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378.773
047
93-E-482

ILLINOIS AGRICULTURAL ECONOMICS STAFF PAPER

Land Reform and Privatization in Mexico: Structural Changes in Production Agriculture and Food Product Manufacture

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February 1993

No. 93 E-482



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Introduction

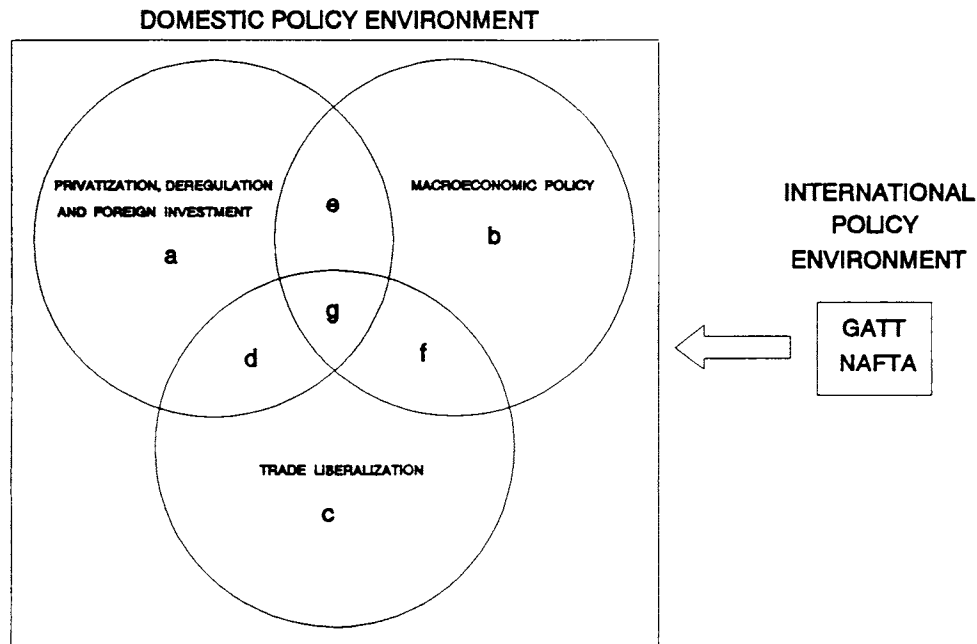
In the early 1980s, the seeds of the Mexican "apertura", the opening of the economy, had been planted. The inward-oriented policies of import substitution industrialization in Mexico which brought high levels of protection and state ownership were being challenged. The government was confronted with domestic pressure to control the increasing fiscal deficits, rampant inflation, and capital flight from Mexico, and international pressure to address the worsening external terms of trade and the trade barriers. These mounting pressures facilitated the decision by the Mexican government to take unilateral steps to deregulate, privatize, and liberalize the country.

The structural changes in Mexico have included the following: (a) the reversal of decades of nationalization, Mexicanization, and state control for a process of privatization, deregulation, establishment of property rights, and private sector economic decision-making; (b) the introduction of a monetary and fiscal austerity policy package to reduce inflation, devalue the currency, reduce the fiscal deficit, and reduce the external debt; (c) the removal or reduction of various price distorting policy measures (reducing the number of goods requiring import licenses, reducing the maximum tariff and the average tariff rates, and removal of non-tariff barriers to trade).

Figure 1 provides a diagram illustrating the interrelated set of economic, legal, and social reforms and a summary of the comprehensive policies that the Mexican government has enacted since the mid-1980s. This paper addresses only a small portion of the diagram, mainly how land reform, privatization, and therefore, property rights in Mexico have affected U.S. investment in Mexican agriculture and food product manufacture. The objective of this study is to describe some of the structural changes that are occurring in the Mexican agribusiness sector and the role U.S. agribusiness firms in that process. U.S. investment in Mexico has increased remarkably in the wake of a NAFTA, but perhaps more interesting are the business arrangements that have been developing between U.S. and Mexican agribusiness firms and the ejido farmers.

The first section summarizes some of the economic implications of the ejido farming system and the constitutional reforms. The second section describes the process of privatization in Mexico and how this process dismantled the state food marketing and distribution system. The third section reviews U.S. investment in Mexican food product manufacture, including a discussion of joint venture strategies and the agro-maquiladora industry. Finally, a section is devoted to examining some recent examples of U.S. agribusiness ventures in Mexico.

STRUCTURAL CHANGES AFFECTING MEXICAN AGRIBUSINESS



SUMMARY OF POLICIES:

- a: Legal reform permitting privatization and regulatory changes affecting foreign investment and ownership.
- b: Monetary and fiscal austerity measures to reduce the fiscal deficit and inflation.
- c: Unilateral policy reform that subjects domestic producers to greater international competition, removing subsidies, quotas, license requirements, and reducing the maximum tariff and the average tariff rate.
- d: Agrarian reform through constitutional change in Article 27 affecting property rights, land ownership, and the ejido farm system.
- e: Foreign debt restructuring under the Brady Plan.
- f: Exchange rate policy includes multiple rates and devaluation under a crawling peg mechanism.
- g: The comprehensive set of legal, social, and economic policies that provide stability and growth consistent within the international trade policy arena.

