The Politics of Institutional Renovation and Economic Upgrading: Recombining the Vines That Bind in Argentina

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Through a comparative, longitudinal analysis of the wine industry in two Argentine provinces, this article finds that different political approaches to reform and not simply socioeconomic endowments determine the ability of societies to build new institutions for economic upgrading. A "depoliticization" approach emphasizes the imposition of arm's-length incentives by a powerful, insulated government but exacerbates social fragmentation and impedes upgrading. A "participatory restructuring" approach promotes the creation and maintenance of new public-private institutions for upgrading via rules of inclusive membership and multiparty, deliberative governance. This latter approach can facilitate collaboration and knowledge creation among the government and previously isolated, even antagonistic, stakeholder groups.

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Scholars of economic development increasingly argue that growth and international competitiveness depend on the ability of a society to upgrade its firms

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and industries—a shift from lower- to higher-value economic activities by using local innovative capacities to make continuous improvements in processes, products, and functions. Since the acquisition of new firm level capabilities depends often on collective resources and coordination, these innovative capacities are mainly a function of local constellations of interfirm networks and institutions.[1] Yet, as is evident in current debates about the origins and change in institutions, the developmental state, clusters, and socioeconomic networks, it is less clear how public and private actors forge such constellations in the first place. This is a notable concern for regions such as Latin America, where the history of failed development often points to a lack of the requisite social and institutional preconditions.[2]

Analysis of the Argentine wine sector may be especially helpful here. On one hand, Argentina is typically known for its dysfunctional social capital and institutions, and its wine industry has a long history of backwardness and virtually no international presence. On the other hand, the Argentine wine sector witnessed a turnaround in the 1990s and now accounts for almost 3 percent of the over $14 billion global wine market. In particular, the divergent upgrading paths of the dominant, neighboring winemaking provinces of Mendoza and San Juan offer a unique opportunity to use a longitudinal, subnational comparative analysis to evaluate the determinants of more or less successful attempts to create new innovative capacities.[3] Mendoza has captured the disproportionate share of exports by building in the 1990s a new constellation of institutions and networks that support sustained improvements in processes and products in a wide variety of firms. In contrast, San Juan has been a laggard in upgrading its wine and grapes, despite advancing policies that did usher in large amounts of new investment. Moreover, the institutional model pioneered by Mendoza is being replicated at the national level. In 2004, the Argentine government signed into law a strategic wine sector policy that is self-financing and is governed by a nonstate body composed of representatives from relevant business associations, research institutions, and provincial and federal ministries. The policy and governance structure are arguably without precedent in a country known for the executive imposing of protectionist policies that end up draining the budget and benefiting a few elites.[4]

What types of institutional innovations contributed to the upgrading in Mendoza? How did the policy-making process in Mendoza enable public and private actors to build these new institutions and networks in the 1990s, when they were unable previously and while those in San Juan could not?

This article argues that changes in upgrading and institutions are not wholly determined by pre-existing conditions but rather by different political approaches to reform that are prior to and broader than particular policies. They are strategies governments use to construct policy-making power that define the mechanisms linking the functioning of institutions with a logic of change. In identifying the spectrum of these approaches, one can clarify how the construction of political power can lead the empowerment of multiple actors toward adaptive, coordinated economic development instead of toward paralysis.[5]

A government may choose what I call a "depoliticization" or "top down" approach, which aims to insulate centralized policy making and quickly impose new rules based on high powered economic incentives. It may also choose what I call a "participatory restructuring" approach, which aims to embed the state and policy making in society in new ways via the construction of new public-private institutions. This approach rests on two key principles of participatory governance[6]: (1) empowering a variety of public agencies and socioeconomic groups to participate in policy making and institution building and (2) requiring the public and private actors to govern jointly the new institutions according to rules that induce collective problem solving and mutual monitoring.

The former approach understands institutional change as epochal, whereby the state can and should insulate itself from society to impose the optimal new designs for the economy. It may initially stimulate investment but will tend to impede upgrading, since it undermines collective action and keeps the past disproportionate distribution of resources. In contrast, the latter approach understands upgrading and institutional change as incremental processes in which the relevant firms, associations, and public actors jointly experiment with new roles and rules. In this view, the government is attempting simultaneously to redefine the boundary between the public and private domains and to recombine the relative power and social ties among firms and their associations. By constructing new public-private institutions with participatory governance principles, the government can bring together previously disparate and even antagonistic groups in new ways so as to foster collective learning and monitoring and thus new innovative capacities for upgrading.

Section I lays out the theoretical underpinnings of this argument. Section II reviews upgrading in the Argentine wine industry. In the 1990s, Mendoza became a leader in initiating and sustaining coordinated, decentralized product and process experiments across a wide variety of firms, microclimates, and products, while San Juan lagged far behind. Section III compares the two provinces, showing how inherited social and economic endowments alone cannot explain the divergent outcomes. In particular, local, inherited social and professional ties may stimulate new forms of collective learning, but their exclusionary principles can also thwart broad-based upgrading and collective action. Sections IV and V analyze the different political approaches by the governments of the two provinces in confronting the general economic turbulence and growing crisis in the wine sector in the late 1980s. San Juan's depoliticization approach impeded the creation of new institutional resources for upgrading by exacerbating conflicts among the government and key sectoral associations. Mendoza's participatory restructuring approach fostered new public-private institutions that helped overcome these conflicts. During a ten-year period and not necessarily by grand design, the government created and governed these institutions jointly with relevant sectoral associations. The institutions, in turn, provided new upgrading resources such as training, R&D, insurance, and export promotion as well as helped firms learn from one another's process and product experiments.[7]

I. LINKING THE MACRO AND THE MICRO FOR CHANGE AND GROWTH

Grounded in evolutionary and relational views of the firm, the research on economic upgrading in the developing world suggests that the incremental creation of new capabilities occurs through firms' accessing certain supply-side, collective resources (such as training, R&D, and databases of best practices) and learning from one another's process and product experiments.[8] There are two broad views about how a society comes to acquire the institutions and socioeconomic networks that compose these innovative capacities.

The "bottom up" approach emphasizes the continuity of social forces and a rather ambiguous role of politics and the state. Upgrading is likely to occur in societies historically rich in networks and associations that provide the social ties, norms, and resources that enable individuals to cooperate in the provision of collective goods and diffusion of knowledge. Scholars may argue about whether the origins and reproduction of the social structure come from repeated interactions among individuals facing common externalities, deep traditions of civic mindedness and kinship, or past sociopolitical conflicts.[9] But they share the view that these social forces are enduring and that at the limit, the public rules, policies, and institutions are essentially the formal manifestations of the attendant social norms and structure. Government receives and enforces the game but rarely defines it autonomously.

In contrast, the "top down" or "depoliticization" approach envisions a much more active role for politics and government. The state is the force for epochal change and the creator of well-defined public goods and incentives that spur upgrading. During periods of crisis, governments have the political space to insulate a strong, coherent policy-making apparatus from particularistic interests that can design and impose rapidly a new set of rules and institutions on society. Whether one emphasizes rapid market liberalization and private property rights or strategic interventions into industries, the new rules are based largely on high powered economic incentives that will guide firms to make the necessary investments into new technologies and capabilities.[10]

These literatures have improved our understanding of the conditions for growth and innovation, but their two common weaknesses in specifying how new innovative capacities emerge points to an alternative approach. First, it is unclear how governments come to know which public goods, incentives, and institutions are optimal and how it should provide them. Scholars of development have shown that governments in backward societies often do not have the knowledge, skills, and resources to design and implement needed policies on their own. Rather, change can begin with the state incorporating a variety of socioeconomic groups into the policy-making process and empowering them to experiment with new policies and institutional forms. Here, the state is still a vital actor for providing key resources and incentives, but its role is also to construct a process that helps the participants learn from and monitor one another.[11]

Second, both views tend to reify interests and social groups in such ways as make them functional, binary, and immutable to change. For instance, although a society may contain a plethora of, say, professional associations, the attendant social ties and norms that can promote collaboration and collective learning can also be self-limiting and exclusionary. To the extent that these groups have different needs and resources, are relatively isolated, and are not incorporated into more encompassing institutions, a diverse socioeconomic environment can easily produce a balkanized society that thwarts broad-based innovation, knowledge diffusion, and concerted action.[12] The converse is that political approaches to reform can recombine the ties and resources of relevant socioeconomic groups, as the government redefines the boundary between the public and private domains and instigates the construction of more encompassing institutions.

An alternative approach that appreciates both the role of government in instigating change and the social embeddedness of economic activity is what I call "participatory restructuring." This approach enables societies to break out of low equilibrium traps by building public-private institutions to provide new services and programs for relevant firms and their associations. Effective creation of these institutions occurs when (1) reforms to resolving crises are used to empower a variety of public agencies and socioeconomic groups (i.e., relevant sectoral associations) to participate in policy making and institution building and when (2) participation by relevant public and private actors is guided by rules of inclusive membership and of multiparty governance that induce deliberation and collective problem solving.

A growing literature in development and policy reform highlights these principles as effective mechanisms in limiting capture by existing privileged groups, and in turn, improving the prospect of more effective institutional innovations. Research on Latin American political economy shows that even resource constrained governments can break the status quo by granting a variety of associations and cooperatives, especially ones of previously marginalized groups, new access to public resources, and policy making. While this access can be a strong incentive for groups to join the new project, rules of inclusive participation in the formation of new institutions and programs can create new forms of countervailing power as well as new social and professional ties among previously isolated, even antagonistic socioeconomic groups and the state.[13]

Research on deliberative forms of policy making suggests that multiparty governance of the new institutions by the government and relevant associations not only can make the state and the institutions more responsive to the needs of firms and their representatives but also can force the public and private actors to act with deference to one another.[14] Multiparty governance can be direct, whereby participants have equal voting rights and use majority decision making, as well as indirect, whereby constituent groups (e.g., relevant associations and municipalities) sit on influential but nonbinding advisory boards. To the extent that the governance rules push participants to jointly define objectives, evaluate results, and decide on the next measures to be taken by the nascent institutions, principles of deliberation can take hold, even if complete consensus is not required. As participants attempt to justify their interests and opinions, they increasingly reveal private information to one another. The public and private actors can then better assess one another's actions, the needed changes in services, and the terms under which they may increase their resource contributions. In turn, multiparty, participatory governance provides direct feedback loops, increases information flows, and builds confidence.

Combining empowered inclusion with multiparty governance can trigger incremental processes of recombination and collective problem solving. On the one hand, these processes can lead previously antagonistic groups to identify points of common interest, compromise, and improve mutual monitoring. On the other hand, they have been shown to induce new strategies and capabilities at both firm and policy-making levels by improving the exchange of resources and tacit knowledge. As participating associations and their constituent firms see the benefits of collaboration through the institutions, they are likely to build broader strategic considerations on top of their past rent-seeking, mutual hold-up instincts.[15] Subsequently, the state is not necessarily hallowed out but has potentially greater capacity, as services and programs for firms are delivered by the new institutions.

By viewing upgrading paths as products of different political approaches to reform rather than functions of inherited endowments or designs, one can clarify how the organization of policy-making power can shape new, divergent paths of economic and institutional development in neighboring provinces with long histories of backwardness. San Juan in many ways exemplified the top down or depoliticization approach by emphasizing an insulated central government designing and imposing on society new rules based on arm's-length economic incentives. This approach may foster new capital investment but not upgrading, as there are no encompassing structures for increasingly fragmented stakeholder groups to interact in new ways. Indeed, the benefits of such an approach can likely accrue to existing privileged elites. Mendoza appeared to follow the participatory restructuring approach, as the government began to incorporate a variety of stakeholder groups into policy making. By jointly creating and governing new institutions with relevant sectoral associations, it initiated a recombination of the substantive and structural ties among these groups and itself and helped foster new innovative capacities for upgrading.

II. THE TRANSFORMATION OF THE ARGENTINE WINE INDUSTRY AND THE CHALLENGE OF UPGRADING

"Can Argentina fulfill its potential and produce world-class wines? The answer is an emphatic yes." (*Wine Spectator*, March 24, 2003)

Through the 1980s, Argentina produced large volumes of low-quality wine and grapes for the domestic market. Mendoza and San Juan had a few large firms, several hundred small and medium-size wineries, and thousands of small grape producers (all privately owned). The industry was highly distorted from regulations such as price controls, subsidies, and output quotas as well as the purchasing practices of each province's state owned winery. In the mid-1980s, the industry suffered a series of crises with hyperinflation, negative growth, and heavy losses.[16] These regulations were eliminated with the administration of President Carlos Menem (1989-99) and its pro-market reforms of price, investment, and trade liberalization; restrictive fiscal policies; and a currency board supporting an overvalued Peso.

