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Dynamic Production Systems in Newly-Liberalized  
Developing Countries: Agroindustrial Sectors in Ar-  
gentina and Chile

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Dynamic Production Systems in Newly-Liberalized Developing Countries:

Agroindustrial Sectors in Argentina and Chile

Many developing countries are facing a policy dilemma. They have experienced with several variations of state-led development strategies in the past with disappointing results. To face the increasing socio-political problems related to these kinds of strategies, during the past decade several developing countries have introduced wide-ranging free-market reforms, liberalizing and opening their economies to the forces of international competition. Now that most of these reforms have been completed, new problems have emerged for which the free-market recipe may encounter tougher political resistance. Imperfect markets, poor infrastructure, deficient educational systems and weak governments are making the transition to open and competitive economies very painful. Many sectors are succumbing to the new competitive pressures, and many firms, especially the small and medium-size enterprises (SMEs), are finding the global marketplace a hostile territory.

These firms, as well as the social sectors which are affected by their performance, are clamoring for assistance, increasing the pressure on governments to change their economic orthodoxy. The dilemma for these governments, then, involves the search for new ways in which the public sector can help these firms compete without falling back into the old mistakes of across-the-board protectionism and expensive subsidies that proved damaging in the long term. How can these economies continue to benefit from the advantages of competitive markets but handle the social and political costs resulting from a rapid process of resource re-allocation? How can the public sector assist firms adjust to the new economic context without threatening the newly-achieved fiscal discipline? Which are the business strategies that would permit SMEs to successfully overcome both the dismantling of the paternalistic state and their own lack of resources?

There has been a regrettable lack of innovative answers to this dilemma within the field of the political economy of development. The debate on these issues has centered either on state vs. market-based approaches to development (Bradford, 1994a; Stepan, 1992; Fitzgerald, Floto and Lehmann, 1977) or on export orientation vs. import substitution as superior economic strategies (Lin, 1989; Corbo, Krueger and Ossa, 1985; Ariff and Hill, 1985). There has also been much discussion of the reality that state-led strategies have enjoyed great success in

some developing countries in East Asia (World Bank, 1993, Amsden, 1989; Preston, 1987; Linnemann, 1987; Deyo, 1987), but few scholars have suggested new alternatives for the post-liberalization stage in those countries that failed in their original attempts at state-led development, which is the case of most of Latin America.

In the advanced industrial countries (AICs), however, a new body of literature has emerged which focuses on new policies and business strategies that help sectors and regions to be dynamic and compete successfully in global markets. Although this literature addresses problems in AICs, it contains very interesting ideas which can contribute to the new debate within development studies. Research which seeks to explain the competitiveness of certain regions or sectors in Western Europe, the US and Japan shows a model of economic governance<sup>1</sup> that is different from the traditional forms of state intervention in the economy, while it also departs from the ideal hands-off state of the free-market model. The new ideas incorporated in this model have resulted from the studies of industrial districts and flexible production systems (Piore and Sabel, 1984; Christopherson and Storper, 1989; Pyke, Becattini and Sengenberger, 1990; Ernste and Meier, 1992; Storper and Scott, 1992). These studies reveal that the strengths of sectors or regions that are particularly dynamic lie in the way inter-firm cooperation, joint public-private initiatives and locally-based public policies all serve to increase the international competitiveness of the region or sector. In this article the competitive regions or sectors which present such characteristics will be called Dynamic Production Systems (DPS)<sup>2</sup> which suits better the cases analyzed here than other terms used in the literature that reflect a narrower focus on industrial flexibility. This literature proposes innovative strategies for the problems that SMEs face when they attempt to compete in the international economy, and it also suggests ways to promote permanent adjustment and innovation in these firms. These strategies involve cooperation among firms, collaboration between the public and private sectors,

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<sup>1</sup> Economic governance of a given sector or region refers to the "institutions capable of coordinating the interests and influences of diverse yet economically-linked actors" (Doner, 1994:5). Governance mechanisms involve markets, bureaucratic hierarchies, business associations, unions and informal networks, and they can be better understood at the sectoral level as opposed to the national level (Hollingsworth, Schmitter & Streeck, 1994).

<sup>2</sup>Use of the word "systems" refers to the fact that the focus is on sectors in which firms at different stages of the production process, local and national associations, technical institutes, universities and local and national public agencies are all tightly linked in different arrangements involving cooperation and collaboration. These systems thus constitute a single unit of analysis. The choice of the term "production", as opposed to the more frequently used "industrial", stresses the fact that these governance mechanisms may develop in many different sectors, be they industrial, agricultural or service-oriented. Finally, "dynamic" refers to the characteristics of these systems that emphasize innovation and a strong entrepreneurial drive. Their dynamism may be measured by rates of increasing productivity, by the incorporation of new technologies, by growth rates or by the ability to penetrate demanding export markets.

and improved use of scarce resources on the part of local and regional governments in order to boost the competitive position of businesses in the area.

These ideas address precisely the kinds of challenges that much of the developing world is now facing. They are particularly attractive for those less developed countries (LDCs) which suffer from the policy dilemmas mentioned above, for the following reasons:

- First, this literature deals with sectors or regions where SMEs predominate. These firms are generally characterized by the lack of resources and scale necessary to compete globally which most firms in LDCs also lack, regardless of their size (Sabel, 1986).
- Second, most of the cases studied under this model of economic governance involve sectors that are considered "traditional" or "low-tech," such as wooden furniture, textiles, ceramic tiles, toys or shoes, and some of these are even labor-intensive<sup>3</sup>. By showing that dynamism is not inherent to specific economic sectors (e.g. "high-tech", "high-value-added"), this literature challenges some prevalent views about sectoral and strategic trade policies that advocate "picking winners", or privileging some sectors over others (Hirst and Zeitlin, 1992). These views have led some LDCs to implement misguided sectoral policies which have not only failed to create self-sustained "winning sectors", but have also discriminated against traditional sectors with high growth potential.
- Third, many of the regions highlighted in this literature are, or have been until recently, relatively marginal (Storper, 1990). Indeed, areas such as northeastern Italy (the so-called "Third Italy" of this literature), southern Germany and southern France, where many dynamic districts now flourish, have long trailed behind those regions which traditionally led the way in modernization and economic growth in their respective countries (Pyke and Sengenberger, 1990; Herrigel, 1989; Ganne, 1992). The way these areas managed to "catch up" and surpass more established areas, overcoming historical disadvantages, is very relevant for developing countries which, to an extent, all share this "peripheral" condition in the world economy. Furthermore, within each LDC the issue of uneven regional

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<sup>3</sup>There are exceptions to this pattern. For studies on dynamic economic agglomerations that focus on "high-tech" industries, see Saxenian's work (1992) on the micro-electronic industries in California's Silicon Valley and around Massachusetts' Route 128.

development is also important, so that strategies suggesting new ways to dynamism within previously undynamic regions can undoubtedly make great contributions.

- Fourth, and finally, the kinds of public policies that helped to stimulate the dynamism of certain sectors are also quite attractive from a developing country perspective. Most of the policies involved are implemented at the level of local governments, and thus they do not demand large amounts of public resources, which makes them "affordable" even within the new fiscal austerity of most LDCs. By being local, these policies have a better chance of meeting the challenge of accountability and efficiency in public policy implementation that is so highly demanded in LDCs today. They also reveal a type of government-business relationship that does not fit exactly the free-market case, but also differs from the state-led model, which denies individual entrepreneurship any significant role.

It is startling to find, however, that despite the potential contribution of this theoretical body to present policy dilemmas in LDCs, and despite the pressing need in these countries for innovative development strategies, the overwhelming majority of research and theoretical debate has concentrated on the AICs<sup>4</sup>. This article is part of a larger project that begins to fill this important gap in the theory and its empirical application through the analysis of two dynamic production systems in Argentina and Chile, dairy and fresh fruit respectively. The focus in this article is on one aspect of these DPSs that appear as crucial in the broader literature: inter-firm cooperation. The rest of the research on these two cases which is not included in this article focuses on the role of sectoral public policies (particularly locally-based initiatives), R&D efforts and the social and political conditions that facilitated the emergence of a pattern of diffused entrepreneurship. The question that guided this research concerns the kind of business strategies --and the public policies that have facilitated them-- which may explain the dynamism of these two sectors over the past decades.

The research involved two agroindustrial sectors, one in Argentina and one in Chile. The rationale for the choice of two sectors in different countries is that they can provide a broader picture of how different policies and strategies contribute to the strengths and the weaknesses of a DPS. It also helps to illuminate how different social and political conditions facilitate the adoption of certain policies and business strategies, while

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<sup>4</sup> There are some limited exceptions to this. Some authors have speculated on the value of the theories of dynamic production systems to analyze the problems of the developing world (Sabel, 1994; Doner, 1994; Storper, 1990; Sabel, 1986) and only recently is some empirical research being published (Verschoor, 1994; Morris & Lowder, 1992).

discouraging others. The strategy behind the analysis of DPSs is to choose to study those sectors "...that have proved most successful in the current phase of international competition" (Hirst and Zeitlin, 1992:103). I added another criteria in my choice of the fresh fruit sector in Chile and the dairy industry in Argentina. In addition to their dynamism, these sectors also share a basis in natural resources, and as such were badly neglected during the previous development orthodoxy, and which also have received little attention within the research on DPSs. It is interesting that, counterintuitively, the success of these sectors is the result of a great technological effort, which is not reflected in the "high-tech" level of the final product, but instead in the application of continuous technical innovations in the production process and in the transport and commercialization phases. This is also the case in many of the mature sectors analyzed in the DPS literature in the AICs, as has been mentioned above. Finally, agroindustry is proving to be the most dynamic sector in the current development strategies of these Southern Cone nations, while the liberalization of trade in agricultural goods as agreed in the last GATT round suggests even greater growth potential.