Figure 1. The Process of Mexican Apertura: Policy Reform from 1982-92.

Land Reform

Mexican agribusiness is expected to be one of the most affected sectors by the privatization, liberalization, and tight macroeconomic policy reform that was initiated in the early 1980s. This sector had traditionally been subjected to the greatest degree of regulation, intervention, and protection. Privatization and land ownership reform are two of the major policy reforms that have reversed the ideology prevailing since the Mexican Revolution.

The Agrarian Reform Act of 1915 was the framework for Mexican agricultural policy that lasted through the 1980s. The Constitution of 1917 institutionalized the government's commitment and obligation to redistribute land to the peasants. Under Article 27 of the Mexican Constitution, citizens were granted the right to use land; though, redistributed land was owned by the state. The responsibility to ensure that land was provided to those who petitioned the government for land went to the executive branch. This granted the executive unchecked powers to confiscate unused or underutilized lands for redistribution to peasants, and the legal authority to interpret agrarian policy. The institutionalized policy of land redistribution created the ejido, the communal farming system delineated by historical village communities whereby the government partitioned land without, title, to be cultivated either individually through plot allotments to each member of the ejido or collectively (Smith; EIU).

The number of members in an ejido increased as the rural population grew. Thus, increased ejido members resulted in smaller allotments for individually cultivated plots or more concentrated labor on a communal farm. Consequently, agricultural production under the ejido system amounted to production of staples for the domestic market which grew increasingly inefficient and subsistence levels became increasingly inadequate.

Table 1 lists the specific provisions of Article 27 before and after the constitutional reform under Salinas' administration. Since land was redistributed to ejidos without title and the ejido was prohibited from mortgaging the land or using it as collateral, private credit was generally not available to the ejidos. Ejido farmers were also prevented from renting their land to or entering partnership arrangements with other ejidos. This made it impossible to generate efficiencies in scale. These legal prohibitions, the uncertainty with land redistribution or confiscation, and the growing number of members in an ejido prevented the ejido from developing their land.

Compounding the legal prohibitions was government intervention setting guaranteed prices, and the monopolizing of the marketing of farm products, the farm input supply market, rural credit, extension, etc. The lessons of the Green Revolution were only learned on large farms in the North. Although irrigation technologies have been advanced in the last 20 years, cultivated land under irrigation had decreased (Smith; EIU).

Table 1. Changes to Article 27 of the Mexican Constitution.

Article 27 Before Constitutional Reform:
<ul style="list-style-type: none"> (1) The Government is obligated to provide land to every Mexican. (2) The Government has power to expropriate land to distribute to farmers. (3) Only Mexican nationals or associations has the right to own land or acquire rights to water. (4) Renting of ejido farms is prohibited. (5) Ejido farmers are prohibited from using ejido land as collateral for loans. (6) Ejido farmers are prohibited from associating with commercial groups in joint ventures. (7) Children of ejido farmers are prohibited from receiving rights to land their parents farmed. (8) The Executive decides property ownership and protects farmers legal rights.
Article 27 with Constitutional Reform under Salinas:
<ul style="list-style-type: none"> (1) Mexicans have no constitutional right to receive land from the government. (2) Mexican government under no obligation to expropriate land to give to farmers. (3) Foreigners can own up to 49 percent agricultural land and acquire rights to water. (4) Ejido groups have the right to own the land or rent it to other private groups. (5) Ejido farmers can use farm as collateral or mortgage farm land to buy farm inputs. (6) Ejido groups can form associations or joint ventures with commercial groups. Non-ejido commercial groups (including foreigners) allowed to purchase ejido lands. (7) Ejido farmers can own their lands, and exercise full property rights to the land, including the transfer of land titles to future generations. (8) New tribunals established to decide land disputes are independent of the executive branch.

Source: Smith.

The provisions of Article 27 of the Constitution produced a system of agriculture that did not respond to economic signals while providing ample state intervention that resulted in the following effects: (1) government neglect of the ejido farmer included lack of technical assistance, insufficient and untimely credit, and support prices that were too low; (2) since the ejido farmers did not own the land, they could not use the land as collateral for obtaining loans; (3) since the ejido farmer did not own the land and had no access to long term loans, there was neither the ability nor the incentive to invest in agricultural inputs; (4) since the ejido farm sizes were tied to the number members of the ejido, the increasing rural population resulted in farms that were too small to provide adequate subsistence (Tellez; Smith).

