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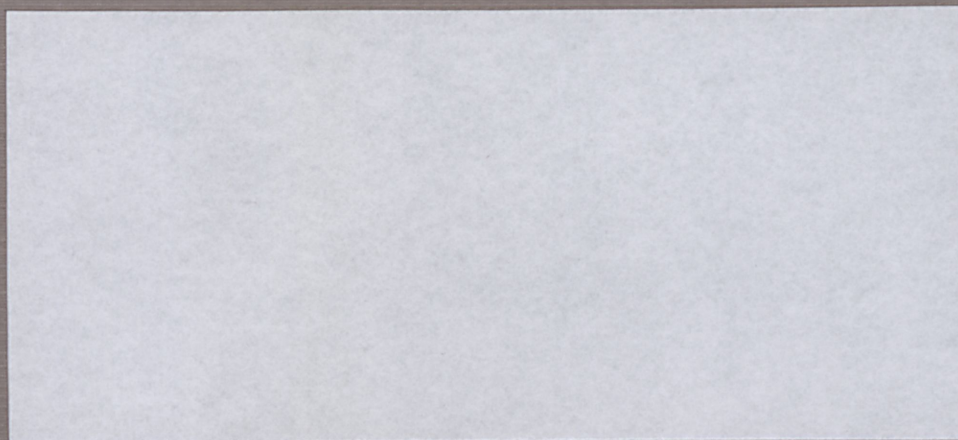
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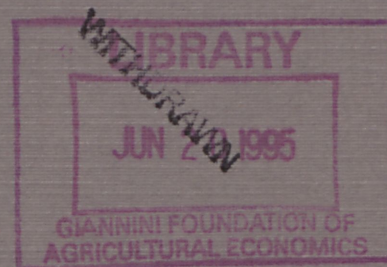
Mexico - Agriculture



**Organization
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**U.S. FOREIGN INVESTMENT AND TRADE
PROSPECTS IN MEXICO'S AGRIBUSINESS
SECTOR**

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OP-51

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U.S. Foreign Investment and Trade Prospects in Mexico's

Agribusiness Sector

Since its accession to the General Agreement on Tariffs and Trade (GATT) in 1986, Mexico has taken several unilateral actions to liberalize its trade and foreign investment policies. Mexico has reduced its maximum tariff rate, substituted tariffs for nontariff barriers on many items, and dropped import licensing requirements on several agricultural and processed food products. In addition, rules governing foreign investment have been liberalized, permitting 100-percent foreign ownership in most sectors of the economy. The proposed North American Free Trade Agreement (NAFTA), if ratified, would continue the liberalization process and help assure reforms do not backslide, even though the agreement contains snapback provisions.

These reforms have stimulated the Mexican economy to achieve an average annual real growth of 3.8 percent during the past 3 years. Mexico's population is growing, and is expected to expand from 89 million in 1991 to about 109 million by the year 2000. With an expanding economy and growing population, Mexico's demand for processed food products is rapidly increasing.

The objectives of this paper are: (1) To compare and contrast the relative size and growth in trade and foreign direct investment (FDI) in processed food and beverage products between the United States and Mexico; (2) To examine U.S. trade with Mexico

