

U.S. Foreign Direct Investment in the Western Hemisphere Processed Food Industry. By Christine Bolling, Market and Trade Economics Division, Steve Neff, and Charles Handy, Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 760.

Abstract

Foreign direct investment (FDI) has become the leading means for U.S. processed food companies to participate in international markets. Affiliates of U.S.-owned food processing companies had \$30 billion in sales throughout the Western Hemisphere in 1995, nearly 4 times the level of processed food exports. This report puts U.S. foreign direct investment and trade in processed foods to the region into global perspective, and finds evidence that, in the aggregate for the 1990's, trade and FDI are complementary—not competitive—means of accessing international food markets. Incomes have grown sufficiently in most countries to support growth in affiliate sales and U.S. exports, indicating a strong demand for a wide variety of processed foods.

Keywords: U.S. food processing industry, Western Hemisphere, foreign trade, foreign direct investment

Acknowledgments

The authors acknowledge the helpful reviews of Richard Brown, Nicole Ballenger, Mary Burfisher, Steve Haley, Dennis Henderson, Gregory Pompelli, David Skully, and Francis Tuan. The authors are especially grateful to Mary Burfisher, ERS, for running appropriate scenarios of the Burfisher-Robinson-Thierfelder CGE model and offering helpful comments on the presentation of the experiments' results.

Note: Use of company names in this report is for identification only and does not constitute endorsement by the U.S. Department of Agriculture.

Contents

List of Figures	iii
List of Tables	iv
Summary	vi
Definition of Terms	viii
<i>Part I: U.S. Processed Foods FDI and Trade in the Western Hemisphere</i>	
Introduction	1
Economic Issues and Concepts	1
Basic Foreign Trade and FDI Scenarios	2
Food Trade and FDI in the Western Hemisphere	3
U.S. Food Firms' Modes of Access to Western Hemisphere Food Markets ..	5
U.S. Foreign Direct Investment in the Western Hemisphere	5
U.S.-Western Hemisphere Trade in Processed Foods	8
Industries	8
Trade Liberalization	10
Relationship Between U.S. FDI and Trade in the Western Hemisphere	
Food Processing Industry	12
Economic Impacts Go Beyond Trade	13
Analyzing the Effect of U.S. Direct Investment Abroad on the U.S. Economy	14
<i>Part II: Four Country Cases: Canada, Mexico, Brazil, and Argentina</i>	
Economic Characteristics of the Countries	17
Canada	17
The Canadian Market for Processed Food	17
Canada's Processed Food Industry	18
Mexico	28
The Mexican Market for Processed Food	28
Mexico's Processed Food Industry	28
Brazil	39
The Brazilian Market for Processed Food	39
Brazil's Processed Food Industry	39
Argentina	46
The Argentine Market for Processed Food	46
Argentina's Processed Food Industry	46
References	53

List of Figures

Figure	Page
1. GNP of selected Western Hemisphere countries, 1994	3
2. Population of selected Western Hemisphere countries, 1994	3
3. Population growth in selected Western Hemisphere countries, 1994	4
4. Per capita GNP in selected Western Hemisphere countries, 1994	4
5. U.S. foreign direct investment in the Western Hemisphere food processing industry, 1984-95	5
6. U.S. exports of processed foods to the Western Hemisphere, 1989-95.	8
7. U.S. imports of processed foods from the Western Hemisphere, 1989-95.	9
8. U.S.-Western Hemisphere trade in processed foods, 1995	10
9. Sales from U.S. affiliates vs. U.S. exports of processed foods	12
10. Sales from U.S.-owned affiliates in the Western Hemisphere vs. U.S.-Western Hemisphere trade in food products	12
11. Canada: Growth in real GDP.	18
12. Sales from U.S.-owned affiliates in Canada vs. U.S. trade in food products.	25
13. Mexico: Growth in real GDP.	28
14. Sales from U.S.-owned affiliates in Mexico vs. U.S. trade in food products.	35
15. Brazil: Growth in real GDP.	39
16. Sales from U.S.-owned affiliates in Brazil vs. U.S. trade in food products.	44
17. Argentina: Growth in real GDP.	46
18. Sales from U.S.-owned affiliates in Argentina vs. U.S. trade in food products.	50

List of Tables

Table	Page
1. Processed food industry sales of selected countries, 1994	5
2. U.S. direct investment position in the Western Hemisphere	6
3. U.S. exports of processed foods to Western Hemisphere countries, 1989-95	8
4. U.S. imports of processed foods from Western Hemisphere countries, 1989-95	9
5. Fastest growing U.S. processed food exports to other Western Hemisphere countries, 1989-95	11
6. Fastest growing U.S. processed food imports from other Western Hemisphere countries, 1989-95	11
7. Characteristics of selected Western Hemisphere countries	13
8. Product sales from U.S. direct investment in various food industries, 1993-95 average	14
9. Effects of a 10-percent increase in Mexican investment on U.S. farm and processed food trade	16
10. Canada's top 20 food processing companies according to 1995 sales	18
11. Canada's processed food industry by sector, 1996	19
12. U.S. direct investment in Canada: Benchmark statistics	22
13. U.S. affiliates in Canada's food processing industry	23
14. Canada's direct investment in the United States: Benchmark statistics	24
15. U.S. exports of processed foods to Canada, ranked by 1993-95 average value	25
16. U.S. imports of processed foods from Canada, ranked by 1993-95 average value	26
17. Mexico's processed food industry by sector, 1995	28
18. Mexico's top 20 food processing companies, according to 1994 sales	29
19. U.S. direct investment in Mexico: Benchmark statistics	31
20. U.S. affiliates in Mexico's food processing industry	32
21. U.S. exports of processed foods to Mexico, ranked by 1993-95 average value	36

22. U.S. imports of processed foods from Mexico, ranked by 1993-95 average value.	37
23. Brazil's processed food industry by sector, 1993	40
24. Brazil's top food processing companies, according to 1995 sales.	40
25. U.S. direct investment in Brazil: Benchmark statistics	42
26. U.S. affiliates in Brazil's food processing industry	43
27. U.S. exports of processed foods to Brazil, ranked by 1993-95 average value.	44
28. U.S. imports of processed foods from Brazil, ranked by 1993-95 average value.	45
29. Argentina's processed food industry by sector, 1993 and 1995	47
30. Argentina's top 20 food processing companies, according to 1994 sales	47
31. U.S. direct investment in Argentina: Benchmark statistics	49
32. U.S. affiliates in Argentina's food processing industry.	49
33. U.S. exports of processed foods to Argentina, ranked by 1993-95 average value.	51
34. U.S. imports of processed foods from Argentina, ranked by 1993-95 average value.	52

Summary

Exports alone are insufficient to measure the U.S. presence in international markets. The value of sales from affiliated companies in foreign countries typically dwarfs the value of exports alone. While the United States exported about \$8 billion worth of processed food to other Western Hemisphere nations in 1995, U.S. affiliates throughout the Western Hemisphere recorded sales of \$30 billion, nearly four times as great.

Those business affiliations come about through what is called foreign direct investment (FDI), typically defined as an investment of 10 percent or more in a foreign enterprise. The 10-percent threshold is assumed to give the investor a controlling interest in the enterprise. Most companies are majority-owned.

U.S. food processing companies had invested more than \$11 billion in food processing affiliates in other Western Hemisphere nations as of 1995, nearly double the 1990 level. Those investments represented a third of total U.S. investments in foreign food companies.

Growth of U.S. investment in foreign countries is related to a number of factors:

- Rules regarding foreign investment were liberalized in a number of countries over the last several years,
- Population growth has created more demand for food products in general,
- Income growth has created more demand for processed foods, along with a desire for a wider variety of foods in the diet as well as more healthful diets,
- Individual countries' economies have become more stable than they were in the past and more friendly to both domestic entrepreneurs and foreign investments, and
- Regional trade agreements, like NAFTA (involving Canada, the United States, and Mexico) and MERCOSUR (involving Argentina, Brazil, Chile, Paraguay, and Uruguay), have encouraged investors.

Foreign direct investment for the most part has complemented U.S. exports rather than competed with them, chiefly because of the types of foods available in Western Hemisphere countries. Some products are too expensive to ship, and thus lend themselves primarily to domestic consumption: dairy products, wheat and corn flour, breakfast cereals, pet foods, livestock feeds, cookies and crackers, pasta, chocolate products, soft drinks, vegetable oils, and mayonnaise. Some prepared fruits and vegetables are produced in countries that are large fruit and vegetable producers, close to the raw product; these investments may be a source of U.S. imports: orange juice, frozen vegetables, and canned tomatoes, for example.

FDI seems to have beneficial effects on the economy of the host country, perhaps because it contributes to the country's food production infrastructure. Processed foods can often be produced in the host country for less than the delivered cost of direct exports, while at the same time creating jobs, raising the gross domestic product, and producing products that can themselves be exported to earn foreign currency. Canada, Mexico, Brazil, and Argentina account for \$9.9 billion (90 percent) of the \$11 billion total of U.S. food companies' foreign direct investment in the Western Hemisphere.

Canada is one of the top markets for U.S. processed food, and income growth has been strong to promote consumer demand. Sales of U.S. affiliates of food processing companies in Canada account for about three times the level of direct U.S. exports to Canada. U.S. investments in Canada's food industry more than doubled between 1985 and 1995. Sales from U.S. affiliates in Canada are concentrated in flour milling, soft drinks, and brewing, while major sales in exports are in meat products and frozen and canned foods.

U.S. investments in **Mexico's** food industry rose from \$0.4 billion in 1985 to \$2.9 billion in 1995. Sales of U.S. affiliates of food processing companies in Mexico account for about three times the level of direct U.S. exports to Mexico. A debt-equity conversion program in the mid-1980's and a reduction in inflation, along with prospects for joining NAFTA, encouraged foreign investment. Sales from U.S. affiliates in Mexico are spread throughout the food industry, with direct U.S. exports to Mexico concentrated in meatpacking, poultry, animal fats, soybean oil, wet corn milling, and dry/condensed milk.

U.S. investments in **Brazil's** food industry tripled between 1985 and 1995. Sales of U.S. affiliates in Brazil were about 11 times the level of exports. Liberalization of Brazil's investment laws, the recent stabilization of Brazil's economy, and Brazil's membership in the regional trade pact MERCOSUR created new interest in Brazilian investments. Sales from U.S. affiliates in Brazil are from cookies, biscuits, orange juice, soft drinks, canned and frozen fruits and vegetables, oilseeds and products, breakfast cereals, and beer. Sales from direct exports are concentrated in tallow and meat products, milled rice, hops, cheese, and nonfat dry milk.

Argentina has the highest per capita income in South America, with 30 percent of that spent on food. U.S. investment in Argentina's food industry quadrupled between 1985 and 1995, encouraged by a government debt-equity program that helped to stabilize the economy and rein in inflation, special incentives to foreign investors, and Argentina's membership in MERCOSUR. Sales of U.S. affiliates in Argentina were about 25 times the value of direct exports. Sales from U.S. affiliates in Argentina are chiefly in processed beef products, oilseed products, soft drinks, grain products, animal feeds, pet foods, ice cream, cream cheese, cookies, and crackers. U.S. export sales are concentrated in processed fruits and vegetables and beverages.

Definition of Terms

Foreign direct investment (FDI) is “the act of purchasing an asset and at the same time acquiring control of it.” FDI includes investment by a company, group, or individual in new facilities, existing enterprises, a share of existing enterprises, or land or natural resources, located within another country. FDI is motivated by the desire to control or use the acquired assets, which is in contrast to passive control, embodied in portfolio investment. (Södersten and Reed, 1994, p. 501)

For statistical purposes, the U.S. Department of Commerce (Commerce Department) considers FDI as an investment of 10 percent or more in a foreign enterprise. An investment of this amount usually represents an attempt by the investor to gain some degree of influence or control over the decisionmaking of an enterprise. The Commerce Department reports FDI in terms of the stock of investment and the sales of the U.S.-owned affiliates resulting from FDI.

Portfolio investment is considered to be motivated by the potential return on investment and not by the desire to influence the management of the enterprise. Statistically, the Commerce Department classifies ownership of less than 10 percent as portfolio investment. **Greenfield** indicates the establishment of a new enterprise. Only 20 percent of foreign direct investment in the food industry is greenfield investment. **Mergers and acquisitions** are investments in already established businesses.

The processed food industry is defined here as the products listed in the U.S. Department of Commerce Standard Industrial Classification (SIC) Code 20 as “Food and Kindred Products.” The SIC is the statistical classification underlying all establishment-based U.S. economic statistics that are classified by type of industry (OMB, 1987). It assigns establishments to industry groups based on their principal economic activity. Under the SIC system, establishments or plants that produce similar products, use similar processes, or provide similar services are assigned the same two-digit code number.

The 49 industries in the processed foods sector are known as “Food and Kindred Products” and fall into group SIC-20. SIC-20 includes establishments that manufacture or process foods and beverages for human consumption, as well as certain related products, such as chewing gum, fats and oils, and animal feeds. Products in SIC-20 must be value-added products, which do not always correspond to the more problematic “high-value products” designation. Fresh fruits and unshelled nuts are examples of high-value products that have undergone no processing and, hence, are excluded from SIC-20. Conversely, some “low-value” products are included in SIC-20, such as animal feeds and manufactured ice, because some processing had to take place to get the product to the customer.

Many processed food products serve as inputs into other manufactured foods and other goods, particularly those in the dairy products, grain mill products, and fats and oils categories. All of these items are included in SIC-20, whether the final destination is use as an intermediate product or consumption as a final good. In addition, many products are sold at a number of value-added levels. For example, beef sold “on the hoof” is listed as a raw commodity. However, as beef moves further downstream toward the consumer, it is always listed in the processed food category, whether it is sold as carcass beef (slaughter), as boxed beef (initial packaging), or as final cut (shrink-wrapped in the grocery display case).

Product mandate occurs when a conglomerate or multinational company decides that a specific product will be produced in a particular plant, and not in other similar plants, leading to specialization in production lines.

U.S. Foreign Direct Investment in the Western Hemisphere Processed Food Industry

Christine Bolling
Steve Neff
Charles Handy

PART I: U.S. PROCESSED FOOD FDI AND TRADE IN THE WESTERN HEMISPHERE

Introduction

At the Summit of the Americas held in Miami in December 1994, all of the Western Hemisphere's democratically elected leaders agreed to set up a Free Trade Area of the Americas by the year 2005. NAFTA and MERCOSUR, two important multilateral trade agreements, are important springboards to further current economic integration in the hemisphere. While many provisions of the agreements center on trade, other provisions are important for foreign direct investment.

Aside from important policy considerations, there are compelling economic reasons for analyzing trade and foreign direct investment (FDI) in the Western Hemisphere processed food industry. Canada is our second largest market for processed foods (after Japan) and Mexico is among the top 10, and both are among the top 10 destinations for U.S. foreign direct investment. Western Hemisphere trade and FDI opportunities for U.S. processed food companies have increased in recent years due to stronger economic growth. The size of the U.S. market has kept other Western Hemisphere markets somewhat in the background, but these countries have become more important to international food companies, partly because U.S. population growth and real income growth are lower than for the hemisphere as a whole.

Seeing stronger growth elsewhere in the Western Hemisphere, U.S. food companies, through a variety of strategies, have entered Western Hemisphere markets that are

more open due to recent trade agreements and more stable due to institutional changes within countries. The main means of increasing international food business have been exports and FDI.

The purpose of this paper is to (1) explore trends in trade and investment in the Western Hemisphere processed food industry, (2) compile evidence of whether FDI and trade are substitutes or complements, and (3) present case studies of the attributes of selected Western Hemisphere countries that would favor FDI over trade. Part I of this report examines the factors driving demand for processed foods in the Western Hemisphere and the relative roles of domestic production, sales from U.S. affiliates, and U.S. processed food exports in fulfilling that demand in the 1990's. This report also considers the economic scenarios that motivate trade and investment and assesses recent developments in light of NAFTA and MERCOSUR in the Western Hemisphere. Part II then explores four countries—Canada, Mexico, Brazil, and Argentina—that receive intensive treatment due to their size and market growth potential. These case studies illustrate how different country characteristics lead to different relative roles for trade and FDI in their food industries.

Economic Issues and Concepts

A plethora of issues surrounding foreign direct investment have been discussed for decades, each with its own economic literature. This paper deals with the question of whether foreign direct investment substitutes for trade and, secondly, the effect of FDI on the U.S. economy, particularly U.S. agriculture and the food processing industry. A closely related issue is the distribution of income to

labor and the potential loss of jobs that is perceived as an outcome of outward foreign direct investment.

There are many facets in assessing the general effect of U.S. investment abroad, so this report is to be viewed in the broader context. The balance between inbound and outbound FDI finds U.S. direct investment abroad is nearly matched by foreign direct investment into the United States. Consequently, FDI in the food industry has more implications for the industry itself than for the U.S. macro-economy because direct investment in the food industry is only a small part of the total FDI in both directions. Moreover, direct investment represents about a fifth of the capital flows between the United States and the rest of the world, but it is the most visible. Portfolio investment in stocks and bonds is much larger. In that measure, the United States has been a net importer of capital since 1989 (U.S. Department of Commerce, *Survey of Current Business*).

Basic Foreign Trade and FDI Scenarios

FDI and trade in the real world cover many scenarios and mostly involve multinational enterprises (MNE's) that have considerable market power. Specific cases include U.S. companies investing in foreign food processing companies that process U.S. agricultural products, investing to enter a foreign market, and investing to ensure an adequate product supply from imports.

There are many examples of U.S. companies investing in foreign companies that process U.S. agricultural products. As foods have become more highly processed, U.S. outbound FDI has led to increased exports of such intermediate products as meat and poultry, tomato sauce, and frozen french-fried potatoes to be used in frozen prepared dinners, pizzas, and fast food. As production of the finished processed food products increases, U.S. exports of intermediate processed foods may also increase.

U.S. outbound FDI also occurs because it may not be economically feasible to export particular products either because of high tariffs and/or transportation costs to certain countries. Dairy products, beer, soft drinks, and mayonnaise are examples. Even this FDI can lead to increased exports for such intermediate processed food products as malt and syrups and flavorings for soft drinks.

The flip side is that U.S. outbound FDI may also occur to ensure an adequate product supply through imports. Brazilian orange juice is an example where product prices are lower for U.S. consumers because of imports,

even though the United States produces orange juice. FDI in companies that produce tropical products, frozen vegetables and canned tomatoes are other examples.

A major concern about FDI is that it shifts production abroad and becomes a substitute for U.S. exports. But,

Important FDI Studies in the Food Industry

Many issues are associated with FDI and trade, and the significance of FDI in the food industry can be seen in the growing literature that attempts to explain recent developments (Henneberry, 1997; Vaughn, 1995; and Henderson, Handy, and Neff, 1996). Each of these studies has extensive literature reviews that catalogue the branches of research conducted in regard to the food industry and the general economy, including the works of Dunning, Markusen, Krugman, and Venables (citations of their work are included in the References).

Handy and Henderson (1994) and Overend, Connor, and Salin (1997), each using firm-level data, find evidence that FDI is most often complementary with U.S. processed food exports. The industry findings are consistent with the findings for the general economy as reported by Markusen (1983). Sheldon (1997) concludes that "these predictions about FDI and trade are simply logical extensions of the conventional [trade] model as some of its restrictive assumptions are relaxed."

Another important branch of research analyzes the effects of investment (of which FDI is a major part in many countries) on the general economy using Computable General Equilibrium models (Burfisher, Robinson, and Thierfelder, 1992), Reza and Abbott (1995), and dynamic programming models (Diao and Somwaru, 1996). These studies have focused on the multiplier effect associated with the transfer of capital from one country to another that eventually leads to increased income that is translated to increased consumer demand and increased trade in the host country.

Yet another important research area is the motivation for foreign direct investment. Pick, Gopinath, and Vasavada (1997) conclude from a study of 10 countries for the years 1982-94 that (1) the relationship between exports and foreign sales is negative and small in the same product line; (2) foreign production appears to be positively affected by protection measures of a host country; and (3) per capita income (level of development) is an important determinant of FDI and trade in the food processing industry. Vaughn (1995) stresses marketing advantages that emanate from FDI (1995).

contrary to this belief, data show both U.S. processed food exports and FDI have increased and some studies show that exports and FDI are often complementary. Income in most countries has grown sufficiently to support growth in affiliate sales and U.S. exports to satisfy strong demand for a wide variety of processed foods. (For a discussion of technical studies, see box.)

Food Trade and FDI in the Western Hemisphere

Growth is a persistent theme of this report—growth in Western Hemisphere incomes, populations, processed food trade, and FDI. One of the most consistently documented empirical findings in economics, Engel’s Law, states that poorer people spend a higher share of income on food; at higher levels of income, expenditures on food are larger, but less than proportionately larger (Deaton and Muellbauer, 1993). In the Western Hemisphere, incomes are growing, and total expenditure on food consumption is growing even as the share of income spent on food is falling. This report examines income levels and growth, especially in the most important FDI countries—Canada, Mexico, Argentina, and Brazil—to discern prospective changes in consumption of processed foods.

The United States has by far the largest annual GNP in the Western Hemisphere at over \$6 trillion (fig. 1). The rest of the hemisphere has a combined GNP of over \$2 trillion. Canada, Brazil, Mexico, and Argentina have the next largest economies. Strong population and income

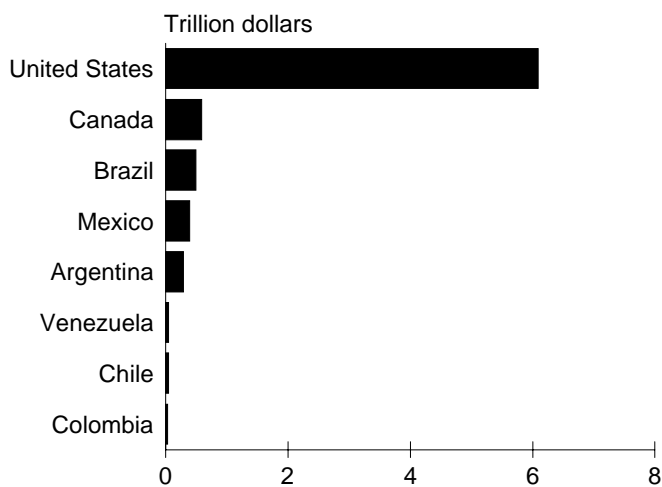
growth are leading to a faster increase in demand for processed food in the rest of the Western Hemisphere than in the United States and Canada.

Population

The Western Hemisphere, excluding the United States, is a market of 550 million people, with Brazil (160 million) and Mexico (90 million) comprising the largest single-country markets (fig. 2). Approximately 10 million people are added to the market each year, with many countries of the region also undergoing rapid urbanization.

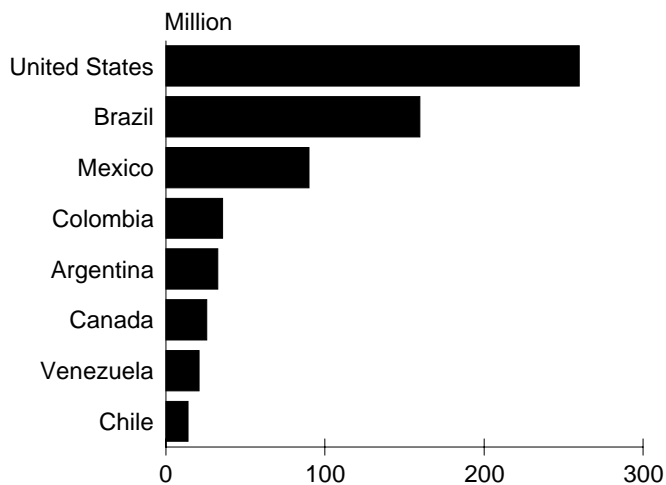
While population growth in the United States and Canada has stabilized, population growth is higher in Latin America (fig. 3). Venezuela and Mexico have the fastest growing populations of the region. While U.S. and Canadian populations are aging, populations in Latin America are relatively young. About 30-35 percent of the population is under the age of 15 in Argentina, Brazil, and Chile, and nearly 40 percent is in that age group in Mexico and Venezuela, compared with 21 percent in the United States and Canada (1990 census). In contrast, persons older than 64 years comprise less than 5 percent of the population in Argentina, Brazil, Chile, Mexico, and Venezuela, while they represent about 12 percent in the United States and Canada. More food is demanded on a per capita basis in Latin America because of the caloric requirements of a young population. Also, young people are more likely to purchase nontraditional types of food.

Figure 1
GNP of selected Western Hemisphere countries, 1994



Source: Economic Research Service compiled from World Bank, Economic Indicators STARS program data.

Figure 2
Population of selected Western Hemisphere countries, 1994



Source: Economic Research Service compiled from World Bank, Economic Indicators STARS program data.