The constitutional reform in 1991 amended Article 27, permitted land ownership and, established property rights for farmers who once worked on ejidos. The land reform has enabled the ejido members to own, rent, merge, or sell land, to hire labor, associate with other ejidos, or enter into joint ventures with third parties, foreign or domestic. The result of the land reform, the changes in the legal code permitting foreign ownership, deregulation, and trade liberation has motivated interesting joint venture arrangements between former ejidos, maquiladoras, and U.S. agribusiness firms. The economic implications of these changes in the Central and Northern states of Mexico, those predominately under the ejidal system, are far reaching with respect to economic development, rural employment, income distribution, labor migration, etc. This, in turn, will have ramifications for Mexican food production, processing, and distribution.

Privatization

With the 1980s came a change in Mexican attitude towards state ownership and control over industry and business. The willingness of the state to reduce its ownership of business, regardless of whether the firm is foreign or domestic, and to deregulate industries has been a major policy shift. The move towards privatization is a notable reversal of state interventionist tendencies since the Mexican Revolution. Privatization has been facilitated by several factors: (a) the government's need to contend with fiscal budget deficits that accumulated, in part, as a result of owning unprofitable enterprises that required ever-increasing subsidies to operate; (b) a foreign debt that had been increasing as a percent of GNP (state owned enterprises accounted for over \$29 billion of the foreign debt in 1986); and (c) a need to liberalize to satisfy GATT requirements and attract foreign investment.

In Mexico, privatization occurred in two stages: stage one occurred between 1983-85 whereby nationalized banks were required to sell their shares in other enterprises to the private sector; and stage two after 1985 the actual reduction of state owned enterprises (Accolla). Although privatization has been pursued with efforts to develop capital markets, facilitate access to credit, and to reform macroeconomic policies to expand the private sector, the government has progressed cautiously negotiating with organized labor and has transferred small and medium sized enterprises to the "social sector", i.e., the labor sector, unions, producer organizations, and the less privileged working classes. The details of the negotiated deals for such transfers have not been provided, e.g., the terms of transfer, the amount of the transfer, or the management arrangement of the labor organization (Accolla).

According to Accolla, a note of caution is in order regarding the process of privatization, because the number of privatized nationally owned enterprises includes liquidation, sales, mergers, and transfers of these firms to state and local governments. Critics of the method in which the privatization process has been carried out in Mexico have cited shortcomings in the objective to broaden the equity ownership of the social sector. By not having a well articulated objective, the program may not have encompassed the needs of the potential losers from privatization, i.e., labor. Thus, by international standards privatization in Mexico may have been counter-productive. Only 18 percent of the parastatal sales have been acquired by the social sector; and of those, the social sector is heavily controlled by powerful union leaders (Salinas). In fact, through June 1991, of the 138 companies that were sold, only 12 were acquired by the social sector. These included primarily sugar refineries and fisheries which amounted to about five percent of the total value of state enterprises sold (Carlsen, 1991a).

Table 2 shows the results of the privatization process in Mexico, including the method, number authorized, in process, and completed. The list is comprised of those firms privatized through April 1988. In the early 1960s, Mexico had 150 enterprises which the government owned or controlled, but by 1983 the number of enterprises had increased to 1155. The government set a benchmark to reduce the number of nationally owned enterprises at 500 by the end of 1988, undertaking the massive sale or transfer of firms (Accolla).

Table 2. Privatization of Nationally-Owned Firms: Method, and the Number Authorized, in Process, and Completed.

<u>Method of Privatization</u>	<u>Number Authorized</u>	<u>Number in Process</u>	<u>Number Completed</u>
Liquidation	231	122	119
Sale	198	91	107
Extinction	133	34	99
Merger	78	42	36
Transfer	26	6	20
<u>Total</u>	<u>666</u>	<u>295</u>	<u>381</u>

Source: Accolla.

Nationally owned enterprises that engaged in production and or distribution of agricultural products were the prime candidates for privatization. Many have been reduced to research, technical assistance, data collecting, information gathering and distribution enterprises (Tellez). An organization, ASERCA, was created to provide support for more efficient local commerce by disbursing market information related to domestic and international prices, databases on sellers and buyers, credit availability for producers and distributors, transportation and other marketing services. ASERCA's mandate is to develop private sector interest in markets where the state previously intervened. Another effort to promote more efficient pricing of agricultural products has been the development of a futures market for agricultural products in Mexico in 1992 (Accolla).

To help reduce the immediate fiscal deficit, attract foreign capital, and lower food prices, the government disincorporated many of its agribusiness monopolies. Monopolistic enterprises affecting agriculture that were subjected to private competition early were CONASUPO, the agricultural marketing board and food distribution monopoly; INMECAFE, the firm that regulated the sale and distribution of coffee; TABAMEX, the firm that regulated the commercialization of tobacco; FERTIMEX, the fertilizer firm that monopolized production and distribution; PRONASE, the seed firm, and AZUCAR, S.A. the sugar firm (Tellez; Salinas).