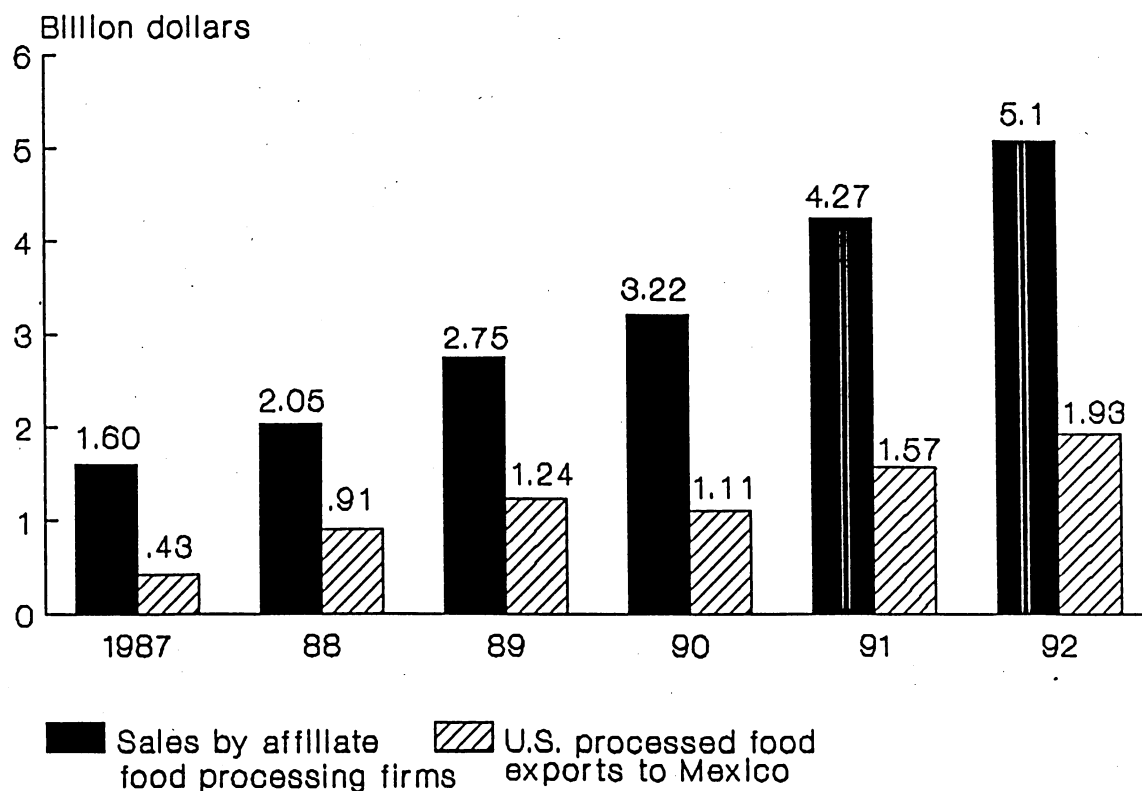
at the individual industry level, including the extent of intra-industry trade; and (3) To analyze developments in FDI and the role of U.S. affiliates in Mexico.

Data for trade and FDI is for Standard Industrial Classification (SIC) 20, Food and Kindred Products collected by the Department of Commerce. Food and kindred products include all processed food and seafood, beverages, and processed feed. Trade data are presented at both the 3-digit industry group and the 4-digit industry level of aggregation.

U.S. Direct Investment Exceeds Exports

Figure 1 shows that both U.S. processed food exports to Mexico and sales by U.S.-owned food processing affiliates in Mexico are growing rapidly. But sales from U.S. affiliates are over twice as large as U.S. exports. Processed food exports to Mexico increased from \$427 million in 1987 to \$1.9 billion in 1992--an average annual growth rate of over 22 percent. However, sales from U.S. affiliates are much larger, growing from \$1.6 billion in 1987 to an estimated \$5.1 billion in 1992. Affiliate sales grew 34 percent in 1989, 17 percent in 1990, 33 percent in 1991, and an estimated 20 percent in 1992. Mexico now ranks as the eighth largest host country for U.S. foreign investment in food and kindred products. The next section examines the composition of trade between the U.S. and Mexico.

**Figure 1. U.S. Affiliates' Sales Are Over Twice
U.S. Processed Food Exports to Mexico**



Source: U.S. Dept. of Commerce, BEA and USDA, ERS.