By the end of the 1990s, the Argentine wine sector, though still very dependent on domestic sales, had undergone a profound transformation. Wine exports grew from a few million dollars in 1990 to 1.5 percent of the world market even at the height of Peso overvaluation to almost 3 percent of the world market, or about $250 million in 2004 (see Figure 1.) These gains came not only from comparative costs but especially from consistent advancements in product quality and innovation. First, Argentine vineyards gradually improved the quality of grapes. Varietals of high enological value vastly increased their shares of vine surface area—from about 20 percent in 1990 to about 43 percent in 2001. Second, wine quality improved, with the vast majority of wine exports (85 percent) coming from fine wines and sold in sophisticated, competitive markets such as the United States, European Union, and Japan. Average export prices per bottle dramatically increased, and the top wine magazines were ranking an ever growing number of Argentine wines among the world's elite.[17] Lastly, rather than just improve the quality and volumes of standard varietals (e.g., cabernet, merlot, etc.), Argentine firms focused on producing a greater variety of new products, such as previously undervalued varietals (e.g., Malbec, Torrontes), "redesigned" varietals from other specialized regions of the world (e.g., Tempranillo, Bonarda), and distinctive blends.[18]

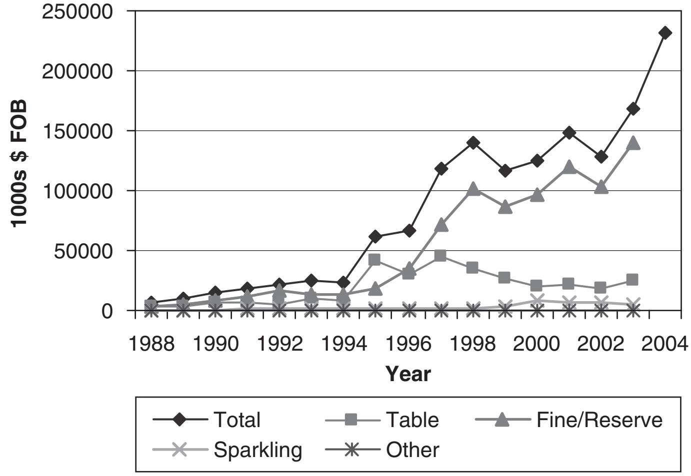

Figure 1. The Growth of Argentine wine exports (by value).
Source: INV, author's calculations.

This shift in Argentina came not simply from new technology or market access but mainly from firms' acquiring new capabilities in coordinating multiple, continuous process and product experiments across a variety of organizations and microclimates. Upgrading in wine and grapes is highly time-consuming—any new vine takes two to three years to yield testable results, and any quality and taste modification to grape growing takes eighteen to twenty-four months. It begins with transforming the middle and upstream segments of the value chain: state-of-the-art quality control and product development running from vine planting to careful vineyard maintenance to flawless harvests to fermentation and blending. Enologists work closely with agronomists and growers to introduce and experiment with new modes of growing, pruning, sanitizing, and watering with new and old varietals and clones of grapes. They then test, for instance, different types of indigenous yeasts and enzymes as well as methods of refrigeration, processing, and storage to optimally ferment the wine and elicit the grape's flavors and aromas. These actors develop new systems to carefully document practices and products and evaluate the results over time and space. Because of the variation in climates, soils, varietals, and clones, experimentation is contextualized, knowledge is often tacit, and dissemination is necessarily social and interactive. In turn, firms gain new skills about growing and fermentation, adapting international standards, and coordinating experiments via institutional resources (e.g., training, R&D, databases) and complex interfirm networks.[19]

Table 1A
Wine Industry Data for Mendoza and San Juan

	Year	Mendoza	San Juan
Winemaking/industrial output	1994	.211	.265
Mfg industry/GDP	1993	.19	.247
Agro/GDP	1993	.085	.111
SME Mfg Index[a]	1994	0.9	0.8
Province's share of national wine production	1990	66.55%	24.88%
	2000	61.07%	31.06%
Province's share of grapevine area	1990	69.74%	21.94%
	2001	70.08%	22.51%
Province's share of wine exports	Avg. 2000–03	90.62%	6.40%
Number of wineries	2004	683	169
Number of vineyards	1991	19,661	9,032
	2001	16,196	6,086
Hectares of vineyards	1991	145,651	46,100
	2001	144,886.5	52,226.3
% of total hectares by vineyards of <50 hectares	2001	76.5%	76%

Source: National Statistical Office of Argentina and INV; author's calculations.
a. Ratio of the Small- and Medium-size Enterprise (SME) manufacturing intensity of the province as compared to the national average. See Observatorio Permanente de las PyMIs Argentinas, *La Nueva Geografía Industrial Argentina* (Buenos Aires: Union Industrial Argentina, 2002).

Relative to San Juan, however, Mendoza became the leader of this transformation. As shown in Table 1A, Mendoza accounts for a highly disproportional share of Argentina's wine exports, while San Juan underperforms. As of 2002, 65 percent of the Mendoza harvest and only 26 percent of the San Juan harvest were classified as composed of high- and medium-quality grapes.[20] But just how Mendoza firms achieved incremental, relational-based innovation is less clear. Firms, particularly with limited resources and backward traditions, are less likely to invest in new capabilities and share vital information because of the uncertainty of future returns and the experimental process itself. This uncertainty and the attendant problems of collective action and coordination were all the more exacerbated in Mendoza and San Juan because of the wide variety of growing conditions, varietals, and firm size and strategies.

First, Mendoza and San Juan have about 100 microclimates with the potential to support at least twelve red and white varietals of medium and high value. Second, grape production and wine making remained relatively deconcentrated and decentralized despite some consolidation in the 1990s. Despite the asset specific nature of grape development, grape production in both provinces takes place in thousands of relatively small vineyards, with ownership concentration very low and subcontracting reaching 70 percent of a winery's needs (see also Table 1A).[21] Similarly, Mendoza and San Juan still have more than 680 and 170 wineries, respectively. As of 2004, there were about 300 firms that exported wine, with the top five firms accounting for about 40 percent of total wine export sales and the top 20 for about 70 percent.

Third, wineries in Mendoza and San Juan are noted for their variety of organizational forms and strategies. No firms are publicly listed, most are small and medium-sized family firms and partnerships, about 10 percent are cooperatives, and very few are controlled by Argentine business groups or foreign investors.[22] The seven companies (two of which are cooperatives) that account for 80 percent of cheap table wine have also diversified in economically priced fine wine. About half of fine wine output and most fine wine exports come from midsize premium wineries that used to focus mainly on cheap table wine. The rest of fine wine production and exports comes from large diversified wineries and small boutique wineries.

Hence, how can one account for the ability of Mendoza to promote broad-based upgrading and exploit variety rather than be paralyzed by it? More specifically, how did Mendoza solve the coordination and collective action problems of building new innovative capacities, when it was unable to do so before the 1990s and while San Juan remained an upgrading laggard in the 1990s?

III. MENDOZA VERSUS SAN JUAN—INHERITED RESOURCES AS INDETERMINATE TO UPGRADING

Given the market liberalization policies of the Menem administration, explanations of the different paths often rely on the determinate power of different inherited endowments of social and economic resources. There are four main versions.

The first version would argue that variation in upgrading is due to pre-existing differences in natural and economic resources. This determinism is undermined in three ways. First, industry experts note that both provinces have a great variety of microclimates, which on average are similar. Moreover, upgrading had spread to large zones (subregions) of Mendoza such as the *Zona Este* and *Zona Sur*, which were historically designated as backward and with substandard climates and soils.[23] Second, the structure and relative importance of the industry and manufacturing in general are proportionately similar for both provinces, as mentioned earlier and revealed in Table 1A. Moreover, as of 1993, small and medium-size wineries (with capacity of less than 200,000 hl) accounted for 91.7 percent and 91.5 percent of wineries in Mendoza and San Juan, respectively.[24] Third, although one could argue that Mendoza was relatively richer per capita, the differences in general resources available were not as great. Not only do

Table 1B
Basic Socioeconomic Data for Mendoza and San Juan

	Mendoza	San Juan	Argentina
Population (2000)	1,607,618	578,504	37,074,032
GDP/capita (1993)	$7,878	$4,571	$7,254
Average annual growth of GDP (1993–2000)	1.17%	1.04%	2.87%
Gini Coeff (2000)	0.375	0.378	0.491
Human Development Index (2000)	0.747	0.736	0.854
Deficit/GDP (1999)	3.40	2.30	1.89
Fiscal current account balance (Avg. 1996–1998)	–5%	4%	—
Unemployment Rate (Avg. 1993–1999)	5.90%	8.50%	13.93%

Source: National Statistical Office of Argentina, author's calculations.

indicators such as human development, wealth distribution, and fiscal management reveal no particular advantages for Mendoza (see Table 1B), but San Juan also was able to use large amounts of federal resources and divert significant amounts of investment and output from Mendoza in the 1980s and 1990s (see Section IV).

A second version is that Mendoza was ex ante endowed with better legal and electoral institutions. There are two limitations to this view. First, both provinces were subject to the same national industry regulations and the same national system of commercial law and property rights, which are not strong by international standards and which appear to be at times less secure in Mendoza than in San Juan. Moreover, contracts are also rarely used among wineries and grape growers in both provinces.[25] Second, the determinism of electoral institutions has itself conflicting versions and evidence. Some might argue that an executive with greater expectations of political security would invest in building new public goods, but San Juan's governor can be reelected and Mendoza's can not. Others might argue that better policies come from more competitive elections, but the results in these cases are indeterminate.[26] Moreover, the Peronist party controlled the executive of both provinces for most of the 1990s.

A third version would be that Mendoza entered the 1990s with a greater stock of human and knowledge resources such as well-trained and connected industry elites. There are two limitations to this sort of determinism. First, Mendoza did not have a relatively large number of licensed enologists, and the one program in the region (Facultad de Enologia Don Bosco in Mendoza) annually graduated no more than five enologists who were employed in both provinces. Second, although many of the first upgrading initiatives in Mendoza came from a few firms in the best climatic zone (*Zona Primera*) that were led by Argentines with foreign education and contacts, broad-based knowledge diffusion to more backward firms would not necessarily flow from vertical supply chains or consultants.[27] The combination of the experimental nature of agricultural upgrading and the diversity of microclimates limits the import of practices from one region to another even for the same varietal or clone. For instance, in the mid and late 1990s, several leading winemakers advised many of their suppliers to incorporate new water reduction grape growing methods from abroad. These had devastating consequences, since the method under local climate conditions "cooked" the grapes. The growers bore almost all of the losses themselves.[28] Several firms also acquired large amounts of debilitating debt in the 1990s because of overly ambitious technology acquisitions based on advice and cheap financing of the international equipment suppliers. In turn, diversity combined with uncertainty can impede knowledge diffusion and coordination via markets.

A fourth version would argue that Mendoza had already a superior stock and structure of social capital and associationalism that could mediate complex coordination under uncertainty. However, the conventional reasoning falls short. First, the stock argument appears indeterminate, since both provinces have about the same number of associations or nongovernmental organizations (NGOs) per 1,000 inhabitants, and indeed, San Juan had more cooperatives in agriculture. Second, through the 1980s, both provinces had similar structures of business and sectoral associations that battled for access to their respective provincial governments to play a zero-sum game over price supports and subsidies.[29]

This is not to say that the social fabric and structure of associations are unimportant variables. Prior social and professional experiences can be the basis of new forms of concerted, collective action. For instance, in 1990–1991, the elite firms of Mendoza's *Zona Primera* began organizing two main voluntary forms of collective learning based on past professional and local ties. A few CREA learning groups of eight to ten firms each allowed members to share the cost of a consultant and tacit knowledge as they addressed common problems of vineyard management. Annual label and wine evaluation competitions, such as EVICO, allowed participating firms to benchmark their products and learn from one another as well as panels of respected enologists.[30]

Nonetheless, these experiences also demonstrated their limitations in bridging the social and economic gaps between subregions of Mendoza, and thus, in creating and diffusing new knowledge. EVICO and the CREA groups were limited to the most elite wineries of the *Zona Primera* that viewed the other *Zonas* as incapable of producing fine varietals because of their apparent substandard economic, educational, and climate conditions. At the same time, winemakers of these "lesser" *Zonas* saw little to gain from those who always criticized their products and from discussions not focused on improving the kind of intermediate and low enological quality grapes that composed their wine supply chains. As a result, few took notice of the efforts of innovators such as La Agricola's Rodolfo Montenegro from the *Zona Este*. Rather than replacing old systems with newly imported ones, he adapted the "antiquated" high-yield orthogonal vine training systems (*parrales*) to produce high and intermediate quality grapes at higher than average yields, in turn innovating in both quality and cost. As Montenegro noted in the mid-1990s, "Most of the elite firms and their enologists are still focused too much on the *Zona Primera*, ignoring the productive potential of the areas like the *Zona Este*. There is still a lot of arrogance."[31]

In many ways, this dual nature of social structure, being both facilitating and exclusionary, reflects the research on other countries and industries.[32] The need for more specific knowledge and skills, coupled with regional prejudices and resource inequalities, can create barriers to the processes of aggregation and joint action that are vital for a broader sustainable base of innovation. But bridging these "structural holes" can be facilitated by government's helping to create more encompassing, inclusive structures, especially when they are not historically or organically given. Notice, then, that in this view, the challenge of coordination and knowledge diffusion becomes a sociopolitical problem beyond simply shifting public spending. It redirects the lens of comparative analysis away from inherited endowments and toward policy-making and institution-building processes that can recombine them in new ways.