Within agroindustry, the choice of the Chilean Central Valley's fresh fruit export sector responds to its extraordinary transformation, growth and dominance of demanding international markets over the past two decades. During the last 20 years, the Valley's fruit exports achieved growth rates of over 20%, making Chile the largest fruit exporter in the southern hemisphere. What makes the sector a particularly interesting DPS, however, is that it has developed a governance structure that involves many social actors that have been able to coordinate their activities in order to meet strict international standards in quality and quantity, as well as in the timing of delivery.

The dairy sector in Argentina's Rafaela region in the province of Santa Fe is a very interesting case of a dynamic regional production system in which competition and cooperation among producers and collaboration between producers and government institutions have contributed to a high level of productivity. The growth of this sector over the past two decades has surpassed that of other agricultural activities and that of other dairy producing areas within Argentina. This region has also been studied for its particular dynamism in other sectors dominated by SMEs, such as machine tools, agricultural machinery and autoparts (Ascúa and Worcel, 1991; Quintar et al., 1993). Only intense macroeconomic disturbances in Argentina, combined with high levels of subsidies and regulations in export markets, have prevented this jump in productivity from translating into the degree of export success achieved by the Chilean fruit sector. In the absence of expanding domestic or foreign

markets, the increase in productivity resulted in the unleashing of resources for other agricultural activities, and only partly in increased production<sup>5</sup>.

Finally, the choice of Argentina and Chile responds to their sociopolitical structural similarities that helps to hold many variables constant and their similar recent experiences in implementing widespread market reforms. This latter fact makes them typical cases of newly liberalized developing countries which face the kind of policy dilemmas mentioned above.

### Inter-firm Cooperation in Rafaela, Argentina and in Chile's Central Valley

#### - Inter-firm Cooperation and DPSs

Competitive forces in global markets generate pressures on firms to improve production: lower prices, higher quality, newer products, better service. Diffused entrepreneurship in the DPSs provides creativity in the form of numerous individuals who are willing to subject their production to the demands of the market. R&D institutions in dynamic systems offer firms access to the technologies and skills they need to permanently upgrade their production processes in competing successfully in world markets. The small size of most firms in DPSs is an integral part of their dynamism because, as SMEs, they do not face the same constraints to change and adapt which the bureaucratic structures of large firms face. Economies of scale, however, allow large firms to have easy access to crucial resources such as long-term credit, market information, buying power in the purchase of inputs, product promotion and new technologies and management techniques. It is in this regard that inter-firm cooperation becomes crucial in a DPS by allowing SMEs to maintain their flexibility and dynamism while helping them to realize necessary economies of scale in key issues by joining their forces. Inter-firm cooperation arrangements have taken different forms in the numerous DPSs of the world and cover such activities as credit consortia, joint marketing strategies, collective commercial missions to foreign markets, information sharing on a diverse set of issues, quality control, joint R&D departments, and ad hoc cooperatives

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<sup>5</sup> The recovery of domestic demand in the past three years, plus the more recent increase in Brazil's import demand for dairy products is changing this scenario. Production is now growing at a steady 10% per year.



to share expensive machinery or provide accounting services for several firms. Cooperating with other firms in these activities allows each SME to achieve the specific purpose of the cooperative arrangement, but it also helps small firms to reduce their isolation so that each agreement leads to greater knowledge of other firms in the area and to potentially higher levels of cooperation regarding new issues (Pyke & Sengenberger, 1990).

The literatures on flexible specialization, industrial districts, economic agglomeration and dynamic contractor-subcontractor networks emphasize the role of different forms of cooperation by firms in DPSs. Cooperation allows firms to achieve collective efficiency (Verschoor, 1994). Firms in industrial districts or regional agglomerations use many diverse institutional spaces for collaboration. These can be as varied as local and regional business associations, public-private R&D initiatives, cooperatives, suppliers networks, or even informal links such as extended family ties and regular local social gatherings in which managers or technical staff share their work experience and monitor each other's innovation efforts (Saxenian, 1992; Doner et al., 1993; Friedman, 1993; Piore & Sabel, 1982). The common element in all these cases is that the basis for such cooperation is a rich social and institutional context that developed through a long historical process.

Most developing countries do not enjoy such social and institutional contexts and it is therefore very interesting to study inter-firm cooperation in these countries, in addition to the business strategies that have been successful in this regard and the public policies that have contributed to the promotion and development of cooperation.



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Inter-Firm Cooperation in Agroindustrial Sectors in Developing Countries

With respect to inter-firm cooperation, the fact that Chile and Argentina are developing countries implies that many of the institutions which supported the generation and maintenance of trust among firms in advanced countries are little developed. Political and economic instability does not contribute to the evolution of strong civil society or state institutions, which often work as integrating factors. Other sources of trust and social cohesion of a more informal type are present, however, such as ethnic links among immigrant communities, extended family ties and state-induced collaborative arrangements. Agroindustrial chains also reveal clear

differences from well-known manufacturing examples of DPSs. Among producers, while some factors encourage cooperation, certain characteristics of independent farmers also clearly discourage it.

In general, there is more competition among farmers than in industrial sectors because hardly any industrial sector is characterized by supply conditions as atomistic as those in agriculture. Individual farmers cannot influence prices or capture significant shares of any one market in ways that would push their competitors to withhold information or refrain from cooperation to prevent others from gaining a competitive edge. In other words, it is very rare in agriculture that farmers believe they are playing a zero-sum game in which one's advance is always at the expense of others. This means that while the advantages of cooperation are quite evident for agriculture, the problems associated with it in an industrial setting seem less important.

Cooperation in most industrial districts occurs among firms specialized in different stages of the production process. Competing relations, in contrast, tend to be more frequent among those participating in the same stage (Brusco, 1990). Farmers are in fact in the same stage in the agroindustrial production process. While this encourages collaboration with firms up-stream and down-stream, as in each DPS analyzed here, it should discourage cooperation among producers. Agricultural producers also lead more isolated lives, having much less interaction among themselves and with other members of society than the average industrialist, let alone those entrepreneurs located in industrial districts where trust has been developed by widespread participation in the district's multiple social institutions. This is why the examples of cooperation among fruit growers and dairy farmers in this article are particularly significant.

In terms of inter-firm cooperation among firms located at different places along the productive chain, there are important relationships between producers and exporting firms in the case of Chilean fruit or processing firms in the case of Argentine dairy production. Producers in both sectors share a love-hate relationship with the down-stream firms (i.e. firms that stand between the farmers and the consumers in the production chain), and other studies on agroindustrial sectors suggest that this is a common feature of most of these chains (Young, 1991; Portz, 1991). Conflict is due to the great power differential between individual farmers and the down-stream firms. In most cases, the latter form part of a highly concentrated sector that often has market power to affect buying conditions since they face a very atomized supply. Moreover, unlike farmers, the down-stream firms have access to crucial market information because they are in everyday contact with final

demand, are aware of market conditions and have multiple resources to anticipate shift in demands, price fluctuations and changes in national or international regulations affecting their activities. Given these structural conditions, and the fact that prices paid to farmers for their products account for a decreasing share of the final price consumers pay, agricultural producers argue that they never get a fair price, and that, because they are the weakest link in the chain, they are systematically cheated by the down-stream firms.

Agroindustrial chains, however, enjoy a collaborative aspect that much resembles the kind of cooperative relations developed between large firms and their suppliers in the "solar system" created by Japanese firms (Piore & Sabel, 1984). As with other large industrial firms with extensive subcontractor networks, large agroindustrial firms find many advantages in delegating the production phase to small farmers rather than engaging in total vertical integration. While some fruit-exporting firms and dairy processors operate certain productive activities of their own, the overwhelming majority buy from individual farmers. The firms benefit to the extent that growers have higher quality production and use better technology and varieties (in the case of fruit). It often makes sense, then, for firms to provide growers with technical and managerial assistance in order to up-grade their farms. In both cases studied here, the assistance provided by down-stream firms is a major force behind the dynamism of the primary sector.

In these cases, therefore, important differences distinguish agricultural from industrial DPSs. In each DPS, some conditions foster inter-firm cooperation while others prevent it, and in each of the two cases, these conditions combine in different manners.

#### Patterns of Inter-Firm Cooperation in Argentina and Chile

There are different forms of cooperation in the two sectors analyzed in each country. For analytical purposes, they are grouped in this article under three separate headings: cooperation among agricultural producers, cooperation between producers and down-stream firms, and the collaboration that takes place within the institutional framework of business associations.