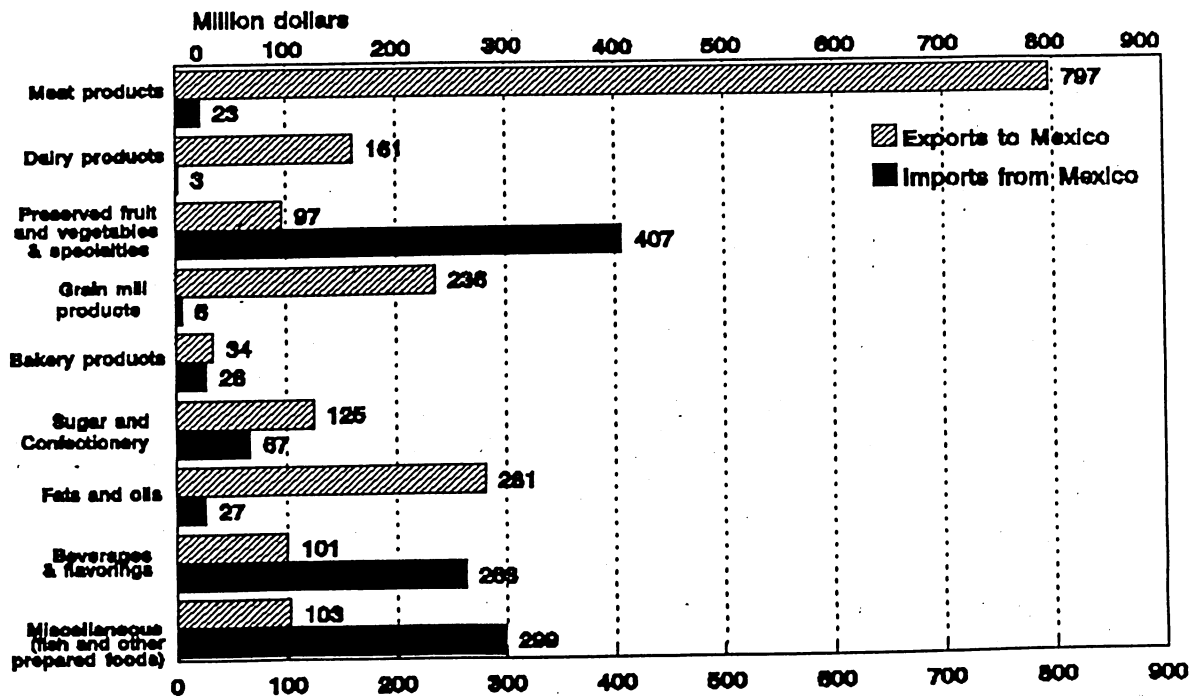
Trends in Processed Food Trade with Mexico

Mexico is the third largest market for U.S. processed food exports, following Japan and Canada. Mexico's share of U.S. exports is growing, accounting for 8.5 percent in 1992, up from 6 percent in 1990. At the same time, Mexico is also the third leading supplier of processed food to the U.S., following Canada and Thailand. Mexico accounted for 5.1 percent of all U.S. processed food imports in 1992. While U.S. exports to Mexico grew

23 percent in 1992, imports from Mexico grew at a much slower rate. U.S. imports rose from \$1.03 billion in 1988 to \$1.12 billion in 1992, an annual rate of just over 2 percent.

Figure 2 shows the composition of trade between the U.S. and Mexico at the 3-digit industry group level of aggregation. Exports and imports are both heavily concentrated into a few industry groups. For U.S. exports, meat products dominate--accounting for \$797 million or 41 percent of processed food exports. The fats and oils group constituted 15 percent of exports followed by grain mill products (including prepared feeds and pet foods) at 12 percent.

Figure 2
U.S.-Mexico Trade in Processed Food and Beverages, 1992



Source: USDA, ERS

Imports from Mexico are also highly concentrated into three industry groups. Preserved fruit and vegetables is ranked number one accounting for 36 percent of U.S. imports. In second place is miscellaneous products (mostly seafood) at 27 percent, followed by beverages and flavorings at 23 percent.

However, a much more precise picture of trade is possible when we disaggregate the data to the 4-digit industry level.

Leading U.S. Exports

Table 1 ranks the 20 U.S. food processing industries with the largest exports to Mexico. It is no surprise that meat packing and poultry are ranked number one and two. Meat packing exports (including hides and skins) rose only 3 percent in 1992, but this followed a huge increase of 65 percent in 1991. Poultry and egg exports shot up 46 percent in 1992. Third-ranked soybean oil and products rose 32 percent, followed by wet corn milling, up 23 percent. Again, exports are highly concentrated even at the 4-digit industry level with the top 10 industries accounting for 69 percent of total processed food exports.

Most exports to Mexico are what can be called "processed commodities"--products intended for further processing or shipped in industrial size containers. But major export growth is also occurring in branded consumer packaged food products. In fact, 6 of the

