entrenched aspirations.

⁸ More specifically, our case selection matches with Yin’s category of a multiple case study involving “theoretical replication,” wherein the cases “produce contrasting results...for predictable reasons” (Yin 1989:46).

These searches, which sometimes involved collaboration with different state agencies, pertained to three general areas of business activity: market niches, involving products and sources of demand; production processes, centered on production technologies, organization and supply chain management; and industrial relations, addressing labor and employment practices such as wages and benefits.

The scope of search in these three areas of business activity varied across our cases, however. As Table 3 shows, some studied firms set their sights on transforming their entire business models by reconfiguring their labor relations, production processes and market niches. Others instead focused on one or two of these areas, executing only partial searches. Table 3 also suggests that these contrasting search trajectories were instigated by the extent to which firms faced three conditions of vulnerability analogous to those highlighted by Doner et al. (2005): demand shocks, driven by changes in consumer demand for firm or industry products; supply shocks, fostered by changes in intra-industry competition; and civil society conflict, a result of growing pressures on business, usually related to capital-labor conflicts. It is to a discussion of these conditions in our studied cases that we now turn.

[Insert Table 3 here]

Environmental changes, conditions of vulnerability and systemic vulnerability

Until they encountered conditions of vulnerability, the business models of firms in our cases reflected their inertial contexts. Focused on satisficing, decision-makers in these

firms found little motivation to pursue changes, since they met their target aspirations with relative ease. In Guatemala, the sugar industry sold most of its low quality output in the protected domestic or U.S. quota markets, as it had for years, while apparel export markets were still being explored as a possible form of investment for local capitalists, having fallen mostly under traditional forms of production for the local market. Similarly, in Nicaragua cattle rancher associations specialized in raw milk and artisanal cheese production for local consumption, while Salvadorian cheese processors in the country relied on a cost-cutting approach developed by their ancestors to produce cheap cheese for the Salvadorian market. And in Colombia, apparel manufacturing was essentially an appendage to the country's longstanding, vertically-integrated, tariff-protected textile manufacturing firms. In none of these cases did firm decision-makers relentlessly search for new ways of producing and increasing their profits, since their business models fulfilled their target aspirations year after year.

However, sudden changes in their environments would challenge those aspirations, rendering them unattainable. Contrary to comparable firms and industries in their countries and regions, which continued to exist in inertial environments, the firms in our studied cases encountered at least one of the three conditions of vulnerability. These new conditions disrupted their comfortable niches, undermining their favored business approach and even calling into question their survival. In response, firm decision-makers launched desperate searches for solutions to these new challenges.

As Table 4 shows, in every one of our cases firms faced a demand shock that imperiled their sales outlets and called into question their product choices. Representing an analog to Doner et al.'s (2005) "external geopolitical threats" insofar as they emerge primarily from sources external to export producers (demand markets), these demand shocks – which were sometimes driven by changing domestic or foreign state policy – involved market closures, changes in market regulations, shifts in consumer preferences, and introduction of certifications or standards. They threatened firm decision-maker aspirations regarding their traditional product niches.

For instance, in the late 1970s and throughout the 1980s, Guatemalan sugar mills faced declining international raw sugar prices, the loss of their access to the U.S. quota market, and a marked reduction in domestic sugar consumption.⁹ For their part, Guatemalan apparel firms encountered the same shrinking, recessive domestic market in the 1980s, and during the 1990s were forced to deal with an increasingly liberalized international trade environment.

In Nicaragua, following the Sandinista electoral loss of 1990, cattle rancher associations lost the relatively stable, subsidized market of state-owned industrial dairy plants that they had supplied under the revolutionary regime. Dire national economic conditions also depressed local markets for artisanal cheese produced on ranches. In the same country, but

⁹ Declining demand coincided with a period of world overproduction of sugar, shrinking international raw sugar prices by as much as 70% between 1977 and 1979 (Molina 2005, USDA 2008). In the midst of this changing context, the US government slashed Guatemala's quota by almost 80% between 1981 and 1982 (Oglesby 2000, ASAZGUA 1981). Domestically, sugar sales fell by almost 25% in the early 1980s as the country entered a pronounced economic recession (ASAZGUA 1984).

years later, Salvadorian-owned cheese plants, which though established in Nicaragua exported all their cheese output to El Salvador, encountered their own demand troubles: in 1998, the Salvadorian government ratified a consumer protection law which required pasteurization of all dairy imports, site visits and processor certification by Salvadorian health inspectors, and registration of all cheese importers. Because most of the Salvadorian plants' production "did not follow hygienic milk collection procedures, nor pasteurize their raw milk, they were prohibited from selling to El Salvador" (Perez-Aleman 2011: 181).

Finally, in Colombia, between the late 1980s and early 1990s, demand conditions for apparel producers underwent radical change. While in the mid-1980s, the country had the highest tariff levels in Latin America; by 1992, they were the second-lowest in the region (Urrutia 1994:286). At around the same time, a government subsidy for apparel exports known alternately as the "certificate of tax reimbursement" or the "certificate of tax payment" (CERT / CAT) was red-flagged by the US Department of Commerce as an illegal subsidy. Soon after, the apparel industry agreed to give up the system. It also had to demonstrate that the revenues still held by the central bank would not subsidize exporters directly. This was merely the final blow to the demand market that these producers had enjoyed; it signaled that producers could no longer benefit from a restricted, protected market and would have to reconsider who would buy from them.

If firms in all of the studied industries encountered a demand crisis that rendered firm decision-maker market niche aspirations unattainable, Table 4 shows that, with the exception of the Colombian apparel case, they also faced supply shocks which directly

impacted their production processes and aspirations. Supply shocks represent a parallel to Doner et al.'s (2005) "constraints on the state's fiscal resources," insofar as they restricted firm capacity to respond to the new competitive environment. Arising as a result of the rapid market entry of additional, more sophisticated firms, these supply shocks rendered decision-maker production aspirations outmoded. They spawned increased competition for both inputs and markets, eroding the "slack" that established firms had enjoyed and revealing the inefficiencies of existing production approaches and technologies.