IV. POLITICS AND THE EMERGENCE OF PUBLIC-PRIVATE INSTITUTIONS

A more fruitful comparative analysis, in turn, would focus on how the differences in the political approaches of Mendoza and San Juan to the crises of the late 1980s shaped both the creation and effectiveness of institutions supportive of upgrading. As the industry was caught in a downward spiral of overproduction, low prices, and insolvencies, the national and provincial governments could no longer afford the price supports or the maintenance of the insolvent state wineries. Moreover, the fiscal reforms launched by the Menem administration in 1990 legally restricted provincial governments from increasing public sector employment.[33]

This section shows how the different responses by the two governments shaped their roles in the economy and their provinces' diverging upgrading paths. The responses differed not only in terms of policy but also how they organized policy-making power. San Juan's response reflected the "depoliticization" or "top down" approach discussed in Section I. The government sought to insulate power by imposing rapidly new economic incentives that were to spur investment and innovation in the industry. Although the province did gain new investment, such an approach exacerbated conflicts among stakeholder groups and the government and impeded the creation of new aggregating structures that could improve coordination and the provision of new support services. In contrast, Mendoza's response reflected the "participatory restructuring" approach. The government incorporated an increasing variety of public agencies and sectoral associations into the policy-making process. This approach initially offered the government a new political strategy to gain support and better information for reforms. Over time, the government and the associations learned how to recombine resources and cogovern a set of new public-private institutions that would increase the variety and quantity of programs for upgrading. Section V, then, examines how these institutions helped the government and the relevant associations form new channels of communication and coordination and helped firms improve their skills and knowledge.

San Juan

San Juan's approach toward the wine industry was based largely on the use of arm's-length economic incentives implemented by a government with little consultation of major socioeconomic groups. In doing so, it aimed to make an abrupt shift from the past through unilateral action while using incentives to both maintain its insulation and hopefully stimulate market actors to invest and resolve the details of restructuring on their own. This pattern emerged with two main policies.

In the mid-1980s, government elected to sell its insolvent state-owned winery, Cavic, to local investors, brushing off protests from small and medium-size grape producers and wineries. The resulting company soon collapsed, and the government was forced to take it over and liquidate it. It then increasingly used investment incentives to induce restructuring in the agricultural sectors, especially wine and grapes. The most prominent was a federally supported tax incentive program for small, poorer provinces, which San Juan joined in 1983 but not Mendoza. After the program was suspended briefly and then renewed in 1991, San Juan participated actively, adding a special provision for the planting of fine wine grapes. Between 1990 and 2000, 424 firms invested just over $1 billion into agriculture under the program. Approximately 193 of these firms were committed to investing into wine and grape production, including upgrading more than 14,000 hectares, most of which have been for the development of fine grapes. Some estimate that these programs cost Mendoza $100 million to $200 million per year in production output from diverted investments.[34]

This approach had two major impacts on the wine industry and policy making in general. First, as argued by both independent researchers as well as the Ministry of Economy of San Juan itself, reliance on incentives for wine sector restructuring brought limited upgrading while increasing capital concentration.[35] The main beneficiaries were large firms, often from outside the province, with rather short-term interests that had limited knowledge or capacities in undertaking the time-consuming experiments for transforming vineyards and developing a broad base of capable grape suppliers. The dominant strategy of these firms was to acquire large vineyards (i.e., several hundred hectares), reduce suppliers, and upgrade via the import of new technologies for exploiting scale. The vast majority of existing firms were small and medium-size grape producers and wineries, which, in contrast, lacked the know-how and the capital to present viable projects and make the required investments. Their strategy was largely to continue with past practices that focused on the production of low quality, high volume products and on the use of the spot market to mediate supplier-customer relations. In turn, San Juan continued with cycles of over production and falling revenues, leading to both insolvencies and marginal investment in new practices.

The second impact was an exacerbation of fragmented, antagonistic interests. As smallholders came under increasing duress in the 1990s and business associations called for new small firm financial assistance programs, the government played interests off one another, referring them to the provision for small producers in the tax benefit program and to the few federal programs already operating in the province.[36] The associations, in turn, continued their previous lobbying games of years past, focusing on getting the government to intervene in the market on an ad hoc basis to improve the prices of grapes and wine. The result was growing mutual suspicion. As late as 1997, the largest grape-producer association of San Juan declared that the incorporation of new technologies and vineyard management techniques were attempts by the large, vertically integrated firms to cut labor costs and undermine the stability of smaller producers.[37]

Consequently, when San Juan had opportunities to support new institutional initiatives for stabilizing the industry and generating new upgrading resources, both the government and the associations balked at sustained collective action. For instance, in the early 1990s, the San Juan and Mendoza centers of INTA, the federal system of regional agriculture R&D and training institutes, petitioned the provincial governments and associations to participate in the governance and development of new programs in return for new sources of funding and information. A key extension program was Cambio Rural, a subsidized form of the previously discussed CREA groups, which aimed to have small, poorer firms learn new methods and standards from one another with the aid of expert consultants. The San Juan government and associations paid nominal interest to these opportunities, with each side demanding that the other put up the bulk of matching funds. Programs such as Cambio Rural suffered subsequently in the province, with San Juan's having one of the worst cost-benefit measures and lowest participation rates of all provinces, even when controlling for size.[38] In contrast, INTA Mendoza gained the active participation of its provincial actors and would thrive with many new programs and services, including Cambio Rural (see Section V).

Following an excessively harsh winter that caused great volatility in grape prices and great losses for firms, the Mendoza and San Juan government signed an agreement in 1993–1994 to build a new institution to help stabilize grape prices and to share new policies (and attendant resources) toward the wine sector. There were two key provisions—the gradual phasing out of any subsidies toward the production of wine grapes and the joint governance of the new institution, regulatory regime, and proposed policies by the two governments and relevant associations. While Mendoza would go on to implement the accord, San Juan never did.[39] Despite offering new resources, the phase out provision effectively would mean the end of applying San Juan's tax incentive scheme toward the wine sector, and thus force the government to revise its whole approach to the sector. At the same time, the government was highly suspicious of sharing policy control and resources with the Mendoza parties, let alone its own associations.

On three different occasions between 1989 and 1999, San Juan also attempted but failed to create a new provincial export agency. The first attempt was led by the peak-level economic federation of San Juan but failed when the sectoral associations could not reconcile their differences over priorities and cost-sharing. The second attempt remained an ineffective office in the Ministry of Economy, as the government refused to allow associations to participate in the governance of an agency that was financed with public funds. With growing influence from its neighbors, the San Juan government and associations agreed in 1998 to mimic Mendoza's public-private export agency, ProMendoza. This collapsed, however, in 1999, when a new party took control of the San Juan government and saw no need to share power and resources with the associations under terms it had not signed on to. In contrast, ProMendoza grew not only with changes in government but also with changes in ruling parties (see below).

In sum, San Juan's depoliticization approach to the crises of the late 1980s reinforced the boundary between state and society and the fragmentation of antagonistic stakeholder groups. As depicted in Figure 2, the government maintained arm's-length, vertical relationships with the relevant associations. There were virtually no horizontal ties between associations or government bodies, and with the exception of the peak-level Economic Federation of San Juan, no encompassing structures that could promote greater, regular direct interaction between the associations and coordination between the government and the sectoral interests.

At the same time, the restructuring policies based on economic incentives helped bring in new investment but did little to foster broad-based upgrading and only undermined attempts at creating new collective innovative capacities. Indeed, in its review of policies toward agricultural sectors, the San Juan Ministry of Economy concluded that no new policy innovations or institutional resources were created in the province during the 1990s, other than the aforementioned incentive scheme and the few meager federal programs, which remained heavily bureaucratic in state offices and unresponsive to the needs of the majority of firms.[40]

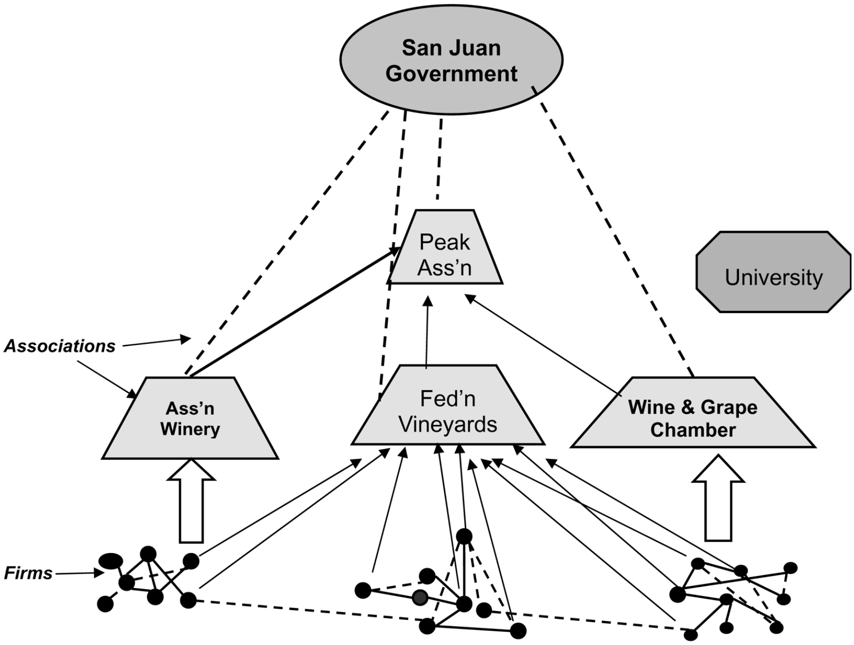

Figure 2. Policymaking and strategic ties in San Juan wine industry, 1989–2000.
Note: Solid black circles represent firms in different parts of San Juan. The arrows (large and small) at the bottom represent membership in an association. Dashed lines represent weaker links of contracting or communication than solid lines.

Mendoza

The political approach of Mendoza toward reform was based on the state empowering a wide variety of public and private actors to actively participate in resolving the crisis at hand and in building new institutions for the broader restructuring of the agricultural sectors. This was a gradual process that would span more than ten years. The first steps came when Jose Octavio Bordon of the Peronist Party was elected governor in 1987. With an opposing coalition still in control of the provincial legislature, Bordon sought to implement reforms in a way that would integrate a variety of stakeholder groups into the policy-making process and thus potentially give his party a broader coalition of interest groups.

As in San Juan, the most immediate crisis was the collapse of the province's state-owned winery, Giol, which produced more than 10 percent of the nation's wine and processed more than 15 percent of the province's grapes from more than 4,000 small and medium-sized grape suppliers.[41] The Bordon administration was wary of the poor privatization of Cavic in San Juan and was equally concerned about potential unrest among large business interests, labor unions, and the communities of its thousands of grape suppliers. The administration, in turn, reached out first to ACOVI, the Association of Wine Cooperatives, which was well established in both Mendoza and San Juan. Working with ACOVI gave the government a political partner with roots in many communities of small producers and an organizational partner to help transform Giol into a federation of cooperatives (Fecovita).

The government and the new Giol director, Eduardo Sancho (the former head of ACOVI), led a drive to incorporate stakeholders into the process while improving their organizational resources. The new Giol board included three members appointed by the governor, three elected "by the people," and one representing labor unions. The government and Giol organized a large publicity campaign, regularly consulted with the labor unions and the trade associations, and organized more than 300 community meetings. At the same time, government and Giol officials encouraged small farmers and winemakers to organize themselves into cooperatives by offering new credit programs, technical and legal advice, the leasing of Giol wineries to co-ops at special rates, and purchase guarantees as a transition policy. By the end of 1988, nine new cooperatives were formed, and within a few years, the new Fecovita had twenty-five new cooperatives that incorporated more than 1,500 of the original 4,000 grape suppliers of Giol.