Table 1. U.S. Exports to Mexico: Top 20 Food Processing Industries

Rank	SIC code	Industry	U.S. Exports		Cumulative Share
			1991	1992	
			Million dollars		Percent
1	2011	Meat packing	578.4	596.6	
2	2015	Poultry and egg	119.3	173.7	
3	2075	Soybean oil and products	103.9	137.5	
4	2046	Wet corn milling	61.3	75.4	
5	2023	Milk, condense, evap. & dry	55.6	73.7	
6	2077	Animal and margarine fats & oil	57.5	72.9	
7	2099	Miscellaneous food products	35.9	69.9	
8	2066	Chocolate & cocoa products	51.2	58.1	
9	2086	Soft drinks	19.4	42.5	
10	2041	Flour & other grain mill	20.6	41.4	
Total, Top 10 Industries			1,103.1	1,341.8	69.4
11	2026	Fluid milk & cream	32.8	40.3	
12	2043	Cereal breakfast foods	11.6	38.9	
13	2076	Vegetable oils	12.6	37.4	
14	2048	Prepared feeds	33.7	36.9	
15	2051	Bread & other bakery	15.2	33.5	
16	2062	Beet & cane sugar	92.9	33.0	
17	2044	Milled rice	18.4	32.0	
18	2033	Canned fruits & vegetables	15.1	30.2	
19	2013	Sausage & prepared meats	27.9	27.0	
20	2034	Dehydrated food	18.9	25.8	
Total, Top 20 Industries			1,382.2	1,676.7	86.7

Source: USDA,ERS.

top 20 industries more than doubled their exports in 1992. These industries in order of export growth are: cereal breakfast foods; vegetables oils; bread and other bakery; soft drinks; flour and other grain mill products; and canned fruits and vegetables. Many of these exports are highly differentiated consumer products. Other industries with rapid export growth (but not in the top 20) are: cheese; ice cream; pickled fruit, vegetables, and salad dressings; frozen fruit and vegetables; cottonseed oil; shortening and margarine; flavorings and extracts; and seafood.

Leading U.S. Imports

As mentioned earlier, U.S. imports from Mexico have grown slowly, even though average tariffs are relatively low. Apparently, rapid growth in Mexico's domestic market is absorbing much of the increased output of its food processing sector. Table 2 ranks the 20 U.S. food processing industries with the largest imports from Mexico. Again imports are highly concentrated at the industry level: the top 10 account for 86 percent of the total.

While export growth varies widely across industries, many industries that traditionally have been Mexico's largest exporters to the U.S. have actually experienced export declines since 1990. For example, exports to the U.S. have declined for each of the following industries: fish and seafood (ranked #1); frozen fruits and fruit juices (ranked

Table 2. U.S. Imports from Mexico: Top 20 Food Processing Industries

Rank	SIC code	Industry	U.S. Imports		Cumulative Share
			1991	1992	
			Million dollars		Percent
1	2091-92	Fish & Seafood	290.9	250.1	
2	2037	Frozen fruits & fruit juices	180.1	172.7	
3	2082	Malt beverages (beer)	129.9	147.6	
4	2034	Dehydrated food	68.8	121.8	
5	2085	Distilled liquor	66.7	83.4	
6	2035	Pickled fruits & vegetables & salad dressings	50.6	56.8	
7	2033	Canned fruits & vegetables	62.4	51.4	
8	2051	Bread & other bakery	21.7	29.0	
9	2068	Salted & roasted nuts	24.6	27.2	
10	2086	Soft drinks	24.2	22.7	
Total, Top 10 Industries			919.9	962.5	85.6
11	2099	Misc. food preparations	17.2	20.3	
12	2096	Potato & other chips	13.9	17.7	
13	2064	Candy and confectionery	11.8	15.8	
14	2076	Vegetable oils	15.2	14.7	
15	2013	Sausage casings	15.7	13.2	
16	2066	Chocolate & Cocoa	12.1	10.3	
17	2011	Meat packing	6.6	9.5	
18	2074	Cottonseed oil	11.1	9.2	
19	2062	Beet & cane sugar	18.5	8.0	
20	2084	Wine & Brandy	6.5	7.3	
Total, Top 20 Industries			1,048.5	1,088.5	97.4

Source: USDA, ERS.

#2); malt beverages (exports down from 1990 although up from 1991); canned fruit and vegetables (ranked #7); and sugar (ranked #19).

On the other hand, 8 industries with exports to the U.S. of at least \$15 million had double digit export growth in 1992. Most of these industries do not produce the typical export products we associate with Mexico. In order of export volume these 8 industries are: dehydrated fruit, vegetables, and soup (exports up 77 percent in 1992 over 1991); distilled liquor (up 25 percent); pickled fruit, vegetables, and salad dressings (up 12 percent); bread and bakery (up 33 percent); salted and roasted nuts (up 11 percent); miscellaneous food products (up 18 percent); and candy and confectionery (up 33 percent).