For example, the established Guatemalan sugar mills faced a growing field of rivals, as the number of mills in the country nearly doubled between 1974 and 1978. Aggressive competition for the industry's main input, sugarcane, followed. The supply shock unmasked the major limitations of the traditional production organization and technology, which constrained mills' capacity to increase their productivity, given the scarcity of sugarcane, in any significant way (Molina 2005, Wagner 2007, ASAZGUA, 1981, Oglesby 2000).

In Guatemala's apparel industry, in turn, a wave of technically advanced Korean firms entered the country in the late 1980s. Domestic producers, beholden to a production model less sophisticated than the Koreans, were increasingly relegated to lower value-chain positions. Conditions for both the original Guatemalan producers and the new Korean plants in the country only worsened in the mid-1990s, with the rapid rise in exports from large, populous and very low-wage competitors in East and Southeast Asia.

In Nicaragua, the supply shocks affecting rancher associations and Salvadorian-owned processing plants were distinct. For the cattle ranchers, the supply shock came in the early 1990s, when a large number of demobilized military forces from the Sandinista and Contra armies returned to their pre-war activities in cattle ranching. With their return, milk production rapidly increased, disrupting price stability and generating significant difficulties for established rancher associations. The supply shock affecting the Salvadorian producers, in turn, arose in the late 1990s. During this time, individual and cooperative entrepreneurs – including many of the cattle ranching associations – erected a growing number of cheese processing plants. The expanding population of processing plants provoked a war for higher quality raw milk, engendering severe supply problems for Salvadorian plants.

Whereas firms in four out of our five cases faced both demand and supply shocks, Table 4 suggests that in only two of our cases, the Guatemalan sugar and apparel industries, did firms also encounter civil society conflicts. These are analogous to the “internal upheaval” that Doner et al. (2005) see as threatening the “governing coalitions.” In these two cases, conflicts primarily centered on demands to improve the conditions of work for firm employees. Emerging alongside the demand and supply shocks, they generated what we call instances of systemic vulnerability among Guatemala’s sugar mills and apparel producers.

Guatemala’s sugar mills encountered widespread mobilization and civil strife as labor and guerrilla organization exploded in the mid to late 1970s and early 1980s, military coups

multiplied, and brutal warfare spread across the country. In mills, workers formed unions, struck and even created an industry-wide confederation (FETULIA) (Oglesby 2000, Bossen 1982). On plantations, cane cutters organized the paradigmatic “zafra” strike of 1980 that involved over 80,000 workers and paralyzed production (Jonas 1991, Porras 2009).

Similarly, the Guatemalan apparel producers encountered a tremendous degree of instability and uncertainty endemic throughout the country’s economy and society for the first half of the 1980s. Two military coups between 1982 and 1983, brutal warfare in large swaths of the country’s predominantly rural territory, and shocking events of public violence such as the burning of the Spanish embassy contributed to the atmosphere of social disruption. In the particular case of the Korean firms operating in the country, problems also erupted around their highly controversial systems of labor control. Revealing a role for the state in generating vulnerability, high-profile congressional investigations and scrutiny from the Ministry of Labor challenged their industrial relations approach.

In a third case, Nicaraguan cattle rancher associations encountered “indirect” civil society pressures during the 1990s, since they arose not out of national contexts of social disruption, but rather from the actions of foreign aid agencies. Closely aligned with the Sandinista revolutionary project that had abruptly come to an end in 1990, and critical of the anti-Sandinista governments that ruled the country during the 1990s,¹⁰ these agencies made their technical and financial support for the rancher associations contingent on

¹⁰ In fact, in their evaluation documents, these aid agencies described their efforts to “[preserve] some of the country’s previous social gains,” obtained during the Sandinista Revolution (Caldecott et al. 2012:50)

improvements in labor conditions. Thus, they introduced pressures, analogous to those championed by civil society in Guatemala, through the backdoor. At the same time, because they lacked the leverage of a striking workforce or attacking *guerrillas*, their pressures on rancher associations proved less coercive than those observed in Guatemala.

[Insert Table 4 here]

Along with the demand and supply shocks, civil society conflicts created existential challenges for firms. These three conditions of vulnerability undermined decision-maker aspirations, compelling them to search for new business practices. Crucially, different conditions of vulnerability instigated distinct searches. How they did so is the subject of the next section.

Search

The foregoing discussion shows that firms in our cases faced a varied range of environmental changes wrought by conditions of vulnerability. On one end, firms in the Guatemalan sugar and apparel industries encountered systemic vulnerability, as demand and supply shocks, along with civil society conflicts arose. On the opposite end, Colombian apparel producers faced only a demand shock, as the country abandoned the old import substitution industrialization model. Between these two extremes, the Salvadorian cheese producers in Nicaragua responded to a demand and supply shock, while cattle rancher associations were additionally affected by an indirect civil society conflict introduced by

foreign aid agencies. How did these different shock patterns impact firm searches for new practices and models?

As Figure 1 above illustrates, the focus of the searches varied across our cases, and that variation closely corresponded with the conditions of vulnerability that they encountered. The Guatemalan sugar and apparel producers, facing systemic vulnerability, embarked upon aggressive wide-ranging searches for new business models. Their efforts targeted their industrial relations, production processes and product/market niches. From a development perspective, these searches offered the most promising prospects out of our five cases: they focused on possible innovations not only in the processes of production and marketing strategies, but also in the labor conditions of the workforce.¹¹

For instance, in Guatemala's sugar industry, owners and managers participated in numerous joint efforts to find new markets (e.g. Venezuela, Mexico and the Soviet Union), improve conditions in their existing markets (e.g. the United States quota market), reorganize production (e.g. negotiations with cane producers) and develop productivity-enhancing projects (e.g. training for administrative staff in the tripartite national training institute (INTECAP), plans for a new port, cane research stations), reaching out to various potential partners, including the state. Mill decision-makers also pursued independent efforts to restructure their production organization, including their wage and hiring