The Fecovita experiment ignited economic and political changes in Mendoza. Restructuring the firm helped stabilize the industry in the short term and spurred a revival in the cooperative movement in the agriculture and wine sectors. Fecovita reduced its costs and improved its margins by spinning off unrelated assets, reducing employment, and investing in new technologies. As its profits grew and members gradually incorporated new standards and methods into their strategies (see below), Fecovita's collective management system demonstrated a viable alternative organizational form for traditional small grape growers to sustain their livelihood.[42] During the 1990s, the number of cooperatives in the wine sector grew by about 30 percent to fifty, which have more than 4,500 grape producers as members or dedicated suppliers. About 35 percent of the output of Mendoza cooperatives is now focused on premium and super-premium wines. In contrast, although San Juan had a significant cooperative sector in wine and grapes and more cooperatives in agriculture than Mendoza by 1988, its cooperative sector hardly grew in the 1990s.[43]

The transition period for Giol/Fecovita also allowed the government and nongovernment organizations to learn how to generate a greater number and variety of policy experiments. For instance, Giol effectively became a public-private partnership in which the government provided limited assistance in return for firms' restructuring certain assets, developing a system of cooperative management, and subjecting Fecovita to regular external audits. Mendoza would develop more than 75 programs and policies (from credits, to insurance to R&D, to food health standards and pest prevention) in the 1990s that have directly and indirectly assisted firms in the wine sector.[44] Virtually all programs were jointly developed and administered by partnerships between the government and approximately fifty nongovernmental organizations. This is in stark contrast to the meager, vertically created policy portfolio of San Juan discussed above.

In sum, the Bordon administration ushered in a policy-making approach that was different from both Mendoza's past and San Juan's present. Politically, by bringing in stakeholder groups and their associations from inception, the government was able to gain their confidence gradually in a reform process built on multiple parties' sharing in the creation as well as the risks and benefits of new policies. Reflecting recent discussions of quasi-corporatist and participatory approaches of policy reforms, the administration was linking together a reform of state in the economy with a renovation of the political relationships among itself and relevant interest groups.[45] These relationships became embedded in a dense public-private network of organizations that produced Mendoza's rich policy portfolio toward the wine industry by pooling information and resources while improving collective capacities to problem solve. The epicenter of this network was a set of new public-private institutions created in the 1990s. I now examine how the construction and governance of the most prominent of these improved the innovative capacities.

V. EXPERIMENTING WITH PUBLIC-PRIVATE INSTITUTIONS

As discussed in Section I, the participatory approach provides two principles that allow the process of institution building to redefine sociopolitical relationships among the state and stakeholder groups and to help solve the coordination and knowledge-diffusion problems. The rule of inclusion can potentially create a structural change in the recombination of resources and balance of power, as a variety of groups have the right to share in the risks and benefits as well as shape the new programs. Multiparty governance of the new institutions can induce collective problem solving, information exchange, mutual monitoring, and more responsive support programs through the iterative deliberations over the design and joint evaluation of programs.

Mendoza's approach reflected these principles. First, in confronting new strategic challenges, the government convened a variety of relevant associations to generate and jointly govern an institutional solution for which it would provide much of the vital resources. By offering formalized participation in governing the policy domain, the government offered the associations a strong incentive to come to the table to gain the benefits and not let them flow only to rival groups. By typically requiring inclusive membership, the government sought to create a broad coalition of policy supporters that could provide certain resources and information it alone lacked and could limit power imbalances of a few.

Second, the governance structure of the institutions provided both direct and indirect influence and obligations for the representatives of the participating bodies. Direct influence came from being a founding and governing member. Typically, the government (via, e.g., a ministry or agency) would have only one vote on a board of four to sixteen voting representatives, while majority votes carried the day. The statutes also clarified resource obligations, with the bulk of funds coming from the government and the associations' providing some in-kind (i.e., facilities, personnel) and financial resources. The boards were responsible for the review and approval of the annual budget and programs of the given institution. Indirect influence came from consultative advisory boards and resource contributions. But the institution could not simply ignore the concerns or proposals of advisory board members, since they typically represented associations or municipalities that were the constituents of the programs and were sources of in-kind contributions, service contracts, and financial support to additional operating funds.

We can see this pattern of institutional creation—incorporation of a variety of public and private actors to solve a collective problem and participatory governance provisions—in the most prominent institutions that contributed to upgrading in the wine sector in Mendoza. As shown in Table 2, they cut across the public and private domains in their legal form, membership, governance, funding, and missions and provided a variety of "supply-side" services and resources to firms in different sectors. They emerged as responses to overt crises, and later on, to strategic problems identified via the regular interactions between the associations and government.

In 1991, the federal government greatly decentralized and reduced the budgets of INTA.[46] INTA Mendoza gradually expanded its subregional (zonal) centers and required that the new councils and affiliated NGOs ("cooperadoras") be composed of representatives from relevant government agencies (provincial and municipal), associations, firms, and educational institutions. The Mendoza government had its agencies actively participate and encouraged the relevant associations and municipalities to do the same. While the governing council of INTA Mendoza approves budgets and programs by majority vote, members of the advisory councils regularly review and shape programs of the zonal centers. The federal government funds salaried personnel and overhead, while additional resources at all levels come from contributions by council members for certain programs, the *cooperadoras*, and service contracts. When a severe winter caused great volatility in grape prices and left thousands of small producers devastated in 1992–1993, Mendoza launched two initiatives. As discussed above, despite an agreement with San Juan, only Mendoza moved forward, with the government and the main wine and grape producer associations' creating the Fondo Vitivinicola to oversee the new regulatory regime and the implementation of new

Table 2
Leading Upgrading Support Institutions in Mendoza in the 1990s

Institution	Year of Creation or Restructuring	Governing Members	Activities	Resources	Legal Form
INTA Cuyo	1991	Govts of S Juan & Mza, 9 Agro Ass'ns, 2 Nat'l Univ's	Regional development plan, oversee budgets & activities of EEAs	National & provincial budgets	1 of 15 semi-autonomous Regional Centers; federal body in Sec. of Agro.
INTA EEAs	1991	Gov't of Mza, Munis. Agro Ass'ns, Nat'l and Prov'l Institutes and Univ's	R&D (inputs, plants, tech), extension training, consulting	Half—nat'l budget (salaries & overhead); half—services, alliances, gov't Mza, cooperadoras	Part of INTA Cuyo; 4 in Mza, 1 in SJ; Each has 1–4 AERs
Fondo Vitivinicola	1993–94	Gov't Mza, 11 wine/grape Ass'ns	Oversees new wine regulations, promotes wine industry/ marketing	Tax on firms from over produc'n of wine; govt matching funds	Public, nonstate, nonprofit entity
Fondo para la Transformacion y el Crecimiento (FTC)	1993–94	Min. of Economy, regional advisory councils	Subsidized loans and credit guarantees to SMEs for tech. against extreme weather & for grape conversion	Self-financing; initial capital from privatization of gas & oil reserves	Independent legal entity under authority of governor
Instituto Desarrollo Rural (IDR)	1994–95	36 founders—INTA Cuyo, Govt Mza, ISCAMEN, 2 peak ass'ns, various agro sectoral ass'ns	Technical info collection & dissemination; Database mgmt; R&D, training, consulting	Mza Gov't; services; gradual increase of fees from member ass'ns	Nonprofit foundation; with oversight by Min of Economy
Pro Mendoza	1995–96	Gov't Mza, 3 peak business associations	Export promotion—organize fairs, delegations, strategic information, training	Gov't Mza; Peak ass'ns; services	Nonprofit foundation

Note: INTA = Instituto Nacional de Tecnología Agropecuaria; EEA = Estaciones Experimentales (Subregional centers); AER = Rural Extension Agencies; Mza = Mendoza; ISCAMEN = Instituto de Sanidad y Calidad Agropecuaria Mendoza; Cooperadoras = Nonprofit NGOs; SME = Small- and Medium-size Enterprises.

wine marketing campaigns at home and abroad. The statutes explicitly name as founders and governing members eleven sectoral and zonal associations of Mendoza. The finances come from a tax for noncompliance of regulations limiting overproduction of wine grapes and from government matching funds.[47] In 1993–1994, the Mendoza government also launched a series of policies to help protect farmers from weather damage and aid them in vineyard restructuring. The main institutional vehicle was the Fondo para la Transformacion y el Crecimiento (FTC), which coordinated its credit guarantee programs with provincial banks and had regional advisory councils composed of relevant municipalities. Final decision-making power is still in the hands of the government. The Instituto Desarrollo Rural (IDR) and ProMendoza were established in the mid-1990s as a response to growing demand for different technical and export services. Because of the aforementioned budget reforms limiting public employment, was first housed as a unit of INTA Mendoza, and ProMendoza was and still is housed in the Bolsa de Comercio, de Mendoza. IDR has more than thirty voting founders, including sectoral associations, government agencies, and a university, that elect a sixteen-member board of directors every two years. ProMendoza has four voting founding members (the Ministry of Economy, Bolsa de Comercio, and two peak-level business federations) that rotate the presidency annually. In both cases, the budgets are funded by the government and revenues from services.

The rest of this section analyzes how the principles of inclusive membership and participatory governance helped (1) participating public and private actors reshape their channels of communication and resource pooling; (2) both the given institutions and their constituent firms adapt and improve their capabilities; and (3) the public and private actors develop and implement new collective strategies.

Embedding the Government and Recombining Public-Private Ties

The public-private nature of these institutions gradually restructured sociopolitical ties among the associations and the government and altered the locus of policy making by becoming bridges between the public and private domains as well as between the relevant associations. Figures 3A and 3B depict this process in a simplified form.[48] Figure 3A shows the sparseness of ties in 1989 among the government and firms and associations of different parts of the value chain and zones. The predominance of ad hoc vertical ties is similar to the structure that continued to exist in San Juan, as shown earlier in Figure 2. Figure 3B shows how by the end of the 1990s, the new institutions tied these different actors together in new ways. By participating in the governing and advisory councils of the institutions, the associations were regularly interacting with each other and the government in multiple forums, while directors of the institutions themselves were sitting on one another's boards.

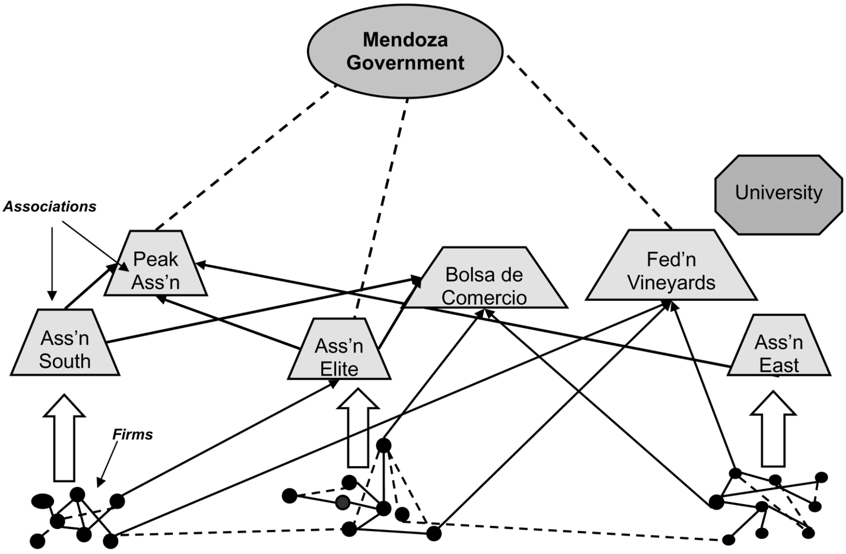

Figure 3A. Policy making and strategic ties in the Mendoza Wine Industry, 1989.

Note for both Figures 3A and 3B: Solid black circles represent firms in different regions in Mendoza. Each region has its main wine business association, as shown by large white arrow. Dashed lines represent weaker links of contracting or communication than solid lines. Solid arrows denote membership and board participation in relevant associations and institutions.

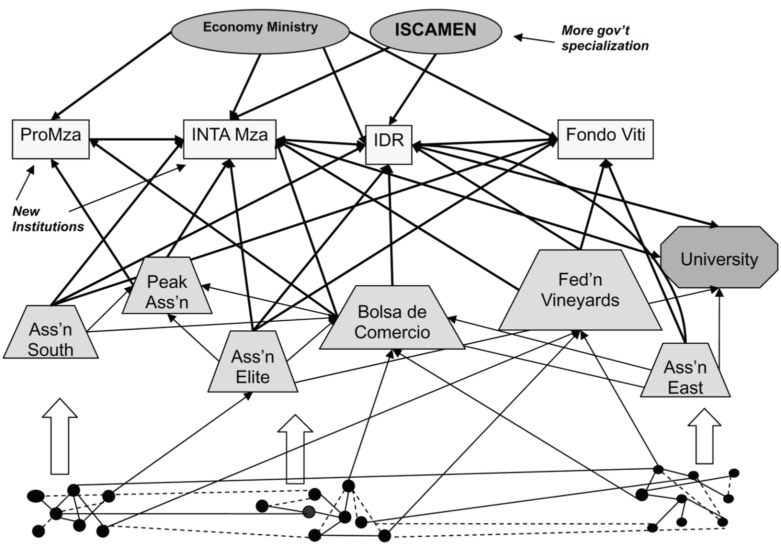

Figure 3B. Policy making and strategic ties in the Mendoza Wine Industry, 2000.