## I. Cooperation among producers

Argentine dairy farmers and Chilean fruit growers cooperate among themselves in two different ways, forming either traditional cooperatives which involve varying degrees of joint activity in farming tasks, or small groups which share their technical and managerial experiences and jointly receive technical advice from agronomists. The extent and form of cooperation varies extremely between each sector, with the Rafaela DPS greatly exceeding that of the Central Valley's fruit growers. While the region around Rafaela is the center of Argentine cooperativism, among Chilean fruit growers cooperatives are not significant. The same is true of the small-group organizations, which started much later and have less impact in Chile than in Argentina, where the success of the original groups that began more than 30 years ago not only permitted the expansion of more of those same groups, but also encouraged others to imitate its institutional innovation by creating similar groups under different names. This development had an important impact on the overall degree of cooperation among agricultural producers in Argentina.

- Argentina

a) Dairy Cooperatives

The origins of cooperatives among agricultural producers in Argentina are very old and intimately related to the history of the agricultural colonies formed by European farmers in the Pampean region in the late 19th century. Later, agricultural cooperatives extended to other regions and today over 85% of all agricultural producers in the country are members of cooperatives, although they account for less than 30% of Argentina's agricultural production since large property owners tend not to be members (Coninagro, 1992). This explains why cooperatives are stronger in Santa Fe, the Argentine province which implemented the most extensive agricultural colonization plan. The county of Castellanos, of which Rafaela is capital, is called the "cooperative capital" of the nation. It was here where the first dairy cooperatives were formed, and where farmers first gathered to jointly sell their milk to the processors. Later they created second-degree cooperatives, which are cooperatives of cooperatives, in order to industrialize and commercialize dairy products themselves.

Swiss German immigrants introduced dairy farming to the region, incorporating traditions of dairy farming from their homeland. A group of the Swiss Germans formed the first dairy cooperative in 1909 in Santa

Fe which produced all sorts of dairy products, and in the early 1920s the Italian settlers began to form their own cooperatives (Guillén, 1984).

In 1938 producers took a step further as sixteen cooperatives joined and formed a second-degree cooperative, Sancor, to set up a full-fledged dairy industrial plant, which began operations in 1940. Over the next few years Sancor experienced explosive growth and by 1946 included 206 associated cooperatives, operated three different factories and produced the entire scope of dairy products existent at that time, selling in both the domestic and foreign (mostly the U.S.) markets. This process was abruptly interrupted in 1947 when the national government, under the Peron presidency, took over Sancor due to its opposition to attempts by the government to nationalize the commercialization and foreign trade operations of Argentina's agricultural production. The government essentially controlled Sancor until the fall of the Peronist government, in 1955.

As part of its economic growth, Sancor created a cooperative bank, a meat-packing plant, and a cooperative insurance company that became a leader in the sector. This cooperative firm has not only survived Argentina's chronic political and economic instability of the last half century, but is today a giant in the sector, processing about a quarter of all the milk produced in the nation. One of the two largest dairy companies in the country, Sancor has annual sales of near US\$ 1 billion, which places it among the fifteen largest Argentine firms. It has grown beyond Castellanos county and, although its headquarters and main industrial plants are still there, Sancor now has over forty other industrial facilities in the rest of Santa Fe province, and in Córdoba and Buenos Aires as well.

The impact of such development in the area has been and continues to be very significant. Today 42% of all the milk in the country is produced by dairy cooperatives, 43.8% of which are located in Santa Fe (Coninagro, 1988). The strength of the cooperative movement acts as a balancing force in the negotiations between producers and processing firms. The standards set by Sancor then, in terms of the prices and conditions under which it buys milk from its member farmers, are quite important as they serve as references for the rest of the sector. This role of Sancor also means that a large portion of dairy farmers have easy access to down-stream market information that in other agroindustrial chains would not be available to them. Finally, intra-chain collaboration is facilitated by the fact that the producers who sell their milk to Sancor are also its co-owners.

Even though other non-cooperative firms also have interesting technical assistance programs, Sancor has developed a very extensive support network for its suppliers, which will be analyzed in the next two sections.

#### b) Cooperation Schemes among Small Groups

In 1957 a group of Argentine farmers decided to imitate an example of cooperation among producers which they observed in France, in the form of groups called CETA which had began in 1946. These farmers formed the first group in western Buenos Aires province and called it Regional Agricultural Experimentation Consortium (Consortio Regional de Experimentación Agrícola or CREA). The idea behind these groups is extremely interesting and potentially relevant to many other sectors of the economy. The CREAs are small groups of producers from the same area, with ten to twelve members each, which meet on a monthly basis to share personal knowledge and experiences in the management of their farms. They exchange information, ideas and projects, under the coordination and technical assistance of an agronomist. The design of these groups is very ambitious because it seeks to break with the traditional individualism of farmers, changing their ways of thinking rather than promoting specific technological advances. Once a month, one of the members acts as a host for the gathering and virtually "undresses" himself, as they phrase it, by discussing with the group all issues related to the management of his farm during the previous year. This discussion might include technical, managerial and financial aspects, investment decisions, tax payments and even some more personal issues such as the family financial situation as it is affected by the way the farm is managed. Together, the group visits the fields themselves to inspect the crops, cattle or whatever production takes place on that farm, after which they provide comments and criticism and suggest solutions to their host. Finally, the agronomist delivers short lectures intimately related with the concerns of the host, or often on an issue that the whole group has specifically asked him to prepare (AACREA, 1992).

The results in increased productivity have been remarkable in most cases. Although approximately 1% of dairy farmers in Argentina belong to CREA, those who are members own 2.94% of the cows and produce 7.13% of the nation's total milk production. In the Tandil dairy basin in Buenos Aires province, the forty dairy farms which belong to CREA enjoy an average productivity of 210 kg of milk fat per hectare, compared to an average in that basin of 74 kg, and an average in the province of 50 kg. (Infortambo, 1992).

Furthermore, the impact of these groups might be larger than the numbers suggest. For example, there is a demonstration effect that influences all those farmers with properties close to CREA members. The success of CREA members attracts the attention of neighbors who begin copying any innovation the CREA member is using, often trying to join the group or form a new one. Moreover, the Argentine Association of CREAs (AACREA) publishes a journal in order to widely diffuse awareness of CREA activities and research. AACREA also organizes open meetings and regional and national conferences for members and non-members, as well as courses for farmers, technical staff or workers, some of which are open to non-members. AACREA also directs a department of economics that offers macroeconomic information and administrative services such as accounting for farms and standardized planning for the annual production of different agricultural goods. The federation also promotes studies in soil conservation and environmentally-sound farming techniques. Faced by world markets in which governments seriously subsidize the domestic production of temperate agricultural products, which Argentina has traditionally produced, AACREA is engaged in the research of new alternative products and markets in order to diversify the country's agricultural exports.

The most interesting effect, however, seems to have been the imitation of CREA's institutional dynamic, rather than its technical results. Since its rapid expansion in the Pampean region, many other groups have emerged that adopt the same "philosophy," with few changes, to their own specific needs. In the Rafaela area, the CREAs have little impact, with only a few groups working there. After trying and failing through different methods to increase their suppliers' productivity at low costs, Sancor has copied the CREA method and has organized its associated dairy farmers into small groups called Cooperative Integral Advising Groups (Grupos de Asesoramiento Integral Cooperativo or GAICO). They are a little larger, fifteen to eighteen members, and there are sixty-eight of them organized by Sancor. The rapid expansion in this area was facilitated by the fact that the farmers have already entered other types of cooperative arrangements and therefore expressed lower resistance to the new initiative. The other large Argentine dairy firm, Mastellone Hermanos, has also organized its suppliers in groups directed by the firm's agronomists, and other groups with different names also exist in other provinces such as Entre Ríos. Furthermore, the national agricultural research institute, the INTA, has taken the same model to launch in 1993 Cambio Rural, a plan to generalize this pattern of inter-firm cooperation and in the first year of operations it had already helped to create over 1600 groups of small and medium-size farmers, 19000 in total, with goals similar to those of the CREA groups.

This type of inter-firm cooperation is growing but still quite limited to the agricultural sector. While the peculiarities of this sector, such as its limited competitive nature makes the method special, it involves a kind of institutional innovation that deserves to be further explored in terms of its potential applicability to the SME sector in other contexts, including industry or services.

- Chile

a) Cooperatives

The cooperative movement in Chile has gone through different periods in terms of its significance for the agricultural sector, from its incipient development in the first decades of this century, to its peak in the 1960s and, finally, to its present weakness. The shifts in public policies towards the cooperative sector have been fundamental in shaping this evolution. Unlike Argentina, where most of the cooperatives developed out of the spontaneous decisions of producers or under the stimulation of pre-existing cooperatives, in Chile the major stimulus has been public policy aimed at promoting the formation of cooperatives in the countryside as a means of addressing the problems of small-scale agriculture. While this state support helped Chilean cooperatives to grow quickly in the 1950s and 1960s, it also created dependence on the state which accounts for their just as rapid demise once they faced the hostile government of General Pinochet. The bottom-up characteristic of the Argentine cooperativism made it more resilient to the vagaries of public policy, while the fact that Chilean cooperatives were created "from-above" made them weaker.

The first agricultural cooperative in Chile was created spontaneously in 1918, but soon after, under the reformist governments of the 1920-1925 period, Congress passed several laws granting special benefits to this form of association. By 1955 there were only sixty-two cooperatives, accounting for 8% of all agricultural production. In the next twenty years, however, much more active policies on the part of increasingly interventionist governments increased the number of cooperatives to their highest levels in terms of their shares of agricultural production (Barría et al., 1991). In the dairy sector, for example, the cooperatives once processed 42% of all the milk produced in Chile, which is exactly the same percentage as the current level in the same sector in Argentina (Barría et al., 1991).