What's going on here? One answer is a rapid expansion of trade in many "non-traditional" processed food products. While processed commodity-type products still dominate trade between these two countries, there is also growing intra-industry trade. In fact, 9 industries are included on both the lists of 20 leading exports to Mexico (Table 1) and the 20 leading imports from Mexico (Table 2). These industries are: miscellaneous food products; chocolate and cocoa products; soft drinks; vegetable oils; bread and other bakery products; beet and cane sugar; canned fruit and vegetables; sausage and prepared meats; and dehydrated food.

Intra-Industry Trade

Intra-industry trade is defined as the simultaneous importation and exportation of similar goods (Greenaway and Milner, 1984). The literature explaining intra-industry trade emphasizes the role of imperfect market structures, product differentiation, and economies of scale. Studies on food manufacturing have found intra-industry trade positively related to: similarity of tariff barriers; similarity of per capita income; proximity of trading partners (especially if they share a common border) and the total volume of trade (Hartman, Henderson, and Sheldon, 1993; Hirschberg, Sheldon, and Dayton, 1993).

Intra-industry trade, as computed by the Grubel-Lloyd (1975) index (GL), measures the absolute value of industry *i*'s exports minus industry *i*'s imports, expressed as a proportion of that industry's total trade:

$$GL_i = 1 - \frac{|X_i - M_i|}{(X_i + M_i)}$$

The GL index ranges from 0 (no trade overlap exists) to 1 (complete trade overlap). GL indices were computed for each of 42 4-digit food processing industries. Intra-industry trade between the U.S. and Mexico is surprisingly large for several (mostly brand oriented) industries. Table 3 lists 11 (of the 42) industries that had GL indexes of 0.5 or

Table 3. U.S.-Mexico Intra-Industry Trade, 1992

SIC Code	Industry	G-L Intra-Industry Trade Index	U.S. exports to Mexico	U.S. imports from Mexico
---Million dollars---				
2084	Wines & brandy	.98	7.0	7.3
2067	Chewing gum	.98	5.2	5.4
2051	Bread & bakery products	.93	33.5	29.0
2032	Canned specialties	.92	3.6	4.3
2064	Candy & confectionery	.91	19.1	15.8
2074	Cottonseed oil	.78	14.3	9.2
2086	Soft drinks	.70	42.5	22.7
2013	Sausage	.66	27.0	13.2
2076	Vegetable oils	.56	37.4	14.7
2068	Salted & roasted nuts	.50	9.1	27.2
2096	Potato chips & snacks	.50	6.0	17.7

Source: USDA, ERS.

more indicating a very substantial level of intra-industry trade. The total volume of trade between the U.S. and Mexico for many of these industries is relatively small, but growing.

Still, 7 of these 11 industries are listed among the 20 largest exporters and importers with Mexico. Wine and chewing gum have the highest intra-industry trade index at 0.98, but

on a small volume of trade. Bread and bakery products has the third largest index. In addition, this industry's trade volume is not only much larger, but also growing at a rapid rate. As Mexico's economy and per capita income continue to expand and trade barriers continue to fall, intra-industry trade should maintain its rapid growth.

U.S. Food Firms Invest in Mexico

From Figure 1 it could be seen that aggregate sales from U.S.-owned food processing affiliates in Mexico were about \$5.1 billion in 1992. Which firms are investing, and are they producing for the Mexican market or for export to the U.S.?

Data from various company reports show that, in 1992, 26 large U.S. food processing firms had 58 affiliates or joint ventures in Mexico's food and feed processing sector (table 4). Some U.S. food processors have operated in Mexico for many years; others have just recently entered. Several small U.S. food processors also have ownership interests in food processing plants in Mexico.

Ralston Purina has operated prepared feed and pet food plants in Mexico for several years and has just built a new plant to manufacture ready-to-eat breakfast cereal. CPC International operates a corn refining plant and consumer products plants producing salad dressings, oils, margarine, and other products. Kraft General Foods, owned by

Table 4. U.S. Food Firms with Food Processing Affiliates in Mexico

U.S. Company	Number of affiliates
Ralston Purina	10
RJR Nabisco	6
Pilgrim's Pride	6
CPC International	5
Philip Morris (Kraft General Foods)	3
PepsiCo Inc.	3
Campbell Soup	2
Coca-Cola	2
Quaker Oats	2
Universal Foods	2
Tyson Foods	2
Borden	1
Kellogg	1
Hershey Foods	1
McCormick & Co.	1
Gerber Products	1
Sara Lee	1
Cargill/Excell	1
J.R. Simplot	1
ConAgra	1
Archer Daniels Midland	1
Orval Kent Food	1
Pet Inc.	1
Hercules Inc.	1
Anheuser-Busch	1
General Mills/Nestle	1
Total	58

Source: Company annual reports and USDA, ERS.