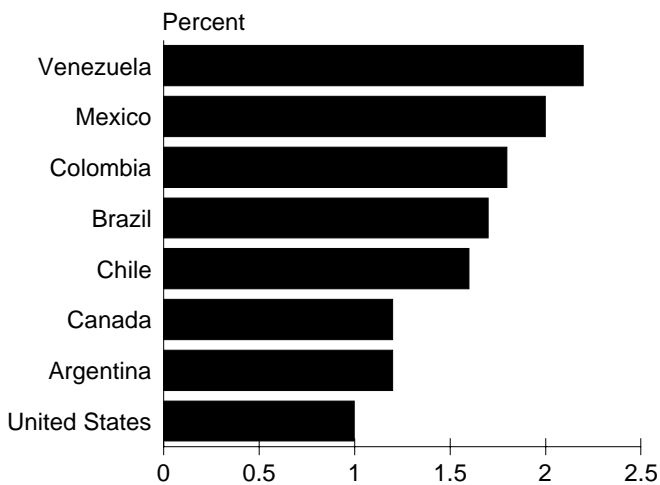
Income

Income growth is the next most important factor driving demand for processed foods. The Western Hemisphere, in general, has growing economies. Latin America has had increasing real incomes since 1990. The purchasing power among the major Western Hemisphere countries (excluding the United States) is varied, ranging from about \$1,300 per capita in Colombia to \$20,000 in Canada (fig. 4). Outside of the United States, per capita income is the highest in Canada, Argentina, Mexico, and Chile. As the lower-income countries enter into an economic

growth period, the marginal propensity to consume food is high, which means that income growth leads to increasing expenditures on food. Because the income elasticity for processed foods is generally higher than for staples, increases in income result in significant increases in use of processed foods (FAO, USDA). The Real Plan in Brazil (1994), the Convertibility Plan in Argentina (1991), MERCOSUR (1991), and NAFTA (1994) added to the potential growth and economic stability of the region (McClain, 1992).

Figure 3

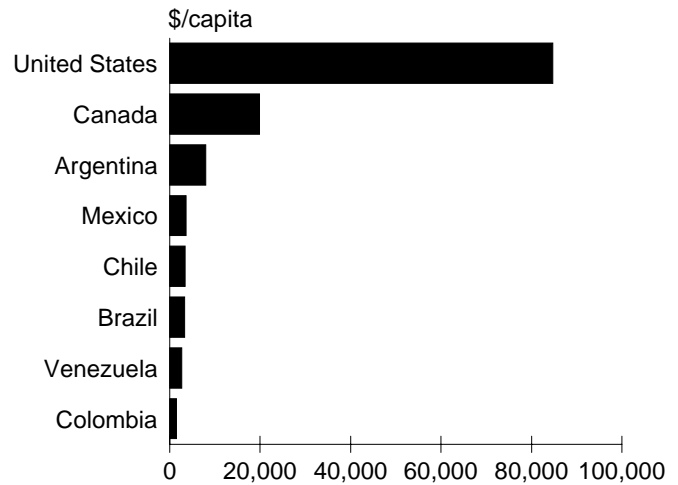
Population growth in selected Western Hemisphere countries, 1994



Source: Economic Research Service compiled from World Bank, Economic Indicators STARS program data.

Figure 4

Per capita GNP in selected Western Hemisphere countries, 1994



Source: Economic Research Service compiled from World Bank, Economic Indicators STARS program data.

U.S. Food Firms' Modes of Access to Western Hemisphere Food Markets

The demand for processed foods in Western Hemisphere countries, as in most places, has been largely met by the domestic food industry, particularly in livestock slaughtering and canning fruits and vegetables. The United States, Canada, and Brazil have the largest food processing industries in the Western Hemisphere (table 1). The United States, Canada, and Argentina have the largest industries on a per capita basis. Many domestic firms have very modern equipment. These firms were often spurred to modernize when they faced competition from direct investment and trade. While the United States has the largest number of firms with sales in excess of \$1 billion, some Canadian and Latin American firms have also joined the ranks of world class multinationals. (See country case studies in Part II for more details on the countries' food industries and firms.)

Given that there is a food processing industry in each of these countries, U.S. food processors have the alternative of either exporting processed food directly to them or entering into a variety of ownership relations through foreign direct investment. The United States is the second largest processed food exporter in the world after France (United Nations). At the same time, the United States is the principal home of many multinational food processing firms that invest abroad. Six of the 10 largest and 21 of the 50 largest food processing firms in the world are located in the United States. U.S. companies also enter into a variety of arrangements, including joint ventures and product licensing (Henderson, Handy, and Neff, 1996). Foreign ownership in the food industry is significant in most of the principal countries in the Western Hemisphere. Investments from abroad provided the capital, equipment, and expertise to supplement the domestic industry.

Table 1—Processed food industry sales of selected countries, 1994

Country	Sales	Foreign-owned	Per capita food sales
	<i>Billion dollars</i>	<i>Percent</i>	<i>Dollars</i>
Argentina	24	40	670
Brazil	46	36	290
Canada	36	40	1,460
Mexico	21	28	230
United States	430	12	1,650

Source: Economic Research Service compiled from USDA Foreign Agricultural Service and U.S. Department of Commerce, Bureau of Economic Analysis data.

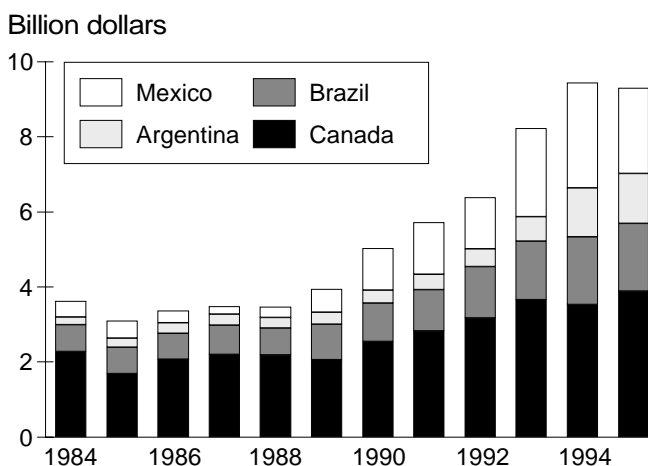
U.S. Foreign Direct Investment in the Western Hemisphere

While trade in processed products has grown substantially in the 1990's, most large U.S. food firms rely much more on foreign direct investment than trade to access international markets. U.S. direct investment in the Western Hemisphere's food processing industries has nearly doubled since 1990, reaching \$11.1 billion by December 31, 1995. Canada is the largest host country in the hemisphere, followed by Mexico, Brazil, and Argentina. The ranking is the same for both total direct investment and investment in the food processing industry (table 2). In nearly every major country of the Western Hemisphere, U.S. direct investment has taken a sharp upturn since 1988, exceeding the increases that would be attributable to inflation (fig. 5).

A major shift has also occurred in the type of investment. In earlier decades, most of the investment was for export products such as vegetable oil and orange juice. This continues in the 1990's, but increased investment is geared to consumer products for use in the host country. Beer, soft drinks, cookies and crackers, and more highly processed foods, such as instant coffee, mayonnaise, canned soups, and breakfast cereals, are some of the products coming from U.S. foreign direct investment.

Large firms are the most likely companies to embark on foreign direct investment. CPC International, one of the largest food processing companies in the United States, is an example. CPC has perhaps the largest presence of

Figure 5
U.S. foreign direct investment in the Western Hemisphere food processing industry, 1984-95



Source: Economic Research Service compiled from U.S. Department of Commerce, Bureau of Economic Analysis data.

the U.S. food processing firms operating in other Western Hemisphere countries, and has been there for 65 years. CPC operates in every country in Latin America except Belize and Guyana, and its top markets are Brazil, Mexico, and Argentina. The company also has significant operations in Colombia, Chile, Venezuela, and Uruguay. Latin America accounted for a fifth of the company's earnings in 1994. Between 1990 and 1994, the company's consumer food sales and earnings compounded at 11 percent and 17 percent, respectively. CPC is the leading corn refiner in Latin America, with 68 percent of the market. The company also has leading regional market shares in bouillon, soup, mayonnaise, cornstarch, and corn oil. Other U.S. food processors with substantial operations in Latin America include PepsiCo, Nabisco, Coca-Cola, Kraft Foods, Cargill, and Archer Daniels Midland.

The affiliates of U.S. companies also operate side-by-side with European firms. European companies such as Unilever (the U.K.-Netherlands) and Nestlé (Switzerland) have wide business interests in Argentina and Brazil. Investments from abroad provided the capital, equipment, and expertise to supplement the domestic industry, so that foreign direct investment plays a very significant role in the food

processing industry. Argentina has the largest share of foreign direct investment in its food industry (table 1).

Factors Contributing to FDI Growth

The general improvement in the economic climate throughout the Western Hemisphere has been instrumental in promoting foreign direct investment. Many U.S. investors in the food industry see the Western Hemisphere as a growing market as country economies expand and consumers improve their diets.

Economic growth has brought increased demand for processed foods as consumers strive to improve their diets, particularly in Latin America. As a result, most domestically produced products stay in these countries to meet domestic demand. Economic growth has also brought investor confidence, particularly for long-term investments like FDI where there is a long-term planning horizon.

The liberalization of foreign direct investment rules has also been a strong force for growth in investment. Investment that was not legally possible a decade ago became possible in the 1990's. NAFTA contains a number of provisions on foreign direct investment. NAFTA provides

Table 2 —U.S. direct investment position in the Western Hemisphere

Country/Region	1993	1994	1995	1996	1994 (Percent change from 1993)	1995 (Percent change from 1994)	1995 Share of total
	----- <i>Billion dollars</i> -----				----- <i>Percent</i> -----		
Total direct investment abroad	558.7	640.3	717.6	796.5	15	12	100
Food industry	25.8	29.6	32.4	36.2	15	9	100
Total direct investment in Canada	69.6	78.0	85.4	91.6	12	9	12
Food industry	3.6	4.8	5.1	5.4	33	6	15
Total direct investment in Latin America	101.9	115.0	128.3	144.2	13	12	18
Food industry	5.6	6.6	7.5	9.3	18	14	26
Total direct investment in Mexico	15.2	16.2	16.0	18.7	7	-1	2
Food industry	2.4	2.8	2.9	4.0	17	4	11
Total direct investment in Central America	13.7	23.8	18.6	19.6	4	-22	2
Food industry	0.3	0.4	0.3	0.3	33	-25	1
Total direct investment in the Caribbean	41.1	47.4	47.7	53.2	15	1	7
Food industry	<0.1	<0.1	<0.1	<0.1	0	0	<0.1
Total direct investment in South America	31.5	37.1	46.9	52.2	18	26	7
Food industry	2.9	3.4	4.2	4.9	17	24	14
Total direct investment in Brazil	16.8	18.4	23.7	28.2	10	29	3
Food industry	1.5	1.6	2.3	2.9	7	44	8
Total direct investment in Argentina	4.3	5.4	7.5	8.1	26	39	3
Food industry	0.7	0.9	1.0	1.0	29	11	6

Source: Economic Research Service compiled from U.S. Department of Commerce, Bureau of Economic Analysis data.

Canadian, Mexican, and U.S. investors the right to third-party arbitration in investment-related disputes for nationals, governments, or state enterprises of the three countries. NAFTA also extends to Mexico the higher investment review thresholds (\$154 million in 1994) provided to the United States in the FTA.

Other changes in Mexican law also contributed to the liberalization of the investment policy. As a result of the May 1989 "Regulations on Foreign Investment," foreign investors may establish new enterprises in Mexico and may hold up to a 100-percent stake in unrestricted economic activities, including food processing.

The Investment Canada Act of 1985 regulates foreign direct investment in Canada. Foreign investments are reviewed to determine the net benefit to Canada when direct acquisitions exceed \$5 million Can. (US\$3.5 mil-

lion) and indirect acquisitions exceed \$50 million Can. (US\$35 million).

Argentina also liberalized its investment laws. The Argentine government eliminated registration requirements, gave foreign investors full access to local credit markets, required prior approval only in special cases (such as defense), and eliminated the waiting period for repatriation of profits and capital. Recent changes in Argentina's investment laws were prompted by the transfer of public assets into subsequent investments in privatized enterprises. Decree Law 1853 of September 1993 governs foreign investment, combining the liberalizing measures contained in the Economic Emergency and State Reform Acts of 1989 and the Foreign Investment Law of 1993 into one piece of legislation. This law permits foreign companies to invest in Argentina without prior government approval and on equal footing with domestic firms.

U.S.-Western Hemisphere Trade in Processed Foods

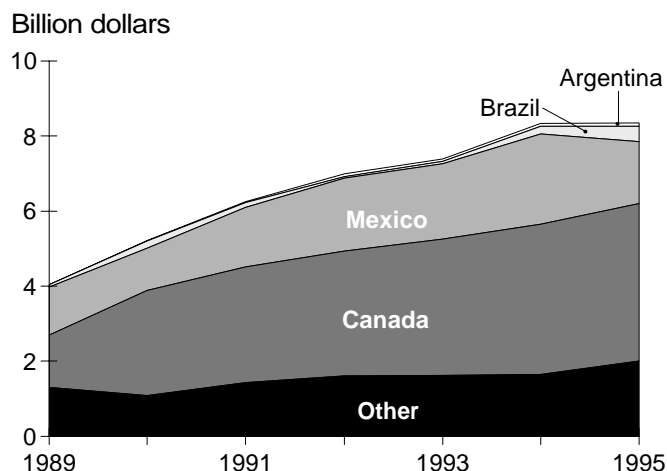
Within the Western Hemisphere, the United States is a net importer of processed food, having exported \$8.3 billion in 1995 (table 3, fig. 6) and imported \$10.4 billion (table 4, fig. 7). The United States is a net importer of fruits and vegetables, sugar, beverages, and miscellaneous products, and a net exporter of dairy products, cereals, and vegetable oil (fig. 8). The Western Hemisphere has an important place in U.S. processed food trade; nearly 42 percent of U.S. food imports come from Western Hemisphere countries, and 28 percent of exports are bound for Western Hemisphere destinations. Canada is the second largest market for U.S. processed foods in the world after Japan, and the second largest source for U.S. imports.

Industries

Using the SIC industry codes to describe trade, U.S. processed foods trade in the hemisphere for the most part is dominated by different industries for exports than for

imports. For exports, the largest industry group is Meat Products, followed closely by Grain Mill Products (SIC 204, which includes both milled food grains and feeds)

Figure 6
U.S. exports of processed foods to the Western Hemisphere, 1989-95



Source: USDA, Economic Research Service, Processed Foods Trade Data Set.

Table 3—U.S. exports of processed foods to Western Hemisphere countries, 1989-95

Country/Region	1989	1990	1991	1992	1993	1994	1995	Annual growth rate
----- <i>Billion dollars</i> -----								
World	17.2	19.9	20.3	22.8	23.4	28.2	29.4	11
Western Hemisphere	4.1	5.3	6.2	7.0	7.3	8.4	8.3	17
NAFTA	2.7	3.8	4.7	5.3	5.3	5.9	6.5	8
Canada	1.4	2.8	3.1	3.3	3.6	4.0	4.2	31
Mexico	1.3	1.1	1.6	1.9	2.0	2.4	1.6	5
Central America	0.2	0.3	0.3	0.4	0.4	0.4	0.5	6
Caribbean	0.7	0.7	0.7	0.7	0.7	0.7	0.9	6
South America	0.5	0.6	0.6	0.7	0.7	0.9	1.2	25
MERCOSUR	0.1	0.2	0.2	0.1	0.2	0.4	0.5	79
Brazil	<0.1	0.2	0.1	0.1	0.1	0.3	0.4	74
Argentina	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	132
----- <i>Percent</i> -----								
NAFTA	66	75	75	75	76	76	70	
Canada	36	54	49	48	49	48	50	
Mexico	31	21	25	28	27	28	20	
Central America	6	5	5	7	5	5	5	
Caribbean	16	13	11	10	9	9	11	
South America	11	11	10	10	9	10	13	
MERCOSUR	3	5	3	2	2	5	6	
Brazil	2	4	2	1	1	3	5	
Argentina	<1	<1	<1	<1	1	1	1	

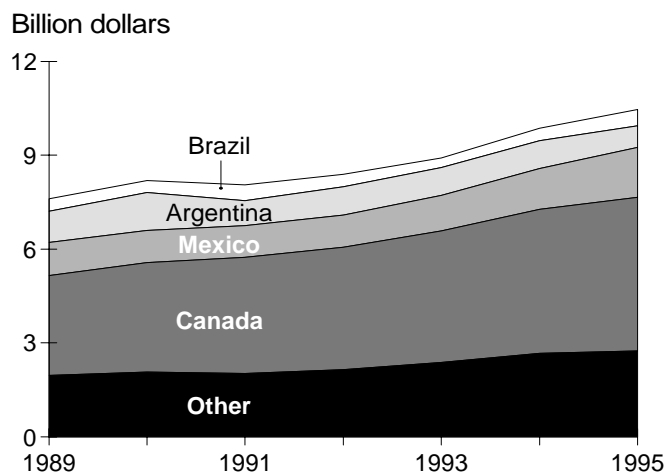
Source: USDA/ERS Processed Foods Trade Data Set.

and Fats and Oils (SIC 207). All of these industries had exports of over \$1 billion in 1995. On the import side, the largest group by far is Miscellaneous Foods (SIC

209, largely fish and seafood products), followed by Meat Products (SIC 201), Sugar and Confections (SIC 206), Preserved Fruits and Vegetables (SIC 203), and Beverages (SIC 208, which includes both soft drinks and alcoholic beverages).

Figure 7

U.S. imports of processed foods from the Western Hemisphere, 1989-95



Source: USDA, Economic Research Service, Processed Foods Trade Data Set.

Western Hemisphere food trade with the United States is also growing faster than U.S. global food exports and imports (table 3). Exports grew at an average annual rate of 17 percent between 1989 and 1995, compared to 11 percent for the world as a whole. Similarly, U.S. processed food imports from Western Hemisphere origins grew at an average annual rate of 6 percent between 1989 and 1995 versus 6 percent annual growth in global U.S. food imports (table 4). Canadian trade is the largest in the hemisphere (Canada has a mature industrial economy that performs similarly to the U.S. economy), but Mercosur trade has increased faster. There may be several reasons that account for the faster growth in Mercosur. These South American countries have much lower per capita incomes and are less industrialized than the United States and Canada and have a lower per capita use of most processed foods. They also have only recently

Table 4—U.S. imports of processed foods from Western Hemisphere countries, 1989-95

Country/Region	1989	1990	1991	1992	1993	1994	1995	Annual growth rate
----- <i>Billion dollars</i> -----								
World	19.5	20.6	20.6	21.8	21.8	23.8	24.8	6
Western Hemisphere	7.7	8.2	8.1	8.4	8.9	9.7	10.4	6
NAFTA	4.3	4.5	4.6	4.9	5.6	6.4	5.9	6
Canada	3.3	3.5	3.7	3.9	4.2	4.6	4.9	8
Mexico	1.1	1.0	1.0	1.0	1.1	1.3	1.6	9
Central America	0.5	0.6	0.7	0.8	0.8	0.8	0.8	9
Caribbean	0.5	0.4	0.4	0.4	0.6	0.4	0.4	0
South America	2.4	2.7	2.4	2.4	2.5	2.6	2.7	2
MERCOSUR	1.4	1.7	1.4	1.4	1.3	1.2	1.2	-2
Brazil	1.0	1.2	0.8	0.9	0.9	0.8	0.7	-5
Argentina	0.4	0.4	0.5	0.4	0.3	0.4	0.5	5

Share of total Western Hemisphere

	----- <i>Percent</i> -----							
NAFTA	56	55	57	58	60	61	62	
Canada	43	42	46	46	46	48	48	
Mexico	14	13	13	12	13	13	15	
Central America	7	7	8	9	8	8	8	
Caribbean	6	5	5	6	6	4	4	
South America	31	33	30	29	28	27	26	
MERCOSUR	18	20	17	16	14	12	12	
Brazil	13	15	10	11	10	8	7	
Argentina	5	5	6	5	3	4	5	

Source: USDA/ERS Processed Foods Trade Data Set.

gone through rigorous structural economic adjustments and institutional reforms that have established a solid basis for sustained growth.

The most explosive growth in U.S. exports was from the Frozen Specialties industry (SIC 2038, which includes frozen prepared dinners and pizzas), which grew at a rate of 1,841 percent annually between 1989 and 1995 (table 5). Soft Drinks (SIC 2086) and Frozen Bakery Products (SIC 2053) grew by over 90 percent annually. Although beginning from low bases, very high percentage growth rates are observed in some industries' exports to Brazil and Argentina.

Annual growth rates in U.S. processed food imports are highest in the following industries: Ice Cream and Frozen Desserts (SIC 2024), Frozen Specialties (SIC 2038), and Cookies and Crackers (SIC 2052). Import growth rates are much more modest than export growth rates, with none topping annual growth of 17 percent (table 6). Canada and Mexico are the largest sources of U.S. import growth in these industries by a wide margin. The explosive growth in these products represents the strong demand for frozen products both in the United States and abroad that is outpacing demand in other food categories.

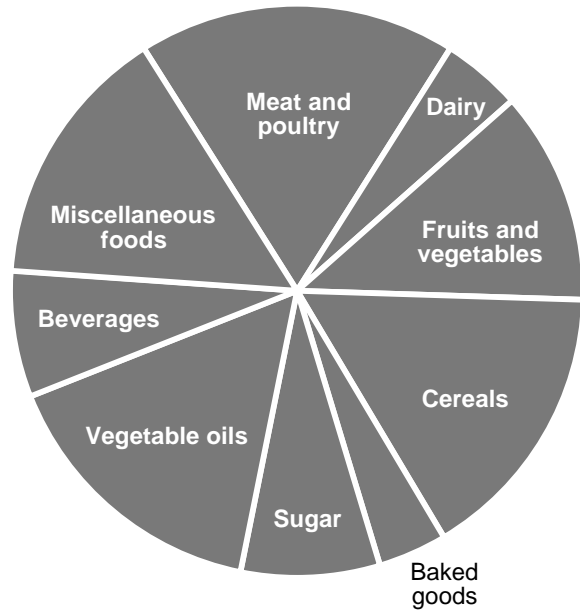
Trade Liberalization

The general liberalization of trade has already made doing business easier throughout the hemisphere. Lowering tariffs has been the central issue of the Uruguay Round of GATT, the founding of Canada-U.S. Trade Agreement (CUSTA)/NAFTA, and customs unions such as MERCOSUR. The major developments affecting Canada's trade regime are the CUSTA implemented in 1989, the NAFTA trade agreement implemented in 1994, the implementation of the Uruguay Round negotiations, and the establishment of the World Trade Organization in 1995. Canada's import tariffs were generally low. Tariffs in the food, beverages, and tobacco sectors averaged 33.8 percent in 1996, compared with 7.8 percent in 1994, taking into account the tariffication of previous quantitative restrictions under the WTO Agreement on Agriculture. The agreement resulted in significant tariff peaks on above-quota supplies. The highest tariffs in the food industry apply to milk and cream, wheat gluten, pork and beef, poultry, ready-to-eat stews, sugar, molasses, and mayonnaise (General Agreement on Tariffs and Trade, 1995, World Trade Organization, Trade Policy Review, 1996). The highest tariffs are in the dairy sector. Because of

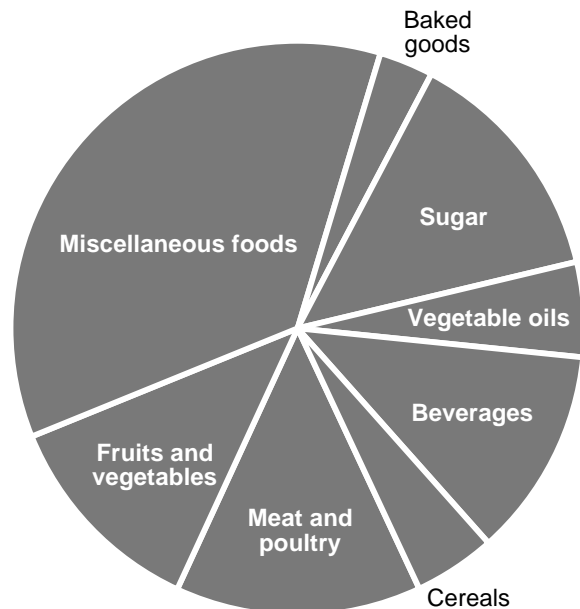
the tariff rate quota enacted in NAFTA, effective tariffs on dairy and poultry products amount to 200-400 percent. Wines also carry heavy tariffs and taxes.

Figure 8
U.S.-Western Hemisphere trade in processed foods, 1995

U.S. processed food exports totaled \$8.4 billion



U.S. processed food imports totaled \$10.4 billion



Source: USDA, Economic Research Service, Processed Foods Trade Data Set.

Table 5—Fastest growing U.S. processed food exports to Western Hemisphere countries, 1989-95

SIC code	SIC industry description	Annual increase	Leading countries according to:	
			Percentage increase	Absolute increase
		<i>Percent</i>		
2038	Frozen specialties	1,841	Canada Mexico Colombia	Canada Mexico Bermuda
2086	Bottled and canned soft drinks and carbonated waters	94	Brazil Argentina Guatemala	Canada Brazil Mexico
2053	Frozen bakery products, except bread	92	Dominican Republic Netherlands Antilles Colombia	Canada Mexico Argentina
2045	Prepared flour mixes and doughs	83	Argentina Chile Costa Rica	Canada Mexico Argentina
2085	Distilled and blended liquors	69	Brazil Chile Paraguay	Brazil Canada Mexico
2098	Macaroni, spaghetti vermicelli, and noodles	63	Brazil Colombia Guatemala	Canada Brazil Mexico
2024	Ice cream and frozen desserts	58	Colombia	Mexico

Source: Economic Research Service compiled from ERS/USDA Processed Foods Trade Data Set.

