

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

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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.

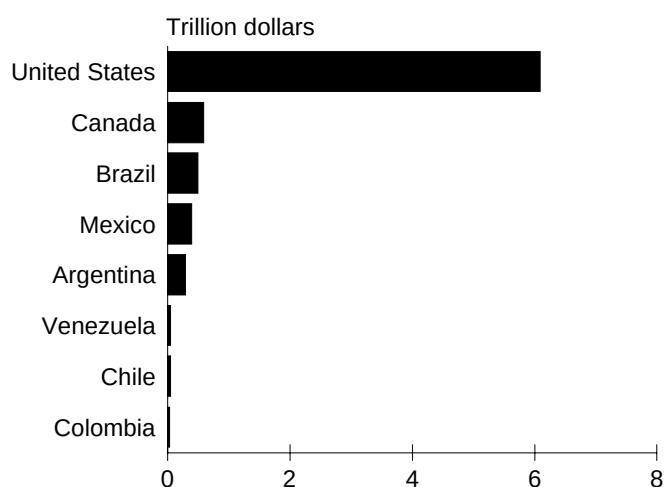
Population

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

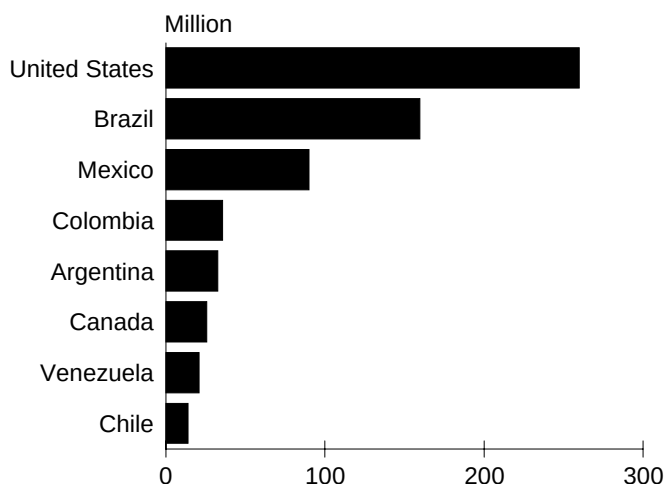
GNP of selected Western Hemisphere countries, 1994



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.

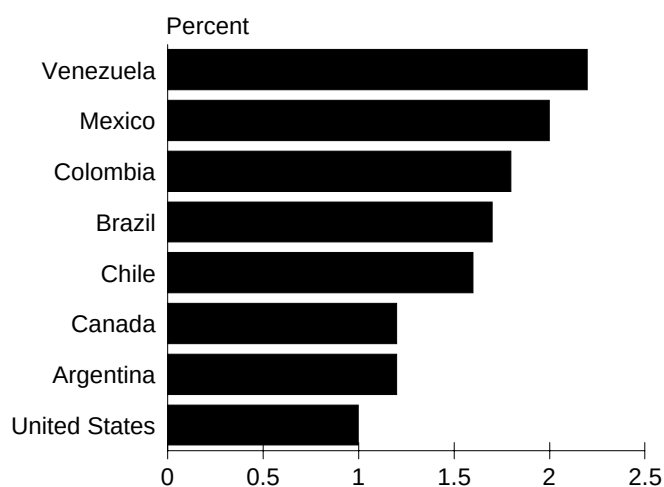
Income

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

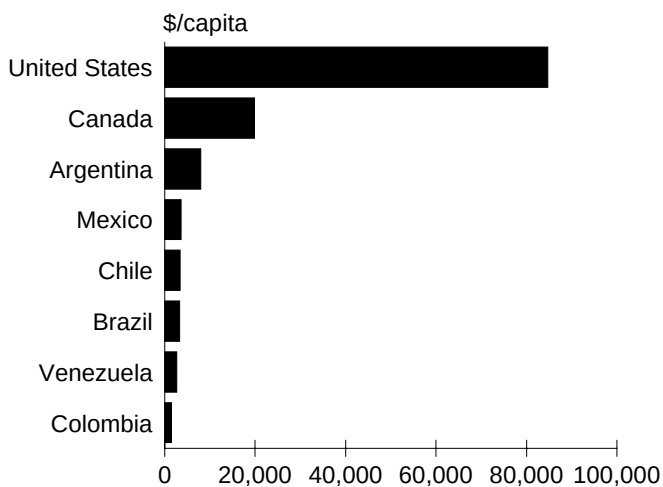
Population growth in selected Western Hemisphere countries, 1994



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.