Philip Morris, manufactures a variety of frozen foods, dairy products, and other packaged foods at its three affiliates in Mexico.

Pilgrim's Pride Corporation, headquartered in Texas, is the second-largest chicken processor in Mexico. Pilgrims's Mexican operations include three feed mills and three chicken processing plants, as well as breeding, hatching, and grow-out facilities.

In 1990, PepsiCo greatly increased its investment in Mexican food processing plants. In addition to owning a concentrate syrup plant, PepsiCo is Mexico's largest salty-snack processor and cookie manufacturer. Total sales from PepsiCo's food processing affiliates in Mexico substantially exceed \$1 billion. Both PepsiCo and Coca-Cola are pouring substantial new investments into their bottling franchises.

Campbell Soup operates two plants in Mexico, which produce a variety of canned and frozen vegetables and other food ingredients. Campbell exports tomato paste and other ingredients from its Mexican affiliates for use in its U.S. operations (ie. intra-firm trade). Universal Foods owns two food flavoring and coloring plants. Quaker Oats operates a cereal and a chocolate products plant and is expanding its sports drink operations. RJR Nabisco re-entered Mexico in 1992 by acquiring Lance, a Mexico City-based manufacturer of biscuits, pasta, flour and cake mixes. McCormick has a longstanding joint venture with a Mexican firm that produces McCormick-brand mayonnaise and spices. Gerber also has a joint venture that produces its baby food products for the Mexican market.

Tyson Foods developed an innovative joint venture with the Mexican firm Corpracion Citra and with C. Itoh & Co., Ltd, of Japan. Tyson exports whole broilers from its U.S. plants to Citra, where the broilers are deboned and further processed. Citra then exports the finished product to Japan, where it is distributed by C. Itoh. Tyson provided technological assistance to Citra to develop new deboning and further-processed poultry processing plants.

Tyson recently expanded its Mexican operations by entering into a second joint venture with Trasgo SA de CV, a major Mexican poultry producer/processor. Tyson's joint ventures augment rather than supplant its U.S.-based deboning and further processing operations.

Other food processors are entering the Mexican market by developing joint ventures for distribution, rather than by investing in foreign production facilities. For example, Sara Lee recently signed a joint venture with Grupo Industrial Bimbo, Mexico's largest bread and bakery manufacturer. Bimbo is one of the few firms in Mexico with its own national distribution network. Bimbo will help Sara Lee distribute its many bakery and processed meat products in Mexico, while Sara Lee will help Bimbo distribute its bakery products in the United States.

The General Mills/Nestle joint venture, Cereal Partners Worldwide, announced they are building a ready-to-eat cereal plant in Mexico to compete with Kellogg and Ralston Purina. Hercules Inc. is 50 percent owner of Toastmaker S.A., a major flavor company. Anheuser-Busch recently acquired an 18 percent equity interest in Grupo Modelo SA de CV for \$477 million. Modelo produces Corona and other beer brands in Mexico and is the exclusive importer and distributor of Anheuser-Busch brands.

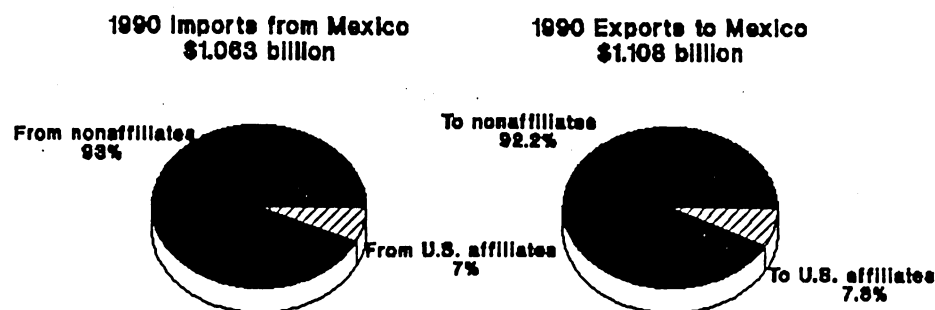
Several large foreign-owned food processors in the United States have food processing affiliates in Mexico. These firms include Green Giant/Pillsbury, owned by Grand Metropolitan (United Kingdom); A.E. Staley, owned by Tate & Lyle (United Kingdom); and Central Soya, owned by Gruppe Ferruzzi (Italy).