But a large number of these cooperatives were either regular private sector corporations that adopted the legal form of cooperatives to take advantage of their numerous privileges, or very loose and weak unions of producers kept together only under the permanent support of state institutions. When the military government began to withdraw state support from the sector, exposing it to market forces and opening the agricultural sector to cheap imports, a large number of the cooperatives succumbed. By 1984 only 35% of the cooperatives existent in 1970 had survived, and their members were only 20% of those of 1970. A study by the ECLAC in 1985 showed that agricultural cooperatives had decreased by 65% from the pre-*coup* levels (Barría et al., 1991).

In the Central Valley's fruit sector, cooperatives are even weaker. Since the bulk of cooperatives in Chilean agriculture were formed among small farmers of peasant origin under public stimulus, these forms of association did not appeal to the more entrepreneurial medium-size fruit growers which constitute the core of the fresh fruit export sector. Also, many of these medium-sized growers started producing fruit in the 1970s and 1980s when the massive state incentives to create cooperatives were no longer there. Beyond the organization of small groups described below, few cooperatives are operating at a significant scale among the growers in the Central Valley. There were some attempts, mostly at the beginning of the boom, on the part of large growers to jointly commercialize fruit products themselves, setting up their own export firms. Many of these attempts failed due to the complexity of the whole operation and due to growing difficulties and competition once the whole industry became a multi-billion dollar business and once large multinational corporations entered the scene in the 1980s (Escobar & Contreras, 1990). Even under the small-group organization, all efforts to move beyond technical and managerial cooperation to engage in the joint purchase of supplies or joint commercialization failed due to the individualistic values of most growers and due to competitive market pressures which stimulate opportunistic behavior.

#### b) The Small Groups

Created in the early 1980s, Chile's Technology Transfer Groups (Grupos de Transferencia Tecnológica or GTT) were also modeled after the French experience with the CETA groups and are thus quite similar to Argentina's CREAs. Unlike the Argentine experience, the whole system in Chile was initiated by the Ministry of Agriculture through the National Institute for Agricultural Research (Instituto Nacional de Investigaciones

Agropecuarias or INIA), with the result that the state formed the groups and paid the salary of the agronomist who works with each group for its first four years. As in the Transandean experience, the groups work only with advanced producers and it only reach limited numbers of members. There are about 200 groups with a total of approximately 1,500 members, although they account for a larger share of agricultural production due to their higher productivity and larger farms.

Besides the participation of the state, the GTTs differ from their Argentine counterparts in the stronger emphasis they place on technology transfer. One main goal of the GTT system is to bring down the walls between agricultural research and real-life farming. Since the system was organized by the INIA itself, the agronomists leading the groups were very often also members of the institute. Moreover, in addition to the technical assistance provided by each group's agronomist, in the monthly meetings of these individual groups the host chooses a particular technological issue and invites an expert in that area to give a lecture. This practice has been very successful in getting agricultural scientists out of their ivory tower, helping them to develop a sense of the real needs of the natural recipients of their research, and providing a unique opportunity to test their theories in real life environments.

The impact of the whole system, as in Argentina, most likely exceeds what the figures suggest. The success of the groups achieved a strong demonstration effect by showing all non-members that cooperation among them, even of a limited nature, can bring concrete benefits. Also, other producers in the area have rapidly copied any innovation the GTT members introduced in their properties. From the interviews with GTT members and other producers, and from the more general literature about characteristic elements of the fresh fruit sector's technological progress, it is clear that the Chilean growers have been great "copiers." The success stories of some new species such as the Kiwi<sup>6</sup>, reveal how products have been diffused at great speed simply because many producers merely follow the leaders. The extension of this cooperative form to other institutions, as happened in Argentina, does not seem to be happening in Chile beyond the new INIA attempts. This may respond, however, to the shorter history of the Chilean experience. The praise GTTs in Chile have received from writers and commentators of different backgrounds and the present rapprochement between the INIA and the SNA together suggest that it may extend much further in the near future.

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<sup>6</sup> Technologically-based "copying" without attention to market conditions, however, created an excess supply which caused heavy losses among the latest entrants to the kiwi business in Chile.

## II. Cooperation within the Agroindustrial Chains

This section explores the relationship between producers and those who buy from producers, namely the exporters in the case of fruit production and processing firms in the case of the dairy sector. There is also some limited cooperation between the producers and up-stream firms, such as the suppliers of seeds, fertilizers, pesticides or plants. In general there are three main possible ways of organizing the relationship between agricultural producers and firms down-stream. The first one is vertical integration, in which a single organization is in charge of the production and commercialization of the product. A typical example has been Central American banana plantations owned by a large transnational fruit firm who also owns the land, the ports, the ships and the importing firms in the destination countries. A second organizational form is called contract farming, and refers to the arrangement in which the buying firms signs contracts with individual producers before the agricultural season begins which specify different issues including quantity, prices, quality, varieties, and time of delivery. The contract may be more or less formal and significant depending on different conditions, and this system generally involves some kind of assistance from the buying firms to the producers. The last possibility is the exchange of products in the spot market, where buyers and sellers meet after the harvest and where prices and conditions are set by market mechanisms.

In both the Central Valley's fruit sector and Santa Fe's dairy sector, the predominant organizational form is contract farming in different versions, while limited vertical integration does take place in both cases, although more in Chile than in Argentina. The relationship between both stages of production is rather conflictive because each actor has opposite interests in the crucial issue of the product's price. On the other hand, however, both actors are part of a single chain and need each other to grow and succeed in complex markets. The producers lack the resources and the expertise to reach the final consumers by themselves, while fruit production and dairy farming are such risky and complex activities that they may be characterized by diseconomies of scale which discourage vertical integration on behalf of the large down-stream firms.

In both cases the state has been remarkably absent in regulating these relationships, while in other competing countries strong marketing boards or similar institutions regulate them quite heavily. In the absence

of state regulations, other institutions have frequently evolved to deal with the conflictual side of this link in the productive chain. Strong producers associations, for example, help to overcome the obvious problem of the power differential between the atomistic supply structure and the more concentrated buying side. In the two cases analyzed here, two different factors have mitigated this conflict and enhanced the cooperation between producers and the down-stream firms. One of these factors is more circumstantial while the other is more structural. In Chile, during the long boom of fresh fruit exports between the early 1970s and the early 1990s, demand outstripped supply most of the time. This led exporters to compete for producers, especially good ones, by offering them attractive prices and assistance, which was possible since profits were high all along the chain throughout this period. In Argentina a more institutional force has played an important role, and that is the existence of the strong cooperative sector which acted as a trend setter for the rest of the industry. Sancor is such a big and visible player in the sector that prices or conditions much below those offered by Sancor to its suppliers would become unacceptable. Even in these cases, however, the situation is far from optimal and a more collaborative approach should help the whole chain to work more smoothly. Public policies could possibly be useful with the state acting as facilitator, providing the institutional spaces to stimulate long-term compromises between both sides. Argentina tried a *dirigiste* version of this and failed in the late 1980s, and Chile is excessively traumatized by previous state intervention in the sector to consider this option.

#### - The Dairy Sector in Rafaela

The business structure of this sector is similar to that of other chains with respects to significant concentration on the processing side and a large number of small- and medium-size suppliers of the raw material on the production side. The cooperative sector processes over 40% of the country's milk, but there are certain markets, distinguished by products or areas, that are very concentrated. While the largest five dairy industries account for only 28% of Argentina's dairy product sales, the single largest firm controls 70% of the market for fluid milk and fresh dairy products in the Greater Buenos Aires area. Local small cooperatives and recent attempts by dairy farmers to jointly industrialize and commercialize their own production represent some alternatives, but still not enough to overcome the negative effects of the market power of the largest firm. A big change at the national level is the recent entrance into the market of large multinational firms, such as the

American Kraft, the Italian Parmalat, the French Bongrain and Danone, and the Swiss Nestlé<sup>7</sup>. This might lead to either further concentration or to an increase in competition for milk supply, depending on certain economic policies and the evolution of future national and international demand. In any event, their arrival is still too recent to allow one to evaluate the consequences.

The region around Rafaela has some peculiarities that differentiates it from other dairy basins in other parts of the country. Sancor's influence, which is relevant at the national level, is paramount here, where it buys a very large proportion of the region's milk production. Furthermore, the rich institutional and social life of the area, in addition to the common background of all participants, facilitates dialogue and interaction between local producers organizations and processing firms, enhancing the flow of information between them and creating a relatively high-trust atmosphere.