By 1991, Salinas had reduced much of the power and budget of the state food distribution monopolies. One the most substantial state owned enterprises to be dismantled and sold was CONASUPO. The national basic commodities firm that bought basic crops and food-stuffs for cheap distribution through a network of its own stores has been reorganized and various parts sold. Since it was responsible for setting prices on most food commodities and the monopoly purchaser and distributor for most foodstuffs, CONASUPO behaved as a monopsonist and monopolist. CONASUPO consisted of 18,000 retail stores, 32 manufacturing and food processing operations, and accounted for 70 percent of the food storage facilities. CONASUPO has been broken through privatization except for providing commodity price supports for corn and dry beans, and purchases these commodities for distribution in rural areas (Accolla; Smith; Belejack). CONASUPO has sold

its vegetable oil-crushing plants, has sold retail stores, does not function as an importer for oilseeds, and has reduced its feed grain purchases. However, the government is still the primary importer of corn and milk (Shwedel).

The list of agribusiness firms in the top ten that have been privatized under Salinas are as follows: Fomento Azucarero, sugar refineries sold on Jan. 13, 1989 to Grupo Beta San Miguel for \$89 million; CONASUPO, the Tutitlan vegetable oil and pasta plants sold on Feb. 23, 1990 to Unilever for \$74.5 million; sugar refineries sold on Oct. 1, 1990 to Corporación Industrial Sucrum for \$54.5 million; and sugar refineries sold on June 19, 1989 to Anermex for \$42.6 million (Carlsen, 1991a).

U.S. Investment in Mexican Food Product Manufacture

Mexico's voluntary enrollment into the GATT in 1986 required tariff-reduction and unilateral trade liberalization measures that opened the economy to international competition, effectively ending inward-oriented development strategies pursued through the 1970s. The government's more outward-oriented development strategy included encouragement of foreign direct investment in the agricultural sector, establishing a climate favorable for foreign investment, and investment in infrastructure that would facilitate trade with the U.S. The result of export promotion has improved agricultural productivity and provided the agricultural sector increased competitiveness (Paguaga, Massow, and Martin). The decision to shift from stabilization measures, such as restricting credit or adjusting exchange rates, to structural adjustments such as trade liberalization, deregulation, privatization, and tax reform has stimulated U.S. investment in Mexico even in the absence of a formal trade agreement. The first evidences of the policy shift occurred in 1987 with sharply lowered trade barriers.

Since the U.S. and Mexico agreed, in principle, to negotiate the terms of trade liberalization between the two countries in 1990, Mexico has become an increasingly attractive market, particularly for U.S. investors in food product manufacturing, and for U.S. agricultural producers, and exporters. In 1991, total capital flows by foreigners and expatriated Mexicans increased by a record \$16 billion (Moffett). Table 3 tracks U.S. investment in Mexican food product manufacture during the 1980s and early 1990s. The impressive growth rates in investment from 1988 to 1991 fall in line with the effects of establishing property rights, privatization, changes in foreign investment law, and the ejido and land reform.

The first half of the 1980s demonstrates that attracting foreign investment is not sustainable if the macroeconomic climate is not favorable. The increase in inflation in 1987 resulted in capital outflows and a reduction in the overall U.S. direct investment position in food product manufacture in Mexico. Since 1988, U.S. investment has increased steadily and dramatically responding to the overall macroeconomic improvement in the country. Figure 1 combines the Mexican data for debt as a percent of GNP, percent annual inflation, and U.S. investment in food product manufacture. The evidence clearly supports that the fiscal austerity measures taken to control inflation and reduce debt burden correspond with increased investor confidence. U.S. investment in food product manufacture

Table 3. U.S. Direct Investment in Food Product Manufacture in Mexico, 1982-91.

	(million dollars)									
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Income	-2	-11	59	71	39	53	106	181	224	352
Capital Outflows	-438	-54	112	32	-51	-88	63	263	375	43
Total U.S. Direct Investment Position	n/a	n/a	414	454	321	210	278	500	895	932

Notes: Food product manufacture is defined as grain mill and bakery products, beverages, and other which consists of meat products, preserved fruits and vegetables, and miscellaneous food items.

(-) inflow into the U.S. from Mexico.

(n/a) not available.

Source: U.S. Department of Commerce.