¹¹ Echoing Schrank (2004), we believe that by possibly leading to the adoption of entirely new business models previously unknown to and untested by competitors, such searches could furnish the innovative firms with the type of "oligopolistic underpinnings" that characterize "developmentally nutritious sectors."

policies, by negotiating with unions, visiting other sugar industries around the world, and employing specialized consultants.¹²

The Guatemalan apparel industry offers a similar search scenario. Local producers, often with support from the United States Agency for International Development (USAID), examined different Guatemalan approaches to labor relations, and looked to Korean manufacturers for lessons on scale and full-package production management. To encourage experimentation and the adoption of new practices, the apparel exporters' association (VESTEX) also formulated, with Korean and Guatemalan partners, a thirteen-course series in full-package manufacturing systems that was completed by forty firms between 1999 and 2005. In addition, VESTEX reached out to the state: it partnered with the national tripartite training institute (INTECAP) to develop training programs for the industry's workforce on full-package production, and design and buyer consulting services; it also spearheaded a search to find new buyers for the industry's products. Similarly, during the mid- to late-1980s, apparel producers vigorously pushed for increased state support for duty-drawback manufacturing, eventually obtaining a comprehensive "maquila" law that facilitated the industry's rapid growth in the late 1980s and early 1990s.

If the Guatemalan sugar and apparel producers engaged in extensive searches for innovations in their industrial relations, demand niches and production processes, on the opposite end of the spectrum the search scope among Colombian garment firm decision-makers proved much narrower. Facing only a demand shock, they endeavored specifically

¹² For a more detailed description of these changes, see Fuentes (2014).

to find new sources of demand by focusing on developing their garment design and fashion capacity. Companies hired design teams to target difficult-to-win foreign consumers in the United States and wealthy European Union countries, creating the Institute for Exports and Fashion (INEXMODA),¹³ and organizing two large yearly trade fairs that draw crowds of close to 15,000 visitors each (Sánchez 2011). They also produced fashion publications, convened colloquia with presentations from foreign consultants and buyers, and introduced courses on fashion, design and marketing (e.g. “color theory,” “clothing categories and consumer profiles”) (CCMA 2007:139). Notably, Colombian apparel producers have largely sidestepped possible changes to their industrial relations and shop floor production processes.¹⁴

Falling between the ambitious searches pursued by the Guatemalan sugar and apparel producers, on the one hand, and the relatively narrow inquiry of the Colombians, on the other, the Salvadorian owned cheese plants and the cattle rancher associations in Nicaragua engaged in searches that centered primarily, though not exclusively, on innovations in their production organization and demand niches. For example, some of the Salvadorian cheese plant owners reached out to the Nicaraguan state and its inspectors from the Ministry of Health and the Environment, seeking ways to address their deficient hygiene and environmental standards, and the growing competition from new cheese processors. Others worked with the Institute for Rural Development, a state agency that supported small- and medium-sized firm development. The sought to develop new

¹³ Interestingly, while INEXMODA appears to recognize that there are many other important aspects determining the finding and meeting of foreign demand – from supply chain management to firm productivity to client relations – they have overwhelmingly focused on fashion design as their key intervention.

¹⁴ For a more detailed description of the Guatemalan and Colombian apparel cases, see Pipkin (2011).

pasteurized versions of their main cheese, the “morolique”, and to transform their production processes. Still others experimented with different types of cheese altogether, most notably the unpasteurized “quesillo salvadoreno.” Tellingly, all of these Salvadorian-owned cheese producers failed to pursue changes to their industrial relations.

The cattle rancher associations, in turn, similarly searched for alternative production processes and markets. In this search they too approached the state, but their overtures also extended to foreign aid agencies, MNC subsidiaries, Salvadorian merchants and cooperative associations.¹⁵ Several of these rancher associations would eventually build processing facilities with support from international aid agencies. As they upgraded into cheese processing, the cattle rancher associations expanded the scope of their searches to include new industrial relations approaches. In this endeavor, they were responding to the growing pressure from the foreign aid agencies, which made their technical and financial support for the rancher associations contingent on improvements in labor conditions.

5. Discussion

This study introduced five cases of surprising business-led searches for new practices and models. It addressed the question of how to instigate a broadening of the firm’s perspective beyond short-term profits to long-term, more systemic, and broader stakeholder concerns – a perennial goal for scholars of economic development, especially in Latin America (Bruton 1998, Jankowska et al. 2012). We find that firms in inertial environments change

¹⁵ Perez-Aleman (2013), for instance, describes how ranchers who eventually organized a cheese processing cooperative engaged in “alternative search strategies” to address some of their weaknesses in raw milk production and develop new sales opportunities. Leguizamon (2002) describes how ranchers in another rancher union searched for processing options and market outlets for their raw milk. Similarly, in its project overview, the Finnish aid agency (FINNIDA) also notes how it extended and expanded its so-called PRODEGA project for dairy development in response to the “request of the farmers” (Eskola 2003).

their behavior when pressures force them to reconsider their aspirations and how they are achieved. Like Doner et al. (2005), we observe a cumulative phenomenon in which multiple types of pressure trigger more dimensions of search. Our cases thus reveal important contingencies in firm learning that most scholarship on industrial policy takes as a given prerequisite, illustrating both the need for and the basic elements of an explicit theory of the conditions under which firms gain the information necessary for state-business dialogue to be useful.

Although state policies were important factors at some junctures in some of the cases, in none was there any deliberate, overarching industrial policy strategy in the sense of creating incentives for specific industries to acquire new information. There was not any established prior within-sector or national-level proclivity towards innovation or transformation in these cases. Nor were their transformations prompted by buyers demanding specific product or process enhancements. All of these firms operated in broader sectors and national economies that were quite inertial before they transformed. Rather, these industries only undertook re-evaluations and consequent searches when business-as-usual was conspicuously obstructed or otherwise unavailable. Without these disruptions to their aspirations, businesses were not seeking the market information necessary to guide state assistance in contemporary industrial policy approaches. How those aspirations shift in developing economies, however, has been relatively underexplored, leaving a gap in the literature on industrial policy.