Besides Sancor, there are two other medium-size dairy industries in the area, and several smaller ones. These two medium-size firms are among the ten largest dairy firms in Argentina and have annual sales of around US\$ 100 million each. They have specialized in the production of less perishable products, mainly cheeses, due to the distance from the largest domestic markets, especially Buenos Aires. One of these firms, Molfino, has its own agronomists who provide technical assistance to its milk suppliers. Molfino uses its buying power to secure lower prices for the supplies required by dairy farmers, and often directly imports milking or cooling machinery for the dairy farms which it sells to them in installments deducted from their monthly checks. The other firm, Williner, the fourth largest in the country, specializes in cheeses. It also provides assistance for its suppliers and, while it is the only firm with significant production in its own farms, it still buys most of its milk from independent farmers. Both Molfino and Williner participate very actively in all local institutions, including the Chamber of Commerce, the Foundation for Regional Development, and the local branches of the Center for Technological Research for the Dairy Industry (Centro de Investigaciones Tecnológicas de la Industria Lactea or CITIL) and the National Institute for Agricultural Technology (Instituto Nacional de Tecnología Agropecuaria or INTA).

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<sup>7</sup> Nestlé has been in the country for decades, but it was dedicated to a niche in the market. It is currently pursuing a big expansion plan to produce the whole range of dairy products. Most of these multinational firms are attracted by the recent progress in economic stabilization and liberalization, but most importantly by the economic integration with Brazil in the Mercosur agreement. It is quite obvious that Argentina will become a natural supplier of temperate agricultural goods to the giant Brazilian market, a tempting possibility for the large multinational food corporations.

Finally, Sancor is also involved in extensive collaborative relations with its suppliers, who are also the co-owners of the firm. The firm has always been involved in providing different forms of assistance to its member farmers, due to its cooperative basis. The big jump in the productivity of its suppliers, however, only occurred once Sancor began a more systematic technical assistance program, helping producers to form CREA-like groups, the GAICO, and creating the Cooperative Extension Service. This assistance touches on every aspect involved in the managing of a dairy farm: artificial insemination, milk quality control, new milking techniques, genetic improvement of the milking cattle herd, advice, control and finance for milking machinery and cooling equipment, technical assistance on complementary non-milking farming activities, the organization of cooperative use of agricultural machinery, the general infrastructural development of the region, the provision of general supplies for the farms, and the organization of courses and seminars on managerial skills related to dairy farming. The result has been a rapid growth in milk production among Sancor's 9,000 associated farmers. Between 1980 and 1987 their milk production grew 104% while the national average was 24% for the same period.

The outlook for Sancor, however, is not entirely sanguine. The firm must compete with other for-profit firms, which puts clear limits on how differently it can behave if it wants to stay in business. Many of its associated farmers complain that the leaders in the firm forget their cooperative origins once they arrive at high executive positions and behave instead just like executives of any other dairy industrial firm. Indeed, during the aftermath of the recent Argentine hyperinflationary crisis of 1989-1990, Sancor ran into deep financial problems. It was forced to suspend payments to its farmers for several months and lowered the prices it paid them, in this way losing many of its associated farmers. Sancor is presently in a rapid recovery process, riding on the wave of the extraordinarily fast recovery of domestic demand after the economy stabilized in 1991, and the growth of Brazil's import needs after 1994. The crisis, however, left some scars in the area. Resentment has built up against other regional dairy industries which, as a policy, have set the prices they pay for milk only after Sancor does, knowing that paying less will lead to the loss of their suppliers. During the crisis, however, these firms continued this practice even though they were in a much sounder financial position than Sancor, which should have allowed them to pay farmers a significantly higher price for the milk than the crisis-stricken cooperative. The crisis, then, has affected the social relations along the chain throughout the region, leading to a decrease in the level of trust among producers and the industrial firms.

This small episode reveals that a rich local social network and extensive cooperative relations can help cushion macroeconomic and political shocks, but only up to a limit. When political and economic instability reaches the levels of the past two decades in Argentina, local dynamic systems such as Rafaela's also get hurt. All economic and social indicators show that, on many accounts, the area performed better than the national average during this period. When the comparison is with other dynamic regions in the world, however, its performance is not quite so impressive.

#### - Intra-chain Relations in the Fresh Fruit Sector of Chile's Central Valley

In the Chilean case, the structural conflict between opposing interests gives rise to a relationship that contains, nevertheless, many elements of collaboration. The key players with which the fruit growers must contend are the exporting firms whose activities are quite sophisticated. Exporters organize the very complex process that begins with the collection of the fruit from the farms and ends in the supermarkets of faraway markets, or in the importers' warehouses. This process cannot last longer than two weeks due to the perishable nature of fresh fruit. Between these two points in time, the fruit is cooled to a temperature that must be maintained all the way to its final destination. The fruit must be transported from the farm to the cooling and packing plant, then to the harbor, and finally to the foreign destination, where the importing country inspects it for quality and for chemical residues. Many exporters are just coordinators with few facilities of their own, while some large transnational firms operate their own packing plants, trucks and ocean vessel fleets and warehouse facilities in the receiving country. Those exporters who are simply coordinators have to make logistically complex arrangements because they must organize each different service for the handling of the fruit in very short periods of time. They also face the problem that all their activity for the year takes place during the short harvest period, which demands strict financial management throughout the year.

Since the export boom began 20 years ago the business structure of fresh fruit production has been transformed, with exports growing at an average 17% per year. Although the industry is still very diversified, with almost 300 exporting firms competing for the market, the crisis of 1981-82 ended with the disappearance of most of the largest Chilean exporters. The Multinational Corporations (MNCs) took advantage of this opportunity to enter the market and very soon captured a large portion of the business. Today, the five leading

companies, the so-called Pentagroup, ship over 50% of all the fresh fruit produced in Chile for world markets. Of these five, only one is a Chilean firm, a survivor of the early stage. The first fifteen firms control almost three quarters of total exports, but the barriers to entry for exporting business are still relatively low and firms still compete for the better growers, which is the biggest restraint on more collusive behavior by the Pentagroup (Escobar & Contreras, 1990).

Conflict arises from more than the mere numerical advantage of the exporting firms. Growers and exporting firms are related through consignment contracts that are extremely troublesome, an issue that has been disguised during the boom years by high profits all along the chain. Currently, the greater maturity of the market and the appreciation of the Chilean exchange rate during the 1990s are stimulating debate about this conflict at high levels.

In the consignment contract, the producer agrees to transfer his production to the exporting firm, who is in charge of providing the additional services and selling the final product. At the end of the season, the exporters consider the final price they obtained for the fruit, and then deduct all the expenses they have incurred, such as shipping, insurance, and inspection, in addition to their commission. The remainder constitutes the price the growers receive. The growers have two major complaints. First, they are the only actors in the production chain who run significant risks, since all other actors charge their costs-plus-profits. For example, if prices are low, the growers may find out at the end of the season that they have lost money. Second, growers complain that they do not have access to any information once the fruit leaves their farms, forcing them to accept the calculations of the exporters --a hardly impartial party-- concerning the final price and the real costs of the rest of the services. This is particularly important since the growers only receive 15-20% of the final price that consumers pay for the fruit, which, unlike milk in the other agroindustrial chain, has not been transformed in any significant way.

There are ways, however, to make the consignment contracts more transparent, and only now, under the pressure of the Federation of Fruit Growers that groups most fruit producers, are they introducing some changes. The Federation has also begun to publish average prices paid to growers so that its associates may evaluate how they stand in the national average and thus have another tool with which to bargain with the exporters next season.



The one important factor which, up to the present, has mitigated this conflict along the productive chain is active competition among exporters for the growers production, especially for the produce of the best growers. This also means that exporters depend on the growers' general improvement, including their ability each year to offer more and better quality fruit and fruit of the right varieties. This dependence explains the extensive assistance most exporting firms offer to their growers, and the fact that most growers tend to stay with the same exporters for several seasons. This assistance involves free permanent technical support by the firm's agronomists, who visit the farms constantly during the growing and harvesting season. Exporters also finance the growers' working capital during the growing season until this can be deducted from their annual check, and in some cases they help growers finance longer term investments like new plantations to help adapt to changes in demand that have left their plants obsolete. Although the exporting firms charge interest on these loans, growers benefit by avoiding the long and troublesome process of arranging bank loans. Banks loans are not only more expensive, but sometimes the exporters finance growers to whom the commercial banks would not lend.

In some senses, the exporting firms also resemble the *impannatori* of the Italian industrial districts who are in contact with the consumer markets and thus have key information with which they organize the multiple activities of the SME networks in the district, making sure that these can respond easily and rapidly to market shifts. The exporting firms are also the privileged links between Chilean growers and the world markets, possessing key information about changes in demand and informing producers of both new fruit varieties or species which are in high demand and old varieties which are in low demand. This information helps the growers plan the season in advance, plans which in turn serve as information feedback to the exporters who can then schedule their post-harvest activities, contacting the ground transportation firms, the shipping companies, and the importers in the destination markets (Escobar & Contreras, 1990). The entry of MNCs furthered the concentration of the exporting sector, and thus has negatively affected relations with the growers. On the other hand, these firms maintain world-wide distribution networks and possess managerial and technological skills that have contributed to the sector's continuous growth and to the conquest of new world markets. In other words, they have improved the "*impannatori*" quality of the exporters.

Up-stream firms, such as suppliers of pesticides and fertilizers or the nurseries that sell new plants, provide some technical assistance along with their sales. The latter in particular are important agents of innovation because they bring from abroad both the latest advances in fruit types and varieties and genetically

improved versions of plants already in production. Often engaging in limited research themselves, these nurseries encourage the growers to improve their stock of plants. They also pass along to growers information on world demand conditions for the new varieties, as well as assistance on how to grow the new species in the particular conditions of each farm (CPU, 1990).