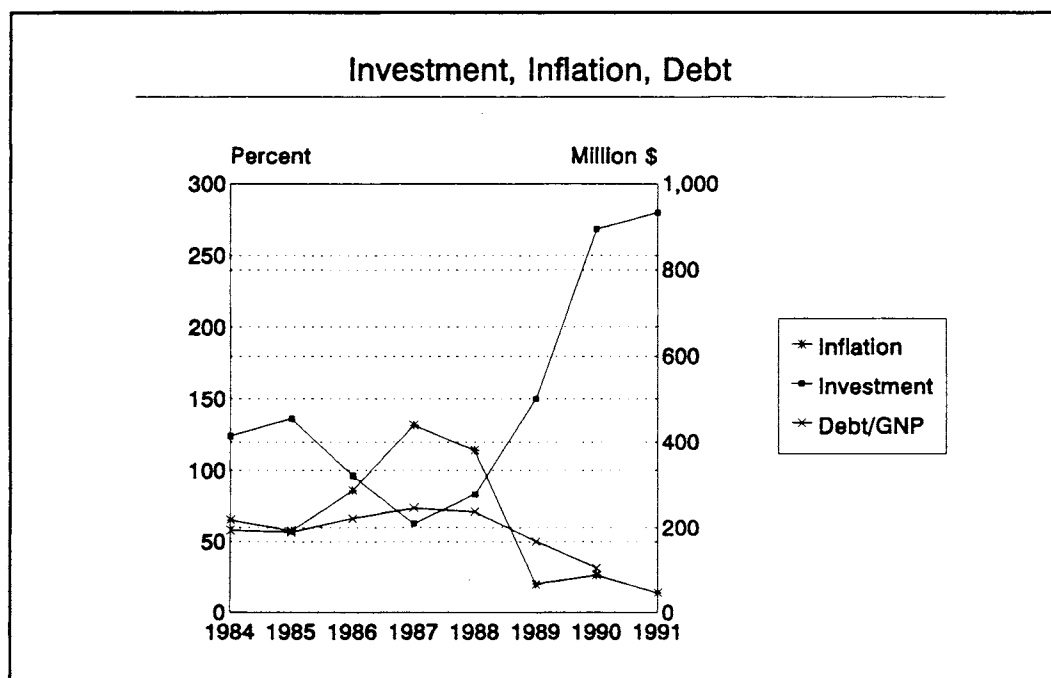


Figure 2. Annual Percent Inflation, Debt as a Percent GNP, and U.S. Investment in Food Product Manufacture in Mexico.

has increased by about 340 percent between 1987 and 1991, indicating that the success of the austerity measures, GATT commitments, and the NAFTA negotiations have provided prolonged U.S. investor confidence.

Furthermore, the Mexican government has encouraged foreign investment in agriculture and livestock production, permitting U.S. firms to invest up to \$100 million in a venture without prior approval of the Mexican Commission on Foreign Investment (Feedstuffs; 64:20, p.48). In addition, the Mexican Investment Board reports that tax and non-tax incentives are being offered by the government for investment in agriculture, livestock, and the food production and distribution industries.

U.S.-Mexican Joint Ventures

In the late 1980s, joint ventures with foreign investment were becoming increasingly popular with Mexican officials, particularly for ventures that increased Mexican exports. At first, ventures were permitted on a project by project basis; but after early successes, the process required less regulation. At present, agribusiness joint ventures are among those that are being strongly encouraged (Handy).

U.S. food processing firms have transferred a portion of production, marketing, and technology resources to their Mexican affiliates and joint venture operations. Firms have become interested in Mexico as a rapidly growing market rather than as a springboard for exports. The first agro-maquila operations, U.S. vegetable processing firms, did move to Mexico to assemble and export more value-added food products, but increasingly, U.S. affiliates in Mexico are producing primarily for local markets rather than for export to the U.S. The intra-affiliate trade between the U.S. parent and its affiliates is marginal, with the U.S. importing 6.3 percent of total processed food imports from U.S.-owned Mexican affiliates in 1989. This is consistent with U.S. affiliates world wide, accounting for only 5 percent of all processed food imports. On the U.S. export side, the results are similar with U.S. firms exporting only 4 percent of the total processed food exports to Mexico (Handy).

By the end of 1991, 14 of the 50 largest U.S. food processing firms had 33 affiliates or joint ventures in the Mexican food and feed processing sector. Even small U.S. food processors have ownership interests in Mexican processing plants. Foreign investment regulations have been designed to make it easier for smaller U.S. companies to invest in Mexico (Shwedel and Haley). Although some U.S. food processors have operated in Mexico for many years (mainly fruit and vegetable operations) others have just recently entered (Handy). It would be interesting to compare how those that had existed in the more regulated Mexican environment prior to 1986 are faring relative to those that have started after deregulation-privatization-trade liberalization. In addition, it may be useful to study the adjustments that have been made by the pre-apertura firms, i.e., the expansion, ownership arrangements between U.S. multinationals and Mexican firms, "co-packer" relations between Mexican firms and local processing plants, contractual agreements between firms and ejido producers regarding production management and quality specifications, and resource providing deals, etc. (Carlsen, 1991b).