Our findings suggest that the scholarship on industrial policy needs to move beyond injunctions to professionalize the bureaucracy, solicit voluntary consultation from the private sector, and invest in public goods; it must envision firms as infused with contingency and a potential multiplicity of goals and preferences. Even the notion of performance requirements in exchange for government benefits may not handle the issue if firms are ensconced in inertial niches, because there the impetus to enter into such a contract is absent. Although we suggest that maximizing firms cannot be taken for granted, the model we propose does offer cause for optimism in that it provides constructive proposals even in environments that tend to stubbornly reproduce the status quo. The distinct contributions of such an approach are illustrated in Table 5 below.

[Insert Table 5 here]

Based on the variation across our cases in the types of shocks and forms of search response, it seems that we can ascertain two main dynamics of systemic vulnerability-induced business search: first, that these three main areas of pressure trigger their own, thematically independent areas of search for businesses to undertake. And second, in agreement with the original use of systemic vulnerability by Doner et al. (2005), the three forms of pressure accumulate together to form more comprehensive, “developmental” search in the sense of a more thorough reappraisal of the prevailing business model. When compared to undertaking just one or two search themes, this more holistic reappraisal as a result of more types of shock may foster general organizational capacities over and above the immediate tasks being learned (Cimoli et al. 2009:3-4).

With regards to the relations between the forms of pressure, while it is possible to see spillovers and interactions between causes and effects, we limit the scope of our analysis to the proximal cause that triggers observable search activity. As such, our claims are restricted to the initiation of search – e.g., more highly efficient competitors in an industry renders salient a firm’s need to improve its production processes, prompting the firm to reconsider this area of its operations. Although this process could eventually lead the firm to also learn about potential new market niches, these longer-term considerations extend beyond our primary goal: the introduction to the field of industrial policy of a theory clarifying the contingencies involved in firms’ initiation of innovation processes.

Following from this narrower scope, unlike Doner et al., we do not draw conclusions about the developmental consequences of the initiation of search; in fact, we believe that our investigation is only the beginning of a broader research agenda regarding the business side of industrial policy. Likewise, our findings depart from Doner et al.’s insofar as we do not observe any necessity to the simultaneity of different forms of shock for their effects to be cumulative; for example, in both of the cases in Guatemala, different shocks were sometimes separated by as many as five to ten years, suggesting that what is important is to stimulate firms’ search across a broad scope of activity, without it all necessarily occurring at one time. That said, the social mediation of shocks appears to be important, as was the case with the Nicaraguan dairy cooperatives who accepted a diluted version of the industrial relations proposals of their nemeses, the Sandinistas, when they were promoted by European foreign aid agencies. Despite the apparent consistency with our cases, these

findings on the relationships between different shocks and forms of search should be tested for external validity with a wider variety of cases. We expect that with further comparison, contextual determinants of search processes related to group identities, politics, network connections, and readily available ideas will likely emerge as decisive.

6. Conclusion

With the fall of the Washington Consensus, industrial policy has been experiencing a renaissance. The new and improved industrial policy approach abandons the command-and-control mechanisms of the past. Instead, it recognizes the allocative efficiency of competitive market prices and prioritizes state assistance, multi-sectoral dialogue and joint state-business problem-solving. While the approach represents a refreshing alternative to the Washington Consensus, it struggles on a number of fronts. We focus on the new industrial policy model's (Hausmann and Rodrik 2003, Cimoli et al. 2009, Birdsall and Fukuyama 2011) unwarranted assumption of businesses in developing countries as maximizers who arrive on the stage ready to direct assistive state agents toward the new horizons that they will explore together.

The "inertial" institutional environments that prevail in Latin American and other parts of the developing world (Schneider 2009, 2013) violate this assumption insofar as they produce conditions where firms will often prefer the status quo, avoiding costly investments in exploring and changing how they do business. Such a context demands an account of how businesses choose to engage in searches to transform their models. We offer an argument founded upon three pillars: Simon (1997 [1947]), and Cyert and March's

(1992 [1964]) behavioral approach to firms as “satisficers,” Schneider’s (2013) “hierarchical market economies” (HMEs), and Doner et al’s (2005) “systemic vulnerability.” Combining these three frameworks offers a solid basis for analysis of firm behavior as a) oriented towards meeting, and not exceeding, aspirations that are b) strongly conditioned by complementary sets of local institutions and are c) only overcome when certain types of threats render actors’ aspirations as conspicuously unmet.

Our five case studies allow us to introduce a contingent model of firms’ initiation of innovation-seeking. After years of limited change, the studied firms and industries suddenly engaged in varied searches for new practices and business models. They did this in the absence of deliberate state industrial policy under conditions of a stifling status quo both in their industrial sectors and their national economies. Based on an examination of the common elements as well as the variation between our cases, we suggest that businesses can initiate change under inertial conditions, but that this cannot be taken for granted, and is largely dependent on the conditions of vulnerability facing the different firms and industries. Each type of shock triggers search in different areas, and accumulations of different shocks prompt more comprehensive and potentially developmental searches.

In light of these findings, we propose to expand the research agenda on industrial policy from a largely one-way inquiry into how to make state agents better assistants of the private sector toward a two-way one that also problematizes the propensity of firms to effectively engage with state agents on their most urgent competitive challenges. Just as a

physician's ability to preserve life will be limited by a patient that is either insensitive to or unable to clearly articulate the problems at-hand, even the best-prepared state assistants to industry will be limited by the degree and quality of participation provided by representatives of the private sector. Following from this logic, industrial policy should elicit learning among firm managers by actively challenging them to broaden their horizons. This effort should pursue business model transformation as its overarching goal.

That said, we should recognize that seismic events in the political economy constituting instances of systemic vulnerability are not necessarily much more prevalent than enlightened leaders or "islands of bureaucratic excellence." This introduces important scope conditions for our argument, but also motivates inquiry into alternative, constructive ways of mimicking systemic vulnerability.