By jointly governing the new institutions, representatives of the associations, the government, and pre-existing institutions (e.g., the universities) were potentially learning about one another's intentions, resources, and capabilities. In this sense, the institutions were becoming social and knowledge "bridges" and encompassing structures. They anchored the horizontal embeddedness between associations, their member firms, and the government agencies that scholars of innovation and development find vital for enabling policy coordination and concerted action. At the same time, the institutions took on multiplex or multivalent characteristics, acting as vehicles to recombine different informational and material resources to serve the interests of both the individual participants and the province as a whole.[49] That is, the institutions allowed the government and associations to pool and access new resources and information that each could not have individually, especially for previously marginalized associations of producers from more backward zones of Mendoza. We now turn to a discussion of how the governance mechanisms helped turn these potential benefits into a reality.

Participatory Governance for Institutional and Firm Upgrading

As discussed earlier, upgrading in developing countries, especially in industries such as wine, is a gradual process whereby firms develop new capabilities by learning from their own and one another's iterative experiments with new standards, designs, and methods. But the needed collective resources and coordination are often not forthcoming, because of the resource and knowledge constraints of the state as well as the uncertainties undermining interfirm collective action. The multivalent and participatory nature of the new and renovated institutions helped firms meet these challenges in three ways—greater scope and scale of resources; program adaptation; and diffusion of practices, standards, and contacts.

First, in combining the material and informational contributions of the public and private participants, the institutions built up a new quantity and variety of resources and services that the government or the associations could not have provided individually and that did not exist before or in other provinces. For instance, INTA Mendoza, IDR, and ProMendoza pioneered new detailed mappings of the microclimates for grapes and other agricultural products; databases on best practices (internationally and subregionally), harvests, and product markets; training programs for different sectors and zones; as well as teams of experienced consultants. There were seven times more INTA employees working on viticulture issues full time in Mendoza than in San Juan, a figure disproportional to the differences in the size of the sectors.[50] By 2000, ProMendoza had helped almost 1,000 firms from various sectors participate in international trade fairs and maintained an annual budget of about $2 million, comparable to the budget of the export promotion agency for all of Argentina. The FTC had provided credit supports of more than $50 million for about 5,000 firms, disproportional to the support the federal government gave to small firms. Pooling resources also allowed the institutions to provide services at costs accessible to poorer firms. Fecovita used its combined bargaining power to help members gain access to credit, markets, inputs, training, and knowledge at low cost. Consulting and R&D contracts with large elite firms provided INTA, IDR, and ProMendoza with revenue streams that could subsidize training and research programs for more backward firms.

Second, the governance mechanisms and overlapping jurisdictions of the growing number of upgrading institutions fostered the creation and adaptation of services for firms in different contexts. Although the government was providing the bulk of initial financing, it left the content of services and programs to be defined and evaluated by the governing and advisory councils. In doing so, council members drew on their own experiences, feedback from their constituents, and comparisons with other relevant institutions. Moreover, participants could voice their proposals and grievances directly through the board and indirectly to the government, which was continually interested in building its new cross-sectoral and cross-regional coalition. Even if consensus was unreachable in one moment, the minority could look to further evaluations and other institutions to meet their needs. In this sense, the collective goods were being defined gradually to take into consideration the different needs of firms and growing contexts of zones.

For instance, as mentioned in the discussion above on San Juan, in the early 1990s, INTA launched a national program, Cambio Rural (CR), which adapted the network learning model of the elite CREA groups for producers from more backward regions. After limited initial success, INTA Mendoza used the feedback from firms and its council members to change the composition of the learning groups and customize methods to different regions. Around the same time, when the federal government elected not to renew CR, the Mendoza government stepped in to cover some of the costs. By the end of the 1990s, CR in Mendoza had some of the best participation and cost-benefit rates in the country and far better than in San Juan.[51] INTA Mendoza's dependency on multiple constituencies both forced and enabled it to gradually adapt programs and build new joint projects with firms and other institutions (e.g., Fecovita, IDR, the universities). Its testing labs were being used with the elite firms as well as cooperatives; it began documenting and teaching practices from the most advanced form of computer monitored drip-watering to Montenegro's innovative use of the orthogonal vine training systems, mentioned in Section III. In turn, INTA in Mendoza was able to overcome the historical criticism of the national INTA system—that its bureaucratic lethargy made its knowledge base and technology too backward for the advanced firms and too advanced for the small, weak producers.[52]

ProMendoza, IDR, the FTC, and the Fondo Vitivinicola also soon became the focus of criticism that they were too focused on the needs of only a few constituents. In response, the government opened a network of regional offices in the late 1990s to house local branches of IDR, ProMendoza, the FTC, ISCAMEN (the phitosanitary agency), and the provincial statistical office. The institutions also worked on expanding their services, often in collaboration with one another and the associations. ProMendoza expanded its program of annual tours for foreign journalists to visit wineries from a variety of zones, not just the better-known firms. IDR began to collaborate with INTA, INV (the national wine regulatory agency), and relevant associations to deliver timely information on international and domestic harvests and market prices. IDR and INTA signed agreements with ISCAMEN to develop new food safety and pest prevention regulations that better addressed Mendoza's diversity of microclimates and agricultural products. After being criticized for focusing too much on incorporating new technology, Fecovita made significant gains in using new product standards and production practices. The interlocking boards of Fecovita and the other institutions provided the foundations for the creation of new R&D and extension service alliances with INTA, IDR, and the agronomy faculty of the Universidad Nacional de Cuyo.[53]

Third, the multivalent and participatory governance structure enhanced the ability of the institutions to diffuse standards, practices, and experiences from one zone or one sector to another. On one hand, institutions acquired such information and field experience from their own research, from the demands of associations in the definition and evaluation of programs, and from the various service contracts with the variety of constituent firms. They then transferred this knowledge to firms via databases and training programs.

On the other hand, the institutions helped firms learn from and build new professional relationships with one another. As exemplified in Cambio Rural above, Fecovita, INTA, IDR, and ProMendoza increasingly used multifirm training and research programs based on collective problem solving techniques. A by-product was often the creation of new interfirm ties that fostered direct coordination of fermentation and growing experiments later on. INTA and the Fondo Vitivinicola also collaborated with the associations to establish annual wine evaluation events in the late 1990s in the more backward zones, *Zona Sur* and *Zona Este*. As discussed in Section III, the wine evaluation event, EVICO, was largely restricted to the elite firms of the *Zona Primera*.[54] By including enologists from firms of different zones on the evaluation committees, firms with little previous contact were directly learning from one another about their quality and practices. As firms and their respective associations directly participated in debates about the direction of the industry and issues of production standards, they gradually discussed the benefits of collaboration instead of simply rival rent-seeking strategies.

As the different forms of multiparty governance brought pressure and changes to the institutions, the institutions themselves were forced to bring pressure upon their clients. For instance, institutions such as ProMendoza, IDR, and INTA began to use international and local standards of products and processes to benchmark clients and restrict their access to certain programs. ProMendoza realized that unprepared Mendoza firms were soiling the reputation of commercial delegations as well as wasting limited resources. In turn, ProMendoza developed a system to evaluate whether a firm joining a trade delegation had the capabilities to communicate specific commercial, product, and process information to relevant international buyers and journalists. Before allowing firms to access more sophisticated R&D and extension programs, INTA performed systematic evaluations of a firm's processes and products and then placed the firm in its relevant cohort. In both cases, however, the use of standards and diagnostics not only exposed the competitive weaknesses in client firms but also revealed weaknesses in the support system of the institutions themselves. Subsequently, ProMendoza and IDR developed new training seminars, and INTA developed multistage extension services that gradually exposed firms to increasingly complex standards and technologies.

In sum, the governance structures helped the institutions diversify and synthesize the resources and knowledge that client firms accessed. At the same time, the firms learned from one another, within and across zones. As they improved their capabilities and built new professional ties, firms from, for example, more backward zones such as the *Zona Este* and *Zona Sur* were not only meeting international standards but were also becoming regular business partners with firms from more advanced zones. For instance, by 2000, elite firms from the *Zona Primera* were regularly using grape suppliers from other zones for their premium grade wines.[55]

Overlapping Ties and Deliberative Forums for Improving Public Policy and Collective Action

The overlapping ties and participatory governance process in one institutional or policy domain led to collective action solutions that gave rise to institutional changes in other domains. On the one hand, improvements in older, more archaic institutions emerged from their participation in new advisory councils and upgrading projects. For instance, by the late 1990s, the two major Mendoza universities, Universidad Nacional de Cuyo (UNC) and Universidad Maza, had new or vastly expanded degree programs in enology and viticulture; UNC was also for the first time undertaking applied agronomy research with firms.[56] These changes in part grew out of responding to specific demands and market information revealed via the universities' participation in and joint research projects with INTA and IDR. ISCAMEN, the Mendoza government's food safety regulator, also sits on the boards of INTA and IDR. It created new crop protection and pest prevention systems from joint data collection and field testing projects with INTA and IDR.

On the other hand, the institutionalization of collective problem solving and evaluation gradually turned project and council meetings into deliberative forums in which the participants increasingly identified common strategic needs in other functional areas of upgrading. The creation of IDR and ProMendoza emerged in part from ongoing debates in INTA Mendoza and the Fondo Vitvinicola about whether these institutions could handle the increasingly diverse demands from firms and their associations. But constrained by the previously discussed fiscal pact, the government turned to its new partners. What became IDR was actually first a small team of agronomists and economists financed via a contract between the Mendoza Ministry of Economy and INTA Mendoza. ProMendoza started as a joint project between the Ministry and the Bolsa de Comercio to evaluate export opportunities for provincial firms. As the teams passed their first hurdles, the institutions were formalized, and other relevant associations were brought on board. A similar process spawned the creation of ITU, a public-private university offering a three-year technical degree in management, and of IDIT, a public-private institution for applied operations research in engineering and manufacturing.[57]

The different governing councils also became repositories of grievances and forums of negotiations among representatives of the government and the diverse interest groups over core, controversial regulatory issues. Laws on the protection of contracting rights for wine and grape suppliers, on the securitization of the grape market, on government subsidized hazard insurance for small producers, and on the aforementioned 1993 penalties to limit volatility in the wholesale wine and grape markets divided firms bitterly, especially those from more backward and more advanced zones. In the 1980s, the government would have either ignored such disputes or delivered patronage to the most powerful and well-organized group. But in the 1990s, the participatory restructuring approach had not only improved the balance of power between relevant associations but also had provided them with a greater variety and frequency of deliberative forums. Incremental changes in the above laws were realized because the public and private participants were learning how to monitor one another, had established multiple lines of communication, and found that compromises in one sphere could lead to rewards in others over time.[58]

The constellation of overlapping ties and forums for structured deliberations would aid the associations and the government to formulate more complex collective actions and policy changes that reached beyond the province. For instance, the INV (Instituto Nacional de Vitivinicola) is the federal agency regulating the wine industry and was historically a symbol of government incompetence and patronage. The Mendozans led negotiations with the federal government in 1995–1996 to create a new Interprovincial Consultative Council that included seven representatives of the wine and mosto (a natural sweetener from grapes) value chain and effectively decentralized its decision-making process.[59] By embedding the INV more deeply into the region (including bringing INV representatives onto other boards) and carefully using its collective political capital, the Mendozans were able to secure improvements in the INV's technical capabilities and even expand its mission to include such issues as certifying D.O.C. standards. The Mendoza government and ProMendoza became active in Argentine trade negotiations with the Mercosur and the European Union and the appointment of Argentina's representatives on the international wine industry federations.

These experiences in identifying common constraints and formulating joint strategic responses laid the groundwork for the effort to replicate the model on a national scale via the creation of the Ley Pevi and its governing body, COVIAR, which were mentioned in the beginning of this article. As Mendoza gained a foothold in the key world wine markets, the institutional participants increasingly realized that their sustained international competitiveness demanded resources that went beyond their own capacities.[60] These discussions converged in 2000 at a series of meetings of the advisory council of INTA Mendoza that decided to initiate a plan for a twenty-year strategy. The council formed executive and technical teams composed of members of its representative institutions and associations as well as other key actors not on the council. With the Fondo Vitvinicola covering most of the overhead costs, the technical team benchmarked Argentine firms, products, and policies against those of such countries as Chile and Australia, and the executive team began a campaign to gain support among political and industry leaders within and outside of Mendoza. Similar to the Fecovita experiment, the teams organized a series of workshops during an eighteen-month period in the winemaking regions of Argentina to solicit input from, explain their strategy to, and build a broad coalition with relevant political and professional groups.