Among the newly contested areas for joint ventures are retail and consumer goods. With a formal signing of a NAFTA and further removal of trade barriers, more intense competition along the entire food marketing chain can be expected. Mexican retail firms have linked with U.S. companies to gain access to expertise and technology needed to improve efficiency and reduce costs. Since the Mexican market is highly price sensitive, operational efficiency will be the basis for competition to reduce the cost of goods on the shelf. U.S. firms, whether in retail or consumer goods, are also benefitting from ventures with well entrenched Mexican firms with established distribution systems (Duncan). Sara Lee's relationship with Bimbo is a good example of a U.S. firm that entered a venture with a Mexican firm that has a distribution network in Mexico to avoid developing a comparable distribution system that may have taken 10 years to develop.

In addition to saving money and time in developing markets, the joint venture strategy has the advantage of being as flexible as the companies that participate. The venture can be tailored to produce or distribute the firm's product line in a more timely manner, to obtain a specific technology, or to procure raw commodity to avoid seasonal effects. Other motivations behind joint ventures may include building brand awareness abroad since this is a particularly difficult achievement. The ability to combine a firm's existing product line with their new product development and manufacturing expertise from others, permit companies to lower costs, increase market access, and achieve greater specialization based on climate, soil characteristics, and seasonal production pattern (Littman, 1992; 1991). Global procurement of raw commodity or partially processed food product ingredients has become an increasingly important competitive necessity. The ability to scrutinize the production of an agricultural product from the time of planting to harvest results in higher quality while containing costs through better capacity utilization and inventory management (Civin and Harrison; Carlsen, 1991b). Mexico is clearly strategically positioned for U.S. agribusiness firms interested in expanding market access and procuring food components.

Finally, the most cited reasons against a NAFTA by critics are cheap labor and unenforced environmental regulation. It is true that the lack of machinery developed to substitute for what is a labor-intensive product (broccoli spears, baby florets, etc.) has encouraged U.S. investment in Mexican agriculture; but, tax incentives have also been important (Carlsen, 1991b). The maquila program was created as a means to attract foreign equipment and supplies duty-free to produce items for export, which were taxed on their non-Mexican content, not for the use of Mexican resources such as labor and raw commodity (Littman, 1991). As far as environmental regulations go, NAFTA (particularly under the Clinton presidency) will address the enforcement of environmental laws in Mexico in the long run. Another positive sign is that the agro-maquiladora sector has attracted larger multinationals that have, in recent years, operated more environmental responsibly.

Agro-Maquiladoras

Although starting from a small base, the fastest growing sectors of the maquiladora industry are agribusiness operations, i.e., agro-maquiladoras. U.S. companies, or Mexican affiliates, operating assembly plants at the border that

import agricultural commodities for processing and reexportation of food products has been minimal. The exceptions have been a few U.S. multinationals such as Kraft, Bird's Eye and Campbell's, which have had subsidiaries in Mexico prior to these recent developments. New ownership rules and efforts to encourage foreign direct investment have resulted in massive U.S. capital and technical know-how transfers to Mexico's processing industry since 1988 with designs for the local market (Carlsen, 1991b; Millman).

According to the Maquiladora Newsletter, the number of agribusiness firms has doubled to over 40 operations between 1989 and 1992. The agro-maquilas have become a \$3 billion a year industry. Raw agricultural commodities from the U.S., South America, and Mexico are being assembled in agro-maquilas for export across the world. The components that vegetable agro-maquilas, for example, procure are seeds and the packaging materials, which are often the only U.S. content in the food product as it leaves Mexico. Typical food products that the agro-maquilas manufacture for export markets are fruit salads, fresh vegetables and processed vegetables (frozen and canned), sushi for Japan, chicken, and lemon wedges for garnishings for use by restaurants (Millman; Carlsen, 1991b). An interesting research issue to be addressed is the degree of vertical coordination between U.S. firms and Mexican producers and maquilas.

Vegetable agro-maquilas have either assembled food products from seeds or seedlings that were started at the plant or that were imported. The seeds are planted on contracted fields, where growers decide to commit a certain amount of acreage to the processor, then must agree to very specific terms of delivery, quality and grading. The processor often supplies technical assistance in the fields to assure a good crop. The final products are reexported as ingredients for other products or prepared foods, either canned or frozen (Carlsen, 1991b; Millman).

The vegetable freezing, canning, and dehydrating agro-maquila operations have brought foreign investment or contractual agreements with ejido farmers. The investment and technology transfers have caused vegetable yields per acre in Mexico and California to converge. In the Bajio region of Mexico, the technology gap between in horticultural production no longer exists as the cultivation methods and processing equipment used in the agro-maquilas is becoming a clone of US operations. Large Mexican growers that have in the past supplied U.S. firms have also started operating frozen vegetable plants for export (Carlsen, 1991b).