Brazil had import tariffs of 10 percent for agricultural products, 20 percent for beverages, 14.5 percent for processed foods, and 19 percent for tobacco in 1996. Specific tariffs were 16 percent for cereal preparations; 14 percent for canned fruits, vegetables, and juices; 10-12 percent for vegetable oils; and 10 percent for wheat flour. As a member of MERCOSUR, Argentina has similar import tariffs. Within MERCOSUR, tariffs for many food and agricultural products were zero, as of January 1, 1995, although there are many exceptions within the pact.

Table 6—Fastest growing U.S. processed food imports from Western Hemisphere countries, 1989-95

SIC code	SIC industry description	Annual increase	Leading countries according to:	
			Percentage increase	Absolute increase
		<i>Percent</i>		
2024	Ice cream and frozen desserts	16	Mexico Canada	Mexico Canada
2038	Frozen specialties	16	Canada	Canada
2052	Cookies and crackers	15	Colombia Canada Jamaica	Canada Mexico Colombia
2053	Frozen bakery products, except bread	15	Canada	Canada
2079	Shortening, table oils, margarine, and other edible fats and oils	13	Canada	Canada
2032	Canned specialties	13	Costa Rica Guatemala Canada	Canada Argentina Costa Rica
2075	Soybean oil	13	Canada Mexico Argentina	Canada Argentina Mexico

Source: Economic Research Service compiled from ERS/USDA Processed Foods Trade Data Set.

For Argentina, tariffs were higher for canned fruits, coffee and tea extracts, and confectioners' sugar than for items that are less processed. This is in sharp contrast to the recent past; for example, in 1966 Argentina's average tariff for foodstuffs and beverages was 139 percent and Brazil's tariffs were equally high. In a cross-country comparison made in 1992, Brazil had the highest tariffs on food and agricultural products (26.6 percent), followed by Canada, Argentina, the United States, and Mexico (Pacific Economic Cooperation Council, 1995).

Relationship Between U.S. FDI and Trade in the Western Hemisphere Food Processing Industry

The importance of foreign direct investment is demonstrated by the fact that sales from U.S. affiliates in Western Hemisphere countries exceed direct U.S. food exports and imports, just as they do globally. Globally, sales from U.S. affiliates are four times larger than U.S. exports of processed food (fig. 9). Similarly, for all of the Western Hemisphere, sales from U.S. affiliates are nearly 4 times exports (fig. 10). Canada and Mexico also are similar to the overall average in their ratios of affiliate sales to U.S. food exports. In contrast, Brazil and Argentina have very high ratios of U.S. affiliate sales to U.S. processed food exports. The sales/exports ratio are 12 and 37 times, respectively (table 7). In many cases, processed foods can be produced in a host country for less than the delivered cost of exports, particularly when the host country has many raw materials available from domestic production. As examples, Argentina and Brazil are both low-cost producers that compete with the United States in the international market for grain, oilseeds, and livestock. In other cases, FDI may be more suitable for matching consumer tastes, or may be a means of developing local distribution systems.

Sales of U.S. affiliates in Canada were at a ratio of 2.99 to processed exports to Canada (table 7). The largest sales

from U.S. investments in Canada are from flour milling, soft drinks, and brewing. This is in contrast to U.S. exports of meat products and frozen and canned foods to Canada.

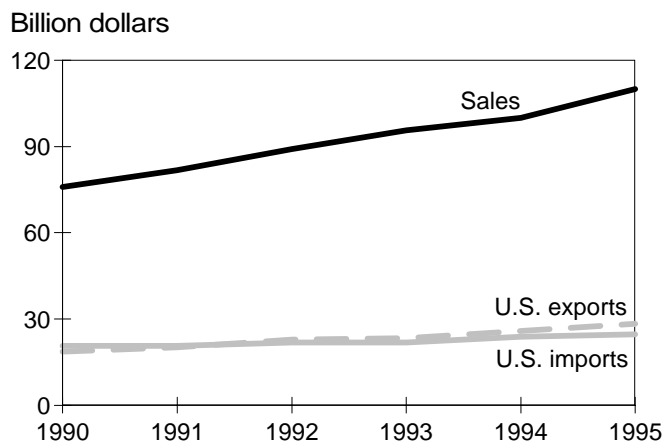
U.S. investment in Mexico exists in nearly every food processing sector. The largest U.S. exports are in meat packing, poultry slaughter, animal fats, soybean oil, wet corn milling, and dry/condensed milk, mostly as semi-finished products. Affiliate sales grew rapidly from 1989 to 1993, but leveled off in 1994. Sales declined in 1995 and rebounded in 1996.

U.S. processed food exports to Brazil include tallow and meat products, milled rice, hops and extracts, and cheese and nonfat dry milk. U.S. investment in Brazil is in cookies and biscuits, orange juice, soft drinks, canned and frozen fruits and vegetables, oilseed products, breakfast cereals and other grain products, and beer. Other countries have large investments in Brazil's dairy industry.

U.S. exports to Argentina include processed fruits, vegetables, and beverages. Sales from U.S. affiliates are mostly processed beef products, oilseed products, soft drinks, grain products, animal feeds and pet foods, ice cream and cream cheese, and cookies and crackers. Affiliates of other countries sell dairy products.

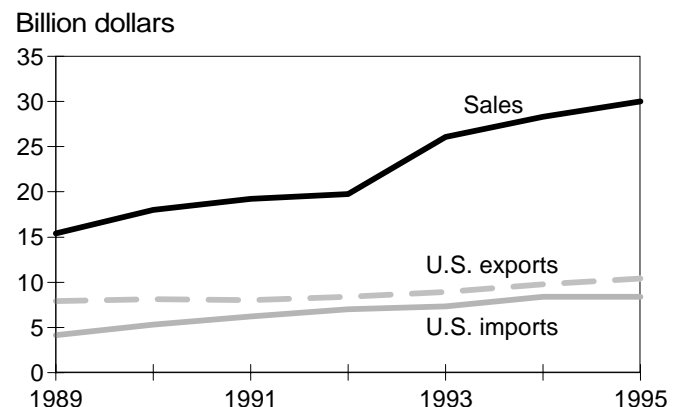
Table 8 provides a survey of the products from foreign affiliates of U.S. companies in an attempt to pair U.S.

Figure 9
Sales from U.S. affiliates vs. U.S. exports of processed foods



Source: USDA, Economic Research Service, Processed Foods Trade Data Set, and U.S. Department of Commerce, Bureau of Economic Analysis data.

Figure 10
Sales from U.S.-owned affiliates in the Western Hemisphere vs. U.S.-Western Hemisphere trade in food products



Source: USDA, Economic Research Service, Processed Foods Trade Data Set, and U.S. Department of Commerce, Bureau of Economic Analysis data.

Table 7—Characteristics of selected Western Hemisphere countries

Country	Proximity to the United States	Real economic growth since 1990	High-, low-, or middle-income country	High tariffs (1992)	Currency appreciation or depreciation since 1990 (1995)	Net agricultural exporter or importer (1995)	Ratio of affiliate sales to U.S. processed food exports (1994)	Direct investment in 1995 ¹
Canada	Yes	Yes	High	Yes	Deprec.	Exporter	<i>Ratio</i> 2.99	<i>Billion dollars</i> 3.9 (130)
Mexico	Yes	Yes	Middle	No	Deprec.	Importer	2.50	2.3 (20)
Brazil	No	Yes	Middle	Yes	Deprec.	Exporter	12.33	2.4 (10)
Argentina	No	Yes	Middle	No	Deprec.	Exporter	36.82	1.3 (40)

¹\$US per capita in parentheses.

Sources: Economic Research Service compiled from World Bank, Pacific Economic Cooperation Council, and *Foreign Agricultural Trade of the United States* (USDA/ERS; various issues) data.

exports with the types of U.S. foreign direct investment enterprises. In the aggregate, both U.S. exports and FDI have grown, mostly due to the increase in the variety of foods that are made available to consumers. Some products are too expensive to ship and, thus, lend themselves to FDI. Dairy products, wheat and corn flour, breakfast cereals, pet foods, livestock feeds, cookies and crackers, pasta, chocolate products, soft drinks, vegetable oils, and mayonnaise are all products that benefit from FDI. Some prepared fruits and vegetables are produced close to the raw product source in countries that are large fruit and vegetable producers, and are a source of U.S. imports. Orange juice, frozen vegetables, and canned tomatoes are examples of these products.

Some products are both produced by U.S. affiliates and exported from the United States (exceeding \$100 million). Cases include poultry products, pet foods, chocolate products, fruit and vegetable products in Canada and poultry products and vegetable oils in Mexico. Many more products are produced by foreign affiliates and imported in smaller amounts (soft drinks to Mexico and Canada, and livestock feeds and chocolate products to Mexico). At the other end of the spectrum, there are many processed food products that the United States exports without any affiliate sales, such as meat and meat products to Mexico. Most of these exports are less than \$100 million and include distilled spirits (Argentina and Brazil), chewing gum (Argentina), livestock feeds (Brazil), roasted nuts (Argentina), and rice (Canada, Argentina, and Brazil).

Fresh and frozen fish are a special case where Canada and Mexico are net exporters, and they are both host countries

for U.S. FDI. Canada also imports more than \$100 million of fresh and frozen fish from the United States.

Economic Impacts Go Beyond Trade

There is considerable discussion attached to the trade-off between FDI and processed food exports, although economists have studied the relationship between FDI and trade in all industries (Henneberry, 1997). In the case of FDI, earnings from capital are in the home country and earnings from labor are in the host country. In the case of exports, earnings from both capital and labor are in the exporting country, although the distinctions have become blurred in recent years.

Another comparison between FDI and international trade is based on the location of ancillary industries, whether in the United States or abroad. For example, as one industry moves into an area, others follow. The industry also creates demand for intermediate goods, demand that otherwise would not have existed. In the case of food processing, the presence of new plants defines the type of agriculture that is economically viable and, thus, the whole landscape of agriculture.

In other countries, there have been gains in efficiency because of increased competition from multinationals. Many manufacturers have begun to think in terms of regional markets, often consolidating plants to reduce costs and improve productivity. For the United States, direct investment abroad is nearly offset by inbound FDI, both in the food industry and all industry. Consequently, the United States looks at foreign direct investment from

Table 8—Product sales from U.S. direct investment in various food industries, 1993-95 average

Industry	Canada	Mexico	Brazil	Argentina
Meat products	X ^{1,4}	2	X	X ⁶
Poultry products	X ³	X ²	X	
Dairy products	X	X ³	X	X
Seafood	X ^{2,4}	X ⁵		
Flour mills	X	X	X	X
Corn milling	X	X ³	X	X
Breakfast cereals		X	X	X
Livestock feeds		X	X	X
Pet foods	X ³		X	X
Bakery products	X	X		
Biscuits(B)/cookies(Co)/crackers(Cr)		Co/Cr	X	Co/B
Pasta	X	X		X
Candies	X	X		
Chocolate products	X ³	X	X ⁶	
Beer	X ⁵	X ⁶		X
Malt	X			
Soft drinks	X ⁶	X	X	X
Powdered soft drinks	X		X	
Vegetable oils		X ³	X	X
Mayonnaise		X	X	X
Flavorings and spices	X	X		
Chips	X	X		
Fruits and fruit products		X	X	
Fruit juices		X ⁶	X ⁵	
Jams and jellies	X			
Vegetable products	X ^{2,6}	X ³		
Popcorn				X
Vegetable seeds		X	X	

Note: "X" signifies foreign direct investment.

¹U.S. exports to country of over \$500 million. ²U.S. exports to country of over \$250 million. ³U.S. exports to country of over \$100 million. ⁴U.S. imports from country of over \$500 million. ⁵U.S. imports from country of over \$250 million. ⁶U.S. imports from country of over \$100 million.

Source: Economic Research Service.

both perspectives: as an exporter of capital and as a host country. Even though the landscape of U.S. agriculture has changed, farm earnings have steadily increased. Even some anticipated industry losses did not materialize as the industries reinvented themselves in the 1990's.

Analyzing the Effect of U.S. Direct Investment Abroad on the U.S. Economy

Recent trends in the Western Hemisphere market indicate the importance of foreign income growth in driving expansion of U.S. food exports and creating greater oppor-

tunities for U.S. FDI and affiliate sales in processed foods. These developments have significance for the United States far beyond the food processing sector. Trends in processed food trade and investment have affected the farm sectors that provide raw inputs and the related industries that provide packaging, marketing, and other services. Developments in food processing industries also affect other agricultural sectors through changes in economic aggregates, including changes in demand for labor and investment capital and changes in the balance of trade and exchange rates.

The Computable General Equilibrium Model

The CGE model of the U.S. and Mexican economies developed by the Economic Research Service shows the importance of increased foreign investment and foreign income growth for U.S. agriculture.¹ A CGE model captures the linkages among sectors that operate through the demand for intermediate inputs, and can provide insights into how developments in food processing sectors also affect output and trade in the rest of the economy. Mexico provides a good example of these effects because it is a major trade partner (Burfisher, Robinson, and Thierfelder, 1992).

The model analyzes the effects of the U.S.-Mexico FTA on agriculture using a 25-sector, two-country CGE model that explicitly models agricultural and food policies in both countries based on 1993 data. The economies of the two countries are linked through trade and migration flows, and their agricultural policies include tariffs, quotas, input subsidies to farm and food processing sectors, and targeted producer prices. For this study, we add the effects of an increase in the Mexican capital stock against a background of the FTA and the 1995 changes in Mexican and U.S. farm programs, the most important being PROCAMPO and the 1996 Farm Act. While this model covers the agricultural and food processing sectors in detail, it does not allow for the continued dynamic effects that occur with investment in the real world.

The simulation involves a 10-percent increase in the Mexican capital stock, first in the food processing sectors

only, then in all sectors of the Mexican economy. The capital is added with no net changes in the supply of U.S. capital. This case is possible if the United States exported capital to Mexico, but the capital infusion from the United States was matched by an infusion of capital into the United States from third countries, which is plausible because the United States is both an exporter and importer of capital. This can also represent the cases where capital into Mexico came only from third countries, or where the Mexican capital stock was unchanged but its productivity increases.

Developments in food processing have significantly affected farm sectors. In both scenarios, increased investment in Mexican food processing increases Mexican demand for imported farm products from the United States (table 9). Increased farm imports from the United States are not for products that are directly used as inputs into Mexico's expanding food processing sectors. Rather, most of Mexico's increased demand for farm imports falls on feed grains and oilseeds. The expansion of Mexico's meat and dairy industries stimulates Mexico's livestock sectors and increases the demand for feeds.

Increased investment in food processing sectors alone reduces Mexican processed food imports from the United States, and increases its supply of processed food exports to the United States. This creates competitive pressures for U.S. processors. When investment increases throughout the Mexican economy, not just in food

processing sectors, then U.S. processed food exports to Mexico increase. This demonstrates the importance of broad economic growth in creating strong market prospects for the United States.

Economic growth increases incomes and domestic demand for processed foods. Despite the increase in domestic production caused by higher investment, there remains excess demand that also increases U.S. exports. There is no change in U.S. production of farm products and processed foods in either scenario. Bilateral trade is a small part of total U.S. output.

The increased investment in Mexico also has little effect on the aggregate U.S. economy outside of trade, as long as new capital in Mexico is not directly transferred from the United States. It affects neither total U.S. GNP nor consumer prices (as measured by the Consumer Price Index). There is a small gain in household incomes, including rural households. There are also small insignificant changes in U.S. wages and capital income (some of which are positive). While some sectors and some geographic areas in the United States may undergo structural adjustments from the added investment in Mexico, the overall effect on the U.S. economy is nearly neutral.

¹The updated version of this model incorporates recent policy changes in both countries, including NAFTA, and domestic farm policy reform in both countries.

An experiment using a computable general equilibrium (CGE) model provides guidance on important policy questions, such as the effect of increased investment in the Mexican economy on U.S. consumer prices, GDP, household incomes, wages, and foreign trade (Burfisher, Robinson, and Thierfelder, 1992). The experiment assumes that FDI will maintain its present relationship with total investment. Although the CGE model uses total investment, of which FDI is one part, the results can be con-

sidered indicative of the effects of Mexican inbound FDI on the U.S. and Mexican economies.

Increased investment is an important factor in making free trade agreements (FTA's) successful in generating added real income and trade. FDI raises domestic supply, and income growth increases demand for both domestic and imported goods. Both of these ideas are demonstrated by the Burfisher-Robinson-Thierfelder CGE model and help explain why, in the aggregate, both affiliate sales

and U.S. exports of processed foods have increased. An important finding is that there is a significant effect on U.S. trade with Mexico, but there is no significant effect on any of the other aggregate economic indicators for the United States.

The model results are generally consistent with actual events through 1995 and 1996. U.S. agricultural exports indeed recovered significantly in 1996, following the 1995 Mexican peso crisis, and so have U.S. exports of processed foods. U.S. imports of processed food and fresh fruits and winter vegetables (tomatoes) have also increased significantly (USDA, 1996).

Table 9—Effects of a 10-percent increase in Mexican investment on U.S. farm and processed food trade

	U.S. exports to Mexico	U.S. imports from Mexico
	<i>Percent change from 1993 base year</i>	
Food processing investment increase		
Farm sectors	4.8	0.0
Processed foods	-2.8	3.4
Aggregate investment increase		
Farm sectors	17.6	4.9
Processed foods	5.9	2.2

Source: Economic Research Service compiled from a special run of the Burfisher-Robinson-Thierfelder model.

Economic Characteristics of the Countries

An analysis of economic characteristics of the countries in this study provides insight into the reasons for the recent growth in U.S. direct investment in particular countries: Canada, Mexico, Brazil, and Argentina. A snapshot of the selected countries shows that the ratio of sales from affiliates to U.S. exports is smaller in Canada than in the other selected Western Hemisphere countries. Canada is the leading recipient of U.S. direct investment and the leading importer of U.S. processed foods. Moreover, Canada is unique among the four countries selected in that U.S. processed food exports have consistently increased in the 1990's. This growth is an indication of the intertwining of the U.S. and Canadian economies, particularly along the border States and Provinces. Canada has had the largest absolute growth in two-way processed food trade and investment in the hemisphere. Two-way growth has also occurred between the United States and other developed countries in Europe. Canada's proximity to the United States, its recent economic growth, and the decline in tariffs between the United States and Canada reinforce the already strong environment for bilateral trade and investment.

In contrast, Argentina has the smallest direct investment from the United States, mostly due to the smaller country size of Argentina in terms of population and income. On the other hand, U.S. investment in Argentina's food processing industry is larger than in Mexico's or Brazil's when expressed in terms of per capita investment. Argentina and Brazil have the highest ratios of sales from affiliates to U.S. exports. These countries are essentially exporters of agricultural products, often producing the same products as the United States. Argentina and Brazil are also sufficiently distant from the United States so that higher transportation costs make exports less economically feasible than FDI. They have also experienced sufficient economic growth to generate consumer demand for processed food products and have achieved sufficient economic stability to entice investment from foreign companies. Foreign direct investment permits U.S. companies an opportunity to capture a market that they otherwise would not have.

The characteristics reviewed in table 7 correspond roughly with the list of characteristics that relate to global foreign direct investment in the food industry listed by Reed and Ning (1994)— economic growth, real interest rate differential between the host country and the United States, relative real exchange rates, GDP of the host country, relative wage levels between the United States and the host country, foreign income tax rate, and variables for membership in the European Union and being an English-speaking country.

Canada²

The Canadian Market for Processed Food

Canada is one of the top markets for U.S. processed food. Canadians spend about 10 percent of their incomes on food, and income growth has been strong to promote consumer demand (fig. 11). Canadian food purchasing habits are nearly the same as they are in the United States, where frozen and prepared foods are often the same brand names. Toronto (3.9 million), Montreal (3.1 million), and Vancouver (1.6 million) have fast-growing populations and account for 30 percent of Canada's total population. The Canada-U.S. Free Trade Agreement (CUSTA, 1989) and the NAFTA (1994) have provided more opportunity for expanded consumption of processed foods in Canada by providing a wider variety of U.S. and Canadian products.

Demand for processed foods is expected to increase as the population changes in terms of demographics, ethnic diversity, income, and lifestyles. The increase in the number of working women and one-person households and an increased awareness of international foods have also accelerated demand for packaged foods, new value-added foods, and food preparations. For example, snack foods, such as potato chips and nachos, have gained in popularity.

Demand for basic foods has been fulfilled in Canada, and consumption of processed foods is high. Most food is purchased in supermarkets, 1,641 in 1993, which is about 1 supermarket per 20,000 people. This compares

²The material in this section is synthesized from a variety of sources, including FAS Online Food Market Overview, World Bank data, *Journal of Commerce*, *Wall Street Journal*, and Food Bureau, Agriculture and AgriFood Canada. Complete citations are given in the References.

with the 24,600 supermarkets in the United States, which is about 1 supermarket per 11,000 people.

Canada's Processed Food Industry

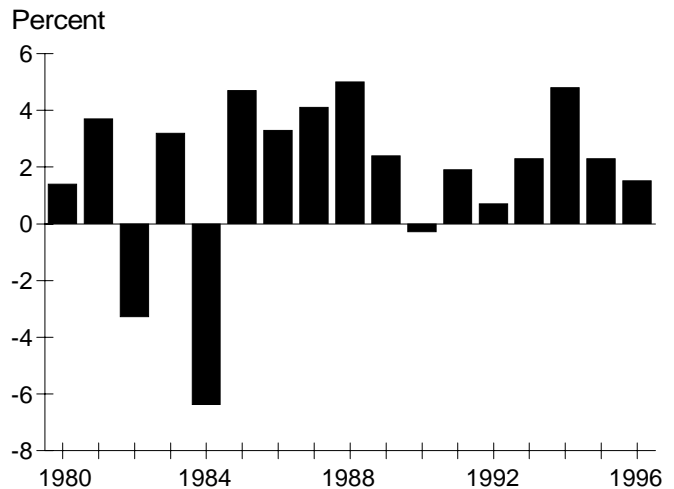
The food and beverage processing industry is one of Canada's largest manufacturing sectors and is highly industrialized. The sector is now dominated by a small number of very large firms, a profound change in less than a decade. Many of the food processing subsectors have a considerable degree of concentration. The industry is structured as a core of 12 multinational firms representing about 35 percent of sales (8 of which are Canadian-owned), followed by 55 large firms with 25 percent of industry sales, and approximately 2,000 smaller firms with the remaining 40 percent of industry sales.

Some Canadian food processors are multinational companies that have expanded to the United States. Likewise, the United States is the largest foreign investor in Canada's food industry, followed by the United Kingdom, the Netherlands, Switzerland, and Belgium. The market share of foreign-controlled firms has increased to 40 percent in the 1990's.

The food processing industry is mostly concentrated in Ontario and Quebec (80 percent of the total), in close

proximity to Canada's population centers. Production is diversified in these two Provinces. Fruit and vegetable processing plays a big role in the economy of the Atlantic Provinces, and meat processing has been the most important value-added sector in the Prairie Provinces.

Figure 11
Canada: Growth in real GDP



Source: Economic Research Service compiled from World Bank, Economic Indicators STARS program data.

Table 10—Canada's top 20 food processing companies according to 1995 sales

Company	Principal business	Sales	Employment
		Million U.S. dollars	Number
The Seagram Company, Ltd.	Spirits, juices	5,517	15,800
McCain Foods, Ltd.	Processed potatoes, juices	2,922	12,000
Maple Leaf Foods, Inc.	Meat, processed foods	2,239	10,500
George Weston, Limited	Baked goods, candy	1,905	11,100
John Labatt Limited	Brewery	1,702	3,800
Kraft Canada, Inc.	Cereal, cheese, coffee	1,522	4,076
Pepsi-Cola Canada, Ltd.	Carbonated beverages, snacks	1,301	15,000
Coopérative Fédérée de Québec	Dairy, meat	1,102	5,684
Ault Foods Limited	Dairy	943	2,900
Cott Beverages, Inc.	Carbonated beverages	932	2,145
Nestlé Canada	Coffee, prepared foods	794	3,856
Agropur coopérative agro-alimentaire	Dairy	730	2,220
Burns Foods	Meat	723	3,400
Nabisco, Ltd.	Baked goods, canned fruits and vegetables	678	4,045
Dairyworld Foods	Dairy	645	2,500
Beatrice Foods, Inc.	Dairy, baked goods	645	3,000
Molson Breweries	Brewery	608	4,300
Schneider Corporation	Meat, processed food	603	4,000
BC Sugar Refinery, Ltd.	Sugar refining	602	1,260
Cargill Foods, Ltd.	Meat	584	1,300

Source: Economic Research Service compiled from *Canada's Top Food and Beverage Processors. The Sixth Annual Ernst & Young Food in Canada List of Leading Companies*. The list includes 75 companies. Exchange rate conversion at \$1.37 Canadian = \$1.00 US.