The Ley Pevi has three fundamental provisions.[61] First, it mapped out a national policy to promote wine exports via an expanded form of the Mendoza model across the relevant provinces—forging a network of public and private institutions to improve the capacity and strategic use of human, material, and knowledge resources. Second, to enhance autonomy, avoid backlashes from other interest groups, and increase the incentives of stakeholders, the additional funding would come from a new tax on the sales of wine products. Third, the Ley Pevi and all its components would be governed by a new nonprofit, nonstate entity, COVIAR, whose twelve-member executive and advisory boards would be composed, again in the Mendoza style, by representatives of the federal and relevant provincial governments as well as the leading wine and grape producer associations.

CONCLUDING REMARKS

This article has attempted to offer a political constructionist view of the emergence of a society's innovative capacities to upgrade by comparing the evolution of the wine industries in San Juan and Mendoza during the 1990s. The comparison's cross-sectional and longitudinal dimensions sought to control and thus reveal the limited individual explanatory power of pre-existing social and economic endowments such as natural and economic resources, stocks of knowledge and social capital, structures of associations, and legal regimes. Rather, the comparison revealed that the different upgrading paths of San Juan and Mendoza are largely the products of the different political approaches to reform the provinces chose to confront a shared economic crisis in the late 1980s.

San Juan's "depoliticization approach" emphasized the ability of the government to centralize and insulate policy-making power to design and impose unilaterally new rules and incentives on society. This approach exacerbated fragmented, antagonistic relations among the government and the relevant sectoral associations, thus impeding the creation of new collective resources for upgrading. As a result, the approach attracted significant investment but did little to induce firms to coordinate new product and process experiments. In contrast, Mendoza's "participatory restructuring approach" helped improve upgrading capabilities and reshape the relationships among the government and relevant sectoral associations through the construction of new public-private institutions during a ten-year period. This process rested on two key principles: (1) the government's empowerment and incorporation of a variety of relevant associations to generate and jointly govern institutional solutions to key strategic challenges and (2) the multiparty governance rules of the new public-private institutions that induced collective problem solving by having participants regularly and jointly define key constraints they faced, evaluate the outcomes of proposed solutions, and decide on corrective measures or the next policy measures.

As with many complex industries, creating the innovative capacities for the wine industry was a dual problem of breaking old practices as well as getting the government and the diverse, often conflicting groups in the value chain to collaborate in previously unimagined ways. As much as the social ties within producer communities can foster collective action, their exclusionary traits create barriers to collaboration that exploit the diversity of skills and experience for accelerated knowledge creation. Decentralized, voluntaristic attempts at coordination can lead to fragmentation of an industry, especially when diversity is coupled with a history of distrust, false starts, regional biases, as well as resource and skill inequalities.

The participatory restructuring approach helped Mendoza gradually overcome these barriers and sustain broad-base improvements at both the firm and institutional levels in three important ways. First, the inclusionary principles of policy making and institutional construction provided economic and political incentives for previously dispersed actors to come to the table and potentially forge new social and economic ties. Second, the multiparty governance rules in several new institutions allowed the public and private participants to begin to share knowledge and resources, monitor one another, and collaborate in new ways. Third, while this approach yielded new institutional capacities, the multiparty governance of the institutions helped the participants to learn how to improve both government policy and firm practices as well as identify new areas of common problems for subsequent collective solutions.

My emphasis on the determining impact of different political approaches is an attempt to contribute to the growing attention scholars of economic development and institutional change are placing on the role of process variables.[62] For instance, the aforementioned rules of inclusion and participatory governance are proposed conditions under which government can experiment with new industrial policies, institutions will be horizontally embedded, and public-private institutions will facilitate joint action for the creation of new innovative capacities. They are also the mechanisms that help specify how the recombination of existing social and political resources can inform the substance and sustainability of institutional change.[63]

The proposed framework, in turn, invites further examination about the origins, sustainability, and replication of development institutions in two important ways. First, it suggests researchers pay closer attention to the ways broader sociopolitical struggles promote and inhibit the ability of governments to forge new public-private institutions with a variety of stakeholder groups, particularly during periods of crisis. For instance, the literature on federalism and party systems in Latin America reveals great variation in policies and institutions at the subnational level. At the same time, Richard Doner and his collaborators have proposed a framework of systemic vulnerabilities, in which a particular combination of international and domestic political forces gives countries greater incentives to invest in innovative capacities.[64] In turn, by uniting these literatures with a focus on the experimental processes of policy reform and institution building, one can better identify the broader sociopolitical conditions that give rise to politicians' adopting depoliticization or participatory restructuring approaches at subnational and national levels.

Second, the evidence here suggests that the principles of participatory restructuring can help overcome common barriers to sustainability and replication of local institutional innovations, such as multinational firms' limiting access to new markets and knowledge and poor histories of coordination between business associations and governments.[65] The creation of multiple public-private institutions as both receptors and promoters of new innovative capacities helps keep any one particular actor from becoming the sole "gatekeeper" of knowledge and resources and from accumulating the disproportionate economic power that would reverse expansion of innovative networks. At the same time, the rules of inclusion and participatory governance can improve the ability of both public and private actors to monitor and learn from one another. For instance, despite changes in directors, government administrations, and political coalitions, the Mendoza institutions continue to be stable and self-adapting, something rather unusual for Argentina. Moreover, San Juan is witnessing significant change in the behavior of its government and relevant wine sector associations through greater coordination of INTA's regional center, their participation in Coviar, and the recent inclusion of some of San Juan's firms in ProMendoza's export programs. The government has openly criticized the old approach of tax incentives and advocated the creation of new public-private institutional resources for training, R&D, and export promotion. Leading grape producers have also left the largest sectoral association to form a new one and actively participate in Coviar.

In sum, economic upgrading is determined not simply by the provision of public goods but especially how the attendant institutions are constructed and governed. As scholars of development readdress the roles of industrial policy, clusters, multinationals, and business associations, they may be better able to identify the political conditions of development by incorporating the literature on institutional change and participatory governance.

NOTES

1. Excellent analyses of the upgrading and its socio-institutional foundations can be found in Richard F. Doner, Bryan K. Ritchie, and Dan Slater, "Systemic Vulnerability and the Origins of Developmental States: Northeast and Southeast Asia in Comparative Perspective," *International Organization* 59, no. 2 (2005): 327–61; E. Giuliani, C. Pietrobelli, and R. Rabellotti, "Upgrading in Global Value Chains: Lessons from Latin American Clusters," *World Development* 33, no. 4 (2005): 549–73. On the indeterminate impact of FDI and export firms on upgrading see CEPAL, ed., *Globalization and Development* (CEPAL, 2002); Peter Cornelius and Bruce Kogut, *Corporate Governance and Capital Flows in a Global Economy*, *Global Outlook Series* (New York: Oxford University Press, 2003); Hubert Schmitz, ed., *Local Enterprises in the Global Economy: Issues of Governance and Upgrading* (Northampton, MA: Edward Elgar, 2004).

2. See Avner Greif and David D. Laitin, "A Theory of Endogenous Institutional Change," *American Political Science Review* 98 (2004): 633–52; James Mahoney and Dietrich Rueschemeyer, *Comparative Historical Analysis in the Social Sciences*, *Cambridge Studies in Comparative Politics* (Cambridge, UK, and New York: Cambridge University Press, 2003); Richard F. Doner, Bryan K. Ritchie, and Dan Slater, "Systemic Vulnerability"; Sean O'Riain, *The Politics of High Tech Growth: Developmental Network States in the Global Economy*, *Structural Analysis in the Social Sciences* (New York: Cambridge University Press, 2004); Paola Perez-Aleman, "Cluster Formation, Institutions and Learning: The Emergence of Clusters and Development in Chile," *Industrial and Corporate Change* 14, no. 4 (2005): 651–77; Schmitz, *Local Enterprises in the Global Economy*; Chris Ansell, "The Networked Polity: Regional Development in

Western Europe," *Governance* 13, no. 3 (2000): 303–33; John Padgett, "Organizational Genesis, Identity, and Control: The Transformation of Banking in Renaissance Florence," in *Networks and Markets*, ed. J. E. Rauch and A. Casella (New York: The Russell Sage Foundation, 2001); Walter W. Powell, Douglas R. White, Kenneth W. Koput, and Jason Owen-Smith, "Network Dynamics and Field Evolution: The Growth of Interorganizational Collaboration in the Life Sciences," *American Journal of Sociology* 110, no. 4 (2005): 1132–1205. For a review of institutional development in Latin America, see Steven Levitsky and Maria Victoria Murillo, "Theory Building in a Context of Institutional Instability," in *Argentine Democracy: The Politics of Institutional Weakness*, ed. S. Levitsky and M. V. Murillo (University Park, PA: Pennsylvania State University Press, forthcoming).

3. For discussions of the lack of systematic comparative analysis on upgrading and clusters and the use of subnational research designs to fill the void, see Alfred P. Montero, *Shifting States in Global Markets: Subnational Industrial Policy in Contemporary Brazil and Spain* (University Park, PA: Pennsylvania State University Press, 2001); Hubert Schmitz and Khalid Nadvi, "Clustering and Industrialization: Introduction," *World Development* 27 (1999): 1503–1733; Richard Snyder, "Scaling Down: The Subnational Comparative Method," *Studies in Comparative International Development* 36, no. 1 (2001): 93–110.

4. On Argentine industrial policy since WWII, see Mauro Guillen, *The Limits of Covergence: Globalization and Organizational Change in Argentina, South Korea, and Spain* (Princeton, NJ: Princeton University Press, 2001); Ben Ross Schneider, *Business Politics and the State in Twentieth-Century Latin America* (Cambridge, UK, and New York: Cambridge University Press, 2004).

5. On the relationship between political power, institutional change, and constructing the modern regulative state, see Laszlo Bruszt, "Market Making as State Making: Constitutions and Economic Development in Post-Communist Eastern Europe," *Constitutional Political Economy* 13, no. 1 (2002): 53–72; Grzegorz Ekiert and Stephen E. Hanson, "Time, Space, and Institutional Change in Central and Eastern Europe," in *Capitalism and Democracy in Central and Eastern Europe: Assessing the Legacy of Communist Rule*, ed. G. Ekiert and S. E. Hanson (Cambridge, UK, and New York: Cambridge University Press, 2003), 15–48; Wade Jacoby, *Imitation and Politics: Redesigning Germany* (Ithaca, NY: Cornell University Press, 2000); Kathleen Thelen, "How Institutions Evolve: Insights from Comparative Historical Analysis," in *Comparative Historical Analysis in the Social Sciences*, ed. J. Mahoney and D. Rueschemeyer (New York: Cambridge University Press, 2003), 208–40.

6. These views build on Peter Evans, "Development as Institutional Change: The Pitfalls of Monocropping and the Potentials of Deliberation," *Studies in Comparative International Development* 38, no. 4 (2004): 30–52; Archon Fung and Erik Olin Wright, "Deepening Democracy: Innovation in Empowered Participatory Government," *Politics & Society* 29, no. 1 (2001): 5–41; Paul Q. Hirst, *Associative Democracy: New Forms of Economic and Social Governance* (Amherst: University of Massachusetts Press, 1994); Charles Sabel, "Learning by Monitoring: The Institutions of Economic Development," in *The Handbook of Economic Sociology*, ed. N. J. Smelser and R. Swedberg (Princeton, NJ: Princeton University Press, 1994), 137–65.

7. This research was based on field work during 2003–2005 that utilized sixty-two open-ended interviews with relevant managers, enologists, agronomists, and policy makers in Mendoza and San Juan as well as current and historical databases on relevant provincial and national policies, civic associations, and firms.

8. See especially Giuliani et al., "Upgrading in Global Value Chains"; Schmitz, *Local Enterprises in the Global Economy*; Peter A. Hall and David W. Soskice, *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage* (Oxford, UK, and New York: Oxford University Press, 2001); Richard R. Nelson and Sidney G. Winter, "Evolutionary Theorizing in Economics," *Journal of Economic Perspectives* 16, no. 2 (2002): 23–47.

9. See Elinor Ostrom, "Coping with Tragedies of the Commons," *Annual Review of Political Science* 2 (1999): 493–535; John F. Padgett and Christopher K. Ansell, "Robust Actions and the Rise of the Medici, 1400–1434," *American Journal of Sociology* 98, no. 6 (1993): 1259–1319; Robert D. Putnam, Robert Leonardi, and Raffaella Nanetti, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton, NJ: Princeton University Press, 1993); Ben Ross Schneider, *Business Politics and the State*.

10. See, for instance, Alice H. Amsden, *Asia's Next Giant: South Korea and Late Industrialization* (New York: Oxford University Press, 1989); Maxim Boycko, Andrei Shleifer, and Robert Vishny, *Privatizing Russia* (Cambridge, MA: MIT Press, 1995); Stephan Haggard and Robert R. Kaufman, *The Political Economy of Democratic Transitions* (Princeton, NJ: Princeton University Press, 1995).