Part of the reason the agribusiness sector of the maquiladora industry has had little attention until recently is because they were restricted to exporting a large percentage of their production. In 1989, a Government Decree made it possible for a company to sell to the domestic market an additional 50 percent of the value of the firm's annual exports, provided the firm maintained a positive foreign currency balance between export value and national sales import taxes. Even with the 1989 Decree, a company must constantly expand productive capacity to sell on the domestic market (Carlsen, 1991b). Another problem had been the provisions of the ejido farm system which denied property rights and prohibited joint ventures agreements between an ejido and a foreign company. Once the ejidal reform was enacted, the government needed to attract foreign investment to the ill-funded agricultural sector. The fiscal austerity program

meant that the ejidos had to be assessable to foreign capital and technology rather than increased government subsidies (Salopek). Other changes in foreign investment laws in 1989 allowed foreign companies to own a majority share in most sectors of the economy, including up to 49 percent ownership in Mexican land, making it more desirable for U.S. firms to set up operations or link with Mexican firms or ejidos (Duncan).

Examples of Recent U.S. Agribusiness Ventures in Mexico

(1) The Tyson Foods Company-C. Itoh & Company, Ltd.-Trasgo, S.A de C.V. Venture:

Tyson is a U.S. poultry producer and packer that contracts with farmers primarily in Arkansas and Oklahoma to grow chickens and hogs, and has processing facilities in 13 states. Itoh is one of Japan's largest importing companies with whom Tyson has had a long trading and marketing relationship. This relationship permitted Tyson to ship poultry and other meat products to Japan. Trasgo is a vertically integrated consortium of Mexican companies that is operating a \$60 million poultry project through a subsidiary, Corporación Citra, which accounts for 14 percent of Mexican poultry production.

In 1989 Tyson entered into a three way joint venture with Trasgo's poultry subsidiary Citra and Itoh. The venture expanded Trasgo's poultry operations through a \$100 million capital infusion. Tyson provided technology and technical assistance to Citra to develop deboning and processing maquiladora plants. In this initial venture, Tyson shipped chicken leg quarters to Trasgo's maquiladora operations. After final processing in Mexico, about 50 percent of the packed meat was exported to Japan for marketing and distribution by Itoh, the rest was marketed and distributed by Citra in Mexico.

In February 1992 Tyson strengthened its joint venture with Trasgo. Though the new agreement states that Tyson is the minority partner, Tyson will have the option to acquire majority ownership in Trasgo through 1994, a more substantial business relationship than with just a maquiladora of a subsidiary. The terms of this agreement include the continuation of the previous maquiladora operations linked with Itoh for marketing to Japan, and the expansion into other areas of the domestic market, particularly increasing the poultry production in Mexico. Tyson will also produce chilled and frozen raw broiler chickens and further value added products.

The technology transfer from Tyson benefitted Trasgo, and Tyson has been able to complement its U.S. based poultry production and processing operations by increasing its business in Japan through Itoh. Another intriguing aspect of the venture is the innovative association scheme with landowners, small private producers and ejido members which Trasgo has established (Lee; Tellez; Handy; Smith; Littman, 1992).

(2) The PepsiCo-Gamesa Company Joint Venture:

In October 1990, PepsiCo acquired 54 percent interest in Gamesa through a multi-million dollar buy-out of the large Mexican pasta producing and cookie and cracker baking company. PepsiCo formed a joint venture in association with a Mexican affiliate, ejido farmers and small landowners. The ejidos and small landowners were contracted to raise wheat and beans for use as raw materials for the affiliates maquiladora. Having been in the joint venture with Gamesa since May of 1990, PepsiCo opted for a controlling share of the company to further penetrate the Mexican market. This venture is a three-way project arranged with PepsiCo providing capital to Gamesa (which is responsible for the distribution network in Mexico), and to an ejido farm that manages land and labor for wheat production in the northern state of Nuevo Leon.

Under the terms of the agreement, Gamesa contracts the administrative arrangements with the ejido association in San Jose de Vacquerias, specifying the details of production management, land rental, resource providing, and crop purchasing agreements. Gamesa provides resources to the ejido association through a \$6 million investment in irrigation, capital equipment, seeds, and fertilizer. The ejido association supplies 12,000 acres of land, contracts the labor on a profit sharing basis, and manages the wheat production operation in accordance to the provisions of the production management contract. Since its inception, the "Vacquerias program" has produced two harvests per year increasing output by 100 percent compared with only annual harvests prior to 1990 (Smith; Herminio; Salopek).

(3) The PepsiCo-Bimbo Company Joint Venture:

PepsiCo entered a joint venture with the Mexican bread producer Bimbo to produce corn and potato products for Bimbo's product lines in Mexico.

Pepsico and snack-foods partner Sabritas invested \$44.million last year in two new plants, with further expansion planned for 1992 (Herminio). Sabritas is the market leader in snacks accounting for 75 percent share. Gamesa's baking operation owns 60 percent of the cookie market. Sonrics, which the company built in 1984 has 23 percent of the confectionery market (Meyer). Pepsico expanded its investment in Mexican food processing plants and is by far the largest processor of salted snacks and the largest cookie manufacturer, in addition to owning a concentrate syrup plant (Handy).