One promising avenue to explore is offered by the regulation literature (Schrank et al. 2013). This literature – whose predictions receive limited confirmation from our cases' regulatory policy shifts – addresses the role of different regulatory environments “simultaneously forcing and enabling producers to pursue unpopular or unfamiliar practices that are nonetheless in their own self-interest” (Schrank 2013:488). It examines how national regulatory agencies, such as ministries of labor, environmental and health and safety (Piore and Schrank 2008, *ibid.*), and particularly their inspectors, enforce national standards in a manner that fosters industrial upgrading. By deploying regulatory “sticks” (Pires 2008), inspectors administer their own form of shock to firm-level aspirations. Like different conditions of systemic vulnerability, different types of

inspections affect distinct realms of business activity, driving potentially diverse changes in decision-maker aspirations. But the regulators induce change not solely through sticks; they can also introduce “rewarding regulation” (Schrank 2013), wherein the inspector acts as a “business consultant” (Piore and Schrank 2008).

One could conceive of such interactions spawning beyond regulatory agencies and bureaucracies to include those charged with industrial policy. Preliminary research in Nicaragua’s cheese industry suggests a growing integration of regulatory and industrial policies, particularly in the case of environmental inspectors working closely with bureaucrats from the national ministry dedicated to small firm and cooperative promotion. Moreover, standards could extend beyond those enshrined in domestic legislation to include private certification schemes (Dolan and Humphrey 2000, Jaffee and Masakure 2005, Locke et al. 2009, Distelhorst et al. 2014). State agents could encourage firm innovations via private standards systems by assisting firms to meet or possibly exceed them.

Another avenue to explore pertains to the literature on “developmental” business associations. As Doner and Schneider (2000) explain, these associations can encourage development both by pressuring underperforming states to provide necessary public goods (market-supporting) and by directly assisting firms and industries in overcoming market failures (market-complementing). In all of our cases but one (Salvadoran-owned dairy firms), firms facing vulnerability utilized the services, both market-supporting and complementing, of their respective business associations. More importantly, these cases

suggest that vulnerability may also modify otherwise inertial institutional environments by prompting firms to make their associations shed their “clientelist, non-developmental” skin (Cammett 2007). How searches initiated at the firm level reverberate to affect the institutional capacity and developmental agenda of business associations thus represent interesting questions for further work.

The theory proposed here should be tested and validated against a wider array of cases from different industries and institutional contexts. One body of work that offers a wealth of cases to explore is the Global Value Chain (GVC) literature, which has, in some instances, overlapped with the topic of industrial policy (Paus 2012, Gereffi and Sturgeon 2013). Our cases suggest further fertile ground for exchange between global value chains analysis, which focuses on a very broadly defined construct of “upgrading,” and the industrial policy literature, which focuses more specifically on shifting terms of trade by investing in tacit knowledge and organizational capabilities. More broadly, our cases and analysis can hopefully serve as an invitation to rethink some of the classic problems of development by taking neither state nor private sector capacities for granted. Further articulation of how markets, as well as other institutions, condition the motives and actions of private sector firms is a crucial component of an improved understanding of their potential roles in development processes.

References

- Amsden, A. (2008). "The Wild Ones: Industrial Policy in The Developing World," in N. Serra & J. E. Stiglitz (Eds.), *The Washington Consensus Reconsidered: Towards a New Global Governance: Towards a New Global Governance* Oxford, UK: Oxford University Press, pp. 95–118.
- ASAZGUA (Asociación de Azucareros de Guatemala) [Guatemalan Sugar-Growers' Association]. (1981, 1984). Memoria de Labores [Yearbook]. Guatemala City
- Ban, C., & Blyth, M. (2013). "The BRICs and the Washington Consensus: An introduction." *Review of International Political Economy*, 20(2): 241–255.
- Birdsall, N., & Fukuyama, F. (2011). The Post-Washington Consensus: Development After the Crisis. *Foreign Affairs*, 90(2), 45–53.
- Bos, M. S., A.J. Ganimian, E. Vegas, and H. Álvarez Marinelli (2014). "Brief #12: Colombia en PISA 2012, Logros y Desafíos Pendientes." [Colombia Program for International Student Assessment (PISA) 2012, Achievements and Remaining Challenges.] Inter-American Development Bank, July 2014; accessed at http://publications.iadb.org/handle/11319/6577?scope=123456789/1&thumbnail=true&rpp=5&page=0&group_by=none&etal=0, 8 November 2014.
- Bossen, L. (1982). "Plantations and Labor Force Discrimination in Guatemala." *Current Anthropology*, 23(3): 263–268
- Bruton, H. J. (1998). "A Reconsideration of Import Substitution." *Journal of Economic Literature*, 36(2): 903–936.
- Bull, B., F. Castellacci and Y. Kashara (2014). *Business Groups and Transnational Capitalism in Latin America*. New York: Palgrave McMillan.
- Caldecott, J., van Slujis, F., Aguilar, B., & Lounela, A. (2012). *Evaluation: The Country Programme between Finland and Nicaragua*.
- Cammett, M. (2007). Business–government relations and industrial change: The politics of upgrading in Morocco and Tunisia. *World Development*, 35(11), 1889–1903.
- Carney, M., Gedajlovic, E., & Yang, X. (2009). "Varieties of Asian capitalism: Toward an institutional theory of Asian enterprise." *Asia Pacific Journal of Management*, 26(3): 361–380.
- CCMA (Cámara de Comercio de Medellín para Antioquia) [Medellín, Antioquia Chamber of Commerce]. (2007). *Un Caso Exitoso de Liderazgo: Sistematización de la Experiencia de Inexmoda* (No. 2) [A Successful Case of Leadership: Systematization of the Experience of Inexmoda]. Medellín, Colombia.