### III. Cooperation within Business Associations

Business or producers associations are very important institutional spaces within which inter-firm cooperation can take place. In some countries these associations lean more towards the provision of services to their members, while in others they concentrate more on lobbying the government in defense of the interests of their members. In the case studies of DPSs, business associations play very relevant roles, either as locally formed entities or as the local delegations of national associations. Associations usually provide collective goods to the SMEs of the area in the form of credit pools, managerial courses and seminars, and representation of the sector in discussions with local authorities, labor unions and national institutions. Associations also often operate technical schools, as in the Baden-Wurttemberg region, in Germany, or create centers for the provision of real services (as opposed to financial services), as in many Italian industrial districts. In some cases, where the public sector is unwilling or unable to deliver basic public goods, the producers associations become a functional replacement in supplying those goods, such as general infrastructure or workers' training programs.

In the cases studied here, the number and significance of both local and national associations, vary between the two countries. Following the pattern seen in the previous issues, the Rafaela region is rich in the activity of locally-based producers associations, and the whole dairy sector at the national level benefits from many overlapping institutions representing producers and processing firms. In Chile, the associations are less developed and less numerous than those in Argentina, and few of them are purely local.

#### - Business Associations in Rafaela

There are several associations in Rafaela representing firms involved in the dairy sector. Some of them are exclusively local while others are part of larger national federations. The local associations are oriented

toward providing services while the national federations are oriented toward lobbying the government for obvious reasons of relative power and proximity to the needs of associates.

In Santa Fe province dairy farmers are members of local Centers of Dairy Farmers (Centros de Tamberos). There is one such center in each town, with the location in Rafaela of a Federation of Centers of Dairy Farmers of Santa Fe, representing all provincial centers. These Centers were created in the early 1970s to negotiate milk prices with the industry on behalf of milk producers. After the recent deregulation of the entire sector, the Centers have redirected their activity towards negotiating with local governments and public utilities regarding taxes, roads, irrigation, infrastructure and rural electricity. They work closely with the local INTA center, and play an important role in carrying out the INTA Plan for the improvement of milk quality. This involves organizing seminars and talks in the local Centers, and distributing informative bulletins among their members. The Centers are not very active in providing further services or assistance to their associates, and it seems that they are looking for a new role now that milk prices are no longer negotiated collectively. There is ample space in which the Centers can increase their activities because they group mainly smaller farmers, precisely those who are in greater need of collective action. At the national level the Centers are affiliated with the Argentine Agrarian Federation (Federación Agraria Argentina or FAA), the most combative of all rural producers associations which represents the smaller farmers.

The larger dairy farmers are members of the local Rural Society, an independent organization of agricultural producers organized nationally in a pyramidal structure, with the local units grouped in regional federations, that in turn are associated with a national confederation, the Confederation of Argentine Rural Societies (Confederaciones Rurales Argentinas or CRA). The members are not just dairy farmers, but agricultural producers in general. The Rural Society of Rafaela is involved in providing different services for its members: it established a system of milk quality control; it keeps official genetic records of cattle; it has formed associations to promote the extension of irrigation systems; it promotes the formation of pools to buy supplies or to commercialize their production; it negotiates with meat-packing plants on behalf of its members, it owns facilities in Rafaela where it holds an annual agroindustrial fair; it offers courses on all sorts of issues related to agricultural activities, as well as training programs for rural workers; and, together with neighboring Rural Societies, it has formed a Foundation to help eradicate the foot-and-mouth disease that affects Argentina's beef and dairy exports. The Rural Society also plays a role in lobbying both the provincial government for lower local

taxes and the national government in issues related to anti-dumping actions against subsidized agricultural imports.

Those who are members of cooperatives receive many of these same services from the cooperative to which they belong. In the region of Rafaela, the cooperatives are all united in Sancor, which is a member of the Inter-Cooperative Agricultural Confederation, the national association that groups all second-degree cooperatives.

The local Chamber of Commerce (Centro Industrial y Comercial del Departamento de Castellanos or CCIDC) groups the area's 650 industrial and commercial firms, including the dairy processing firms and those making machinery for both the farmers and the industries. As a general association, the CCIDC performs the type of activities including lobbying and assisting members which are within the more traditional roles of this kind of institution. The CCIDC often takes the initiative on issues that ideally would be addressed by public policy, compelled to do so by the weakness of the latter. A very interesting example of this tendency related to regional infrastructure was the building of a new gas pipeline. In Argentina, gas is the cheapest energy source, reflecting the country's large deposits of natural gas. As energy costs help determine an industry's ability to compete, Rafaela required access to the national network of gas pipelines. In the absence of initiative on the part of the public sector (including the gas company which was still state-owned at that time), thirty-five local firms united and, with the participation of the provincial government, constructed the Central Santa Fe Gas Pipeline, significantly reducing the region's energy costs for both industries and households (Ascúa & Worcel, 1991).

Two other dependent associations are particularly active and innovative in overcoming the difficulties of local SMEs, providing assistance, for example, in technological innovation, management improvement and access to foreign markets. One of these associations is the Association of Metallurgic Industrialists (Asociación de Industriales Metalúrgicos or AIM), which groups all the industrial firms that work in the two main metallurgic activities of the region: autoparts and machinery for agricultural activities, dairy farming activities and the dairy industry. The AIM has acted to provide the kind of services its members cannot individually afford and contributes to the creation of external economies that increase the individual competitiveness of its associates. One of its more long-lasting successes has been negotiation with the provincial government to set up a local delegation of the Santa Fe Department of Technological Consultancy Services, an organization that aims

to assist the SME sector. Since its opening in Rafaela in 1983, this delegation has been increasingly involved in supporting local SMEs through laboratories for quality control, R&D activities, and courses and seminars on management and production strategies. The AIM also successfully pressured the neighboring Catholic University of Cordoba to organized bi-annual management courses in Rafaela for local businessmen and managers. Finally, the AIM cooperates with and helps direct the local delegation of the National Technological University and the Technical High School, assisting them in fund-raising and in designing their research and courses (Quintar et al., 1993).

The Foreign Trade Chamber is an institution dependent on the CCIDC. It was founded in 1978 with the purpose of promoting local exports and encouraging regional firms to adopt a "global" perspective, since often these firms are too small to face the challenges of competing in world markets. This is particularly novel and important in a country which for decades pursued an inward-oriented development strategy, and in which the weakness of industrial exports constitutes the main obstacle of the current stabilization plan. The Chamber offers the following services: access to the computer network of the National Secretary of Industry and Foreign Trade, which centralizes information about export opportunities; legal assistance on the different laws and regulations of Argentina's foreign trade regime; and on those of the most relevant foreign markets as well; telecommunications services such as fax, telex and electronic mail; translations; and information about international trade fairs, along with assistance in the organization of local firms' joint presence in these fairs. The Chamber has also signed agreements with the Municipality of Rafaela, the Provincial Bank of Santa Fe and the Provincial Under-Secretary for Foreign Trade in order to coordinate the activities of a "Foreign Trade" promoter who will act as the liaison among interested institutions (CCIDC, 1991). The latest project of the Chamber was a joint effort with the provincial and national governments which established a "dry customs office" in Rafaela to facilitate the export-import activities of local firms, reducing the current costs of red-tape in the distant harbors and airports through which the area's foreign trade is currently channeled. The Chamber has signed cooperation agreements with similar institutions in Brazil and Emilia-Romagna, one of the dynamic regions of the Third Italy.

Finally, with CCIDC support of an idea which originated in the AIM, the Foundation for Regional Development was created in 1992. The achievement of macroeconomic stability in the country after 1991 pushed many Argentine firms to turn inwards and address those microeconomic imbalances no longer disguised

by the runaway inflation. Since, in the words of the Foundation's Executive Director "no economy is more dynamic than the dynamism of its component parts and no firm is more efficient than the efficiency of its milieu", several regional firms founded this institution to contribute primarily to increasing the skills of the local entrepreneurs, managers and workers. The idea is that human resources should be the most important competitive advantage of the region. In its first year, the Foundation organized meetings and courses for the local owners of medium-to-large size firms, owners of SMEs, and high level managers. In these meetings which last one full day a management expert gives a talk and the businessmen are encouraged to share their own experiences. The meetings have surpassed the expectations of the organizers, and now the Foundation is planning to engage in broader issues. It signed a joint agreement with the local Technological University and a multinational firm in the area of pneumatic technology for the establishment of a laboratory to conduct research in this technology and adapt it to local needs. The policies and activities of the Foundation are set by a council in which representatives of the founding firms, the mayor of Rafaela and the permanent staff of the Foundation all participate. Its activities are paid for by the initial contribution of the founding firms, while the courses are financed both by those who attend and by the Foundation.

The Foundation is another step in the direction of creating regional institutional spaces in which firms, the public sector, educational institutions and public technological institutes can find ways to collaborate and enhance productive resources, without duplicating efforts. In Rafaela the initiative behind these efforts clearly lies in an active civil society that either "convince" public institutions to go along with their initiatives, or simply carries them out without the state's participation. The increase in these initiatives in the last few years suggests that once the more "macro-level" crises are overcome, such as hyperinflation or the breakdown of major political institutions, regional social and economic creativity revives and strengthens.