U.S. Affiliates Produce for the Mexican Market

With a few notable exceptions, U.S. food manufacturing affiliates in Mexico produce primarily for Mexico's domestic market rather than for export to the United States. These firms generally are more interested in Mexico as a rapidly growing market than as an export platform.

Merchandise trade between the United States and Mexican affiliates is surprisingly small. In 1990, U.S. imports of processed food from Mexico totaled \$1.063 billion. Of this amount, only \$74 million, or 7 percent, came from U.S.-owned Mexican affiliates (Fig. 3).

Figure 3. U.S. Trade With Its Food Processing Affiliates In Mexico Is Small



Source: U.S. Dept. of Commerce, BEA

The same holds true for other countries. U.S. processed food imports from U.S.-owned foreign affiliates worldwide totaled \$1.289 billion in 1990, which accounted for only 6 percent of all processed food imports.

Likewise, U.S. firms export relatively small amounts to their foreign affiliates, U.S. firms exported \$87 million worth of processed food to their Mexican affiliates in 1990. This accounted for 7.8 percent of total processed food exports to Mexico. Worldwide, the percentage is higher. About 9 percent of the total \$19 billion in U.S. processed food exports in 1990 went to U.S. affiliates.

U.S. Food Distributors Entering Mexico

U.S. food wholesalers, such as McLane Company (owned by Wal-Mart) and Labatt Food Service, are opening modern wholesale distribution centers in Mexico. Rykoff-Sexton, a leading U.S. foodservice distributor, formed a joint venture with Organizacion Imperial SA de CV. The company, called Foodservice SA de CV, will distribute processed foods, foodservice equipment, and nonfood supplies to foodservice firms in Mexico. Fleming Companies, the second largest U.S. grocery wholesaler, also recently signed a joint venture with Grupo Gigante, a leading Mexican supermarket firm. The joint venture, called Gigante-Fleming SA de CV, plans to open four to six large supermarkets in Mexico during 1992-93.

Entry by these and other firms will pressure Mexican distribution firms to modernize and reduce costs. Having access to more efficient wholesalers will help U.S. food processors penetrate Mexican markets, whether from their U.S. operations or from their Mexican affiliates. In addition, Wal-Mart and The Price Company have both formed joint ventures with Mexican firms to open several membership wholesale clubs in Mexico. These stores will be similar to the Sam's Club and the Price Clubs in the United States. The Wal-Mart-CIFRA, SA joint venture also plans to open 11 large supermarkets in Mexico by mid-1993.

Investment in U.S. from Mexico

While U.S. firms are rapidly expanding into Mexico, Mexican direct investment in the U.S. food industry is very small. In 1989, sales from Mexican-owned affiliates in the United States were below \$50 million. A notable exception is Grupo Industrial Maseca SA de CV. Maseca controls over 60 percent of the Mexican corn flour market, and has recently expanded into Central America and the United States. Maseca now produces corn flour in at least three plants in the United States. It also produces tortillas in 12 plants in 5 U.S. States, and is looking to expand into several additional U.S. cities.

Gruma Corporation of Mexico, parent of Los Angeles-based Mission Foods is also expanding its U.S. operations. Mission Foods operates 10 tortilla plants in the U.S. and is building a state-of-the-art processing plant in Georgia. Also, in 1992 a Mexican firm acquired Alta Verde Industries, a Texas cattle feedlot and slaughter plant operation.

Conclusions

Since the liberalization of Mexico's foreign investment and trade regulations, both U.S. exports and sales from U.S. affiliates in Mexico have grown rapidly. Mexican imports of processed food to the U.S. are also growing, at a much slower rate. It can be expected that both trends will continue.

U.S. firms will continue to pursue both trade and foreign investment strategies. The rapid growth of U.S. affiliate sales in Mexico does not appear to be at the expense of U.S. processed food exports. However, sales from U.S. affiliates will continue to far exceed the value of U.S. exports.