- Chang, H.-J. (2011). "Industrial Policy: Can We Go Beyond an Unproductive Confrontation?" In J. Y. Lin & B. Pleskovic (Eds.), *Annual World Bank Conference on Development Economics 2009: Lessons from East Asia and the Global Financial Crisis*, World Bank Publications, pp. 83–109.
- Chibber, V. (2003). *Locked in Place: State-Building and Late Industrialization in India*. Princeton, NJ: Princeton University Press.
- Cimoli, M., Dosi, G., & Stiglitz, J. E. (2009). *Industrial policy and development: the political economy of capabilities accumulation*. Oxford, UK: Oxford University Press.
- Crouch, C. (2011). *The Strange Non-death of Neo-liberalism*. Cambridge, UK: Polity.
- Cyert, R. M., & March, J. G. (1963). *Behavioral Theory of the Firm*. Cambridge, Mass., USA: Wiley-Blackwell.
- Dailami, M. (2011) *Global Development Horizons 2011: Multipolarity: The New Global Economy*. The World Bank.
- Distelhorst, G., Hainmueller, J., & Locke, R. M. (2013). "Does Lean Improve Labor Standards? Capability Building and Social Performance in the Nike Supply Chain" Watson Institute for International Studies Research Paper No. 2013-09. Accessed at <http://ssrn.com/abstract=2337601>, 8 November 2014.
- Dolan, C., & Humphrey, J. (2000). "Governance and Trade in Fresh Vegetables: The Impact of UK Supermarkets on the African Horticulture Industry." *Journal of Development Studies*, 37(2): 147–176.
- Doner, R. F., Ritchie, B. K., & Slater, D. (2005). "Systemic Vulnerability and the Origins of Developmental States: Northeast and Southeast Asia in Comparative Perspective." *International Organization*, 59(02): 327–361.
- Doner, R. F., & Schneider, B. R. (2000). "Business Associations and Economic Development: Why Some Associations Contribute More Than Others." *Business and Politics*, 2(3), 261–288.
- Eskola, E. (2003). *Rural Development Cooperation: Learning from Finland's International Projects and Programmes*. Helsinki: Ministry of Foreign Affairs of Finland.
- Evans, P. B. (1995). *Embedded Autonomy*. Princeton, NJ: Princeton University Press.
- (1997). "The Eclipse of the State? Reflections on Stateness in an Era of Globalization." *World Politics*, 50(01): 62–87.
- Evans, P. B., Rueschemeyer, D., & Skocpol, T. (1985). *Bringing the State Back In*. Cambridge UK: Cambridge University Press.

- Fuentes, A. (2014). A Vocation for Industrial Transformation: Ideology, Organizational Isomorphism, and Upgrading in the Guatemalan Sugar Industry. *Studies in Comparative International Development*, 49(3), 370–401.
- Gasparini, L. and L. Tornarolli. (2007). “Labor Informality in Latin America and the Caribbean: Patterns and Trends from Household Survey Microdata.” CEDLAS Working Paper No. 46. Center for Distributive, Labor and Social Studies (CEDLAS), Universidad Nacional de La Plata, Argentina.
- Gereffi, G. (1999). “International trade and industrial upgrading in the apparel commodity chain.” *Journal of International Economics*, 48(1): 37–70.
- Gereffi, G., & Sturgeon, T. (2013). Global Value Chain-Oriented Industrial Policy: The Role of Emerging Economies. In D. K. Elms & P. Low (Eds.), *Global Value Chains in a Changing World* (pp. 329–360). Geneva: World Trade Organization with the Temasek Foundation and the Fung Global Institute.
- Gerschenkron, A. (1962). *Economic Backwardness in Historical Perspective*. Cambridge, MA: Belknap Press of Harvard University Press.
- Granovetter, M. (1985). “Economic Action and Social Structure: The Problem of Embeddedness.” *American Journal of Sociology*, 91(3): 481–510.
- Hall, P. A. (1993). “Policy Paradigms, Social Learning, and the State: The Case of Economic Policymaking in Britain.” *Comparative Politics*, 25(3): 275–296.
- Hall, P. A., & Soskice, D. (2001). *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*. Oxford, UK: Oxford University Press.
- Hamilton, A. (1913). *Report on manufactures: communication to the House of Representatives, December 5, 1791*. (R. Smoot, Ed.). Accessed from <http://books.google.com/books?id=gCk5AAAAMAAJ&lpg>, 8 November 2014.
- Hausmann, R., & Rodrik, D. (2003). “Economic development as self-discovery.” *Journal of Development Economics*, 72(2): 603–633.
- Hirschman, A. O. (1968). “The Political Economy of Import-Substituting Industrialization in Latin America.” *The Quarterly Journal of Economics*, 82(1): 1–32.
- Jaffee, S., & Masakure, O. (2005). “Strategic use of private standards to enhance international competitiveness: Vegetable exports from Kenya and elsewhere.” *Food Policy*, 30(3): 316–333.
- Jankowska, A., Nagengast, A., & Perea, J. R. (2012). “The Middle-Income Trap: Comparing Asian and Latin American Experiences,” OECD Development Centre Policy Insights, #96, Paris: OECD Publishing.

- Jonas, S. (1991). *The Battle For Guatemala: Rebels, Death Squads, And U.S. Power*. Boulder, CO: Westview Press.
- Katz, J. (2001). *Structural Reforms, Productivity and Technological Change in Latin America*. Libros de CEPAL #64. Santiago, Chile: United Nations Economic Commission for Latin American and the Caribbean.
- Kuczynski, P.-P., & Williamson, J. (Eds.). (2003). *After the Washington Consensus: Restarting Growth and Reform in Latin America*. Washington, DC: Peterson Institute.
- Lane, D. (2005). "Emerging Varieties of Capitalism in Former State Socialist Societies." *Competition & Change*, 9(3): 227–247.
- Leguizamón, F., Berríos, L. N., & Ayca, J. (2002). *Fuentes de éxito competitivo de pequeños empresarios rurales en Nicaragua*. [Sources of Competitive Success for small rural firms in Nicaragua.] Accessed at <https://www.incae.edu/EN/clacds/publicaciones/pdf/cen1502.pdf>, 8 November 2014.
- List, F., & Colwell, S. (1856). *National System of Political Economy*. J. B. Lippincott & Company. Accessed at <https://archive.org/details/nationalsystem00colwgoog>, 8 November 2014.
- Locke, R., Amengual, M., & Mangla, A. (2009). "Virtue out of Necessity? Compliance, Commitment, and the Improvement of Labor Conditions in Global Supply Chains." *Politics & Society*, 37(3): 319–351.
- Mazzucato, M. (2013). *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*. London: Anthem Press.
- Molina Calderon, J. (2005). *De Trapiche a Ingenio: La Aventura de una Empresa Familiar*. Guatemala: G&T Continental.
- Moreno-Brid, J. C., Pérez Caldentey, E., & Ruíz Nápoles, P. (2005). "The Washington Consensus: A Latin American Perspective Fifteen Years Later." *Journal of Post Keynesian Economic*, 27(2): 345–65.
- Natras, N. (2014). "A South African Variety of Capitalism?" *New Political Economy*, 19(1): 56–78.
- Nölke, A., & Vliegthart, A. (2009). "Enlarging the Varieties of Capitalism: The Emergence of Dependent Market Economies in East Central Europe." *World Politics*, 61(4): 670–702.
- Oglesby, E. A. (2002). "Politics at Work: Elites, Labor and Agrarian Modernization in Guatemala, 1980-2000," Ph.D. Dissertation, University of California, Berkeley.
- Pack, H., & Saggi, K. (2006). Is There a Case for Industrial Policy? A Critical Survey. *The World Bank Research Observer*, 21(2), 267–297.