The Canadian food and beverage industry has been undergoing a period of intense restructuring and consolidation during the 1990's. Since the implementation of the CUSTA, the Canadian food industry has expanded globally. North America is being treated as one region so that decisions are made on a north-south basis, rather than an east-west basis. Seagram's and McCain Foods are the largest food and beverage companies in terms of sales (table 10). Plants are being organized across the continent to provide the lowest possible cost structure. New investment in technology is taking place among the medium and large firms. State-of-the-art food processing technology is present in the meat processing sector and the frozen food sector, particularly for frozen potatoes.

Leading Sectors

The food and beverage industry is one of Canada's largest manufacturing sectors and is also highly industrialized. Meat products represented nearly 21 percent of processed food sales in 1996, with dairy products and feed totaling over 7 percent of sales each (table 11).

Meat products. The meat processing industry is Canada's largest food processing industry. It is estimated that beef accounts for 40 percent of the product sales, followed by pork, and processed meat products, with 30 percent each.

The industry is increasing slaughtering capacity in the late 1990's. Virtually all of this additional beef and veal will be exported, as consumption in Canada is expected to remain stable. Over 54 percent of the industry's production is exported, mostly to the United States. Technology, particularly in chilling and producing value-added products, is improving. Boxed beef is being improved through trimming, aging, forming, and portioning. About a fourth of the beef output is further processed by other processors.

The beef industry is highly concentrated and has moved through an extended restructuring period. The top four plants account for 75 percent of the slaughter; two of the largest plants are U.S.-owned. Multinationals have increased the capacity of Alberta plants. Alberta now has over 60 percent of the Canadian federally inspected cattle slaughter, and Cargill and IBP together have 70 percent of that total. Maple Leaf Foods is the leading Canadian-owned company in meat processing, but it has joint ventures with U.S. companies. Increased cattle slaughtering capacity in Alberta in 1997 is fueling a

shift to fewer cattle exports and increased Canadian beef exports.

The pork industry is less concentrated. The top 10 plants accounted for 63 percent of slaughter, and over 95 percent of all pork plants are domestically owned. The pork processing industry is also being upgraded in an attempt to bring presently small Canadian hog and pork operations up to a global size to be competitive at home and abroad. About 70 percent of pork is processed further into value-added cured or cooked products. Recent purchases of pork processing plants by Maple Leaf in western Canada and upgrades in Manitoba by J.M. Schneider, Ltd., are examples of the industry attempting to globalize. Nearly two-thirds of the pork industry is still in Montreal and

Table 11—Canada's processed food industry by sector, 1996

Sector	Establishments	Total shipments	Employees
	<i>Units</i>	<i>Billion dollars</i>	<i>1,000</i>
Meat products	467	8.0	33.2
Poultry products	100	2.4	14.4
Canned fruits and vegetables	163	2.0	12.4
Frozen fruits and vegetables	38	1.0	5.7
Fluid milk	270	2.6	10.5
Other dairy products	NA	3.3	11.2
Flour milling	30	0.8	2.0
Feed industry	475	3.4	9.1
Flour mixes and cereals	26	0.7	3.2
Vegetable oil processing	11	1.8	1.2
Biscuits and cookies	31	0.6	6.4
Bread	464	1.8	20.6
Cane and beet sugar	6	0.6	1.7
Chewing gum	5	0.3	2.2
Sugar and chocolates	97	1.0	7.3
Tea and coffee	31	0.7	3.0
Pasta products	29	0.2	1.5
Snack foods	30	0.8	5.5
Other food processing	302	3.5	16.4
Soft drinks	103	1.8	9.9
Distillery products	20	0.7	2.3
Brewery products	68	2.7	10.7
Wine	35	0.3	1.1
Total food and beverage	3,202	41.4	191.4

NA = Not available.

Source: Economic Research Service compiled from Statistics Canada. *Manufacturing industries of Canada: National and provincial areas, 1996*, and additional material from the Food Bureau, Agriculture Canada. Some data is most recent data when 1996 data are not available.

Quebec. Olymel of Quebec is the largest hog processor, followed by Maple Leaf Meats.

Poultry products. Canada has over 100 primary and further processing meat plants for poultry, including 65 federally inspected establishments. The subsector is entirely Canadian-owned and managed. The four largest poultry processors operate two or more plants in two or more Provinces and account for over 50 percent of production. Ontario and Quebec are the major producing regions, accounting for 66 percent of shipments and 61 percent of plants in 1995.

Dairy products. The dairy industry is second in size to the meat processing industry and is one of the most protected processing industries in Canada. Canada has 270 milk processing plants. About 79 percent of Canada's dairy farms are in Ontario and Quebec. Milk production is largely from Holstein, Ayrshire, Jersey, and Brown Swiss cattle that are some of the highest milk producers in the world. There are two markets for milk in Canada. The fluid milk market, which is located mostly in Ontario, accounts for 38 percent of milk production. The industrial market accounts for 62 percent of milk production. Much of the industrial production is in Quebec (the largest producer of cheese, yogurt, and butter) and Ontario (the largest producer of ice cream).

Much of the development of Canadian dairy processing was through farmers' cooperatives. Coopérative Fédérée de Québec is Canada's largest dairy cooperative. Dairyworld is Canada's second largest cooperative and western Canada's largest food manufacturer, with 21 processing plants across 6 Provinces.

Dairy processing has followed the same development process as most other food and beverage subsectors, with a trend toward fewer but larger plants operated by fewer companies. While the number of plants has declined by half since 1975, capital investment in state-of-the-art equipment has increased sharply. Ownership is highly concentrated, with foreign nationals becoming more prominent players. Two organizations have annual dairy product sales in excess of \$1 billion.

Flour milling. The milling industry has undergone the closure of plants, reorganization through takeovers, and increased automation. The industry is highly concentrated, with two large U.S.-owned flour milling companies controlling about 75 percent of milling capacity. Since 1994, Canadian wheat milling capacity has declined 1

percent, while U.S. milling capacity increased 6 percent. Investment in buildings has declined since the late 1980's, while investment in machinery and equipment has increased. The Canadian flour milling industry is concentrated regionally. Of the 39 mills in 1995, 70 percent are in Ontario and Quebec, 22 percent are in Prairie Provinces, and the remaining 8 percent are in British Columbia and Nova Scotia.

Canadian exports of flour, wheat gluten, starch, and pasta are increasing as Canadian wheat mills move into value-added products. Increased north-south and intrafirm trade have developed under the Canadian-U.S. Free Trade Agreement of 1989. Archer Daniels Midland is the largest milling company in Canada and is the only manufacturer of wheat gluten and wheat starch in Canada. Pasta manufacturing is also being reorganized along north-south lines as multinationals increase their intracompany trade.

Prepared flour mixes and cereals. This subsector is divided into two distinct industries: the prepared flour industry that manufactures cookie, cake, doughnut, pancake, and pastry flour mixes; and the breakfast cereal industry, the larger segment of the industry. This subsector is highly concentrated, with the top four firms accounting for 83 percent of total sales. The multinationals in this subsector operate on a North American product mandate basis, resulting in north/south product movement and considerable import/export activity.

Cookies and biscuits. The Canadian biscuit subsector has evolved from one composed of many independent companies to a subsector where ownership of all brands is concentrated in the hands of six or seven domestic or U.S. multinationals. The four largest manufacturers account for 76 percent of total shipments in Canada. While most plants are located in Ontario and Quebec, all of the major manufacturers have U.S. plants and operate continentally. The cookie subsector has restructured since the implementation of CUSTA. Large firms have been able to win product mandates, so that a product mix may be produced on either side of the border with considerable import/export activity.

Bread and bakery products. In 1995, there were 454 wholesale bakery establishments in Canada. The subsector is concentrated, with four firms controlling 52 percent of sales. Firms are located across the country, with their relative size and number being roughly proportional to the population. The subsector has undergone some restructuring since 1988, with the closing of smaller plants,

the modernization of others, and the building of new plants. Developments in frozen dough technology have also led to the export potential of the industry. George Weston, Ltd., is the largest conglomerate in bakery products, with interests in both the United States and Canada. Maple Leaf Foods, Inc., is also expanding its frozen dough operations in the United States.

Canned and frozen fruits and vegetables. Canada has 159 canned fruit and vegetable establishments, including approximately 90 juice/drink plants. The major canning companies in Canada are subsidiaries of U.S. multinationals and are located close to agricultural production in central Canada and British Columbia. In response to competitive pressures, the number of canneries has declined.

The frozen fruit and vegetable industry is mostly Canadian-owned. The 35 frozen fruit and vegetable establishments are more export-oriented, are generally Canadian-owned, and are more concentrated in ownership. Many freezing plants operate on a scale comparable to nearby U.S. plants, with considerable new investment in new product lines.

Restructuring in both industries has meant that large establishments gained market share at the expense of medium-sized firms, particularly in the canning industry. Multinational subsidiaries will continue to compete for product mandates for the production of specific food products for the North American marketplace, often co-packing for other companies.

McCain Foods, Ltd., Canada's largest frozen food company, has become a major producer of frozen french fries and other potato products. McCain has now expanded its frozen products to include meats. In Canada, McCain Foods, Cavendish Farms, and Midwest Foods, Inc. (Nestlé-Simplot joint venture), are the three largest french fry producers, followed by seven regional producers. Because of the demand generated by fast foods, potato production has grown in Manitoba to the extent that it is now the second largest producing region after Prince Edward Island. Also, most of the demand is by fast food restaurants in the United States, since U.S. imports of french fries from Canada are many times larger than U.S. exports to Canada.

Feed industry. The feed manufacturing industry has many producers, including Cargill, Ltd.- Nutrena Feeds. Most feed manufacturers are medium-sized operations. ConAgra plays an important part in grain storage in Saskatchewan because of its ties to value-added flour

mills, malt plants, oat mills, barley mills, fuel plants, and further food processing.

Oilseed industry. Canola dominates western Canada's oilseed industry, while soybeans dominate in Ontario. Canada is upgrading its canola crushing facilities to process 4 million tons annually. The Canadian Agra facility at Ste. Agathe, Manitoba; the Cargill facilities at Clavet, Saskatchewan; the CanAmera facility at Harroby, Manitoba; and upgrades of two soybean plants in Ontario are the latest improvements in Canada's oilseed processing industry.

Soft drinks. The soft drink subsector is concentrated, as the leading four enterprises controlled 78 percent of the market in 1992. The industry is unique in that a franchise system is controlled by large international brand owners. The soft drink industry mainly includes large foreign-owned multinationals, including U.S. firms. Others, including Cott Beverages, Inc., are smaller but Canadian-owned. In 1995, the subsector had 103 establishments, down from 170 in 1988 as a result of consolidation needed to achieve economies of scale. This high-volume, low-value product is produced regionally in Canada, near major markets, from imported concentrates.

Snack foods. Many of the snack food companies are subsidiaries of U.S. companies, such as Kraft. Others are wholly owned, such as Nalley's Canada, Ltd., which began in the United States but later became a separate company.

Chewing gum and confectionery. Sugar and chocolate confectionery make up 77 percent of the sales of the 102 establishments that make up the industry. The leading eight confectionery enterprises produce close to 90 percent of the sales. The majority of the shipments are by foreign-controlled multinationals. Ontario and Quebec account for the bulk of the shipments. The confectionery subsector has adjusted to more liberalized trade through a series of acquisitions, mergers, and plant restructurings.

Product mandates are an important feature of trade among continentally based multinationals. Canadian confectioners benefit from low-priced world sugar as an input compared with their competitors in other industrialized countries, who have high tariffs to protect domestic sugar industries. Canadian manufacturers often import confectionery products to round out their product offerings in Canada.

Sugar. Canada's sugar industry is dominated by two companies that operate five establishments: BC Sugar Refinery, Ltd., of Vancouver (which owns and operates

three refineries in Canada and Canada's only two sugar beet processing plants) and Redpath Sugars, a subsidiary of the UK's Tate & Lyle PLC (which operates a leading and expanding cane refinery in Toronto, Ontario). Canada's sugarbeet industry is located in the Prairie Provinces. It survives because of efficient production and processing techniques and the additional transportation costs that cane refiners would have to incur to compete locally.

Breweries. Beer is the Canadian alcoholic beverage of choice, and most beer is produced domestically. The brewing subsector is dominated by two major multinationals, which controlled 94 percent of the Canadian market in 1995. The balance of the market is supplied by microbreweries.

The largest company, Molson, was founded in the 1700's and has eight breweries in seven Provinces. Molson allied itself (50/50) with Carling O'Keefe, owned by Fosters of Australia, in 1989, and allied itself with the Miller Brewing Company in 1993 to make Molson the sixth largest brewery in North America. Labatt is another large brewery that has entered into agreements with U.S. breweries to expand in the North American market.

The number of conventional breweries declined from 37 in 1988 to 25 in 1995. The decline is a result of the reorganization that occurred in the early 1990's in response to more liberalized trade, changes in Provincial regulations that were the result of the Agreement on Internal Trade, and changes in international trade rules.

Wineries. The wine subsector is concentrated in Ontario, Quebec, and British Columbia. As a result of several mergers throughout the 1990's, there are now two dominant national companies, with the top four enterprises controlling about 64 percent of production. The number of establishments decreased 15 percent from 1988 to 1995, and employment decreased 25 percent.

Distillery products. The distillery subsector has been declining since 1981. There were only 19 of 38 establishments left by 1994. Four multinationals, including one Canadian firm, control over 80 percent of shipments from the subsector. The bulk of the subsector is in Ontario (eight establishments) and Quebec (six establishments).

U.S. Investment in Canada's Processed Food Industry

The CUSTA and NAFTA have spawned regionalization of the U.S. and Canadian food industries. Much of the investment has created a north-south, rather than an east-west, orientation between the United States and Canada in terms of trade and integration. U.S. investment in Canada's food industry more than doubled between 1985 and 1995 (table 12). Foreign direct investment in Canada's food and beverage industry is highest in the flour, soft drink, fruit and vegetable products, distilled beverages, and prepared cereal industries, where it represents well over half of the ownership. U.S. investment in Canadian food manufacturing is principally in grain milling and beverages (U.S. Department of Commerce, Bureau of Economic Analysis). U.S. companies, such as Cargill, have invested in Canada for decades. Canadian affiliates of U.S. companies had sales of \$10.4 billion in 1995, and paid more than \$1.6 billion in salaries in Canada. (An extensive list of U.S. affiliates in Canada's food processing industry is presented in table 13.)

Canada's Investment in the U.S. Processed Food Industry

The United States has historically had a larger direct investment in Canada than Canada has had in the United States. Since the commencement of the Canada-U.S. Free Trade Agreement, Canadian direct investment in the United States has increased faster than vice-versa (tables 12 and 14). Canada's investments in the U.S.

Table 12—U.S. direct investment in Canada: Benchmark statistics

Statistic	Unit	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
U.S. FDI	Mil. dollars	2,275	1,682	2,068	2,187	2,178	2,054	2,538	2,818	3,172	3,646	4,776	5,113	5,355
Sales	Mil. dollars	5,872	5,776	5,655	5,522	5,090	8,752	9,182	8,936	10,208	10,891	11,277	10,422	NA
Employment	1,000	41	40	40	33	37	44	46	49	(D)	53	54	43	NA
Employee compen.	Mil. dollars	919	921	913	849	1,089	1,361	1,401	1,448	(D)	1,930	1,936	1,639	NA

Source: Economic Research Service compiled from U.S. Department of Commerce, Bureau of Economic Analysis data.

Note: U.S. FDI is defined here as end-of-year stock. (D) = Not disclosed. NA = Not available.

Table 13—U.S. affiliates in Canada's food processing industry

U.S. company	Address	Economic activity	U.S. affiliate or joint venture	Address
Baskin-Robbins	Santa Clara, CA	Ice cream stores	Baskin-Robbins	Etobicoke, Ont.
Beatrice Foods, Inc.	New York, NY	Dairy, baked goods	Beatrice Foods Inc.	Toronto
Campbell Soup Co.	Camden, NJ	Soups, sauces	Campbell Soup Co., Ltd.	Toronto
Cargill, Inc.	Minneapolis, MN	Grains, oilseeds, livestock	Cargill, Ltd.	Winnipeg, Manitoba; Alberta
C.H. Robinson Co.	Minneapolis, MN	Importer and wholesaler of fresh produce	Fresh Factor, Inc.	Calgary
The Coca-Cola Co.	Atlanta, GA	Soft drinks	Coca-Cola, Ltd., Nora Beverages, Inc.	Montreal
ConAgra	Omaha, NE	Malting	Canada Malting, Ltd. Co., Westglen Malting, ConAgra Grain Canada	Toronto, Ont.; Montreal, Que; Thunder Bay, Ont.; Vancouver, BC; Los Angeles, CA; Pocatello, ID; Witham, England; Pencaitland, Scotland
CPC International	Englewood Cliffs, NJ	Corn products, high-fructose corn syrup	CASCO	Pointe Claire, Baie d'Urfe, Port Colborne, London, Cardinal
E.M. Warburg, Pincus & Co., Inc.	New York, NY	Supermarkets	Univa (IGA Supermkt.s.)	Quebec
Gordon Food Service	Grand Rapids, MI	Food services	Maple Leaf Food Serv.	Milton, Ont.
Hershey Foods Corp.	Hershey, PA	Chocolates, pasta	Hershey Canada.	Mississauga, Ont.
H.J. Heinz	Pittsburgh, PA	Soups, processed vegetables, condiments, fish processing equip., vessels, and licenses	Misner, H.J. Heinz Co. of Canada, Ltd., Martin Feed Mills, Ltd. (Pet food division)	Elmira, Ont.
Iowa Beef Producers (IBP)	Dakota City, NE	Beef processing	Lakeside Farm Ind.	Brooks, Alb.
International Multifoods Corp.	Minneapolis, MN	Flour, canned goods	Robin Hood Multifoods Inc.	NA
The J.R. Simplot Co.	Boise, ID	Potato and vegetable products	The J.R. Simplot Co.	Carberry, Man.
Kerry Ingredients	Beloit, WI	Food products	Malcolm Food Specialties	NA
McCormick Co. Ltd./ Schilling Division	Sparks, MD	Spices	McCormick Canada, Inc., Hy's Steak Sauce	NA
Monsanto Company	St. Louis, MO	Food/beverage ingredients	Monsanto Canada, Inc.	Mississauga, Ont.
Morton	Chicago, IL	Salt	The Canadian Salt Co., Ltd.	NA
Nabisco Holdings Corp.	Parsippony, NJ	Pasta, canned tomatoes, pizza sauce	Primo Foods	Ontario
PepsiCo	Somers, NY, Dallas, TX	Soft drinks, snack foods	Miss Vickie's, Club House Foods, London, OntarioChips	Ontario
Philip Morris, Inc./ Kraft Foods	New York, NY	Cigarettes, food products	Nabob Foods Ltd., Jello	Ontario, Montreal
Ralston Purina	St. Louis, MO	Pet foods	Ralston Purina Canada, Inc.	NA
Sara Lee Corp.	Deerfield, IL	Pastry products	Kitchens of Sara Lee Canada	Bramalea, Ont.
J.M. Smucker Company	Orrville, OH	Jams and jellies	Culinar, Inc.	Ontario

Continued—

Table 13—U.S. affiliates in Canada's food processing industry—cont'd

U.S. company	Address	Economic activity	U.S. affiliate or joint venture	Address
Sysco Corporation	Houston, TX	Food service	Strano Sysco Food Services, Ltd.	Ontario
Universal Foods	Milwaukee, WI	Flavorings	Champlain Industries Co.	Ontario
Value Holdings Inc., Ltd.	FL	Import and further process poultry products	Ready Bake Foods	Manitoba
		Brewery	Fjord Foods Ltd. Don Valley Brewing Co., Ltd.	NA
Wendy's, International	Cincinnati, OH	Restaurant chain	Tim Horton's	Alberta

Sources: Economic Research Service compiled from Vaughn, *Journal of Commerce, Feedstuffs*, and material from Agriculture Canada.
NA = Not available.

Table 14—Canada's direct investment in the United States: Benchmark statistics

Statistic	Unit	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
FDI	Mil. dollars	89	178	355	430	531	868	986	(D)	(D)	5,116	5,877	7,230	7,611
Sales	Mil. dollars	2,430	2,346	NA	3,174	3,916	5,571	NA	NA	5,112	5,208	4,649	6,682	NA
Employment	1,000	NA	NA	NA	22	25	30	NA	29	25	NA	NA	(D)	NA
Employee compen.	Mil. dollars	NA	NA	NA	606	740	961	NA	NA	NA	NA	NA	(D)	NA

Source: Economic Research Service compiled from U.S. Department of Commerce, Bureau of Economic Analysis data.

Note: U.S. FDI is defined here as end-of-year stock. (D) = Not disclosed. NA = Not available.

processed food industry have reached significant levels. Canada's investment in the U.S. processed food industry hovered at \$900 million in 1989-90, but an influx of Canadian capital in the early 1990's put Canadian investment in the industry in excess of \$5.9 billion. In 1995, U.S. food processing affiliates of Canadian companies had sales of \$6.7 billion, double the level of 1987.

Seagram's/Bronfman Family Foundation is the largest Canadian investor in the U.S. processed food industry, and their investments include wineries in California's Napa Valley, canola processing plants in Idaho, and Tropicana orange juice processing facilities in Florida. McCain is a large Canadian vegetable processor with U.S. affiliates. Imasco, Ltd., owns Hardee's fast-food restaurants in the United States.

U.S. Trade with Canada Compared with Sales of U.S. Affiliates in Canada

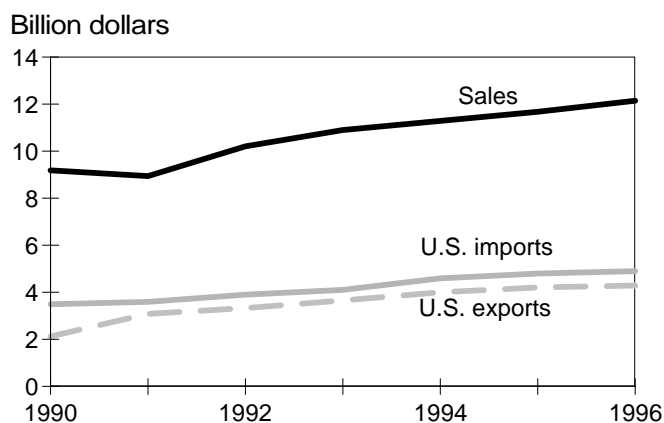
Sales of U.S. affiliates were triple the level of U.S. processed exports to Canada in 1994 (fig. 12). The largest sales from U.S. investments in Canada are from flour milling, soft drinks, and brewing. This is in contrast to U.S. exports of meat products and frozen and canned foods to Canada (table 15). U.S. imports include meat products and frozen and prepared fish, some of which originate from affiliates of U.S. companies in Canada (table 16). Canada is also a large investor in the U.S. food industry, with sales from its investments mostly staying in the United States.

Table 15—U.S. exports of processed foods to Canada, ranked by 1993-95 average value

SIC code	SIC industry description	1990	1991	1992	1993	1994	1995	1993-95 average
<i>Million dollars</i>								
2011	Meat packing	419	490	471	481	517	520	506
2033	Canned fruits and vegetables	133	192	258	275	284	327	295
2092	Prepared fresh or frozen fish	238	249	230	251	268	322	280
2099	Miscellaneous food preparations	148	171	180	209	361	253	274
2075	Soybean oil	140	175	163	194	184	196	191
2047	Dog and cat food	102	128	145	164	180	179	175
2015	Poultry processing	132	135	155	171	170	177	173
2066	Chocolate and cocoa products	90	94	124	147	134	150	144
2051	Bread and bakery products	70	85	105	117	131	135	128
2048	Prepared feeds	62	75	91	102	111	123	112
2091	Canned and cured fish	76	75	72	96	108	119	108
2037	Frozen fruits and vegetables	132	116	99	97	102	114	104
2034	Dried fruits and vegetables	95	95	98	103	101	106	103
2087	Flavoring extracts and syrups	63	71	79	90	96	93	93
2095	Roasted coffee	35	43	64	67	87	123	92
2046	Wet corn milling	110	121	99	91	84	95	90
2035	Pickled fruits and vegetables	47	67	78	77	79	89	82
2068	Salted and roasted nuts	59	74	76	82	74	77	78
2064	Candy and confectionery	44	54	63	72	71	79	74
2052	Cookies and crackers	39	45	59	63	60	75	66
2044	Rice milling	49	55	58	57	62	70	63
2023	Dry and condensed dairy products	23	30	39	51	59	57	56
2077	Animal and marine fats and oils	29	33	36	42	54	68	55
2086	Bottled and canned soft drinks	30	35	29	39	57	68	55
2062	Cane sugar refining	39	36	36	55	57	44	52
2084	Wines and brandies	28	36	46	47	53	54	51
2043	Cereal breakfast foods	24	37	42	47	50	49	49
2038	Frozen specialties	15	24	35	45	52	47	48
2045	Prepared flour mixes	15	23	32	39	44	44	42

Source: USDA/ERS Processed Foods Trade Data Set.