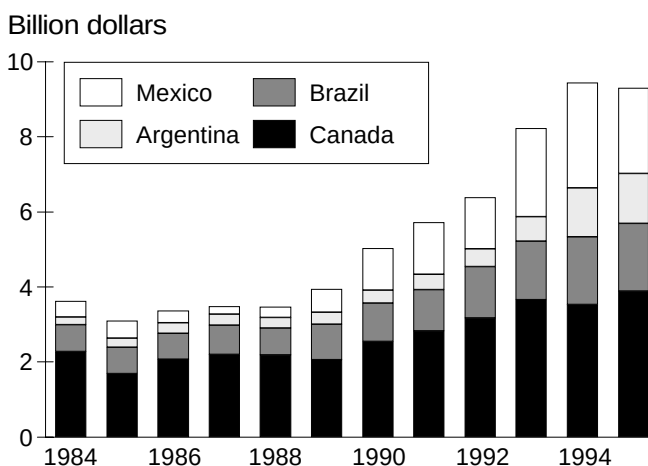
U.S. Foreign Direct Investment in the Western Hemisphere

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

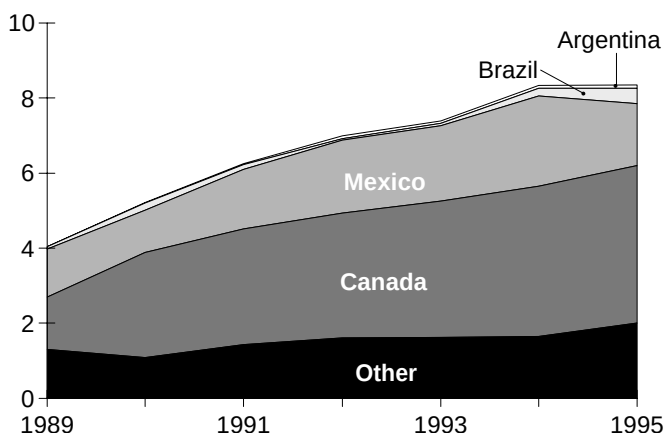
Using the SIC industry codes to describe trade, U.S. processed foods trade in the hemisphere for the most part is dominated by different industries for exports than for

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

Billion dollars



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.

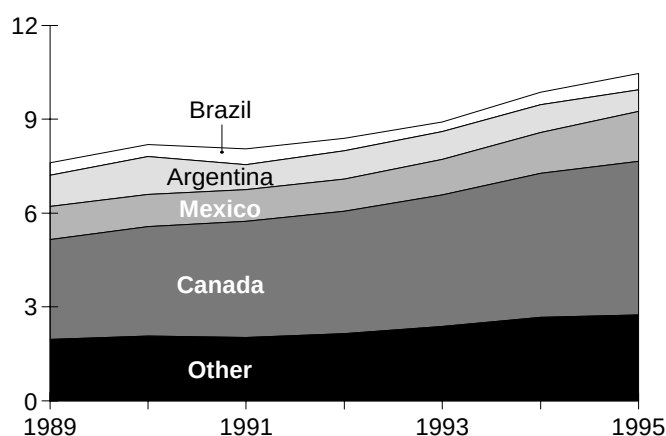
and Fats and Oils (SIC 207). All of these industries had exports of over \$1 billion in 1995. On the import side, the largest group by far is Miscellaneous Foods (SIC

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

Billion dollars



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>								<i>Percent</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.