- Paus, E. (2012). Confronting the Middle Income Trap: Insights from Small Latecomers. *Studies in Comparative International Development*, 47(2), 115–138.
- Paus, E. (2014). “Latin America and The Middle-Income Trap,” ECLAC Financing for Development Series # 250. Santiago, Chile: United Nations Economic Commission for Latin American and the Caribbean.
- Perez-Aleman, P. (2011). “Collective Learning in Global Diffusion: Spreading Quality Standards in a Developing Country Cluster.” *Organization Science*, 22(1): 173–189
- Perez-Aleman, P. (2013). “Regulation in the Process of Building Capabilities: Strengthening Competitiveness While Improving Food Safety and Environmental Sustainability in Nicaragua.” *Politics & Society*, 41(4): 589–620.
- Perry, G., Maloney, W., Arias, O., Fajnzylber, P., Mason, A., & Saavedra-Chanduvi, J. (2007). *Informality: Exit and Exclusion*. Washington, DC: The World Bank.
- Piore, M. J., & Schrank, A. (2008). “Toward managed flexibility: The revival of labour inspection in the Latin world.” *International Labour Review*, 147(1): 1–23.
- Pipkin, S. (2011). “Local Means in Value Chain Ends: Dynamics of Product and Social Upgrading in Apparel Manufacturing in Guatemala and Colombia.” *World Development*, 39(12), 2119–2131.
- Pires, R. (2008). “Promoting sustainable compliance: Styles of labour inspection and compliance outcomes in Brazil.” *International Labour Review*, 147(2-3): 199–229.
- Polanyi, K. (2001 [1944]). *The Great Transformation: The Political and Economic Origins of Our Time*. Boston, MA: Beacon Press.
- Porrás, G. (2009). *Las huellas de Guatemala* [The Traces of Guatemala]. Guatemala: F&G Editores
- Prebisch, P. (1950). “The Economic development of Latin America, and its principal problems. ” *Lake Success*: N.Y., United Nations, Department of Economic Affairs.
- Ragin, C. C. (1987). *The comparative method : Moving beyond qualitative and quantitative strategies*. University of California Press.
- Rodrik, D. (2004). “Industrial Policy for the Twenty-First Century.” Harvard Kennedy School of Government Working Paper No. RWP04-047. Accessed at <http://ssrn.com/abstract=617544>, 8 November 2014.
- Rodrik, D. (2006). “Goodbye Washington Consensus, Hello Washington Confusion? A Review of the World Bank’s Economic Growth in the 1990s: Learning from a Decade of Reform.” *Journal of Economic Literature*, 44(4): 973–987.

- Sabel, C. (2012). "Self-Discovery as a Coordination Problem." In C. Sabel, E. Fernandez-Arias, R. Hausmann, A. Rodriguez-Clare, & E. Stein (Eds.), *Export Pioneers in Latin America* (pp. 1–46). Rochester, NY: Social Science Research Network.
- Sabel, C., Fernandez-Arias, E., Hausmann, R., Rodriguez-Clare, A., & Stein, E. (2012). *Export Pioneers in Latin America* Washington, DC: Inter-American Development Bank.
- Sánchez, A.M. (2011) "El Sector Textil/Confección en Colombia: Retos y Oportunidades." [The Textile/Apparel Production Sector in Colombia: Challenges and Opportunities.] Inexmoda, Colombia.
- Schneider, B. R. (1998). "Elusive Synergy: Business-Government Relations and Development." *Comparative Politics*, 31(1): 101–122.
- (2009). "Hierarchical Market Economies and Varieties of Capitalism in Latin America." *Journal of Latin American Studies*, 41(03): 553–575.
- (2013). *Hierarchical Capitalism Latin America Business Labor And Challenges Equitable Development*. New York: Cambridge University Press.
- (2015). *Designing Industrial Policy in Latin America: Business-State Relations and the New Developmentalism*. Palgrave Macmillan.
- Schrank, A. (2004). "Ready-to-Wear Development? Foreign Investment, Technology Transfer, and Learning by Watching in the Apparel Trade." *Social Forces*, 83(1): 123–156.
- Schrank, A. (Ed.). (2013). Rewarding Regulation in Latin America [Special Issue]. *Politics & Society*, 41(4).
- Simon, H. A. (1997 [1947]). *Administrative Behavior, 4th Edition*. New York: Free Press.
- Simon, H. A. (1959). Theories of Decision-Making in Economics and Behavioral Science. *The American Economic Review*, 49(3), 253–283.
- Stiglitz, J. (2008). "Is There a Post-Washington Consensus Consensus?" In N. Serra & J. Stiglitz (Eds.), *The Washington Consensus reconsidered: towards a new global governance* Oxford, UK: Oxford University Press, pp. 41–56.
- Stiglitz, J. E., Esteban, J., & Yifu, J. L. (2013). *The Industrial Policy Revolution I: The Role of Government Beyond Ideology*. International Economic Association Series New York: Palgrave Macmillan.
- Stiglitz, J. E., Lin, J. Y., & Monga, C. (2013). *The Rejuvenation of Industrial Policy* (SSRN Scholarly Paper No. ID 2333944). Rochester, NY: Social Science Research Network.