11. On the limits of unilateral state action and the role of the state in coordinating private information and organizational experiments, see Pepper D. Culpepper, *Creating Cooperation: How States Develop Human Capital in Europe*, *Cornell Studies in Political Economy* (Ithaca, NY: Cornell University Press, 2003); Evans, "Development as Institutional Change"; Jacoby, *Imitation and Politics*; Gerald A. McDermott, *Embedded Politics: Industrial Networks and Institutional Change in Postcommunism* (Ann Arbor: University of Michigan Press, 2002); Gerald A. McDermott, "Institutional Change and Firm Creation in East-Central Europe: An Embedded Politics Approach," *Comparative Political Studies* 37, no. 2 (2004): 188–217; Dani Rodrik, "Industrial Policy for the Twenty-First Century," in *Working paper prepared for UNIDO* (2004).

12. See M. Granovetter, "Economic Action and Social Structure: The Problem of Embeddedness," *American Journal of Sociology* 91 (1985): 481–510; Ostrom, "Coping with Tragedies of the Commons"; Sean Safford, "Why the Garden Club Couldn't Save Youngstown: Civic Infastructure and Mobilzation in Economic Crises Paper," in *MIT Industrial Performance Center Working Paper* (2004); Schneider, *Business Politics and the State*.

13. See Schneider, *Business Politics and the State*; David Stark and László Bruszt, *Postsocialist Pathways: Transforming Politics and Property in East Central Europe* (Cambridge, UK, and New York: Cambridge University Press, 1998); Judith Tendler, *Good Government in the Tropics* (Baltimore, MD: Johns Hopkins University Press, 1997).

14. See Gianpaolo Baiocchi, "Participation, Activism, and Politics: The Porto Alegre Experiment and Deliberative Democratic Theory," *Politics & Society* 29, no. 1 (2001): 43–72; Fung and Wright, "Deepening Democracy"; Charles F. Sabel and Joshua Cohen, "Directly-Deliberative Polyarchy," *European Law Journal* 3, no. 4 (1997): 313–40.

15. For the recombinatory effects, see Richard M. Locke, *Remaking the Italian Economy: Local Politics and Industrial Change in Contemporary Italy* (Ithaca, NY: Cornell University Press, 1995); Safford, "Why the Garden Club"; Stark and Bruszt, *Postsocialist Pathways*. For the role of collective problem solving in the firm, see Susan Helper, John Paul MacDuffie, and Charles Sabel, "Pragmatic Collaborations: Advancing Knowledge While Controlling Opportunism," *Industrial and Corporate Change* 9, no. Issue 3 (2000): 443–88; John Paul MacDuffie, "The Road to 'Root Cause': Shop-Floor

Problem-Solving at Three Auto Assembly Plants," *Management Science* 43, no. 4 (1997): 479–502; Bill McEvily and Alfred Marcus, "Embedded Ties and the Acquisition of Competitive Capabilities," *Strategic Management Journal* 26, no. 11 (2005): 1033–55; and in policy making and promoting cooperation, see Culpepper, *Creating Cooperation*; Hirst, *Associative Democracy*; Ostrom, "Coping with Tragedies"; Sabel, "Learning by Monitoring."

16. The most detailed accounts are in Daniel Azpiazu and Eduardo Basualdo, "Industria Vitivinicola," ed. Estudios Sectorials: Estudio 1.EG.33.6 (Argentina: CEPAL, 2003); Dereck Foster, *Revolucion en el Mundo de los Vinos* (Buenos Aires: Ennio Ayosa Impresores, 1995); Alejandro Walters, "Rebuilding Technologically Competitive Industries: Lessons from Chile's and Argentina's Wine Industry Restructuring," PhD Thesis (Cambridge, MA: Massachusetts Institute of Technology, 1999).

17. On improvements in varietals and export markets, see Hugo Cetrangolo et al., *El Negocio de los Vinos en la Argentina* (Buenos Aires: FAUBA, 2002). Data on export markets can be found in the annual reports of the Instituto Nacional de Vitvinicola (INV) of Argentina. See also Mercedes Nimo, "Analisis de la Cadena de Vinos," SAGPyA, Gobierno de la Republica de Argentina, 2001. According to the data of *Wine Spectator* and *Wine Enthusiast*, Chilean and Argentine have about the same median price per bottle at $10–$12 and standard deviations (author's calculations). For Chilean reactions to the quality and pricing gains by Argentine export wines, see "La Amenanza a las Vinas Chilenas," *El Mercurio* (November 2, 2005). An analysis of the quality scores in these magazines during the past ten years reveals more Argentine wines than Chilean in the top clasifications since 2000.

18. For more on this strategy, see Cetrangolo et al., *El Negocio de los Vinos*, and the lengthy annual reviews of Argentine wines in *Wine Spectator* (November 15, 1995; December 15, 1997; March 24, 2003; November 30, 2004; November 30, 2005).

19. For overviews of the change in Argentine practices and the trends elsewhere, see Adriana Bocco and Guillermo Neiman, "Reestructuracion de la Vitivinicultura Mendocina: Nuevas Relaciones entre Actores y Espacios" (paper presented at the XI Jornadas Cuyanas de Geografia, Mendoza: 25 al 28 de Noviembre de 2002); Cetrangolo et al., *El Negocio de los Vinos*; Elisa Giuliani and M. Bell, "The Micro-Determinants of Meso-Level Learning and Innovation: Evidence from a Chilean Wine Cluster," *Research Policy* 34, no. 1 (2005): 47–68; James Henderson, Luciana Pagani, and Karel Cool, "Collective Resources and Cluster Advantage: An Examination of the Global Wine Industry" (working paper, 2004); Peter Roberts and Paul Ingram, "Vertical Linkages, Knowledge Transfer and Export Performance: The Australian and New Zealand Wine Industry, 1987–1999," (working paper, 2002); Walters, "Rebuilding Technologically Competitive Industries."

20. The calculations were made using data from the INV. For more on the relative advances of Mendoza, see Cetrangolo et al., *El Negocio de los Vinos*; Instituto de Desarrollo Rural—IDR, "Caracterizacion del Sector Vitivincola de Mendoza" (Mendoza: IDR, 1998), 180; Instituto de Desarrollo Rural—IDR, "Situacion Actual de la Vitivincultura," in *Serie de Informes de Coyuntura*, ed. L. Pannocchia (Mendoza: IDR, 2002), 69; Guillermo Neiman, Adriana Bocco, and Clara Martin, "Tradicional y Moderno: Una Aproximacion a los Cambios Cuantitativos y Cualitativos de le Demanda de Mano de Obra en le Cultivo de Vid," in *Trabajo de Campo: Produccion, Technologiay y Empleo en el Medio Rural*, ed. G. Neiman (Buenos Aires: Ciccus, 2001). On the difficulties of coordination to achieve dynamic capabilities, see note 8.

21. Between 1980 and 1990, the number of vineyards fell by 31 percent and then another 29 percent until 2001; the amount of vineyard surface area fell by about 35

percent in the 1980s and then slightly declined in the 1990s. As of 2001, vineyards in both provinces with less than twenty-five have still accounted for about 92 percent of the total number and 60 percent of surface area. (Calculations based on INV data.) According to the agricultural survey of the Mendoza for 2003, the largest eighteen vineyard owners controlled only 5 percent of surface area dedicated to grape growing for wine, and about 1,100 owners controlled about 50 percent. The range of grape suppliers per winery ranges from ten to 300. See Cetrangolo et al., *El Negocio de los Vinos*.

22. I draw here on a few studies that attempt to clarify the terrain of the principal fine wine companies, using different sets of data: Santiago Blazquez, "Analisis de la Competitivad de los Vinos Finos Argentinos" (master's thesis, Universidad de Belgrano, 2001); Cetrangolo et al., *El Negocio de los Vinos*; Hernan Vila, "Vid," Programa Nacional de Investigación Frutales (INTA, 2002); Ana Maria Ruiz and Hernan Vila, "Structural Changes and Strategies of the Argentinean Wine Chain Actors," in *Wine in the Old World: New Risks and Opportunities*, ed. S. Gatti, E. Giraud-Heraud, and S. Mili (Milano: FrancoAngeli, 2003). According to a 2003 survey by the Ministry of Economy of Mendoza of 400 wineries, only 4 percent have foreign investment and about 6 percent are associated with or controlled by a diversified Argentine business group or corporation. Foreign investors control less than half of the thirty top exporters, and FDI accounts for about half of the $1 billion to $1.5 billion invested in the wine industry in Argentina between 1991 and 2003, with most coming after 1996. See also Consejo Empresario Mendocino, "Inversiones Extranjeras En Mendoza" (Mendoza: 1999); Nimo, "Analisis de la Cadena de Vinos."

23. The surface area share of high and medium enological value gapes/vines in the *Zona Este* vineyards increased to about 26 percent of its total by 1998 and to more than 37 percent by 2001 (author's calculations based on INV data). By 2003, about 55 percent of *Zona Este* wineries had modern quality control systems and also accounted for almost a third of those exporting from Mendoza (author's calculations based on data from a 2003 survey of 400 wineries in Mendoza undertaken by the province's Ministry of Economy). See also Adriana Bocco, "Los Trabajadores y el Trabajo en la Crisis" (paper presented at the 6th Congreso Nacional de Estudios del Trabajo, Buenos Aires, August 13–16, 2003); Cetrangolo et al., *El Negocio de los Vinos*; "Cosecha 1999–2002," *La revista de la Bolsa*, no. 441 (October 2002): 4–7.

24. Alejandro B. Rofman, *Desarrollo Regional y Exclusión Social: Transformaciones y Crisis en la Argentina Contemporánea* (Buenos Aires: Amorrortu Editores, 1999), 254.

25. Argentina ranks consistently low in the World Bank and World Economic Forum measures of rule of law and property rights protection. See the data at http://www.worldbank.org/wbi/governance/govdata/index.html. On general legal similarities as they affect business, see the analysis of provincial business climate in FIEL, *El Ambeinte de Negocios en las Provincias Argentinas* (Buenos Aires: FIEL, 2003a). According to FIEL, the number of property crimes per 1,000 inhabitants was 42.6 in Mendoza and 25.8 in San Juan.

26. Remmer and Wibbels argue that the lower margin of victory in gubernatorial elections indicates more competition. In 1991 and 1995, the margin in San Juan was 20.64 and 19.28, and in Mendoza, 2.53 and 22.54. Karen Remmer and Erik Wibbels, "The Subnational Politics of Economic Adjustment: Provincal Politics and Fiscal Performance in Argentina," *Comparative Political Studies* 33, no. 4 (2000): 419–51; Erik Wibbels, *Federalism and the Market: Intergovernmental Conflict and Economic Reform in the Developing World* (Cambridge, UK, and New York: Cambridge University Press, 2005).

27. On the roles of educated elites and foreign consultants in general, see Wesley M. Cohen and Daniel A. Levinthal, "Absorptive Capacity: A New Perspective on Learning

and Innovation," *Administrative Science Quarterly* 35, no. 1 (1990): 128–52; J. Nicholas Ziegler, *Governing Ideas: Strategies for Ideas in France and Germany* (Ithaca, NY: Cornell University Press, 1995). With respect to Mendoza and San Juan, see Foster, *Revolucion en el Mundo*; Walters, "Rebuilding Technologically Competitive Industries," ch. 3.

28. This type of story was repeated to me on ten different occasions. See also Walters, "Rebuilding Technologically Competitive Industries," 115–18.

29. According to UNIDO, the number of NGOs per 1,000 inhabitants in the 1990s was 2.3 in Mendoza and 2.18 in San Juan. Related documents and data are available at http://www.undp.org.ar/sociedad-civil/. San Juan had five wine/grape sectoral associations, one peak-level economic federation, and one export association; Mendoza had six wine/grape sectoral associations, two peak-level economic federations, and one export association. Marcelo Paladino and Juan Manuel Jauregui, "La Transformacion del Sector Vitivinicola Argentino" (Argentina: IAE, Universidad Austral, 2001); Rofman, *Desarrollo Regional*.

30. On the use of past ties for new forms of collaboration, see McDermott, *Embedded Politics*; Charles F. Sabel, "Studied Trust: Building New Forms of Cooperation in a Volatile Economy," *Human Relations* 46, no. 9 (1993): 1133–70; Stark and Bruszt, *Postsocialist Pathways*. There were no CREA groups in San Juan until 2003. Between 1990 and 1996, the number of CREA groups grew from three to six, falling in the late 1990s back to three in Mendoza. On the CREA and evaluation events, see Paladino and Jauregui, "La Transformacion Del Sector;" Walters, "Rebuilding Technologically Competitive Industries," 149–55.

31. On the conflicts between the zones, see Walters, "Rebuilding Technologically Competitive Industries," 150–52; the quote is from Walters, 122.

32. On this dual nature, see Locke, Remaking the Italian Economy; Ostrom, "Coping with Tragedies"; Padgett, "Organizational Genesis"; Safford, "Why the Garden Club"; Schneider, *Business Politics and the State*. This problem is also understood in the phenomenon of structural holes in society. See Ronald S. Burt, "The Network Structure of Social Capital," in *Research in Organizational Behavior*, vol. 22, ed. R. Sutton and B. Staw (Greenwich, CT: JAI Press, 2000), 345–423; Safford, "Why the Garden Club."