All the local associations are also members of national federations that work on larger issues involving the entire sector and that take responsibility for negotiating with the national authorities.

- Business Associations in Chile's fresh fruit sector

The business associations in Chile dealing with the fresh fruit export sector are also significant, although they are more centralized and operate more at the national level than through local associations. The most

important of the associations is the National Society of Agriculture, the SNA, which was created in 1838 and groups all agricultural producers in the country. It represents mainly the large, more modern agricultural producers of the Central Valley, and therefore fruit growers are among its more significant members. The SNA is clearly the most powerful voice of Chilean producers at a political level, since it has represented an economically and politically important sector for over 150 years. Its activities, however, are not limited to lobbying the government. The SNA has been involved in agricultural research since 1841, fifty years before any public institute or university began any such activity in the country. Only ten years later it created a School of Agriculture, and has been involved in both activities until the present (SNA, 1988). The SNA still operates its own agricultural experimental station which conducts basic research. Regarding agricultural education, the SNA administers nine agricultural schools throughout the country, and in 1985 created the Educational Foundation which supports the School for Agricultural Administration and specializes in the management aspects of farming. Beyond this, the SNA stepped in to assist the GTT groups when the present government withdrew its support, as has been discussed above.

Today the SNA also operates a network of radio stations that covers the whole country and that specializes in rural issues. The SNA offers several services to its members, including free legal assistance, periodic publication of the sector's statistics and economic evolution, information on foreign markets, genealogical records of the nation's cattle and an annual trade fair in Santiago to exhibit agricultural products and machinery which has become an important international event in recent years.

The other two associations dealing specifically with the fruit industry are more recent, due to the relatively new importance of this activity in Chile. The Federation of Fruit Growers, FEDEFRUTA, represents only the interests of the growers. Its most important function is a political one in that it lobbies national authorities regarding sectoral policies and negotiates with exporters on behalf of the whole productive sector. FEDEFRUTA does not offer any commercial services to the growers, but its activities as an interest group have been very important. Its two main successes are related to the conflictual issue of the contracts between growers and exporting firms. Regarding the final price growers receive, FEDEFRUTA negotiated with the exporters that, at the end of each season, the exporters must provide complete information on all the final prices paid to the growers. With this information, the association began three years ago to publish a list of these prices and a ranking so that growers can compare the prices they received. This has enabled many growers to include in their

contracts with exporters an article stipulating that the prices they receive must be no more than 10% lower than the highest in the list, or within 5% of an average. The other change concerns the elimination of the article stipulating that, if a grower owes money to the exporter at the end of the season, their contract will be automatically renewed for the next season, which created a sort of debt peonage. FEDEFRUTA has a long way to go in this direction, and could significantly increase its efforts. Since growers and exporters both resist any public intervention in or regulation of the sector, voluntary negotiations between growers and exporters are crucial. The consensus necessary to move forward with these negotiations, however, is currently absent on important issues such as quality controls and market-ordering agreements to respond to the protectionist measures that result from flooding certain foreign markets<sup>8</sup>.

The other organization is the Association of Exporters, which groups together the fruit exporting firms. It also works as an interest group, and participates in negotiations with the growers and the government. The Association is in charge of very important controls that are crucial to the success of Chilean fruit in world markets. One is related to quality and, as there is no official quality control for Chilean fruit exports, the Association has established voluntary quality norms that most exporters have followed. The standards are changed each season in response to changes in the markets, and they are set differently for each destination market (Escobar & Contreras, 1990). While this does not replace the kind of quality standardization that the sector may need to enter new markets, in the absence of a marketing board or a public quality control body, the Association's standards have become very important. The other relevant role concerns responsibility for the fumigation of the fruit before it leaves the country, a very complex program that has enabled Chilean fruit to penetrate demanding markets in the advanced countries that only accept fruit which has passed through certain phytosanitary controls (CPU, 1990). The fumigation program was started by the public sector and later transferred to the Association as part of the Pinochet government's attempts to withdraw the state from most activities regarding the fruit industry.

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<sup>8</sup> During the 1994 season, however, there has been some progress, a result from the pain inflicted by the difficult 1993 season. In 1993, the arrival of Chilean fruit in the European Union was concentrated in period of a few weeks, which triggered a complicated automatic compensatory duty against this fruit by the EU. This season, in response, FEDEFRUTA succeeded in organizing the timing of shipments to ensure that prices did not fall below EU reference practices and therefore they avoided the compensatory duties (The Financial Times, April 14, 1994)



These three organizations, the SNA, FEDEFRUTA and the Association of Exporters, offer a space for producers and exporters to cooperate on issues of common interest. The scope of this cooperation, however, has been quite traditional. The organizations have not been very creative in establishing new collaborative initiatives to foster the general competitiveness of this sector, which is especially important given that one of the sector's characteristics is the complexity of timing and the tight coordination of its main players. The size and importance that the fruit sector achieved, and the new challenges it faces to maintain its extraordinary past performance will surely demand more and better collective action by the representative associations of the growers and exporters.

### Conclusion

This article has explored the many forms of inter-firm cooperation, and has established that this practice is extensive in both of the cases analyzed. Study of these forms of cooperation also underlines both the importance of certain social and political facilitating conditions and the difficulty of achieving cooperation through public policy alone.

The case of the dairy sector in Rafaela reveals a very intense and rich collaborative environment. The tradition of a vibrant local social and political life, a more socially and economically homogeneous society and a shared cultural background have created positive conditions for these forms of cooperation to flourish in this region. The need to substitute for an ineffective public sector was an important factor in creating the demand for such cooperation. Since these collaborative arrangements were born from the initiative of the interested parties, and not from a particular policy, the cooperatives, small-group associations and local business unions were all able to withstand political and economic instability and even managed to prosper under such circumstances. In fact, it is precisely the existence of all these institutions that permitted Rafaela in general, and its dairy sector in particular, to perform better than the rest of the nation in most economic and social areas.

At the farm level, the cooperatives and the small groups permitted the rapid diffusion of new technologies, farming techniques and widespread adoption of modern management methods among farmers, what is crucial for the small farms sector. Moreover, the bargaining power that farmers acquired by forming cooperatives in their negotiations with the processing firms allows them to capture a greater portion of the profits

of dairy production chain with lower sectoral conflict than in the less cooperative Chilean fruit sector. At the industrial level, inter-firm cooperation permitted the region's SMEs to overcome not only the problems related to their small size, but also the ineffectiveness of public policies and the remoteness of their location from the largest national markets and important international trading routes. In Argentina, public policies have done very little to stimulate this cooperation. The fact that Argentina's political system is federal has been important in the creation of a strong local community that in turn facilitated the collaborative atmosphere. But actual cooperation among the area's firms was achieved either despite government's opposition, as during the first Peronist period, or by private initiative alone, although sometimes local government participation was sought to strengthen a given project.

The general drive in Argentina towards greater political and administrative decentralization, and the more recent examples of local initiatives in Rafaela reveal a strengthening of the region's collaborative efforts, and a consolidation of a local social structure that serves as the crucial support of the area's economic dynamism.

In Chile's fruit sector, cooperation among producers, between growers and exporters, and among exporters through business associations, are also very important. But these organizations are much weaker than their Transandean counterparts because most of them originated through the state's initiative, which made them more vulnerable to changes in policies, as has clearly been the case with the cooperatives and the GTTs. Chile's case is an excellent example of the limitations of public policy in promoting inter-firm cooperation. If the state-sponsored cooperative programs are not forced to stand on their own within a relatively short period, they become dependent on promotional benefits from the state and can succumb once those privileges are withdrawn for whatever reason.

The scope for cooperation in Chile's fresh fruit sector, however, is huge. It needs to coordinate the action of many players involved in this complex activity and faces the competition of countries where marketing boards are quite sophisticated in this regard, though at the cost of elevating their prices over Chile's. The coordinating role within this chain has been partially performed by the exporting firms, equivalent to the Italian *impannatori*, who organize all the post-harvest activities and transmit to the growers the market signals they receive through their more direct contact with consumers in far-away markets. It is the element of conflict within the chain, due to the different bargaining power of exporters and producers, that limits the potential of the sector to overcome

future challenges. The need to constantly upgrade the quality of the fruit, to compete with the renewed strength of its main international competitors and to penetrate more demanding markets will certainly demand a more engaging partnership within the chain. Awareness of this need, as expressed in the 1993-94 season, and the reluctance to embrace marketing board-types of solutions may together lead to a process of institutional innovation of the sort that has characterized this industry in the past couple of decades.

The findings of the research on inter-firm cooperation confirms the more general pattern of differences between these two DPSs found in the other issues included in the project. In terms of the larger picture of both sectors, this research has found that while the Argentine dairy industry benefits from high levels of inter-firm cooperation, widespread entrepreneurship and important locally-based private and public initiatives, it also suffers both from the lack of effective public policies at the sectoral level and from insufficient R&D efforts. The Chilean fresh fruit sector, in contrast, is characterized by an effective state presence in terms of R&D and sectoral policies, as well as a dynamic private entrepreneurial drive. Its success, however, is limited by the lack of further inter-firm cooperation and by the weakness of local communities. The study has also traced these differences in policies and strategies between the two countries to certain facilitating social and political characteristics. In Argentina, a more decentralized political system has favored the development of strong local communities that stimulated innovative local policy initiatives and created a positive context for inter-firm cooperation schemes. The traditionally poor effectiveness of the state apparatus in this country partly explains the poor performance of the public sector in boosting the dynamism of the analyzed dairy industry. In contrast, Chile's centralized political system has limited the development of a more locally-based production system, and has resulted in weaker local institutions which help explain the absence of extensive inter-firm cooperation. An effective state structure, however, has provided private firms in the fruit industry with the kind of public sector support that, in other dynamic regions, has greatly contributed to increased competitiveness, including innovative public-private collaboration schemes.