- Tendler, J. (1998). *Good Government in the Tropics*. Baltimore, MD: The Johns Hopkins University Press.
- United States Department of Agriculture. (2012). "Sugar and Sweeteners: Recommended Data." Accessed from <http://www.ers.usda.gov/data-products/sugar-and-sweeteners-yearbook-tables.aspx>, 8 November 2014.
- Urrutia, M. (1994). "Colombia." In J. Williamson (Ed.), *The Political Economy of Policy Reform* Washington, DC: Institute for International Economics, pp. 285–315.
- Wade, R. (2010). "Is the Globalization Consensus Dead?" *Antipode*, 41, 142–165.
- (2012). "Return of industrial policy?" *International Review of Applied Economics*, 26(2), 223–239.
- Wagner, R. (2007). *Historia Del Azúcar en Guatemala* [History of Sugar in Guatemala.] Asociación de Azucareros de Guatemala.
- Wilson, D., & Purushothaman, R. (2003). *Dreaming with BRICs: The Path to 2050*. Goldman Sachs Global Economics Paper #99, Accessed from <http://www.goldmansachs.com/korea/ideas/brics/99-dreaming.pdf>, 8 November 2014.
- World Bank. (2005). *Economic Growth in the 1990s: Learning from a Decade of Reform*. Washington, DC: The World Bank.
- World Bank Open Data*. (2014). Retrieved from <http://data.worldbank.org/>
- Yin, R. K. (1989 [1984]). *Case Study Research: Design and Methods*. Newbury Park, Calif.: SAGE Publications, Inc.

Table 1: Indicators of inertial business environments in Latin America and case study countries

Country/Aggregate	Domestic Credit to Private Sector (%GDP 2010)	Research and Development Expenditure (%GDP 2005)
High income OECD	166.3	2.36
East Asia & Pacific (all income levels)	136.8	2.51
East Asia & Pacific (developing only)	116.3	1.2
Latin America & Caribbean	40.5	0.62
Colombia	43.8	0.16
Guatemala	23.35	0.035
Nicaragua	25.32	No data

Source: World Bank Jobs Database, 2014

Table 2: Field research for the five cases included in this paper

Case	Time period of research	Months in the field	Number of interviewees	Documentary followup?
Guatemalan apparel	Winter 2004 – Spring 2006	5	46	Y
Colombian apparel	Summer 2007	3	25	Y
Guatemalan sugar	Summer 2010- Spring 2011	4	37	Y
Nicaraguan cattle rancher associations*	Fall 2012-Spring 2013	5	59	N
Nicaraguan-based Salvadorian cheese processors*				
TOTAL		17	167	

*Research on the Nicaraguan cattle rancher associations and the Nicaraguan-based Salvadorian cheese producers was conducted simultaneously.

Table 3. Overview of the cases

	Civil Society Shock Industrial Relations Search	Demand Shock Niche-seeking	Competitiveness/ Supply Shock Production Systems Search
Guatemalan sugar	Y Y	Y Y	Y Y
Guatemalan apparel	Y Y	Y Y	Y Y
Nicaraguan dairy – cattle rancher associations	Y* Y*	Y Y	Y Y
Nicaraguan dairy – Salvadoran-owned	N N	Y Y	Y Y
Colombian apparel	N N	Y Y	N N

Y: Yes

N: No

*: A form of pressure was indirectly felt (i.e. via an intermediary)

Table 4. Summary of the environmental shocks, by type

Case	Demand shock	Supply shock	Civil society shock
Guatemalan sugar mills	Domestic economic recession, falling international demand and prices, collapse of U.S. quota market	Growing number of mills increases competition for inputs, markets	Mill worker, cane cutter and guerrilla mobilization in national context of civil disarray
Guatemalan apparel plants	Domestic economic recession (1980s), changing international trade regime (1990s)	Korean manufacturers hold early advantage through higher capital investment and productivity (1980s and 1990s); rapid rise of low-wage Asian producers increases international competition (mid-1990s)	Social pressures of forced migration and urban underclass motivate creation of firms (1980s); investigations and scrutiny from Labor Ministry in 1980s/90s
Nicaraguan cattle rancher associations	Domestic recession, collapse of stable, subsidized market	Growing number of dairy ranchers lead to oversupply in early 1990s	Indirect: pro-Sandinista foreign aid agency requirements
Nicaraguan Salvadorian-owned cheese plants	Rapid tightening of main market due to new government regulations	Growing number of processing plants increases competition for high quality raw milk, Salvadorian market	None
Colombian apparel plants	Rapid market liberalization (late 80s/early 90s) bleeds into restructuring of global apparel market (1990s)	None	None

--	--	--	--

Table 5: Approaches to “new industrial policy”

	Self-discovery	Political economy of capabilities	Vulnerability-induced search
Example sources	Hausmann and Rodrik (2003), Rodrik (2004)	Cimoli, Dosi and Stiglitz (2009)	This paper
Origin of problem	Costs of risk-taking	Coordination costs of developing organizational capacity	Business satisficing in “inertial” political economies
Locus of problem	States’ learning to get incentives right for firms	“National innovation systems” of state and market institutions	Firm-level aspirations and search behavior
Examples of policy intervention	High-level dialogues; subsidized credit; state-supported research and education	Wide-ranging, with special emphasis on competition policy; intellectual property policy; trade policy; state-supported research and education	Public procurement; assistance, rewards and penalties for meeting public and private standards; best-practice dissemination; concertation with civil society
Role of the state	Elicit information	Reduce coordination costs	Anticipate vulnerability

Figures

Figure 1. The Five Cases: Vulnerability shocks and searches