Figure 12
Sales of U.S.-owned affiliates in Canada vs. U.S. trade in food products



Source: Economic Research Service compiled from USDA, Economic Research Service Processed Foods Trade Data Set and U.S. Department of Commerce, Bureau of Economic Analysis data.

Table 16—U.S. imports of processed foods from Canada, ranked by 1993-95 average value

SIC code	SIC industry description	1990	1991	1992	1993	1994	1995	1993-95 average
<i>Million dollars</i>								
2092	Prepared fresh or frozen fish	1,053	1,040	926	906	936	904	915
2011	Meat packing	673	652	736	855	891	921	889
2085	Distilled and blended spirits	433	312	341	328	304	307	313
2076	Vegetable oil, other	106	151	196	244	331	350	308
2091	Canned and cured fish	121	190	193	175	196	216	196
2082	Malt beverages	169	153	151	168	201	197	189
2066	Chocolate and cocoa products	115	127	151	165	178	222	188
2099	Miscellaneous foods	70	119	152	177	172	207	185
2051	Bread and other bakery products	118	129	140	142	152	155	150
2037	Frozen fruits, juices, and vegetables	80	78	89	120	128	145	131
2086	Bottled and canned soft drinks	27	84	87	76	120	121	106
2046	Wet corn milling	98	94	109	104	105	77	95
2048	Prepared feeds and ingredients	46	46	54	71	98	114	94
2043	Cereal breakfast foods	30	49	58	61	75	81	72
2047	Dog and cat food	48	43	43	52	63	79	65
2041	Flour and other grain mill products	19	20	34	47	74	72	64
2062	Cane sugar refining	14	25	60	60	71	29	53
2052	Cookies and crackers	3	5	12	39	53	68	53
2095	Roasted coffee	31	30	38	29	52	68	50
2033	Canned fruits, juices, and vegetables	27	24	27	32	40	66	46
2064	Candy and confectionery	18	24	31	34	46	58	46
2079	Shortening and table oils	13	23	23	28	38	60	42
2067	Chewing gum	31	35	46	41	39	45	41
2053	Frozen bakery products	15	20	34	36	30	35	34
2035	Pickled fruits and vegetables	3	8	13	25	30	44	33
2087	Flavoring extracts and syrups	8	11	17	19	26	29	25
2032	Canned specialties	5	7	10	16	21	28	22
2075	Soybean oil	2	6	7	14	20	29	21
2023	Dry and condensed dairy products	1	5	9	13	23	24	20

Source: USDA/ERS Processed Foods Trade Data Set.

Rules Pertaining to Foreign Direct Investment in Canada

Main measures	<p>Foreign ownership: Ranges from a portion (financial services) to 100 percent (electricity and gas utilities). Fishing is included among the restricted sectors. There are generally no restrictions on land ownership, but some Provincial governments maintain restrictions on ownership of some recreational and agricultural land. There are no performance requirements.</p> <p>Priority sectors: None.</p>
Others	<p>Licensing: No license approval is needed, but there are screening notification requirements. Review requirements exist for acquisitions exceeding Can\$160 million or indirect acquisitions of more than Can\$160 million where Canadian business exceeds 50 percent of the total transaction.</p> <p>Taxation: Tax incentives are available to resident and nonresident firms. There are no foreign exchange controls.</p>
Recent changes	<p>June 1985. The Foreign Investment Review Agency (FIRA) was replaced by the Investment Canada Act (ICA), which instituted relaxed screening and notification measures to encourage inward investment.</p> <p>1989. The Canada-U.S. Free Trade Agreement (CUSTA) was implemented, and the Foreign Investment Protection Agreement was developed.</p> <p>1994. The North American Free Trade Agreement (NAFTA) was implemented.</p>

Source: Pacific Economic Cooperation Council, Survey of the Impediments to Trade and Investments in the APEC Region, 1995.

Mexico³

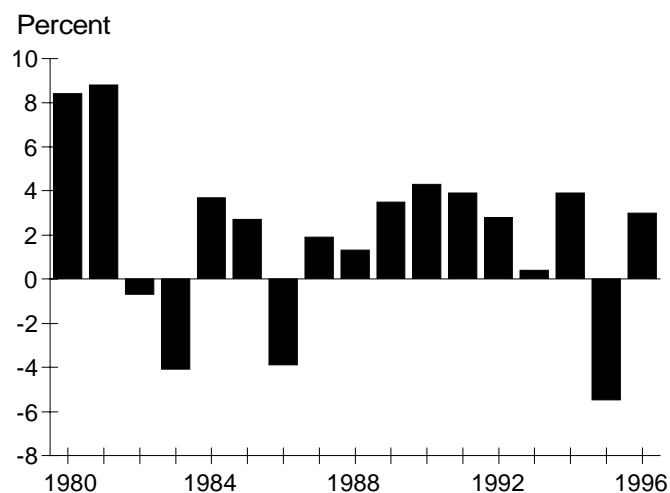
The Mexican Market for Processed Food

Mexicans spend about 35 percent of their incomes on food, making Mexico one of the largest markets for processed food from the United States. Upper- and upper-middle income consumers, who comprise 17 percent of the population, spend a far smaller share of their income on food but easily account for the greatest proportion of food spending in Mexico. While lower income Mexicans grow their own produce and buy many items at the local market or government shop, many urban consumers shop at modern national grocery chains. These urban consumers, particularly in Mexico City (population 23 million), are beginning to favor higher value products such as meat, milk, fruits, and vegetables over grains and beans.

Most domestically produced food products stay in Mexico. Eighty percent of Mexico's horticultural production, for example, is for domestic use. The bulk of the products of the largest U.S. food processing firms that operate in Mexico also stay in Mexico. Per capita consumption of many processed foods starts at a low base, so most increases in income are translated to food consumption.

³The material in this section is synthesized from a variety of sources, including FAS Online Food Market Overview, World Bank, Grupo Financiero SERFIN, *Wall Street Journal*, *Journal of Commerce*, and *Sundue* (Canada). Complete citations are given in the References.

Figure 13
Mexico: Growth in real GDP



Source: Economic Research Service compiled from World Bank, Economic Indicators STARS program data.

NAFTA and related reforms in Mexico's economy set the stage for long-term economic growth, although Mexico suffered a setback in 1995 and early 1996. Mexico enjoyed real growth of nearly 20 percent between 1990 and 1994. Mexico's real GDP declined by more than 6.5 percent in 1995, and recuperated by 3 percent in 1996 (fig. 13). These shocks to the economy carried over to retail food sales.

Mexico has about 680,000 foodstores that employ 1.16 million people. Most are small specialty stores that sell bread or tortillas, but Mexico also has modern national grocery chains, including Cifra, Grupo Gigante, and Comercial Mexicana; regional chains such as Soriana, Chedraui, and Casa Ley; and convenience stores such as Oxxo, Super 7, and 2+2 Serviplus. It is estimated that Mexican foodstores had sales of \$18 billion in 1994. Local chains have 14 percent of the sales, compared with 19 percent for regional chains, and 67 percent for national chains.

Mexico's Processed Food Industry

Mexico's \$21 billion food processing industry is quite diversified, with modern technology being employed alongside antiquated methods. Some sectors of the industry, such as beer and wine and liquor, are concentrated, while other segments, such as dairy, are not concentrated at all.

Leading Sectors

The tortilla industry is Mexico's largest processed food sector, followed by nonalcoholic beverages and the beer

Table 17— Mexico's processed food industry by sector, 1995

Industry	Gross sales	Employees
	<i>Billion U.S. dollars</i>	<i>Number</i>
Tortilla	3.8	90,000
Beverages	3.0	100,000
Beer	2.6	20,000
Dairy	2.5	50,000
Milling and baking	2.0	NA
Flour milling	NA	18,000
Baking	NA	126,000
Pasta	NA	31,000
Meat	1.5	40,000
Wines and liquors	1.5	7,000
Total	21.5	578,500

Source: Economic Research Service compiled from 1996 SERFIN Grupo Financiero Sectorial data.

NA = Not available.

industry (table 17). Cerveceria Modelo is Mexico's largest food processing company, followed by Grupo Industrial Bimbo and FEMSA Cerveza (table 18).

Vegetable oils. The sector's principal products are oils (mainly safflower and soybean), fats, margarine (22 percent of the value of total production), and soybean meal for livestock feed. Vegetable oils are also used for industrial products, such as paints, detergents, soaps, and industrial products. Most future growth in this sector will be in industrial uses of vegetable oils.

The industry has 181 companies and is relatively concentrated, with seven establishments controlling 50 percent of the market. The principal groups are AGYDSA-Patrona, Hidrogenadora Nacional, Anderson-Clayton, El Zapote-Aceitera La Junta, Industrias Regar SA, Grupo Industrial Aceitera, Oleaginosas del Sureste, and Productos de Mais y Arancia. Nearly 65 percent of the companies have modern equipment. Oil processing mills have a capacity of 300-400 tons a day, compared with 1,000-1,500 tons per day for U.S. mills.

Fruit and vegetable preparations. The industry produces a wide variety of products, primarily chili peppers, tomato puree, fruit nectars and juices, salsa, and frozen fruits. The industry includes more than 550 establishments that are distinct in their organizational structure, technology, and product mix. The industry is relatively concentrated, with the 30 largest companies controlling 90 percent of the sales. They include Herdez (13 percent of the market), Productos Del Monte (6 percent), Kraft Foods of Mexico (5 percent), Clemente Jacques (4 percent), Productos Del Fuerte, Jugos del Valle, Jugomex, Campbell's de Mexico, Conservas La Catena, and McCormick de Mexico. The industry is concentrated in the States of Baja California, Sinaloa, Guanajuato, Veracruz, and the Federal District. Companies with obsolete technology coexist with companies that are totally modern. Equipment is from the United States, Germany, and Italy.

Mexico's exports from the industry reached \$207 million in 1994, of which \$43 million were from orange juice and \$21 million were from processed tomatoes. NAFTA trade liberalization has benefited these industries' trade prospects by lowering the tariffs that these products face when exported to the United States. Mexico also has 20 freezing plants for fruits and vegetables, with an effective capacity of 700 million tons. The industry is concentrated in the state of Guanajuato, in the Bajio region (Hinojosa-Ojeda, 1996). In the late 1970's, large plants were built

Table 18—Mexico's top 20 food processing companies, according to 1994 sales

Company	Principal industry	Sales
		<i>Million dollars</i>
Cerveceria Modelo	Breweries	2,050
Grupo Industrial Bimbo	Bread baking	1,787
FEMSA Cerveza	Breweries	1,750
Compañía Nestlé	Coffee processing dairy products	1,416
Gruma	Tortillas	1,190
Grupo Industrial Maseca	Tortillas	625
Grupo Industrial Lala	Dairy products	454
Sigma Alimentos	Meat products	435
Industrias Bachoco	Poultry products	418
Anderson Clayton	Livestock feeds vegetable oils	409
Ganaderos Productores de Leche Pura	Dairy products	338
Grupo Herdez	Canned fruits and vegetables	305
Agrobios	Consulting food processing	218
Pasteurizadora Laguna	Dairy products	192
Jugos del Valle	Fruit juices	164
Grupo Quan	Ice cream	154
Promotora Industrial Azucarera	Sugar products	153
Danone de Mexico	Dairy products	141
Lechera Guadalajara	Dairy products	139
Tablex	Pasta	139

Source: Economic Research Service compiled from material received from Embassy of Mexico, Washington, DC.

by Mexican growers, primarily La Huerta, COVEMEX, MarBran, and Productos Frugo.

Sugar. Mexico has 61 sugar mills located in 15 States, with 22 located in Veracruz. The principal producer groups are Escorpion (25 percent of the market), Machado (11 percent), Sucrum (11 percent), and Beta San Miguel (10 percent). The principal sugar cane producing areas are in Veracruz, Jalisco, San Luis Potosí, Oaxaca, Sinaloa, and Nayarit.

Coffee processing. This industry is composed of two distinct processors: companies that wash and ferment coffee beans, and roasters and grinders that remove hulls and grade beans. There are 2,000 companies that wash and ferment the coffee beans, 445 dryers, and 491 coffee roasters. There are three types of roaster companies: large companies, roasters that are integrated with the primary production, and small roasters. Large roasters

sell their production to supermarkets and stores. Of the 20 largest companies, only 6 make instant coffee: Nestlé, with 80 percent of the market, Combate, Marino, International, Domino, and Cafe Solubles Monterrey. Until 1989, INMECAFE had control of a large part of the production. The 48 producers attached to INMECAFE were transferred to the social sector (ejiditarios), and the organization became the Mexican Council of Coffee.

Dairy industry. Mexico has 108 pasteurizing plants; 1,390 plants that produce cream, cheese, and butter; 18 plants that make condensed, evaporated, and dried milk; 357 that bottle milk (in cartons); and more than 9,000 establishments that make ice cream. Dairy technology varies from traditional methods to the most modern.

The industry has little concentration in the pasteurization of milk and manufacture of ice cream, but high concentration in the production of condensed, dried, and evaporated milk, with an important presence of foreign capital. The principal companies of the sector are Nestlé, Chichota, and Tec-Lac.

Dairy production is found throughout Mexico, principally in the Federal District, Jalisco, Veracruz, and Chihuahua. Fluid milk comprises 47 percent of the sector's value of production; cream, cheese, and butter, 23 percent; condensed and evaporated milk, 16 percent; ice cream, 7 percent; and other milk products, 6 percent.

CONASUPO plays an important role in the dairy industry as the sole importer of dried milk, which is reconstituted at its dairy LICONSA for the poorer segments of Mexico's population. Most of Mexico's milk production comes from a large number of small producers with low levels of technology and production, which increases the cost of the primary product (raw milk). The costs of milk production in Mexico are three times the costs of efficient producers such as New Zealand.

Milling and baking industry. The principal components are bread baking (70 percent of the value), pastas (17 percent), and wheat flour (13 percent). The breadbaking sector is comprised of 21,500 establishments that are concentrated according to the population. Bread is made both at small bakeries and in large companies. Bimbo, one of the largest food processing companies in Mexico, dominates the breadbaking industry.

The pasta sector is comprised of nearly 1,000 companies employing 31,000 workers. Large companies control 35

percent of pasta production, 65 percent of the cookie production, and 35 percent of the prepared flour production.

Meat industry. Mexico has over 3,000 slaughterhouses for beef and poultry, 500 plants that pack and freeze meat, and 700 companies that can meat. There are many small companies, but the modern part of the industry is relatively concentrated, with 27 establishments processing 50 percent of the slaughter and 9 packers processing 66 percent of the fresh beef. Only six large companies (including Sigma, Kir, and Zwanenberg) serve 60 percent of the market. Nuevo Leone and the Federal District are Mexico's major beef processing areas. Jalisco, Mexico, and Michoacan are the principal pork slaughtering areas. The processing sector is 85 percent Mexican-owned. Grupo Alpro operates Mexico's largest pork processing plant.

Tortilla industry. The tortilla industry is comprised of 11,000 small corn mills, and 3 large and 30,000 small companies that produce tortillas. The industry's sales increased 2.4 percent in 1995 and were expected to increase 2.6 percent in 1996. During the past 15 years, technological processes have been developed to produce flour for tortillas on a large scale. The principal producers are Maseca (69 percent of the market), Minsa (25 percent), and Agroinsa (6 percent). The Government intervenes in the tortilla industry through consumer subsidies from CONASUPO. The price of a tortilla is N\$1.10 (about 13 cents), with the subsidy, in the Federal District, while prices range from N\$1.40 (about 15 cents) to N\$1.70 (about 22 cents) in the rest of the country. (Note: N\$ = new pesos).

Breweries. The Mexican beer industry is a duopoly—with Cerveceria Modelo and FEMSA Cerveza (Cerveceria Cuauhtemoc-Moctezuma) sharing a 54/46 split of the market. The companies have 14 breweries with an installed capacity of 15 million gallons. Breweries are fully integrated, from contracting the barley harvest to beer distribution. Both companies increased their plant capacity in Zacatecas and Ciudad Obregon in 1995. Cerveceria Modelo is allied with Anheuser-Busch and Cerveceria Cuauhtemoc-Moctezuma is allied with John Labatt Limited.

Beverages. In the beverage sector, there are 236 plants of diverse sizes: 22 large companies that produce more than 11 million cases; 63 medium-sized companies that produce 5-11 million cases; and 151 small companies that produce less than 5 million cases. In addition, there are more than 1,600 establishments that produce other types of nonalcoholic beverages.

Mexico has the largest per capita consumption of nonalcoholic beverages of all Western Hemisphere countries but the United States—24.4 cases/year in Mexico compared with 31.8 cases/year in the United States. The principal companies include Grupo Continental, Coca-Cola FEMSA, Argos, Grupo Embotelladoras Unidas, Grupo Embotellador de Mexico, Grupo AGA, Embotelladoras del Valle de Anahuac, and Grupo Azteca. These companies are franchises of multinational companies. Most bottlers also manage their own brands of soft drinks and mineral waters, but these are limited to local markets.

The industry is undergoing considerable restructuring and modernization. Some companies have acquired sugar mills and others, such as Consorcio AGA, work with plants that produce fruit concentrates. Most companies also have plants that make plastic bottles and other beverage containers and own transportation companies.

Wine and liquor industry. The wine and liquor industry has 487 establishments. The industry's principal products are brandy and table wines (47 percent), rum (35 percent), and tequila (14 percent). The industry is highly concentrated in such companies as Bobadilla, Martel, Potosí, and Potrero.

U.S. Investment in Mexico's Processed Food Industry

The United States has also historically had a larger direct investment in Mexico than Mexico has had in the United States. U.S. direct investment in Mexico quadrupled between 1985 and 1995. U.S. capital flows to the Mexican food industry were especially high in 1993 and 1994 (table 19). The devaluation of the Mexican peso in 1995 temporarily slowed U.S. investment, even though a few industries that use Mexican raw materials and labor and export their products to the United States may have gained from the devaluation. Mexico in general began to

receive increased flows of foreign direct investment after the mid-1980's as a result of its successful debt-equity conversion program and a number of macroeconomic factors that led to reduced inflation and changed investors' perceptions of the country's growth potential. Prior to the signing of the NAFTA, Mexico's government changed its investment laws considerably to accommodate foreign direct investment.

Many U.S. food manufacturing companies, such as Campbell Soup, General Mills, Ralston Purina, and PepsiCo, have invested in Mexico for decades, while others, such as Tyson Foods and Sara Lee, are more recent entries into the Mexican market (table 20). A special arrangement between the United States and Mexico is the maquiladora system, which is more prevalent in Mexico's clothing industry than in the food industry. Under the maquiladora system, Mexico imports inputs to produce value-added products that are, in turn, exported to the United States with special tariff benefits.

U.S. investment in Mexico's food industry can be found in nearly all sectors, but mostly in candies, soft drinks, livestock feed, frozen fruits and vegetables, vegetable oils, and seafood processing. In 1995, Mexican affiliates of U.S. food processing companies had sales of \$5.6 billion, and paid \$807 million in salaries in Mexico.

Mexico's Investment in the U.S. Processed Food Industry

Mexico's investment in the U.S. food industry is very small and regional, totaling \$79 million in 1994. Gruma and Bimbo, two of Mexico's largest food processing companies, have invested in U.S. corn processing and tortilla facilities since 1994. In 1995, U.S. affiliates of Mexican companies had sales of \$594 million and employed about 5,200 persons with compensation of \$130 million.

Table 19—U.S. direct investment in Mexico: Benchmark statistics

Statistic	Unit	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
U.S. FDI	Mil. dollars	421	456	321	210	278	618	1,119	1,382	1,371	2,349	2,805	2,943	3,977
Sales	Mil. dollars	1,847	1,196	1,674	1,596	1,207	2,754	3,218	4,269	5,100	6,033	6,029	5,596	NA
Employment	1,000	48.7	46.9	50.5	48.5	46.4	53.8	44.3	57.3	79.4	96.6	84.1	84.8	NA
Employee comp.	Mil. dollars	177	197	174	167	215	311	338	500	587	999	846	807	NA

Source: Economic Research Service compiled from U.S. Department of Commerce, Bureau of Economic Analysis data.

Note: U.S. FDI is defined here as the end-of-year stock. NA = Not available.

Table 20—U.S. affiliates in Mexico's food processing industry

U.S. company	Address	Economic activity	U.S. affiliate or joint venture (% share)	Address
Amex Casing Company	San Antonio, TX	Tripe processing and sausage casing	Amex Casing SA de CV	Coahuila
American Home Products Corp.	New York, NY	Food products	Home Products de Mexico SA de CV	Mexico City
Andrew and Williamson Sales Co.	Bakersfield, CA	Importer of tomatoes and strawberries	Andrew and Williamson	NA
Anheuser-Busch	St. Louis, MO	Breweries	Grupo Modelo SA de CV, Diblo (a subsidiary)	Mexico City
Arbor Acres Farm, Inc.	Glastonbury, CT	Poultry breeding stock	Arbor Acres de Mexico SA de CV	Queretaro
Arbor Confections	Brownsville, TX	Candies	Dulces Arbor SA de CV	Chihuahua
Arby's	Atlanta, GA	Fast foods	Arby's	Mexico City
Archer Daniels Midland	Decatur, IL	Flour mill, wet corn milling, and soybean products	Grupo Maseca SA de CV, Gruma (22%), ALMEX (joint venture)	Mexico City, Torreon, Guadalajara
Asgrow Seed Company	Kalamazoo, MI	Vegetable seeds	Asgrow Mexicana SA	Brownsville, TX, Matamoros
Basic American Food	San Francisco, CA	Dehydrated vegetables	Productos Vegetales de Mexico	Tamaulipas
Borden's	New York, NY	Ice cream	Borden's	Mexico City
Calavo	Santa Paula, CA	Avocados and avocado products	Calavo	Mexicali
California Agribusiness	San Diego, CA	Almond sorting and packing	Industrializadora del Cid	Tijuana
Campbell Soup Company	Camden, NJ	Food products	Campbell's de Mexico, Sinaloa Pasta	Guanajuato Mexico City Bajío
Canada Dry International Co.	Atlanta, GA	Soft drinks	Extractos y Derivativos SA de CV	Mexico City
Cargill	Minneapolis, MN	Food products and livestock feeds	Carmex SA, Alimentos Colonial SA, Cargill de Mexico SA de CV, Hidrogenadora Nacional de Aceites del Bajío	Mexico City, Cuauhtemoc, Saltillo, Juarez, Tula, Atitalaquia
Carl's	Los Angeles, CA	Fast foods	Carl's Jr.	Mexico City
Chili's	Dallas, TX	Restaurant chain	Chili's	Mexico City
Coca Cola Company	Atlanta, GA	Bottling soft drinks	Embotelladora Peninsular Grupo Continental SA Fomento Economico Mexicano (FEMSA)	Yucatan Mexico City
ConAgra	Des Moines, IA	Pork and poultry processing	Universa SA de CV (Grupo Desc)	NA
CPC International	Englewood Cliffs, NJ	Corn refining and food products	Productos de Maiz SA, Arancia	Mexico City, San Juan del Rio, Guadalajara, Aguascalientes, Aguida, Lerna, Tlaxiampantla
Del Monte	San Francisco, CA	Pasta	Alimentos Mexicanos Selectos	NA
DNA Plant Technology Corp.	Oakland, CA	Plant technology (joint venture)	Empresas La Moderna SA de CV	Monterrey
Farron Trading Company	Eagle Pass, TX	Sausage casings del Norte SA de CV	Empaques Naturales	Coahuila
General Foods	White Plains, NY	Frozen vegetables	Birdseye de Mexico SA de CV (maquiladora)	Tamaulipas
Germain Seed	NA	Seeds	ABT of Mexico	NA
G.M. Trading Company	San Antonio, TX	Animal hide processing	Procesos G.M. de Mexico SA de CV	Coahuila