## BIBLIOGRAPHY

- AACREA (Asociación Argentina de Consorcios Regionales de Experimentación Agrícola), 1992, *CREA, ¿Qué? ¿Quiénes? ¿Cómo?*, Buenos Aires.
- Amsden, Alice, 1989, *Asia's Next Giant. South Korea and Late Industrialization*, New York: Oxford University Press.
- Ariff, Mohamed and Hill, Hal, 1985, *Export-Oriented Industrialisation: the Asean Experience*, Sydney; Boston: Allen and Unwin.
- Barría, Liliana; Cereceda, Luz; and Echeverría, Jessy, 1991, "Las Organizaciones de los Productores en la Articulación de la Agricultura y la Industria", en CEPAL (1991a).
- Bradford, Colin, Jr. (ed.), 1994a, *Redefining the State in Latin America*, Paris: OECD.
- \_\_\_\_\_, 1994b, "Redefining the Role of the State: Political Process, State Capacity and the New Agenda in Latin America", in Bradford, 1994a.
- Brusco, Sebastiano, 1990, "The Idea of the Industrial District: Its Genesis", in Pyke, Becattini and Sengenberger.
- CCIDC (Centro Comercial e Industrial del Departamento de Castellanos) 1991, *For Export*, Rafaela.
- Cepal, 1991, *Cadenas Agroexportadoras en Chile. Transformación Productiva e Integración Social*, Santiago de Chile.
- Coninagro, 1992, *Confederación Intercooperativa Agropecuaria. Estatutos*, Buenos Aires.
- \_\_\_\_\_, 1988, *La Producción Agropecuaria Argentina y las Cooperativas Agropecuarias. Análisis Global*, Buenos Aires.
- Corbo, Vittorio, Krueger, Anne and Ossa, Fernando (eds.), 1985, *Export-Oriented Development Strategies: The Success of Five Newly Industrializing Countries*, Boulder, Colo.: Westview Press.
- Deyo, Frederic (ed.), 1987, *The Political Economy of the New Asian Industrialism*, Ithaca: Cornell University Press.
- \_\_\_\_\_; Doner, Richard; and Fields, Karl, 1993, "Industrial Governance in East and Southeast Asia", paper prepared for the Social Science Research Council conference on "Industrial Governance and Labor Flexibility in Comparative Perspective", held in New York on September 17-19, 1993.
- Doner, Richard, 1994, *Economic Governance and Flexible Production in the Developing World*, Project Proposal.
- Ernste, Huib and Meier, Verena (eds.), 1992, *Regional Development and Contemporary Industrial Response. Extending Flexible Specialisation*, London: Belhaven Press.
- Escobar, Luis and Contreras, Gustavo, 1990, *La Cadena de Distribución y la Competitividad de las Exportaciones Latinoamericanas: La Fruta de Chile*, Santiago de Chile: CEPAL.
- Fitzgerald, E.V., Floto, E. and Lehmann, A., (eds), 1977, *The State and Economic Development in Latin America: Proceedings of a Conference held at Cambridge in December*, Cambridge: Center for Latin American Studies, University of Cambridge.
- Friedman, David, 1993, "Phantom of the Paradise. Unresolved Issues in Japanese Industrial Governance Research", paper prepared for the Social Science Research Council conference on "Industrial Governance and Labor Flexibility in Comparative Perspective", held in New York on September 17-19, 1993.

Ganne, Bernard, 1992, "Industrial Development and Local Industrial Systems in Postwar France", in Storper and Scott.

Guillén, Jorge, 1984, *Los Orígenes de la Industria Lechera en la Provincia de Santa Fe, Período 1850-1930*, Santa Fe: Ministerio de Agricultura y Ganadería de la Provincia de Santa Fe.

Herrigel, Gary, 1989, "Industrial Order and the Politics of Industrial Change: Mechanical Engineering", in Katzenstein (1989).

Hirst, Paul and Zeitlin, Jonathan, (eds), 1989, *Reversing Industrial Decline? Industrial Structure and Policy in Britain and her Competitors*, Oxford: Berg Publishers.

\_\_\_\_\_, 1992, "Flexible Specialization versus Post-Fordism: Theory, Evidence, and Policy Implications", in Storper and Scott.

Hollingsworth, J. Rogers and Schmitter, Philippe, and Streeck, Wolfgang (eds.), 1994, *Governing Capitalist Economies*, New York, Oxford University Press.

Infortambo, several issues, Buenos Aires.

Katzenstein, Peter (Comp.), 1989, *Industry and Politics in West Germany. Toward the Third Republic*, Ithaca and London: Cornell University Press.

Lim, Youngil, 1981, *Government Policy and Private Enterprise: Korean Experience in Industrialization*, Berkeley: University of California Press.

Lin, Ching-Yuan, 1989, *Latin America vs. East Asia: A Comparative Development Perspective*, Armonk, N.Y.: M.E. Sharpe.

Linnemann, Hans (ed.), 1987, *Export-Oriented Industrialization in Developing Countries*, Singapore: Published for Council for Asian Manpower.

Piore, Michael and Sabel, Charles, 1984, *The Second Industrial Devide. Possibilities for Prosperity*, New York: Basic Books.

Portz, John, 1991, "Economic Governance and the American Meatpacking Industry", in Campbell, Hollingsworth and Lindberg.

Preston, P., 1987, *Rethinking Development: Essays on Development and Southeast Asia*. New York: Routledge and Kegan Paul.

Pyke, Frank; Becattini, Giacomo; and Sengenberger, Werner, (eds.), 1990, *Industrial Districts and Inter-Firm Co-Operation in Italy*, Geneva: International Labour Organisation (International Institute for Labour Studies).

\_\_\_\_\_ and Sengenberger, Werner, 1990, "Introduction", in Pyke, Becattini and Sengenberger.

Quintar, Aída; Ascúa, Rubén; Gatto, Francisco; and Ferraro, Carlo, 1993, *Rafaela: Un Cuasi-Distrito Italiano "a la Argentina"*, Buenos Aires, Documento de Trabajo CFI-CEPAL No. 35.

\_\_\_\_\_ and Gatto, Francisco, *Distritos Industriales Italianos. Experiencias y Aportes para el Desarrollo de Políticas Industriales Locales*, Documento de Trabajo PRIDRE, No. 29, Buenos Aires: CEPAL.

Sabel, Charles, 1986, "Changing Models of Economic Efficiency and Their Implications for Industrialization in the Third World", in Foxley, Alejandro; McPherson, Michael; and O'Donnell, Guillermo, 1986, en *Development, Democracy and the Art of Trespassing. Essays in Honor of Albert O. Hirschman*, Notre Dame, Indiana, University of Notre Dame Press.

\_\_\_\_\_, 1989, *The Re-Emergence of Regional Economies*, Discussion Paper FS I 89 - 3, Wissenschaftszentrum Berlin für Sozialforschung, Berlin.

Saxenian, AnnaLee, 1992, *Regional Networks: Industrial Adaptation in Silicon Valley and Route 128*, Manuscript

Scott, Allen and Storper, Michael, 1992, "Industrialization and Regional Development", in Storper and Scott.

Stepan, Alfred (ed.), 1992, *Americas: New Interpretive Essays*, New York: Oxford University Press.

Storper, Michael and Christopherson, Susan, 1987, "Flexible Specialization and Regional Industrial Agglomeration: The Case of the U.S. Motion Picture Industry", in *Annals of the Association of American Geographers*, Vol. 77, No. 1 (March).

Storper, Michael and Scott, Allen (eds.), 1992, *Pathways to Industrialization and Regional Development*, London and New York: Routledge.

Storper, Michael, 1990, "Industrialization and the Regional Question in the Third World: Lessons of Postimperialism; Prospects of Post-Fordism", in *International Journal of Urban and Regional Research*, Vol. 14, No. 3, (September)

Verschoor, Gerard, 1994, "Collective Efficiency: Mezcal Production and the Clustering of Small-Scale Enterprise in Jalisco", paper presented to the XVIII International Congress of the Latin American Studies Association, Atlanta, Georgia, March, 1994.

Watts, Michael, 1992, "Peasants and Flexible Accumulation in the Third World. Producing under Contract", in *Economic and Political Weekly* (July).

Worcel, Gloria and Ascúa, Rubén, 1991, *Dinamismo Empresarial y Cooperación Institucional. El Caso de las PYMES de Rafaela (Pcia. de Santa Fe)*, Buenos Aires, Documento de Trabajo No. 24, Programa PRIDRE-CEPAL.

World Bank, 1993, *The Asian Miracle*, Washington, D.C.

Young, Brigitte, 1991, "The Dairy Industry: From Yeomanry to the institutionalization of Multilateral Governance" in Campbell, Hollingsworth and Lindberg.

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