33. See G. Schwartz and C. Liuksila, "Argentina," in *Fiscal Federalism in Theory and Practice*, ed. T. Ter-Minassian (Washington, DC: International Monetary Fund, 1997), 387–422.

34. *Promoción industrial* was started in 1973 and included San Juan in 1983 as the fourth beneficiary, in addition to the provinces of Catamarca, La Rioja, and San Luis. By 1990, it had gained about 290 projects in manufacturing and agriculture at a federal fiscal cost of about $1.2 billion. When the program was suspended in 1987, San Juan offered its own tax incentive program in 1988, promoting specifically the planting of fine wine grape vines. Menem renewed it, first in 1991 by decree and then in 1996 by law. Maria Celia Guinazu, "The Subnational Politics of Structural Adjustment in Argentina: The Case of San Luis" (PhD thesis, Massachusetts Institute of Technology, 2003); Daniel Heymann and Bernardo P. Kosacoff, *La Argentina de los Noventa: Desempeäno Econâomico en un Contexto de Reformas*, 1st ed., 2 vols. (Buenos Aires; Eudeba: Naciones Unidas, CEPAL, 2000); Hugo Eugenio Zudaire, *Incentivos Tributarios y el Costo Fiscal de la Promocion Industrial* (Buenos Aires: La Ley, 2001). Its revised form focused on deferring about 75 percent of income taxes to the investor in agroindustrial and tourism projects. Estimates put the federal fiscal cost at about $7 billion in the 1990s. For details on the investments in San Juan vineyards and on the cost to Mendoza in output, see Augustin

Borsani, "Los Diferimientos Impositivos Agropecuarios en la Provincia de San Juan," *Apuntes Agroeconomicos* 2, no. 3 (2001); Consejo Empresario Mendocino, "Impacto Economico de los Regimenes de Promocion de las Provincias San Juan, San Luis, La Rioja y Catamarca" (CEM, 1999).

35. See Leopoldo Allub, "Globalizacion y Modernizacion Agroindustrial en la Provincia de San Juan, Argentina," *Estudios Sociologicos* 14, no. 41 (1996): 473–92; Rofman, *Desarrollo Regional*; Gobierno de San Juan, "Proyecto de Fortalecimiento Institucional Para el Desarrollo Rural: Provincia de San Juan" (2004).

36. As in every province, the federal government had three main programs for agroindustry: a small fund for subsidized loans to small and medium-sized firms administered by the state-owned Banco de la Nacion, food subsidies for poor farmers, and the underfunded San Juan unit of INTA, the federal system of regional agricultural R&D and training centers. Bocco, "Los Trabajadores"; Gobierno de San Juan, "Proyecto de Fortalecimiento."

37. For detailed accounts of these conflicts, see Gago and De La Torre, "Las Nuevas Tendencias de Desigualdad, Polarización y Exclusión: El Impacto de la Acumulación Vigente en una Región Argentina," La Rábida, España, septiembre (1996); Rofman, *Desarrollo Regional*.

38. Carlos Cheppi, "La Nueva Arquitectura de los Programs de Intervencion y Su Rol en el Desarrollo Rural" (INTA, 2000); Mario J. Lattuada, *Cambio Rural: Politica y Desarrollo en la Argentina de los '90*, 1st ed. (Rosario, Argentina: CED-Arcasur Editorial, 2000).

39. Azpiazu and Basualdo, "Industria Vitivinicola," 61–63.

40. Gobierno de San Juan, "Proyecto De Fortalecimiento."

41. I draw here on detailed accounts by Maria de la Esperanza Juri, "Argentina: Privitization of a Government-Owned Winery" (CIPE, 2005); Marcelo Paladino and Felix Morales, "Bodegas y Vinedos Giol E.E.I.C.," (Argentina: Universidad Austral, 1994); Paladino and Jauregui, "La Transformacion del Sector." In 1987, Giol was losing more than $500,000 per month and had a debt of more than $35 million.

42. During 1988 and 1989, Bordon appointed an outside auditing commission, and Giol spun off periphery units (such as in fruit, bottling, distilling) and reduced employment from 3,500 to about 300. Also, seven co-ops purchased wineries, and twelve leased them in the beginning. Leverage was slashed, and virtually all the new cooperatives paid back the special loans ahead of maturity.

43. For the gains in Fecovita and the cooperatives in wine/grapes, see Francesca Amendola, "Estrategias de las Cooperativas Vitivinicolas de la Provincia de Mendoza, de Argentina" (Montpellier: Centre National d'Etudes Agronomiques des Regions Chaudes, 2003); Ruiz and Vila, "Structural Changes and Strategies." Fecovita now includes thirty-two cooperatives and commercializes more than 80 precent of the wine made by its members, and each cooperative ranges from twenty to 120 members. By 2002, Fecovita had sales of more than $54 million, 28 percent of which was exports. More recently, it has emphasized improvements in packaging, bottling, and label management and expanding medium-quality fine wine (e.g., Marcus James in the U.S.). There was virtually no growth in the number of wine cooperatives in San Juan in the 1990s.

44. The data come from the PROINDER program of the Secretary of Agriculture of the federal government. During 2000–2003, each province documented all existing polices related to agriculture, such as prevention and diminished impact of negative climatic shocks, subsidized credits for small and medium farmers for improvements in technology, water management, and grape conversion, extension services, and so on. For

more details, see the policy documents authored by the Secretaria de Agricultura, Ganaderia, Pesca y Alimentacion of the Gobierno de Mendoza (2000), "Diagnostico de la Capacidad Institutional Para el Desarrollo Rural Provincial: Provincia de Mendoza" and "Proyecto de Asistencia Tecnica Para el Desarrollo Rural Provincial: Provincia de Mendoza."

45. See Ansell, "The Networked Polity"; Fung and Wright, "Deepening Democracy"; Thelen, "How Institutions Evolve."

46. INTA's budget was radically changed, as the federal government eliminated its primary stable source of funding, a 1.5 percent tax on agricultural exports, incorporating INTA's funding into the general government budget. The national Executive Committee includes representatives of the federal government, agricultural educational institutions, and the top agricultural producers' associations. This committee still appoints the directors of the regional centers (e.g., INTA Mendoza). INTA has gone through three reorganizations between 1991 and 2005. For instance, from 1991 to 1997, the Cuyo center concerned only Mendoza and San Juan, and then from 1997 to 2004, this center included the provinces of of La Rioja and San Luis as well. Since 2005, the Center has returned to include Mendoza and San Juan. For details of the massive reorganizations and policies of INTA, see Gabriel G. Casaburi, *Dynamic Agroindustrial Clusters: The Political Economy of Competitive Sectors in Argentina and Chile* (New York: St. Martin's Press, 1999), chs. 4, 5, 7.

47. By law, any firm that uses at least 20 percent of its input grapes for mosto (the natural juice sweetener) does not have to pay an annual, relatively small tariff to the Fondo. The Fondo Vitivinicola is financed from these tariffs and matching funds from the government of Mendoza.

48. A more complex depiction using a UCINET analysis of board membership of the institutions and associations can be found in Gerald A. McDermott, Rafael Corredoira, and Greg Kruse, "Public-Private Networks as Sources of Knowledge and Upgrading Capabilities: A Parametric Stroll through Argentine Vineyards" (Management Department, Wharton School, August, 2006).

49. On the ways that institutions or organizations that are encompassing, bridging, multiplex can promote horizontal embeddedness and adaptation, see Burt, "The Network Structure of Social Capital"; Montero, *Shifting States in Global Markets*; Ostrom, "Coping with Tragedies"; Padgett and Ansell, "Robust Actions," 1400–34; Safford, "Why the Garden Club"; Schneider, *Business Politics and the State*.

50. INTA, *Plan de Tecnología Regional (2001–2004): Centro Regional Cuyo* (Ediciones INTA, 2002).

51. Within about four years, the program boasted nationwide more than 1,900 groups of more than 21,000 producers and a network of almost 200 full- and part-time field agents and consultants in many agricultural sectors. CR in Mendoza reached better than expected results. It claimed over 100 learning groups that accounted for about 1,250 producers, while in San Juan, it created only nineteen groups of 133 producers. By 1996, about 350 grape growers were already participating in CR Mendoza. Cheppi, "La Nueva Arquitectura"; Lattuada, *Cambio Rural*, 72–76.

52. For a discussion of this key issue, see Casaburi, *Dynamic Agroindustrial Clusters*.

53. See Amendola, "Estrategias de las Cooperativas"; Walters, "Rebuilding Technologically Competitive Industries."

54. The events in Mendoza, CODEVIN San Rafael (*Zona Sur*) in 1995 and CODEVIN de *Zona Este* in 1997, grew rapidly from a few dozen samples to more than 150 each within two to three years. San Juan firms created EVISAN in 1997 with the aid

of INTA San Juan. It grew from fifty samples by fourteen participating wineries in 1997 to more than 102 samples by twenty-nine wineries in 2004. See also Walters, "Rebuilding Technologically Competitive Industries," 152–53.

55. See for instance, the accounts in Cetrangolo et al., *El Negocio de los Vinos*; Ruiz and Vila, "Structural Changes and Strategies."

56. According to data from these two universities, the number of students and graduates in agronomy and enology degree programs increased by 50 percent between 1996 and 2001.

57. The Instituto Tecnologico Universitario (ITU) was founded in 1993 by the Mendoza government, Universidad Nacional de Cuyo, Universidad Tecnológica Nacional, and two peak level Mendoza business associations to provide a three-year technical degree in management and technology. IDIT is very similar to IDR but focuses on manufacturing.

58. For discussion of changes to the regulations, see IDR, "Situacion Actual de la Vitivincultura"; Jorge Tacchini, "Situation Actual de la Vitivinicultura," in *Serie de Informes de Coyuntura* (Mendoza: Fundacion IDR, 2001), 66.

59. Azpiazu and Basualdo, "Industria Vitivinicola," 60–61.

60. This is based on interviews and documentation of the minutes of relevant meetings at INTA Mendoza (on file with author).

61. The Ley Pevi and COVIAR were established in Ley 25.849 and Decreto Reglementario 1.191 of September 8, 2004.

62. On Russia, see Yoshiko M. Herrera, *Imagined Economies: The Sources of Russian Regionalism*, *Cambridge Studies in Comparative Politics* (New York: Cambridge, 2005); Juliet Johnson, "Path Contingency in Postcommunist Transformations," *Comparative Politics* 33, no. 3 (2001): 253–74; David Woodruff, *Money Unmade: Barter and the Fate of Russian Capitalism* (Ithaca, NY: Cornell University Press, 1999). On China, see Yasheng Huang, *Selling China: Foreign Direct Investment During the Reform Era*, *Cambridge Modern China Series* (New York: Cambridge University Press, 2003); Jean Oi, *Rural China Takes Off: Institutional Foundations of Economic Reform* (Berkeley: University of California Press, 1999); Edward S. Steinfeld, *Forging Reform in China: The Fate of State-Owned Industry*, *Cambridge Modern China Series* (Cambridge, UK, and New York: Cambridge University Press, 1998). On Brazil, see Montero, *Shifting States in Global Markets*; Tendler, *Good Government in the Tropics*.

63. See the references in notes 6, 11, and 15.

64. The key works on Latin American federalism are Tulia Falleti, "A Sequential Theory of Decentralization: Latin American Cases in Comparative Perspective," *American Political Science Review* 99, no. 3 (2005): 327–46; Guinazu, "The Subnational Politics of Structural Adjustment"; Steven Levitsky, *Transforming Labor-Based Parties in Latin America: Argentine Peronism in Comparative Perspective* (New York: Cambridge University Press, 2003); Alfred P. Montero and David J. Samuels, *Decentralization and Democracy in Latin America* (Notre Dame: University of Notre Dame Press, 2004). For Doner's framework, see Doner et al., "Systemic Vulnerability."

65. Excellent discussions of gatekeeper, glass ceiling, and asymmetric market power can be found in Henry Farrell and Jack Knight, "Trust, Institutions, and Institutional Change: Industrial Districts and the Social Capital Hypothesis," *Politics & Society* 31, no. 4 (2003): 537–66; Gary Gereffi, John Humphrey, and Timothy Sturgeon, "The Governance of Global Value Chains," *Review of International Political Economy* 12 (2005): 78–104; John Humphrey and Hubert Schmitz, "Chain Governance and

Upgrading: Taking Stock," in *Local Enterprises in the Global Economy*, ed. H. Schmitz (Cheltenham and Northampton: Edward Elgar, 2004), 349–81. On the problems of coordination, especially in Latin America, see Ostrom, "Coping with Tragedies"; Schneider, *Business Politics and the State*.

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