Continued—

Table 20—U.S. affiliates in Mexico's food processing industry—cont'd

U.S. company	Address	Economic activity	U.S. affiliate or joint venture (% share)	Address
Hector Garcia	Calixico, CA	Fruit and juice concentrates	Frutindustrias Mexicali SA de CV	Mexicali, Galvin
Hershey Foods	Hershey, PA	Chocolate products	Hershey SA de CV, Nacionales de Dulces	Guadalajara
Hicks, Muse, Tate, & Furst	Dallas, TX	Investments	Productos Del Monte	Mexico City
H.J. Heinz	Pittsburg, PA	Food products	HoldMex	Mexico City
Hormel Foods	Austin, MN	Food products	Hormel Alimentos SA de CV	Mexico City
Hunt-Wesson	Fullerton, CA	Tomato products	Productos Industrializados del Fuerte	Los Mochis, Sinaloa
I Can't Believe It's Yogurt	Dallas, TX	Fast foods	I Can't Believe It's Yogurt	Mexico City
Imexco Enterprises	Calixico, CA	Flour mills	Molinera del Valles	Mexicali
International Minerals and Chemical Company	Northbrook, IL	Flavorings	Frier and Frier Int'l de Mexico, SA de CV	Mexico City
Itek Corporation	Hidalgo, TX	Fruit concentrate and frozen fruit	Frutico SA de CV	Tamaulipas
International Multifoods Corp.	Minneapolis, MN	Production and sale of animal feeds, seeds, and poultry products	Mexicana de Inversiones Femac, SA de CV, La Hacienda S.A. de C.V.	Mexico City, Texcoco, Guadalajara, Apizaco, Tiaxacala Celaya, Monterrey
Jack in the Box	San Diego, CA	Fast foods	Jack in the Box	Tijuana
Kellogg Company	Battle Creek, MI	Cereal products	Kellogg de Mexico SA de CV	Queretaro
Kentucky Fried Chicken	Louisville, KY	Fast foods	Kentucky Fried Chicken	Mexico City
Kraft Foods	New York, NY	Frozen foods and dairy products	Kraft SA de CV, Productos de Alimentacion de Salud de Mexico SA de CV	Mexico City
Lopez Brothers La Bodega	San Ysidro, CA	Vegetable oils	B.I. Gonzales	San Luis Potosi
L.T. Endo	San Francisco, CA	Frozen chicken meat and cube steaks	Kanshoku de Mexico SA de CV	Nuevo Leon
Lyntec	Brownsville, TX	Agricultural products	Lyntec de Mexico SA de CV	Sinaloa, Nayarit, Zacatecas
Martek Enterprises	Brownsville, TX	Seafood processing	Perecederos y Congelados SA de CV	Tamaulipas
McCormick & Company/Schilling Division	Hunt Valley, MD	Seasonings and flavorings	McCormick de Mexico SA de CV, Grupo Herdez, joint venture, Festin Foods, Grupo Pesa	Mexico City
McDonald's	Oak Brook, IL	Fast foods	McDonald's	Mexico City, Guadalajara
Meyer Tomatoes	King City, CA	Shipper, fresh tomatoes	Meyer Tomatoes	Culiacan, Los Mochis
Munoz, Inc.	Rome, TX	Bakery products	Indabil SA de CV	Tamaulipas
Orville Kent Food	Wheeling, IL	Frozen fruit cocktail	Orval Kent de Linares SA de CV	Nuevo Leon
Patterson Foods	Patterson, CA	Frozen foods	Estrella	Zamora, Jalisco
Peavey Co./ConAgra Trading Companies	Minneapolis, MN	Flour, feeds, and seeds	ConAgra Trading Co.	Mexico City
PepsiCo, Inc., Frito-Lay	Purchase, NY; Dallas, TX	Beverages and food products	Pepsi- Cola Mexicana SA, Temati SA de CV, Sonrics, Gamesa (80%, 1995), Marcas Alimentaciones Internacionales SA de CV, Gemex (25%)	Mexico City, Tijuana

Continued—

Table 20—U.S. affiliates in Mexico's food processing industry—cont'd

U.S. company	Address	Economic activity	U.S. affiliate or joint venture (% share)	Address
Perfect Crab	Brownsville, TX	Crab processing	Perfect Crab Compañía de Mexico SA	Tamaulipas
Pet, Incorporated	St. Louis, MO	Specialty foods	Almacenes Refrigerantes SA de CV	Santa Clara
Philip Morris	New York, NY	Cigarettes	Cigata (30%)	Mexico City
Pilgrim Foods	Hingham, ME	Frozen orange juice	Oranjugos SA de CV	Nuevo Leon
Pilgrim's Pride Corporation	Arlington, TX	Poultry processing	Union de Queretaro	Queretaro
Pioneer Hi-Bred International	Des Moines, IA	Farm products and corn seed	Hibridos Pioneer de Mexico SA de CV	Guadalajara, Jalisco
Proctor & Gamble	Cincinnati, OH	Food products	Proctor & Gamble	Mexico City
Price Cosco	San Diego, CA	Discount stores	Price Venture Mexico	Mexico City
Quaker Oats Company	Chicago, IL	Food products and pet products	Fabrica de Chocolates, Mesaheria, Carlos V, Larin	Mexico City Tijuana
Ralston Purina Company	St. Louis, MO	Poultry and livestock feeds	Purina SA de CV	Mexico City, Guadalajara
RJR Nabisco	East Hanover, NJ	Food products	Grupo Gamesa SA (30%), Marcas Alimenticias Internacionales SA de CV, Nabisco Famoso SA, Lance Marcas Alimenticias Internacionales SA de CV	Matahuala, Reynosa Mexico City
San Diego Seafoods	Brownsville, TX	Shrimp processing	Heriberto Jara	Tamaulipas
Sara Lee	Deerfield, IL	Food processing and clothing	Grupo Industrial Bimbo (joint venture)	Mexico City
Sea King	Brownsville, TX	Shrimp processing	Congeladora y Enpacadora Peninsular	Tamaulipas
Seven-Up International	New York, NY	Soft drinks	Seven-Up Mexicana SA	Mexico City
Simplot	Santa Maria, CA	Frozen foods and guacamole	Marbran, Congeladora y Enpacadora Nacional, S.A.	Irapuato, Celaya Morelia, Michoacan
Sirloin Stockade	Albuquerque, NM	Restaurant chain	Sirloin Stockade	Mexico City
Sonora Produce Corporation	Nogales, AZ	Fruit juices	Jugo Fresco y National Fruit Juice Extracting	Sonora
Stokeley Company	Oconomowoc, WI	Food processing	Stokeley Mexicana SA de CV	Sinaloa
Subway	Milford, CT	Fast foods	Subway	Mexico City
Sun World	Coachella, CA	Vegetable packing	Agrícola BAS SA de CV (joint venture)	Culiacan, Sinaloa
Superior Jojoba Oil	Tucson, AZ	Jojoba, almond, and other nut oils	Productos Arizona International	Sonora
Tanimura & Antle	Yuma, AZ	Vegetable packing	Tecnica Exportadora del Valle	Sonora
Tastee Freeze, Inc. (De Novo Corporation)	Utica, NY	Fast food	Tastee Freeze	Mexico City
T.G.I. Friday's	Addison, TX	Restaurant chain	T.G.I. Friday's	Mexico City
Tootsie Roll Industries	Chicago, IL	Candies	Tutsi SA de CV	Mexico City
Trans-Agra Holiday Corp.	Calixico, CA	Fruit processing	Procesadora Internacional de Frutas, SA	Chihuahua
Tyson Foods	Springdale, AR	Chicken products	Procesadora Industrial Citra SA de CV, Trasgo SA de CV	Durango, Jalisco, Torreon

Continued—

Table 20—U.S. affiliates in Mexico's food processing industry—cont'd

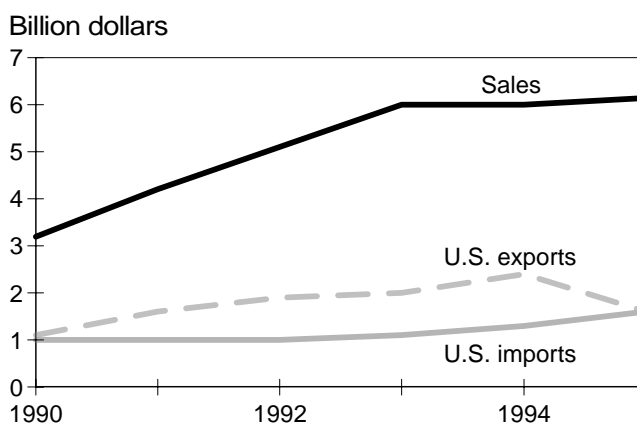
U.S. company	Address	Economic activity	U.S. affiliate or joint venture (% share)	Address
Universal Foods	Milwaukee, WI	Food flavoring and coloring	Universal Flavors/ Ambesco de Mexico, Spectrum Sa	Monterrey
United Catalysts, Inc.	Louisville, KY	Catalysts for food industry	Quimica Somex SA de CV	Mexico City
Usher Candy	San Antonio, TX	Candies	Usher Candies	Tamaulipas
Valley Foreign Trading	McAllen, TX	Vegetable processing	Congelados Don Jose	Tamaulipas
Wal-Mart	Bentonville, AR	General merchandise	Wal-Mart	Mexico City

Sources: Economic Research Service compiled from Bolling, *Journal of Commerce*, *Wall Street Journal*, *Feedstuffs*, and material from Handy.

U.S. Trade in Comparison to Sales from U.S. Affiliates in Mexico

Sales from affiliates of U.S. companies in Mexico are 2.5 times the level of U.S. processed food exports in Mexico. U.S. investment in Mexico is nearly across the whole food processing industry. The largest U.S. exports are in meat packing, poultry slaughter, animal fats, soybean oil, wet corn milling, and dry and condensed milk, mostly as semifinished products (table 21, fig. 14). Affiliate sales grew rapidly from 1989 to 1993, but leveled off in 1994. Preliminary indications are that sales declined in 1995, but not as steeply as U.S. exports. Exports (and probably sales) rebounded in 1996. U.S. processed food imports from Mexico are mostly seafood, beer, and processed fruits and vegetables (table 22). Some seafood originates from affiliates of U.S. companies.

Figure 14
Sales of U.S.-owned affiliates in Mexico vs. U.S. trade in food products



Source: Economic Research Service compiled from USDA, Economic Research Service Processed Foods Trade Data Set and U.S. Department of Commerce, Bureau of Economic Analysis data.

Table 21—U.S. exports of processed foods to Mexico, ranked by 1993-95 average value

SIC code	SIC industry description	1990	1991	1992	1993	1994	1995	1993-95 average
<i>Million dollars</i>								
2011	Meat packing	333	555	578	446	609	305	454
2015	Poultry slaughtering	59	119	174	211	236	172	206
2077	Animal and marine fats	80	92	101	113	121	134	123
2075	Soybean oil	73	104	137	87	134	138	120
2046	Wet corn milling	49	61	76	93	117	101	104
2023	Dry and condensed milk	21	62	75	152	77	77	102
2076	Vegetable oils, other	17	13	37	57	67	140	88
2099	Miscellaneous food preparations	30	38	45	57	76	50	61
2048	Prepared feeds	17	30	53	55	74	43	57
2086	Bottled and canned soft drinks	6	19	43	62	91	18	57
2066	Chocolate and cocoa	37	51	58	50	56	42	49
2026	Fluid milk	21	31	40	49	54	21	41
2043	Cereal breakfast foods	14	12	39	40	54	27	40
2044	Rice milling	38	18	32	36	40	30	35
2033	Canned fruits and vegetables	19	21	37	35	48	21	35
2087	Flavoring extracts	19	14	17	24	37	32	31
2013	Sausage and prepared meats	31	34	34	30	32	21	28
2034	Dried fruits and vegetables	17	16	22	24	38	21	28
2041	Flour and grain milling products	19	21	41	28	28	20	25
2082	Malt beverages	9	11	13	20	29	23	24
2035	Pickled fruits and vegetables	9	14	19	18	31	20	23
2092	Prepared and frozen seafood	8	12	16	23	30	15	22
2022	Natural and processed cheese	4	8	15	20	27	13	20
2079	Shortening and table oils	8	14	19	20	20	15	18
2051	Bread and other bakery products	3	7	15	18	28	8	18
2037	Frozen fruits and vegetables	5	7	12	15	21	14	17
2062	Cane sugar refining	97	93	33	12	12	23	16
2064	Candy and other confectionery	16	15	19	20	20	6	15
2068	Salted and roasted nuts	5	5	9	12	20	10	14
2074	Cottonseed oil	3	8	12	16	14	8	13

Source: USDA/ERS Processed Foods Trade Data Set.

Table 22—U.S. imports of processed foods from Mexico, ranked by 1993-95 average value

SIC code	SIC industry description	1990	1991	1992	1993	1994	1995	1993-95 average
<i>Million dollars</i>								
2092	Prepared fresh or frozen fish	243	246	202	262	317	428	336
2082	Malt beverages	153	130	148	163	188	238	196
2037	Frozen fruits, juices, and vegetables	191	167	161	160	186	202	183
2085	Distilled and blended spirits	63	67	83	92	97	103	97
2033	Canned fruits and vegetables	90	76	63	81	90	95	88
2035	Pickled fruits and vegetables	43	51	57	53	58	63	58
2068	Salted and roasted nuts	15	26	28	45	22	33	33
2086	Bottled and canned soft drinks	22	24	23	26	33	40	33
2099	Miscellaneous foods	22	30	36	30	30	35	32
2064	Candy and confectionery	8	12	16	21	37	37	32
2051	Bread and other bakery products	6	11	16	19	31	40	30
2066	Chocolate and cocoa products	23	12	22	25	15	33	24
2034	Dried fruits and vegetables	14	13	20	25	23	24	24
2091	Canned and cured fish	36	45	48	29	15	19	21
2052	Cookies and crackers	7	10	13	15	22	21	19
2067	Chewing gum	3	4	5	10	18	29	19
2096	Potato chips and other snack foods	11	14	18	16	18	17	17
2095	Roasted coffee	8	8	7	7	13	23	14
2062	Cane sugar refining	7	19	8	5	12	23	13
2013	Sausage and other prepared meats	12	16	13	12	14	10	12
2011	Meat packing	16	7	9	8	10	17	11
2076	Other vegetable oils	7	15	15	11	8	14	11
2084	Wines and brandy	7	6	7	9	9	10	9
2098	Macaroni and spaghetti	4	4	5	5	7	8	7
2043	Cereal breakfast foods	2	3	4	5	4	10	6
2023	Canned fruits and vegetables	3	1	3	1	3	11	5
2046	Wet corn milling	1	2	2	3	4	4	4
2077	Animal and marine fats and oils	1	1	1	2	2	5	3
2075	Soybean oil	1	1	1	1	2	3	2

Source: USDA/ERS Processed Foods Trade Data Set.

Rules Pertaining to Foreign Direct Investment in Mexico

Main measures

Foreign ownership: Ranging from 10 percent (in producer cooperatives) to 100 percent for food processing, textiles, leather, hotels, and restaurants.

Priority sectors: Export-oriented industries and small and medium-sized businesses. There are also restricted sectors outside of food and agriculture.

Performance requirements are not used for small and medium-sized businesses, foreign-funded businesses, companies that are able to balance foreign inflows and outflows in 3 years, and new investment that creates jobs and uses adequate technology.

Others

Licensing. Approval from the Mexican Foreign Investment Commission (CNIE) is required for all foreign investment in restricted sectors. In most unrestricted sectors, approval is automatic upon registration in the National Registry of Foreign Investment, subject to meeting conditions involving small and medium-sized business and foreign-funded projects.

Taxation. There are national taxes, but no exchange controls.

Recent changes

May 1989. A new law was enacted to promote foreign investment. A major amendment to the 1973 law was passed where 100 percent ownership is allowed in unrestricted sectors. Prior approval by CNIE is not required in most sectors. Foreigners are allowed to enter the stock market.

December 1993. A new investment law was passed. Classification of investment was divided into five groups— foreign investment participation, activities reserved exclusively for the government, activities reserved exclusively for Mexicans (where foreign participation is between 10 and 49 percent), activities requiring approval for foreign participation over 49 percent, and gradually increasing foreign investment from NAFTA economies. Except for regulated cases and those falling into the five groups, unlimited foreign investments are allowed without authorization.

Source: Pacific Economic Cooperation Council, Survey of the Impediments to Trade and Investments in the APEC Region, 1995.

Brazil⁴

The Brazilian Market for Processed Food

Brazil is the third largest country in area in the Western Hemisphere, the fifth largest country in the world in terms of population, and the tenth largest economy. Average incomes in Brazil are modest, but Brazilians spend about 30 percent of their incomes on food. Brazil has also been able to overcome its economic problems of the 1980's and early 1990's (fig. 15). Brazil's processed food market is an urban phenomenon. Brazil has 150 metropolitan areas with populations of over 100,000, and 10 cities with a population of over 1 million people. The metropolitan areas of São Paulo and Rio de Janeiro constitute a megalopolis of over 30 million people.

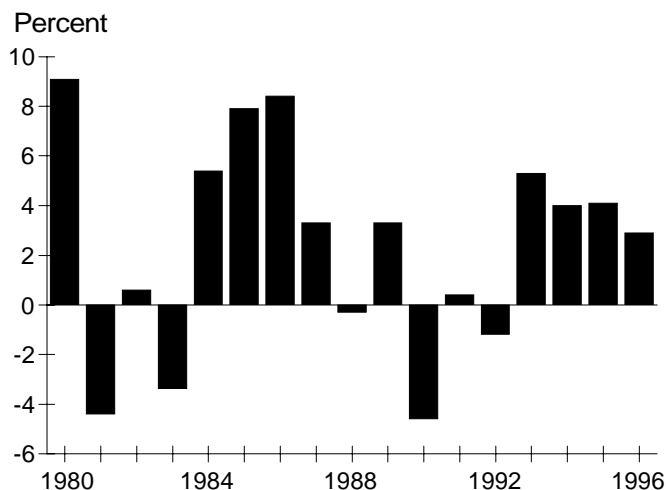
People are acquiring kitchen appliances such as microwaves, which has contributed to the growth in the use of frozen foods. The market for frozen foods until recently focused on chicken nuggets, hamburger patties, dairy products, and juices, and even then in small amounts compared with the United States.

Although a substantial proportion of unprocessed food is sold in open-air markets, most processed foods are sold in supermarkets and specialty stores. There is a growing trend to market processed foods through supermarkets. The 300 largest supermarket chains account for about 40,000 check-out counters, or half the total in the sector. Supermarket sales reached \$35 billion in 1995, experiencing double-digit growth in the 1990's. Industry concentration is low, with the 55 largest chains responsible for 50 percent of total sales. The major national chains are Carrefour (France, with 10 percent of the market), Pao de Açucar (Brazil, with 7 percent market share), and Makro (Netherlands). The States of São Paulo and Rio de Janeiro have 47 percent and 16 percent of the sales in the country.

Franchise food operations such as McDonald's, Pizza Hut, Arby's, and Dunkin' Donuts are planning to expand further in the next 5 years. Brazilian fast-food sales increased 50 percent to nearly \$1 billion from 1993 to 1994. In Brazil, major franchisers accounted for approximately 1,000 stores.

⁴The material in this section is synthesized from a variety of sources, including FAS Online Food Market Overview, Fundação Getulio Vargas, Smith Barney, World Bank, *Wall Street Journal*, *Journal of Commerce*. Complete citations are given in the References.

Figure 15
Brazil: Growth in real GDP



Source: Economic Research Service compiled from World Bank, Economic Indicators STARS program data.

Brazil's Processed Food Industry

Brazil has a well-developed food processing industry that provides consumers with a broad array of processed foods. Over half of the food consumed in Brazil is processed. The orange juice, biscuit, chocolate, candy, and dairy product industries have experienced the most growth in the 1990's. Brazil has 43,000 food manufacturing and processing plants that provide 745,000 jobs. Large companies (over 500 employees) account for 19 percent of processed food production, medium-sized companies (100-499 employees) account for 43 percent, and small companies (fewer than 100 employees) account for 38 percent. For many years, the food processing industry was protected from foreign competition by limited access. This situation began to change in the 1990's as deregulation of food prices by the government forced Brazilian companies to pay more attention to quality in order to compete with imports.

Brazil's food processing industry, which is 36 percent foreign-owned, includes many U.S. companies and European-based multinational companies such as Nestlé, Parmalat, and Unilever. The estimated annual gross sales of Brazil's food processing sector are \$45 billion.

Leading Sectors

Meat products, fats and oils, dairy products, beverages, and sugar refining are the largest sectors in terms of gross sales (table 23). Production is mostly concentrated near large cities, particularly São Paulo.

Both Brazilian and multinational companies dominate individual sectors. Brazilian companies dominate the processing of meat products (particularly the poultry and pork subsectors), but multinational companies Nestlé and Parmalat dominate the dairy industry along with Brazilian dairy cooperatives. Brazilian companies produce most processed fruits (pineapples, peaches, and prunes) and citrus juice. Unilever's affiliate Gessy Lever is Brazil's leading producer of canned vegetables and tomato-based products. Most breakfast cereals are manufactured by Kellogg's, while bakery, flour, and biscuits are divided among Brazilian and foreign companies. Nestlé, Cervejaria Brahma, and Antarctica Paulista are the largest food and beverage companies in terms of sales (table 24).

Wheat milling. The wheat milling industry in Brazil consists of 235 mills, 180 of which have daily capacities of 50 MT or less. Of the total installed capacity of 11.5 MMT, 20 of the mills produce more than 500 MT a day. Three main milling groups account for 46 percent of Brazil's total milling activity. These larger plants are located near major population areas, while smaller mills are located near the wheat-producing areas. Weak demand stemming from recent economic adversity keeps the mills operating at less than 75 percent of capacity. Few large-scale manufacturers have automated production lines, and wide differences in technical capabilities exist among firms. For more than two decades, Brazil's milling sector was under governmental control, where mills had a fixed quota to assure participation of all enterprises in the market, and flour prices were controlled by the state. In 1991,

Table 23—Brazil's processed food industry by sector, 1993

Industry	Sales
	<i>Billion dollars</i>
Meat products	6.7
Fats and oils	6.6
Dairy products	4.0
Beverages	4.4
Sugar	3.6
Coffee processing	3.4
Wheat products	3.4
Fruit and vegetable processing	3.4
Grain milling	3.4
Chocolate and candies	1.7
Other	5.0
Total	45.6

Sources: Economic Research Service compiled from *Exame Meiores e Maiores*, August 1996, p. 132.

the entire wheat industry was privatized. New mill construction and renovation followed.

Santista Alimentos and Pena Branca Agroindustrial are two of the largest milling groups in Brazil. These mills have formed alliances with producers of pasta, cookies, and crackers, and with pizza franchisers—an important change in the industry. In the bakery industry, 95 percent of the activity is in small bakeries, and 5 percent is in industrial baking. Four companies dominate the industrial baking sector. Santista Alimentos and Panco are the major bread companies in a market where per capita consumption of bread averages 7 pounds per year. In the cookie and biscuit sector, family-run businesses, such as Confiância and Campineira, were incorporated by multinationals like Nestlé and Danone. Nabisco also has affiliates in Brazil. Production lines for cookies have diversified and modernized in the 1990's. The cookie industry alone had sales of \$1.5 billion in 1995. Brazilian production

Table 24—Brazil's top food processing companies, according to 1995 sales

Company	Principal products	Sales
		<i>Million dollars</i>
Nestlé	Food processing conglomerate	3,372
Companhia Cervejaria Brahma	Beer	2,209
Companhia Antarctica Paulista	Beer	2,104
Copersucar	Sugar products	2,071
Ceval Alimentos S.A.	Vegetable oil	1,735
Santista Alimentos S.A.	Flour mills	1,572
Sadia Concordia S.A.	Poultry processing	1,532
Cargill Agrícola	Oilseeds, cocoa products, orange juice	1,234
Gessy Lever Alimentos	Tomato products, canned vegetables	1,000
Industria de Bebidas Antarcticado Nordeste S.A.	Beer	984
Perdigão Agroindustrial S.A.	Meat processing	960
Parmalat	Dairy products	943
Venti Sadia Frigobras	Poultry processing	916
Philip Morris Brasil	Chocolate and dairy products, powdered soft drinks	830
Industria de Bebidas Antarctica do Rio de Janeiro S.A.	Beer	718
Kibon S.A.	Food products	711
Leite Paulista	Dairy products	598

Source: Economic Research Service compiled from data in Fundação Getulio Vargas, *Agroanalysis*, October 1995, p. 20.

Note: Exchange rate conversion .639 reals = 1\$US.

of cookies and crackers totals 650,000 metric tons, equivalent to 9 pounds per capita.

Oilseed processing. The Brazilian oilseed market is controlled by the private sector with little government intervention. Market participants include producer cooperatives and national and multinational companies. Annual crush capacity is about 30 million tons. Most production processing capacity is located in southern Brazil, although several plants were recently built in the west-central and northern States. Soybeans make up over 80 percent of Brazil's total oilseed crush. Paraná, Rio Grande do Sul, and São Paulo are the principal oilseed processing States. Large crushers in Brazil include Ceval Alimentos (13.2 percent), Cargill Agrícola (5.7 percent), and Incobrasa (4.3 percent). Other oilseed crushers include Sadia, Sambra/Samrig, Gessy Lever, Bianchini, and Olvepar. Brazil still lacks adequate storage and transportation facilities to efficiently move production into consumption and international markets.

Frozen concentrated orange juice. In São Paulo, 11 companies operating 17 factories produce frozen concentrated orange juice (FCOJ), processing about 97 percent of Brazil's total capacity in a modern world-class industry. The two largest companies, Cutrale and Citrusuco, control about half of the processing capacity. Two medium-sized companies, the only foreign-owned companies, have about 30 percent of the capacity, and seven small companies account for the remaining 20 percent.

Most fruit for processing is purchased from independent growers, and about 15 percent is harvested from processor-owned groves. Bulk storage capacity, at the factories and in the ports, totals about 500,000 metric tons of concentrates, or about half of the annual output. About 75 percent of exports are shipped in bulk tanker ships owned by four of the processing companies. Companies not owning ships lease space from other firms.

Industrial plants were installed between 1963 and 1968, basically financed by U.S. and other foreign investors who incorporated relatively modern technology. Brazilian exporters have the most modern export infrastructure for orange juice of any place in the world. Brazilian exports of FCOJ are also dependent on consumer trends in Europe and Asia, Brazil's biggest markets.