PepsiCo-RJR Nabisco Deal:

According to AFX News and PR Newswire service, Pepsico which holds the majority interest in Gamesa has traded five of Gamesa's consumer foods and pet food companies and cash for Nabisco's 32 percent interest in Gamesa. Nabisco received Gamesa's pasta, confectionery, dry dessert mix, nuts, and pet food businesses in addition to cash. Nabisco foods acquired a leading Mexican biscuit, flour, cake mix, and pasta manufacturer, Lance, earlier in 1992, enhancing Nabisco's position in these products.

(4) Bird's Eye's Vegetable Operations:

Bird's Eye processes frozen vegetables for export from Mexico under agro-maquiladora processing operations. The company has had plants in central Mexico for almost ten years, purchasing broccoli and cauliflower from ejidos. In 1967, Bird's Eye was the first to operate an "agro-maquila", exporting under the maquiladora program when it began, building the first frozen vegetable processing plant in Mexico, outside of Celaya. The company notes that Mexico's vegetable growing season is complementary to the U.S. In addition, the lack of machinery that substitutes for what are still labor-intensive products (e.g., broccoli spears, baby florets, etc.) is another reason vegetable producers cite for moving to or setting up operations in Mexico (Carlsen 1991b).

(5) Campbell's Mexican Operations:

Campbell's soup operated facilities that produced a variety of canned and frozen vegetables, and other food ingredients. In July 1990, Campbell's terminated its frozen vegetable operations in the Bajio, streamlining the business by selling 100 percent of its canned vegetable and soup production on the growing domestic market. Campbell's is one of a few firms that engages in two way trade between Mexican affiliates and U.S. parent. It imports into the U.S. tomato paste and other ingredients from its affiliates in Sinaloa, a northern state in Mexico, for its U.S. operations. In addition, Campbell's canned foods plant in Paris, Texas exports products into northern Mexico, while the vegetable processing plant in Villagran, has exported product to southern California (Carlsenb, Handy, Herminio).

(6) Sara Lee-Grupo Industrial Bimbo Joint Venture:

Sara Lee entered a joint venture with Bimbo, Mexico's largest bread and bakery manufacturer. This venture is an example of a deal that facilitates the distribution of each firm's existing product lines in the partner's country rather than a direct investment in foreign production facilities. The agreement has Bimbo, which is one of a few firms that has a national distribution network in Mexico, distributing Sara Lee bakery and processed meat products in Mexico, and Sara Lee distributing Bimbo bakery products in the U.S. (Handy; Herminio).

(7) McCormick Joint Venture:

McCormick maintains a joint venture with a Mexican firm that produces brand name mayonnaise and spices. McCormick has a sourcing strategy for procuring spices in a country through a single shipper partner. This strategy was adopted to improve the quality and stability of raw material supplies in response to customer demands for higher quality and more stringent Food and Drug Administration import specifications. This approach allows McCormick to track raw commodity from planting to harvesting, resulting in higher quality and cost containment. The venture is arranged with a partner that is a shipper providing infrastructure, management and venture capital; while, McCormick provides processing, laboratory and equipment expertise ("Global Sourcing"; Handy).

Summary

This study superficially describes how privatization and land reform in Mexico may have affected agricultural production and the food marketing system. Given the enormous scope of structural change in Mexican production agriculture and the food marketing system, an understanding of the legal underpinnings of the constitutional reform and the process of the privatization program is a crucial component to an economic study of the sector.

Future research will document and summarize the specific legal provisions of the constitutional reform, tax reform, and deregulations as they relate to property rights, foreign and domestic ownership, and investment in production agriculture and food product manufacture. Understanding the legal environment enables the development of a theoretical framework for analyzing some relevant macroeconomic indicators: (a) employment creation or displacement at the agricultural production level from the land reform; (b) employment creation or displacement at the food manufacturing level as a result of privatization; (c) inflation; (d) investment; (e) GNP; (f) fiscal budget; (g) external debt and balance of trade; etc. Such a framework permits the construction of an economic model that captures the critical linkages between the legal environment and market structure analysis, measuring the performance of Mexico's agriculture and food marketing system.

The economic implications have already proved to be substantial for Mexico. The result of the both land reform and privatization has motivated interesting joint venture arrangements involving U.S. multinationals, Mexican firms, agro-maquiladora operations and former ejidos. The interesting economic questions regarding the changing market structure of the food marketing system will address economic development issues, rural employment, income distribution, labor migration, etc. While commodity trade between the U.S. and Mexico has been studied and discussed extensively in the literature in the wake of a NAFTA, the impact of the recent trends in U.S. direct investment in Mexican food product manufacture, motivated and facilitated by legal reform, has yet to be adequately studied. An examination of the role of U.S. agribusiness in the Mexican sector is critical for an understanding of the effects structural changes on trade, investment, employment, and marketing strategies of multinationals.

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