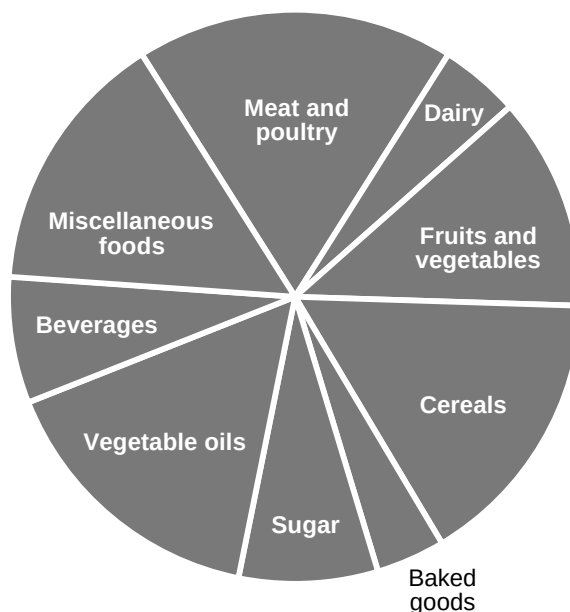
Trade Liberalization

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

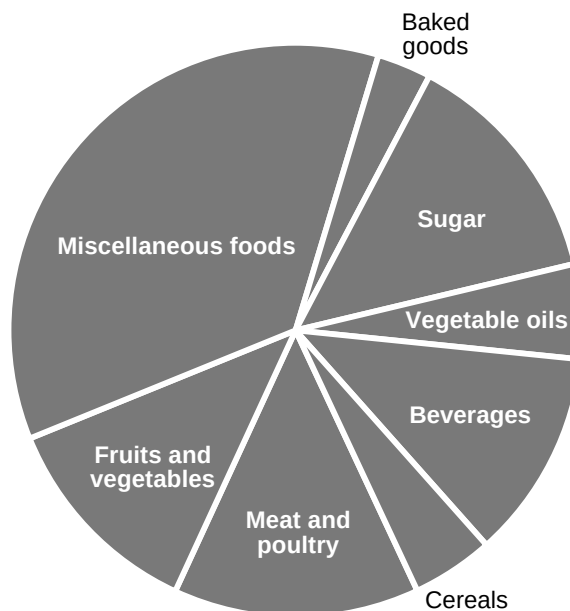
the tariff rate quota enacted in NAFTA, effective tariffs on dairy and poultry products amount to 200-400 percent. Wines also carry heavy tariffs and taxes.

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.

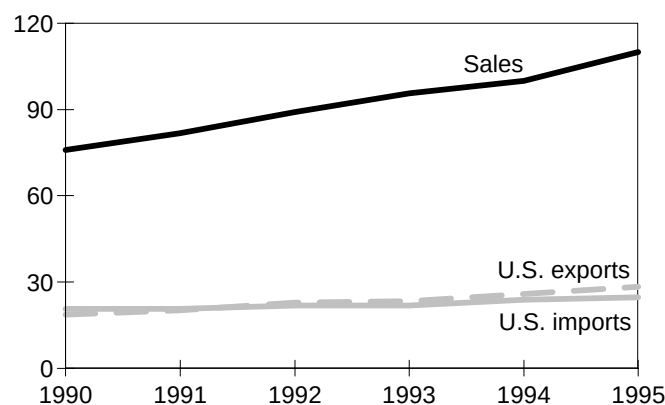
U.S. exports to Argentina include processed fruits, vegetables, and beverages. Sales from U.S. affiliates are mostly processed beef products, oilseed products, soft drinks, grain products, animal feeds and pet foods, ice cream and cream cheese, and cookies and crackers. Affiliates of other countries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

Billion dollars

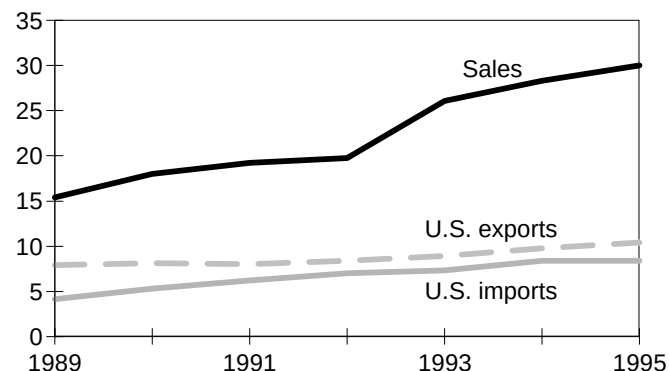


Source: USDA, Economic Research Service, Processed Foods Trade Data Set, and U.S. Department of Commerce, Bureau of Economic Analysis data.

Figure 10

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

Billion dollars



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
							<i>Ratio</i>	<i>Billion dollars</i>
Canada	Yes	Yes	High	Yes	Deprec.	Exporter	2.99	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.