Cocoa beans. About 85 percent of Brazil's cocoa production is concentrated in the northeastern State of

Bahia. The remaining production comes from Espírito Santo, São Paulo, Paraná, and Rondônia. About 50 percent of the cocoa crop is processed locally into intermediary products (mainly cocoa butter), and the processing industry is owned by large multinational cocoa dealers and chocolate manufacturers, such as Cargill.

Sugar. Brazil is among the world leaders in sugarcane, sugar, and ethanol (fuel alcohol) production and in sugar consumption and exports. It is also among the most efficient of all the major sugar producers, and Brazil's sugar export products are the most diverse. Brazil can produce either sugar or ethanol from sugarcane, and only about 40 percent of its cane production is ground for sugar. Brazil has about 370 processing facilities to produce refined sugar and/or ethanol from sugarcane. About 25 produce only sugar, 145 produce only alcohol, and 200 produce both products. São Paulo is the major producing State, accounting for 60 percent of Brazil's sugar output and about two-thirds of its alcohol output.

Wineries. Brazil is a moderate producer of wines and is in competition with its neighbors, Argentina and Chile. Grapes from the Rio Grande do Sul are used in white wines. Santa Catarina is also a wine district. More than 80 percent of the vineyards have less than 5 hectares and have difficulty competing with Argentina and Chile. The Aurora Coopérative (Marcus James) is responsible for nearly all of Brazil's wine exports.

Beef processing. Brazil has a modern meat processing industry that consists of about 55 large meatpackers under federal inspection that meet the requirements of both the European Union and the United States (for processed meat only). There are also other small plants that only meet State and municipal sanitary requirements. Together, these inspected plants comprise about 60 percent of the total production. Most beef is trucked in carcass form up to 1,000 kilometers to be consumed. Only about 20 percent of the beef is packaged in ready-to-serve portions and sold in supermarkets. Most of the production is carried on by large national firms. There are only 2 multinationals, a decline from 5 in the early 1980's. Sadia Oeste (Paraná), Swift-Armour (São Paulo), Fribrasa (São Paulo), and Frigorífico Kaiowa (São Paulo, Mato Grosso do Sul, and Minas Gerais) are the largest companies processing beef (Muller, 1996). The industry has basically expanded by larger companies' acquiring firms in the same subsector.

Poultry processing. Brazil has a poultry industry that is about a third the size of the U.S. industry and is active in the international market. Poultry production is a relatively important agricultural activity in Brazil. Originally, only family farm enterprises carried out poultry production, but large companies have now entered the industry. Brazilian poultry production technology is similar to U.S. technology. There are about 10 large private poultry processors in Brazil, mostly in the southern States, that comprise 70 percent of the Brazilian poultry market and account for 95 percent of the export market. Perdigao-Agroindustrial SA, Ceval Alimentos SA, Sadia Trading, and Frangosul are the largest poultry exporting companies, exporting both whole birds and pieces, mostly to Saudi Arabia and Japan. In poultry production, about 25 percent of the producers provide 90 percent of the broilers.

Dairy. The Brazilian dairy industry is dominated by two multinationals, Nestlé and Parmalat, and, to a lesser extent, by major Brazilian cooperatives and companies. Milk production is highly seasonal and is produced mostly in Minas Gerais, São Paulo, and Paraná. Brazil is a net importer of dairy products. During the off-season, it is common practice to extend fresh milk supplies by recombining fluid milk with domestic or imported nonfat dried milk. Fluid milk is marketed mostly through a network of large private national and multinational companies. Three types of milk are sold at retail, the most widely consumed being type C, with 3 percent fat content. It is sold in plastic bags and requires boiling before drinking. Types A and B account for only 10 percent of the fluid milk. Ultrahigh Temperature (UHT) milk is also consumed, due to the marketing efforts of the multinational Parmalat.

Corn products. Production is dominated by CPC International, a U.S. company. CPC produces grain-

based cereals and dietary staples, mayonnaise, soups and bouillon, and corn oil.

U.S. Investment in Brazil's Processed Food Industry

U.S. investment in Brazil's food industry tripled from 1985 to 1995 (table 25). Investments continued to increase into 1996. The liberalization of Brazil's investment laws and the recent stabilization of Brazil's economy from the Real Plan (1994) have created new opportunities for foreign direct investment. The concept of MERCOSUR as a regional market also renewed interest in investment in Brazil.

Borden, Cargill, Coca-Cola, CPC, Kellogg, Kraft Foods, PepsiCo, Philip Morris, and RJR Nabisco have a presence in Brazil. (A detailed list of companies is presented in table 26.) These companies have considerable market share in certain sectors and operate across a broad spectrum of products. CPC has its largest foreign affiliate in Brazil and is the largest producer of most corn products. RJR Nabisco is the second largest producer of cookies (7 percent of sales); and the leading producer of baking powder and yeast (80 percent of sales), dessert mixes (50 percent), and fruit juices (45 percent).

U.S. companies compete against such European conglomerates as Unilever, the second largest food company in Brazil with food sales of \$1 billion. Unilever has operated in Brazil since 1929. Unilever is the top producer of edible fats and margarine, tomato-based products, canned vegetables, and cottonseed oil, and ranks second in specialty cheese and mayonnaise production and third in tea and soybean products.

Table 25—U.S. direct investment in Brazil: Benchmark statistics

Statistic	Unit	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
U.S. FDI	Million dollars	714	706	700	789	727	945	1,030	1,112	1,560	1,543	1,621	2,269	2,855
Sales	Million dollars	2,038	2,063	1,834	1,740	2,465	2,675	3,208 ¹	3,537 ¹	2,876	3,431	3,749	4,842	NA
Employment	1,000	35.4	36.4	30.1	30.4	35.3	29.0 ¹	32.1 ¹	32.1 ¹	32.7	34.4	35.1	33.7	NA
Employee comp.	Million dollars	178	195	181	188	249	293 ¹	388 ¹	388 ¹	339	375	367	408	NA

Source: Economic Research Service compiled from U.S. Department of Commerce, Bureau of Economic Analysis data.

Note: U.S. FDI is defined here as end-of-year stock.

¹For these years, total includes majority-owned foreign affiliates. NA = Not available.

U.S. Trade in Comparison to Sales of U.S. Affiliates in Brazil

Sales of affiliates of U.S. companies in Brazil are more than 12 times the level of U.S. processed food exports to Brazil (fig. 16). U.S. processed food exports to Brazil include distilled and blended liquors, malt beverages,

bottled and canned soft drinks, animal and marine fats, and milled rice (table 27). U.S. investment is in cookies and biscuits, orange juice, soft drinks, canned and frozen fruits and vegetables, oilseed products, breakfast cereals and other grain products, and beer.

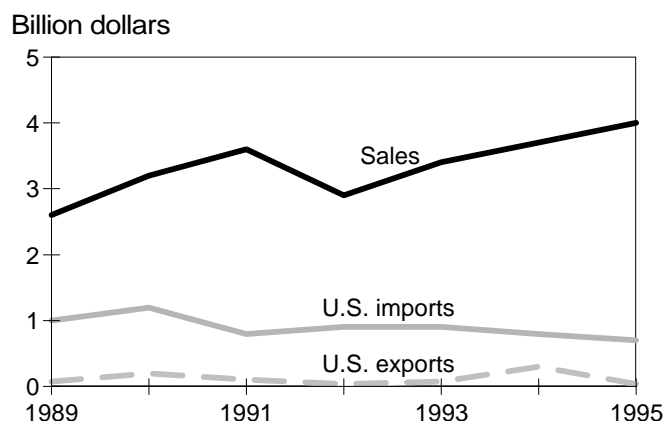
Table 26— U.S. affiliates in Brazil's food processing industry

U.S. company	Address	Economic activity	U.S. affiliate or joint venture (% share)	Address
Anheuser-Busch	Golden, CO	Beer	Companhia Antartica Paulista BBC (10 %)	São Paulo
Archer Daniels Midland	Decatur, IL	Grain, oilseeds	ED & F Man Cocoa Unit, Glencore Grain	São Paulo, Santos
Asgrow	Kalamazoo, MI	Seed	Asgrow	São Paulo
Cargill	Minnetonka, MN	Processing, marketing, and exporting of grains, oilseeds, and corn milling, and poultry	Cargill Agrícola S.A. Cargill Cacau Cargill Citrus	São Paulo São Paulo
Coca-Cola Company	Atlanta, GA	Holding company, beverage manufacturer	Coca Cola Industries, Ltd.	São Paulo, Rio de Janeiro
Continental Grain	New York, NY	Grain trading, hybrid seed	Contibrasil	São Paulo
CPC International	Englewood Cliffs, NJ	Corn products	Refinacines de Milho, Maizena, Cremogena (1987), Arrozina (1991), Vitamilho (1993)	Campina Grande, Cabo, Guaranbuns, Magi-Guaca, Ponso Alegre, Jundiai
Hershey Foods Corporation	Hershey, PA	Chocolate products	Chadler Industrial da Bahia	Bahia
Kellogg Company	Battle Creek, MI	Breakfast cereals and snack foods	Productos Alimenticios Kellogg's Ltda.	São Paulo
Kraft Foods	New York, NY	Food products	Kraft Foods	São Paulo
Louis Dreyfus Group	Wilton, CN	Grain trading	Frutex	São Paulo
Lykes Brothers	Tampa, FL	Citrus fruits	Lykes Brothers	São Paulo
PepsiCo	Purchase, NY	Soft drinks	Kentucky Fried Chicken	São Paulo
Philip Morris	New York, NY	Cigarettes and food products	Ofresco Industrias de Chocolate Lacta S.A. Q-Refres-Ko	São Paulo São Paulo
Quaker Oats	Chicago, IL	Grain products	Productos Alimenticios Adria SA	São Paulo
RJR Nabisco Holdings	Hanover, NJ	Cigarettes and food products Cigarettes and food products	I.C.P.A., Gumy Alimentos F.A. Industria e Comercio Avare Companhia Productos Pilar	Jaraguá, Santa Catarina São Paulo
Ralston Purina	St. Louis, MO	Cereals, pet foods, bread, and snack cakes	Purina Alimentos, Ltd.	São Paulo
Rocco, Inc.	Harrisonburg, VA	Poultry processing	Rocco, Inc.	São Paulo
Warner-Lambert Co.	Morris Plains, NJ	Diversified conglomerate	Chicle Adams Ltda.	São Paulo

Sources: Economic Research Service compiled from *Feedstuffs*, *Journal of Commerce*, *Wall Street Journal*, and Smith Barney data.
NA = Not available.

The most important U.S. processed food imports from Brazil include frozen fruits and vegetables (mostly juice), chocolate and cocoa products, prepared nuts, prepared fresh and frozen fish, and meat (table 28). Some orange juice imported by the United States originates from U.S. company affiliates.

Figure 16
Sales of U.S.-owned affiliates in Brazil vs. U.S. trade in food products



Source: Economic Research Service compiled from USDA, Economic Research Service Processed Foods Trade Data Set and U.S. Department of Commerce, Bureau of Economic Analysis data.

Table 27—U.S. exports of processed foods to Brazil, ranked by 1993-95 average value

SIC code	SIC industry description	1990	1991	1992	1993	1994	1995	1993-95 average
<i>Million dollars</i>								
2085	Distilled and blended liquors	151	49	0	20	155	179	118
2082	Malt beverages	2	5	4	4	15	44	21
2086	Bottled and canned soft drinks	0	0	0	0	3	36	13
2077	Animal and marine fats	8	10	4	8	16	14	13
2044	Rice milling	20	30	1	1	29	7	12
2087	Flavoring extracts and syrups	3	4	6	7	9	18	11
2048	Prepared feeds	0	2	3	3	8	10	7
2013	Sausage and other prepared meats	9	7	6	5	6	7	6
2075	Soybean oil	0	1	1	2	4	8	5
2023	Dried and condensed dairy products	0	0	2	0	2	11	4
2034	Dried fruits and vegetables	1	2	1	3	3	7	4
2011	Meat packing	2	4	1	2	4	7	4
2068	Salted and roasted nuts	1	2	1	1	5	5	4
2096	Potato chips and other snacks	2	2	2	2	3	5	3
2037	Frozen fruits and vegetables	0	0	0	0	1	9	3
2033	Canned fruits and vegetables	0	0	1	0	2	6	3
2022	Natural and processed cheese	0	0	0	1	2	5	3
2066	Chocolate and cocoa	1	1	1	1	2	5	2
2046	Wet corn milling	1	1	1	2	2	3	2
2076	Vegetable oil, other	1	0	1	2	2	2	2
2047	Dog and cat food	0	0	0	0	1	4	2
2035	Pickled fruits and vegetables	0	0	0	1	1	3	2
2067	Chewing gum	1	1	0	0	1	4	2
2064	Candy and other confectioneries	0	0	1	0	1	2	1
2098	Macaroni and spaghetti	0	0	0	0	0	2	1
2083	Malt	0	1	1	1	1	1	1
2074	Cottonseed oil	0	0	0	0	2	0	1
2092	Prepared fresh or frozen fish	0	0	0	0	1	1	1
2015	Poultry slaughtering	0	0	0	0	1	1	1

Source: USDA/ERS Processed Foods Trade Data Set.

Table 28—U.S. imports of processed foods from Brazil, ranked by 1993-95 average value

SIC code	SIC industry description	1990	1991	1992	1993	1994	1995	1993-95 average
<i>Million dollars</i>								
2037	Frozen, fruits, juices, and vegetables	246	529	242	236	211	225	224
2066	Chocolate and cocoa products	167	175	175	184	162	103	111
2068	Salted and roasted nuts	92	95	98	131	106	92	106
2092	Prepared fresh or frozen fish	101	84	91	99	94	98	95
2011	Meat packing	49	27	7	54	77	90	75
2062	Cane sugar refining	33	148	64	48	66	42	67
2095	Roasted coffee	59	52	27	37	42	53	55
2099	Miscellaneous foods	33	27	35	26	25	38	30
2064	Candy and confectionery	17	17	14	18	19	17	17
2033	Canned fruits and vegetables	149	18	16	24	19	16	17
2085	Distilled and blended spirits	2	1	0	5	9	5	7
2084	Wine and brandy	3	2	3	5	7	7	7
2076	Other vegetable oils	23	14	10	6	4	2	4
2074	Cottonseed oil	0	3	0	1	7	3	3
2087	Flavoring extracts and syrups	4	5	3	2	2	3	3
2067	Chewing gum	5	5	3	2	3	3	3
2079	Shortening and table oils	3	3	4	2	3	3	3
2013	Sausage and prepared meats	1	1	1	1	2	1	2
2082	Malt beverages	0	0	0	0	1	1	1
2091	Canned and cured fish	2	1	0	4	2	1	1

Source: USDA/ERS Processed Foods Trade Data Set.

Argentina⁵

The Argentine Market for Processed Food

Argentina has the highest per capita income in South America, and Argentines spend more than 30 percent of their incomes on food. The country's largest city and capital, Buenos Aires, has a population of 11.8 million. Other major cities include Cordoba with 1.2 million and Rosario with 1 million. After nearly a decade of economic adversity due to inflation, Argentina began to open its economy and exercise fiscal and monetary discipline in 1989. The economy entered a new era of economic growth, low inflation, surging production, booming exports, and rising investments in the early 1990's. Annual GDP growth exceeded 7 percent from 1991 to 1994, mostly because inflation slowed dramatically, from 4,924 percent in 1989 to 3.9 percent in 1994 (fig. 17).

Other changes include the removal of many taxes and an improved tax collection system, privatization of most state-owned enterprises, and deregulation of various sectors of the economy. The economy slowed in 1995, mostly because of the shocks of the Mexican peso crisis felt throughout Latin America.

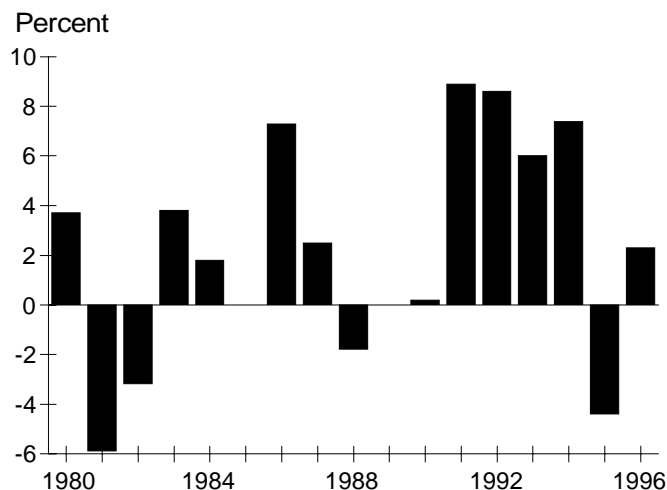
Frozen dinners are still a rarity in supermarket freezers, and many Argentines prefer to buy prepared meals on their way home from work. Supermarkets and the food distribution system are just beginning to improve. Argentine businesses are beginning to improve refrigeration facilities, and retailers are beginning to carry large inventories of frozen and chilled products. Freezers and microwaves are now more common in middle-income homes.

Food retailing in Buenos Aires has undergone considerable change since 1990. A number of large shopping centers were built around the city, particularly in the middle- and high-income areas. Modern supermarkets and self-service stores (associated with gas stations) account for about half of total food sales; the rest is sold through traditional corner grocery stores. The number of supermarkets has grown threefold since 1975, and their share of sales has grown from 39 percent to 60 percent. Leading supermarkets include Carrefour, Norte, Coto, Disco, and Tia Express. Other store chains are Sumo,

⁵The material in this section is synthesized from a variety of sources, including FAS Online Food Market Overview, Fundacion Invertir, *Tendencias Economicas y Financieras (Business Trends)*, Smith Barney, *Wall Street Journal*, and *Journal of Commerce*. Complete citations are given in the References.

Figure 17

Argentina: Growth in real GDP



Source: Economic Research Service compiled from World Bank, Economic Indicators STARS program data.

Americanos, Jumbo, and Metro. Wal-Mart has entered the Argentine market in a joint venture with Sumo by building several supercenters.

Fast foods are entrenched, but are at a low concentration relative to the population. McDonald's (54 stores), Burger King (12 stores), Pumper Nic (a local hamburger chain with 60 stores), Pizza Hut (11 stores and home delivery), and Dunkin' Donuts are all represented in Argentina. There has been a significant increase in institutional consumption for many products, such as vegetable oil, that is driven by the fast-food industry.

Argentina's Processed Food Industry

The Argentine food industry, with \$24 billion in sales (1993), employs 28 percent of the manufacturing workforce in its 22,000 establishments. While most establishments employ 2-5 people, 863 establishments employ 50 people or more (table 29).

Argentina's largest food processing companies include Cargill, Molinos Rio de la Plata, and Sancor Cooperativas Unidas (table 30). About 40 percent of the sales of the Argentine food, beverage, and tobacco industries originate in Argentine affiliates of foreign firms (Agosin, 1995). For many years, Argentina's problems with extreme inflation slowed development of Argentina's food processing industry, with the major exception of the beef and oilseed processing industries. The domestic food processing industry was impeded by a low level of capitalization

and high production costs. Years of economic uncertainty discouraged investment. Consolidation of the food industry is now underway, and many of the most important local brands have recently been acquired by multinational concerns. Moreover, the Argentine food industry is being viewed as an important part of the regional MERCOSUR market.

Leading Sectors

Cattle slaughter, dairy products, grain milling and baking, and vegetable oils account for 75 percent of product sales in Argentina's food industry. Sugar refining and fruit and vegetable processing have lesser roles (table 29). Beef and oilseeds are highly oriented toward foreign trade, while sugar and dairy are oriented toward domestic use.

Beef. The beef processing industry is Argentina's largest food processing industry and is internationally known in both beef packing and canned meat. Nearly 90 percent of the sales are from large processing firms. While Argentina has 635 slaughterhouses, only 288 are authorized by the National Animal Health Authority (SENASA)—135 bovine, 62 hog, 37 sheep, and 6 horse—but only 30 are approved for export to the United States. CEPA is the largest beef export packer, selling 18 percent of Argentina's

Table 29—Argentina's processed food industry by sector, 1993 and 1995

Sector	Establish- ments	1993 sales	1995 sales	Employees 1994
	<i>Number</i>	<i>Billion dollars</i>		<i>Thousands</i>
Meat	1,056	4.7	10	48
Fats and oils	84	2.9	4	5
Sugar refineries	25	.5	NA	11
Dairy products	1,392	2.8	4	23
Bread baking	14,434	2.8	NA	88
Nonalcoholic beverages	2,560	2.3	2.4	28
Grain milling	436	2.1	NA	15
Wine making	663	1.4	1	13
Diverse food products	450	1.3	NA	10
Canned fruits and vegetables	548	1.2	NA	13
Candies and sweets	167	.8	NA	9
Fishery products	124	.4	NA	7
Liquors and spirits	47	.5	NA	2
Beer and malt	18	.6	.6	3
Total	22,040	24.2	NA	496

Source: Economic Research Service compiled from *Agroindustrias en la Argentina, Cambios Organizativos y Productivos (1970-1990)*, CEPAL, Buenos Aires, supplemented by updated information from U.S. Embassy in Buenos Aires, Argentina.

NA = Not available.

beef (in terms of value). The top three firms of the industry, Frigorífico Rioplatense, Quickfood, and Swift-Armour (a subsidiary of Campbell Soup), register about \$200 million in annual sales each. Most are located in the Greater Buenos Aires area. Sixty-five percent of sales are through traditional butcher shops (about 25,000), although supermarkets have a growing share of retail sales.

Poultry. The poultry industry has annual sales of about \$2 billion and employs 135,000 people. Argentine companies invested about \$200 million in their poultry industry during the early 1990's. The Argentine poultry industry has been dominated by traditional family-owned poultry firms and has only begun to adopt new technology. Argentine poultry imports from Brazil and tight availability of capital for the industry have caused Argentina to lag behind other countries, despite the abundance of feedstuffs. Most of Argentina's commercial poultry industry is located in Entre Rios and Buenos Aires.

Table 30—Argentina's top 20 food processing companies, according to 1994 sales

Company	Products	Sales
		<i>Million dollars</i>
Cargill	Grain products	960
Molinos Rio de la Plata	Grain products	936
Sancor Cooperativas Unidas	Dairy products	878
Mastellone Hermanos	Dairy products	843
Arcor	Candy, chocolates, and jams	730
Nidera Argentina	Oilseed products and grains	541
La Plata Cereal	Grain products	431
Nestlé Argentina	Dairy products	403
Federacion Argentina de Cooperativas Agrarias (FACA)	Grains and oilseeds	364
Glencore Cereales	Grains and oilseeds	353
Aceitera General Deheza	Oilseed products	350
Asociacion de Cooperativas Argentinas Ltda.	Grains and oilseeds	346
Vicentin	Oilseed products	320
Bagley	Cookies	295
Establecimiento Mod. Terrabussi las Marias	Cookies and crackers	290
Dreyfus	Grain products	279
Compañía Continental	Grain products and oilseeds	275

Source: Economic Research Service compiled from material received from Argentine Embassy in Washington, DC.

Oilseeds. Argentina's oilseed industry is oriented to foreign trade, exporting nearly 90 percent of its products. Bunge y Born and Cargill (19 percent each), Vincentin (15 percent), Buyati, Dreyfus, and Moreno (12 percent each), Aceitera General Deheza (9 percent), and Continental (2 percent) are the market leaders. Argentina's 59 oilseed processing plants have a capacity of about 13.5 million metric tons. There are also nine refineries for vegetable oil (capacity of 417 tons/day) and seven factories for hydrogenated products (capacity of 219 tons/day).

In the past, Argentina's crushing industry paralleled the growth in oilseed production, but few new facilities were built until recently. There has been a trend toward consolidation. The number of plants has remained stable, but output capacity has grown by about 70 percent in the last decade. Most of the capacity is concentrated in about 20 of the largest plants. The oilseed industry has about 18 percent participation by multinationals. Cargill and La Plata Cereal have both made new investments in the 1990's, and Ceval (Brazil) acquired Guipeba.

Sugar refining. Sugar production is mostly for domestic use, and the industry is concentrated in a few large refineries. There are 24 sugar plantations in the country, 15 of which are located in Tucumán. At the height of the season, the industry employs 60,000 people that are directly engaged in rural, administrative, and industrial activities.

Wheat milling. The wheat milling industry includes 111 milling firms with a capacity of more than 5.5 million tons a year. Thirteen firms are located in the Greater Buenos Aires area, and 20 each in Córdoba and Santa Fe. The largest mills are Molinos Rio de la Plata, Morixe Hermanos, Andres Lagomarsino, Har Bruning, Cabodi, Molinos Cañuelas, Fenixcor, Molinos Florencia, Molino Adelia Maria, and Concepción. Investments have been made to increase the milling capacity and to renew equipment to raise productivity and meet the stricter demands of large industrial firms that operate in the bread baking industry. Argentina also has well-developed breadbaking, spaghetti, and cracker manufacturing industries. Many foreign companies have invested in the production facilities of cereal-based products.