The role of U.S. investment in Mexican food processing facilities is clearly to supply Mexico's domestic market rather than for export back to the United States. Intra-firm trade in processed food between parents and affiliates will continue to be very small through the next decade.

While exports and imports are highly concentrated among a few industry groups, the pattern of trade is slowly changing. U.S.-Mexico trade in many highly differentiated and other "nontraditional" processed food products have recently experience double digit and even triple digit growth.

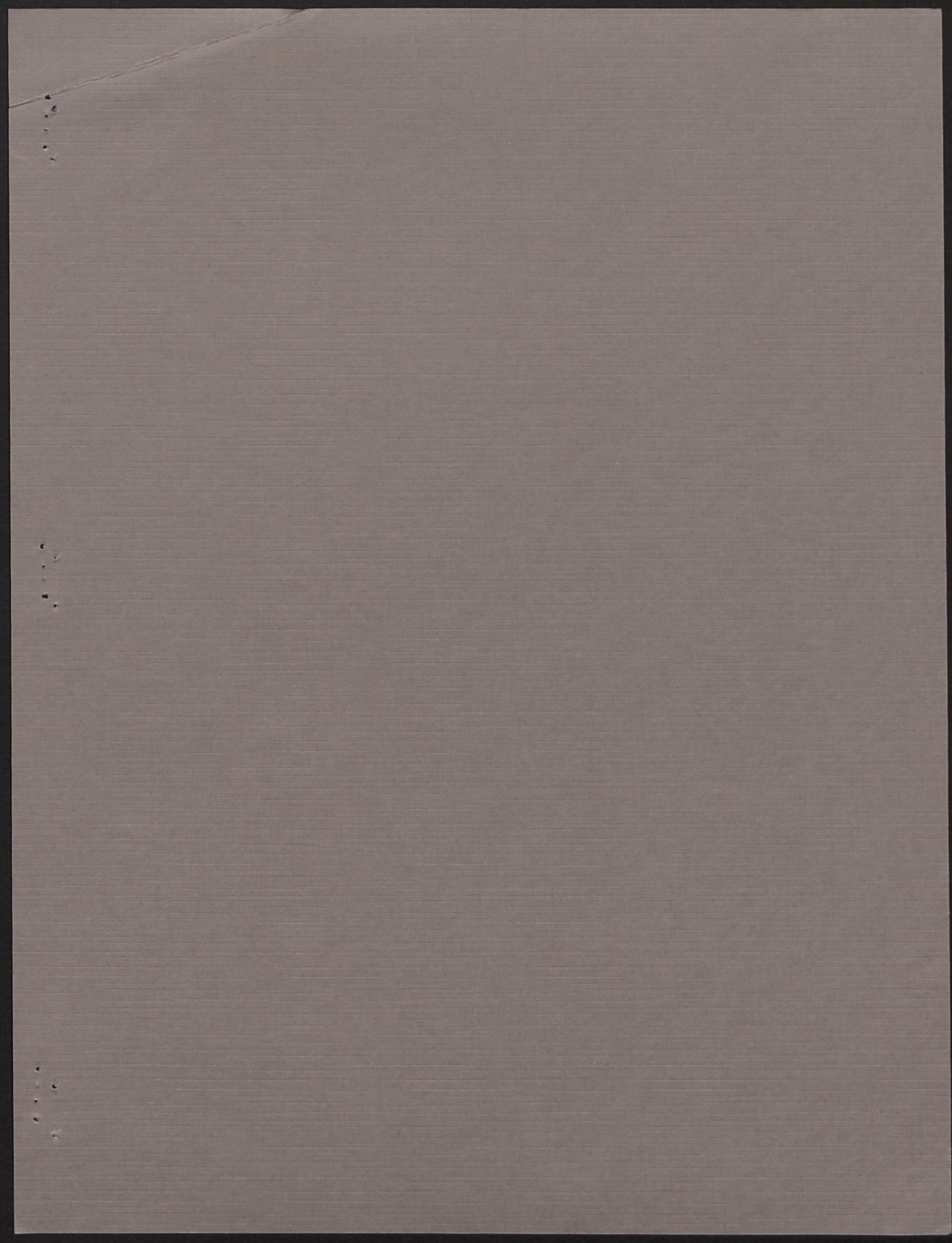
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