Cookies and crackers. Cookies and crackers constitute one of the smaller industries, but one of the fastest growing food processing sectors in Argentina. Transnational companies such as Danone (France), with its purchase of Bagley, and Nabisco, with a majority interest in Terabusi,

have 60 percent of the Argentine cookie market. The cookie industry employs 13,000 people, but it operates at about 70 percent of capacity.

Dairy industry. The dairy industry is oriented toward domestic consumption, although about 11 percent of the industry is owned by transnational corporations. The industry has experienced considerable transformation, both by strong market concentration and diversity of products offered. Sancor Cooperativas Unidas (a cooperative), Mastellone Hermanos, and Nestlé are the largest firms and have about 40 percent of the sales. Nestlé, which also produces desserts and puddings, plays an important role in Argentina's condensed milk and dried milk industries. Parmalat (Italy), Danone (France), and Loncoleche-La Suipachense (Chile) also process milk in Argentina. At least 10 companies have made considerable investment in expanding production of cheese, desserts and puddings, and yogurt.

Soft drinks. Three bottling companies control 91 percent of the domestic market: FEMSA, Coca-Cola; Buenos Aires Embotelladora, Pepsi; and the licensee of Seven-Up and Crush (the brand name run by Penaflo). Another 107 independent companies are spread throughout the country. All together, they employ some 9,000 people. In 1997, FEMSA, the second largest Coca-Cola franchiser in Latin America, bought 100 percent control of the franchise in Buenos Aires.

Wineries. Argentina has 1,890 wine cellars and 245 wineries employing 13,000 people. Five firms have 70 percent of production: Penaflo, Catena, Reserva, Giol, and Greco. Production is mainly centered in Mendoza and San Juan. Nearly 75 percent of domestic consumption is in Greater Buenos Aires.

Breweries. Brewing is a concentrated activity. Cerveceria y Maltería Quilmes, with its satellite Rio Paraná, is the largest brewery. The number of breweries grew to 13 in 1995 with the incorporation of Brahma, Compañía Cervecerías Unidas (formerly old Santa Fe brewery), and Cervecerías Argentinas SA (Isenbeck). Important foreign firms (Brahma of Brazil, Isenbeck of Germany, and Luksic of Chile) bought Compañía Industrial Cerveceria and are the driving force in the modernization of local breweries Quilmes and Bieckert.

Liquors. The industry includes 20 establishments, and Cusinier has 50 percent of the market after absorbing

Padilla in 1994. Bagley, Bols, Cas Dellaplaine, Cattorini, Cointreau Cusinier, and Distilerias Hiram Walker are some of the major Argentine distilleries.

U.S. Investment in Argentina's Processed Food Industry

U.S. direct investment quadrupled from 1985 to 1995 (table 31). There was an abrupt slowdown in direct investment inflows after 1982, coinciding with the regional debt crisis. Direct investment inflows accelerat-

ed after 1988, mainly as a result of the government's debt-equity conversion program. The Convertibility Plan (1991) stabilized the economy and succeeded in reining in rampant inflation. U.S. investments have been mainly in cereal and oil processing (including corn oil), breweries, ice cream, cookies and biscuits, and popcorn. Cargill, CPC, Campbell Soup, Kellogg, Kraft, Nabisco, and Quaker Oats all have a presence in Argentina (table 32). Coca-Cola and Philip Morris have the largest sales (over \$1 billion), followed by Cargill (\$962 million).

Table 31—U.S. direct investment in Argentina: Benchmark statistics

Statistic	Unit	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
U.S. FDI	Million dollars	196	248	275	290	281	319	334	404	466	665	922	1,009	1,013
Sales	Million dollars	654	667	489	758	1,177	NA	1,066	1,547	2,040	NA	2,872	3,093	NA
Employment	1,000	12.4	11.6	10.8	10.6	12.2	NA	11.1	11.9	12.9	NA	16.8	17.1	NA
Employee comp.	Million dollars	88	92	90	91	89	NA	114	184	229	NA	392	452	NA

Source: Economic Research Service compiled from U.S. Department of Commerce, Bureau of Economic Analysis data.

Note: U.S. FDI is defined here as end-of-year stock. NA = not available.

Table 32—U.S. affiliates in Argentina's food processing industry

U.S. company	Address	Economic activity	U.S. affiliate or joint venture (% share)	Address
Archer Daniels Midland	Decatur, IL	Food product and feeds	Fridana Beghin Soya	Buenos Aires
Cargill	Minneapolis, MN	Grains and oilseeds	Minetti y Cia	Buenos Aires
Campbell Soup	Camden, NJ	Canned convenience foods	Swift-Armour S.A. Argentine	Buenos Aires, Rosario
CPC International	Englewood Cliffs, NJ	Corn products	Refinerias de Maiz, Knorr Soups	Buenos Aires
David Oppenheimer Group	Visalia, CA	Farming	Agricom	Buenos Aires
Kellogg Company	Battle Creek, MI	Ready-to-eat cereals	Alimentos Kellogg SA	Buenos Aires
PepsiCo	Purchase, NY	Soft drinks	Buenos Aires Embotelladora SA (BAESA)	Buenos Aires
Philip Morris/Kraft	New York, NY	Cigarettes and food products	Suchard Group, Kraft General Foods Milka La Montevideana	Buenos Aires Santa Fe Rosario
Quaker Oats	Chicago, IL	Cereals	Elaborado de Argentina Cereales	Buenos Aires
R.J. Reynolds Nabisco	Hanover, NJ	Cookies, crackers, specialty foods, cereals, and pet foods	Fleischmann Argentina, Inc., Establecimiento Modelo Terabusi, Mayco, Luis Vizzolini e Hijos, S.A.I.C., Capri	Buenos Aires
Weaver Popcorn	Ulysses, KS	Corn products	Weaver Popcorn	Buenos Aires

Sources: Economic Research Service compiled from *Journal of Commerce*, *Wall Street Journal*, *Feedstuffs*, Fundacion Invertir Argentina, and Smith Barney data.

Some companies have a large market share for certain products, for example, CPC has a 35 percent share of Argentina's corn refining capacity. CPC's Knorr brand is their largest business in Argentina, with a 90-percent share of the dried soup market. CPC also has 45 percent of the mayonnaise market. CPC's sales have grown 30 percent per year in Argentina since 1990. Nabisco is ranked second in cookie production in Argentina and is the leader in dessert mix and pasta sales. Philip Morris/Kraft Foods has Tang, the leading drink mix in the region. Suchard, an affiliate of Philip Morris, is second in the chocolate confectionery market, and Philip Morris is second in the Argentine ice cream market.

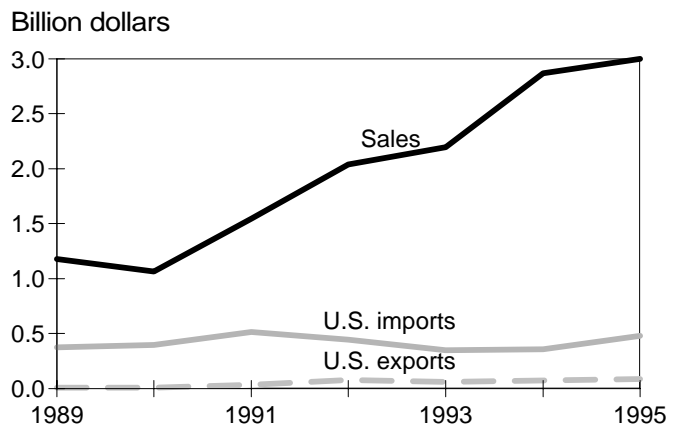
U.S. direct investment comprises 32 percent of total FDI in Argentina's processed food industry. Many Argentine firms have also sought joint ventures with investors from Canada, Mexico, and Europe: Parmalat (Italy), Danone (France), Bimbo (Mexico), McCain (Canada), and Cadbury (United Kingdom). The sharp increase in the 1990's is mostly explained by special incentives to foreign investors, recent macroeconomic stability, and Argentine membership in MERCOSUR.

U.S. Trade in Comparison to Sales from U.S. Affiliates in Argentina

Sales of affiliates of U.S. companies in Argentina are more than 36 times the level of U.S. processed food exports to Argentina (fig. 18). U.S. exports to Argentina include flavoring extracts and syrups, processed fruits

and vegetables, and malted beverages (table 33). Sales from U.S. affiliates are mostly processed beef products, oilseed products, soft drinks, grain products, animal feeds and pet foods, ice cream and cream cheese, and cookies and crackers. Affiliates of other countries sell mostly dairy products. Some processed beef imports are from U.S. companies' affiliates in Argentina, although canned fruits and vegetables are Argentina's major processed food exports to the United States (table 34).

Figure 18
Sales of U.S.-owned affiliates in Argentina vs. U.S. trade in food products



Source: Economic Research Service compiled from USDA, Economic Research Service Processed Foods Trade Data Set and U.S. Department of Commerce, Bureau of Economic Analysis data.

Table 33—U.S. exports of processed foods to Argentina, ranked by 1993-95 average value

SIC code	SIC industry description	1990	1991	1992	1993	1994	1995	1993-95 average
<i>Million dollars</i>								
2087	Flavoring extracts and syrups	5	14	34	62	112	157	110
2099	Miscellaneous food preparations	7	13	26	56	90	78	75
2082	Malted beverages	3	37	98	36	37	72	48
2013	Sausage and prepared meats	46	41	52	70	32	26	43
2096	Potato chips and other snacks	0	5	51	48	38	42	43
2033	Canned fruits and vegetables	1	2	24	15	50	57	41
2086	Bottled and canned soft drinks	0	91	251	53	44	24	40
2068	Salted and roasted nuts	8	49	55	27	54	24	35
2047	Dog and cat food	1	1	6	13	38	52	34
2011	Meat packing	3	5	17	32	41	21	31
2022	Natural and processed cheese	0	0	0	8	24	42	25
2075	Soybean oil	4	5	14	18	25	30	24
2048	Prepared feeds	5	9	16	12	23	30	21
2067	Chewing gum	0	9	8	6	29	20	18
2066	Chocolate and cocoa	2	13	18	18	17	17	17
2046	Wet corn milling	2	3	11	15	17	19	17
2037	Frozen fruits and vegetables	0	3	3	11	10	29	16
2064	Candy and other confectionery	0	2	5	23	8	11	14
2077	Animal and marine fats	14	34	48	36	2	0	13
2034	Dried fruits and vegetables	2	3	5	10	8	17	11
2023	Dry and evaporated milk	5	6	16	12	8	15	11
2043	Cereal breakfast foods	0	0	1	8	8	8	8
2076	Vegetable oil, other	0	1	1	5	13	7	8
2051	Bread and other bakery products	0	3	3	2	16	4	8
2085	Distilled and blended liquors	0	1	4	3	10	7	7
2015	Poultry slaughtering	0	0	0	4	8	6	6
2035	Pickled fruits and vegetables	0	1	2	5	6	4	5
2045	Prepared flour mixes	0	0	0	1	3	10	5
2053	Frozen bakery products	0	0	0	2	6	5	4

Source: USDA/ERS Processed Foods Trade Data Set.

Table 34—U.S. imports of processed foods to Argentina, ranked by 1993-95 average value

SIC code	SIC industry description	1990	1991	1992	1993	1994	1995	1993-95 average
<i>Million dollars</i>								
2011	Meat packing	154	234	148	133	119	156	136
2033	Canned fruits, juices, and vegetables	69	75	95	144	61	59	79
2092	Prepared fresh or frozen fish	54	55	48	47	57	52	60
2099	Miscellaneous foods	20	26	36	33	28	30	28
2062	Cane sugar refining	34	13	34	11	10	27	26
2022	Natural and processed cheese	15	17	12	7	8	12	13
2064	Candy and confectionery	9	8	6	7	7	9	9
2032	Canned specialties	0	0	0	8	9	9	8
2085	Distilled and blended spirits	5	7	7	9	8	6	7
2076	Other vegetable oils	4	8	16	10	4	8	5
2037	Frozen fruits, juices, and vegetables	6	12	8	8	5	3	5
2034	Dried and dehydrated vegetables	3	2	1	5	5	6	4
2084	Wine and brandy	2	2	3	3	3	3	3
2091	Canned and cured fish	5	6	7	4	4	2	3
2075	Soybean oil	0	1	0	1	1	2	2
2066	Chocolate and cocoa products	0	0	0	0	0	3	1
2074	Cottonseed oil	0	0	0	0	0	3	1
2087	Flavoring extracts and syrups	0	1	2	1	1	1	1
2041	Flour and other grain milling products	8	4	5	0	2	0	1

Source: USDA/ERS Processed Foods Trade Data Set.

References

- Agosin, Manuel R., ed. *Foreign Direct Investment in Latin America*. Johns Hopkins University Press, Washington, DC, 1995.
- Agriculture and Agri-food Canada, Market and Services Branch. "Opportunities in Mexico: Pork Products, Market Profile—Mexico." Available on the Internet at: <http://atn-riac.agr.ca/public/htmldocs/e0077.htm>
- Associação Paulista de Avicultura. *Tabelas da Avicultura*. São Paulo, May-June 1997.
- Bolling, Christine, and Constanza Valdes. *The U.S. Presence in Mexico's Agribusiness*. U.S. Dept. Agr., Econ. Res. Serv. FAER-253. Washington, DC, 1994.
- Burfisher, Mary, Sherman Robinson, and Karen Thierfelder. "Agricultural and Food Policies in a United States-Mexico Free Trade Area," *North American Journal of Economics and Finance*. 3(2): 117-39 (1992).
- Burfisher, Mary, Daniel Plunkett, Sherman Robinson, and Karen Thierfelder. "Effects of NAFTA in a Changing Environment." Paper presented at the Tri-National Research Symposium, "NAFTA and Agriculture: Is the Experiment Working?" San Antonio, TX, Nov. 1, 1996.
- Caves, Richard E. *Multinational Enterprise and Economic Analysis*. London: Cambridge University Press, 1982.
- Chantler, Maryanne, and Larry Taylor. "Canada's Top 75 Food and Beverage Processors: Trends in the Industry." *Food in Canada*. Vol. 55, No. 7, Maclean Hunter Publishing Ltd., Ontario, Canada, Sept. 1995.
- Comision Economica para America Latina y el Caribe. "Organizativos y Productivos (1970-1990)." *Bibliotecas Universitarias*. Centro Editor de America Latina, 1990.
- Consejo Tecnico de Inversiones, SA. *The Argentine Economy-1995 (Anuario de la Economia Argentina), Business Trends (Tendencias)*. Issue 34, Buenos Aires, 1996.
- Deaton, A., and J. Muellbauer. *Economics and Consumer Behavior*. Cambridge, UK: Cambridge University Press, 1993.
- Diao, Xinshen, and Agapi Somwaru. "The Effects of Investment in a Dynamic Programming Setting in the Western Hemisphere." U.S. Dept. Agr., Econ. Res. Serv. Unpublished paper, Washington, DC, 1996.
- Dunning, J.H. "Trade, Location of Economic Activity and the MNE: A Search for an Eclectic Approach," *The International Allocation of Economic Activity*. B. Ohlin, P.O. Hesselborn, and P.K. Wijkman, eds. London: Macmillan, 1977.
- Epps, Walter B., and J. Michael Harris. *Processed Food Trade Concordance*. U.S. Dept. Agr., Econ. Res. Serv. AH-707. Washington DC, March 1995.
- FAS Online. "Argentina Food Market Report." Buenos Aires, Aug. 4, 1995. Available on the Internet at: <http://ffas.usda.gov/>
- FAS Online. "Brazil Food Market Report." Brasilia, Aug. 4, 1995. Available on the Internet at: <http://ffas.usda.gov/>
- FAS Online. "Canada Food Market Report." Ottawa, Aug. 16, 1995. Available on the Internet at: <http://ffas.usda.gov/>
- Fundação Getulio Vargas. "Tabela 2, As 100 Maiores Empresas do Agribusiness Classificacao Segundo o Activo Total," *Agroanalysis*. Rio de Janeiro, Oct. 1995, p. 20.
- Fundacion Invertir Argentina. "American Investments in Argentina. The Pacific Northwest and the Global Economy: The Americas." Rio de Janeiro, 1996. Available on the Internet at: <http://www.invertir.com/>
- General Agreement on Tariffs and Trade. *Canada: Trade Policy Review*. Geneva, Switzerland: GATT, 1995.
- Graham, Edward M. *Global Corporations and National Governments*. Institute for International Economics. Washington, DC, May 1996.
- Graham, Edward M., and Paul Krugman. *Foreign Direct Investment in the United States*. 2nd edition, Institute for International Economics. Washington, DC, Jan. 1995, p. 8.
- Grupo Financiero SERFIN. *Anuario Sectorial 1996*. Mexico City, 1995.
- Gutman, Graciela E., and Francisco Gatto, eds. *Agroindustrias en la Argentina: Cambios Organizativos y Productivos (1970-1990)*. CEPAL, Comision Economica para America Latina y el Caribe, Buenos Aires, 1995.

- Handy, Charles R. "U.S. Foreign Direct Investment and Trade in the Food Industry: The Twins." Briefing. U.S. Dept. Agr., Econ. Res. Serv. Sept. 20, 1996.
- Handy, C.R., and D.R. Henderson. "Assessing the Role of Foreign Direct Investment in the Food Manufacturing Industry." *Competitiveness in International Food Markets*. M.E. Bredahl, P.C. Abbott, and M.R. Reed, eds. Boulder, CO: Westview Press, 1994.
- Henderson, Dennis R., Charles R. Handy, and Steven A. Neff, eds. *Globalization of the Processed Foods Market*. U.S. Dept. Agr., Econ. Res. Serv. AER-742, Sept. 1996.
- Henneberry, Shida Rastegari, ed. *Foreign Direct Investment and Processed Food Trade: Proceedings of the Conference of NCR-182. Organization and Performance of World Food Systems*. Oklahoma State University, Stillwater, OK, Mar. 1997.
- Hinojosa-Ojeda, Raul, Curt Dowds, Robert McCleery, Sherman Robinson, David Runsten, Craig Wolff, and Goetz Wolff. "North American Integration Three Years After NAFTA: A Framework for Tracking, Modeling and Internet Accessing the National and Regional Labor Market Impacts. University of California," Los Angeles School of Public Policy and Social Research, North American Integration and Development Center, 1996.
- Instituto Nacional de Estadística Geografía e Informática. *El Sector Alimentario en México, Edición 1995*. Mexico City, 1995.
- Inter-American Development Bank. *Foreign Direct Investment in Latin America*. Centers for Research in Applied Economics. Inter-American Development Bank. Washington, DC, 1995.
- Inter-American Development Bank and Institute for European-Latin American Relations (AERIALLY). *Foreign Direct Investment in Latin America in the 1990's*. Madrid, 1996.
- Krugman, Paul. *Development, Geography, and Economic Theory*. Cambridge: The MIT Press, 1995.
- Malanoski, Margaret, Charles Handy, and Dennis Henderson. "Time Dependent Relationships in U.S. Processed Food Trade and Foreign Direct Investment," *Foreign Direct Investment and Processed Foods Trade*. Department of Agricultural Economics, Oklahoma State University, Stillwater, OK, 1997, pp.1-30.
- Markusen, J.R. "Factor Movements and Commodity Trade as Complements," *Journal of International Economics*. Vol. 16, pp. 205-226, 1984.
- Markusen, J.R. "The Boundaries of Multinational Enterprises and the Theory of International Trade," *Journal of Economic Perspectives*. Vol. 9, No. 2, Spring 1995, pp.169-89.
- Markusen, J.R., and A.J. Venables. "Trade Policy with Increasing Returns with Increasing Returns and Imperfect Competition: Introductory Results from Competing Assumptions," *Journal of International Economics*. Vol. 24, 1988, pp. 299-316.
- McClain, Emily. "Brazil and Argentina—Making Economic Reforms Last," *Agricultural Outlook*. Oct. 1992, pp. 34-38.
- Ministerio de Economía y Obras y Servicios Públicos Secretaria de Agricultura, Pesca y Alimentación, Subsecretaria de Alimentos, La Industria Argentina de Alimentos y Bebidas. *Alimentación: Serie de Difusión, No. 1*. Buenos Aires, May 1996.
- Muller, Geraldo. "Empresas Líderes, Poder Económico e Pequenos Produtores na Cadeia Agroindustrial de Carnes no Brasil", *Informações Econômicas*. SP, Vol. 26, No. 9, São Paulo, Sept. 1996.
- Office of Management and Budget, Executive Office of the President. *Standard Industrial Classification Manual*. 1987.
- Overend, Christopher, John M. Connor, and Victoria Salin. "Foreign Direct Investment and U.S. Exports of Processed Foods: Complements or Substitutes?" *Foreign Direct Investment and Processed Food Trade*. Department of Agricultural Economics, Oklahoma State University, Stillwater, OK, 1997, pp.31-56.
- Pacific Economic Cooperation Council. *Survey of the Impediments to Trade and Investment in the APEC Region*. Singapore, 1995.
- Pelo Domingues, Fernanda. "As Outras Brigam Numero 3," *Exame Meiores e Maiores*. Brazil, Aug. 1996.

- Pick, Daniel, Musisamy Gopinath, and Utpal Vasavada. "The Economics of Foreign Direct Investment and Trade with Implications for the Food Processing Industry." Unpublished paper, U.S. Dept. Agr., Econ. Res. Serv. Washington, DC, 1997.
- Ponce de Leon, Gustavo. "Sem Chorar Sobre o Leite Derramado," *Exame Meiores e Maiores*. Brazil, Aug. 1996.
- Rachman, Daniel. "Wheat and Flour Milling in Brazil." *World Grain*. Kansas City, MO, Aug. 1997.
- Reca, Alejandro, and Phillip C. Abbott. "Foreign Direct Investment and Regional Integration: Mercosur and Argentine Processed Food Trade." Department of Agricultural Economics, Purdue University, Staff Paper #95-3, West Lafayette, IN, Mar. 1, 1995.
- Reed, Michael, and Yulin Ning. "The Locational Determinants of the U.S. Direct Foreign Investment in Food and Kindred Products." Selected paper presented at the 1994 SAEA Annual Meeting, Nashville, TN, Feb. 5, 1994.
- Rugman, Alan M. "Internalization Is Still a General Theory of Foreign Direct Investment," *Weltwirtschaftliches Archiv*. 1985.
- Sheldon, Ian M. "Concluding Remarks," *Foreign Direct Investment and Processed Food Trade: Proceedings of the Conference of NCR-182. Organization and Performance of World Food Systems*. Oklahoma State University, Stillwater, OK, pp.249-257, 1997
- Smith-Barney. "Latin American Dream: The Opportunities and Challenges Facing Multinational Food Companies," *Industry Reports: Food*. New York, July 28, 1995.
- Södersten, B., and G. Reed. *International Economics*. 3rd edition. New York: St. Martin's Press, 1994.
- Statistics Canada. "Manufacturing Industries of Canada: National and Provincial Areas, 1993." *Catalogue 31-203 Annual*. Ottawa, Canada, Dec. 1995.
- Sundue, Brian. "Opportunities in Mexico for Food Exporters," *Visions*. Vol. 5, No. 1, 1994. Available on the Internet at: <http://foodnet.fic.ca/trends/mexico.html>
- United Nations. Undated. *Statistical Papers, Commodity Trade Statistics, According to the Standard International Trade Classification, Series D*. Statistical Office, Department of International Economic and Social Affairs. Undated magnetic tape.
- U.S. Department of Agriculture, Economic Research Service. *Foreign Agricultural Trade of the United States*, various issues.
- _____. *NAFTA: Year Three*. NAFTA Economic Monitoring Task Force, Washington, DC, Oct. 1996.
- _____. "Processed Foods Trade Data Set," based on U.S. Department of Commerce SIC 20 Export and Import Data. Washington, DC, undated.
- U.S. Department of Commerce, Bureau of Economic Analysis. *Survey of Current Business*. Washington, DC, selected issues.
- _____. *U.S. Direct Investment Abroad: Operations of Parent Companies and Their Foreign Affiliates*. Washington, DC, selected issues.
- Valdes, Constanza. "Mexico's PROCAMPO Agricultural Reform Program," *Western Hemisphere Situation and Outlook Report*. WRS-94-2. U.S. Dept. Agr., Econ. Res. Serv. Washington, DC, June 1994, pp. 29-31.
- Vaughn, Odette S. "Implications of Foreign Direct Investment for the Canadian Food and Beverage Manufacturing Industry." Working Paper Series. Industry Competitiveness Group, Policy Branch, Agriculture and Agri-food Canada, Ottawa, Jan. 1995.
- Venables, Anthony J. "Equilibrium Locations of Vertically Linked Industries." Discussion Paper No. 802, Centre for Economic Policy Research, London, May 1993.
- Williamson, Oliver E. "The Modern Corporation: Origins, Evolution, Attributes," *Journal of Economic Literature*. Vol. 19, No. 4, 1981, pp.1537-68.
- World Trade Organization. *Trade Policy Review: Canada*. Geneva, 1996.
- World Bank. *Economic Indicators, STARS PROGRAM*. 1996 update.
- Yarbrough, Beth V., and Robert M. Yarbrough. *The World Economy: Trade and Finance*. The Dryden Press, Chicago, IL, 1988.