Foreign Direct Investment in the U.S. Food Industry

by

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It wasn't very many years ago that the U.S. economy was so large relative to the rest of the world that few American economists worried about the international sector and its relation to the U.S. economy. That has changed dramatically in the past two decades. Total U.S. trade has increased from only $83 billion in 1970 to $866 billion in 1990, averaging a 52 percent increase each year. This change has radical implications for U.S. firms and government policies. The United States can no longer disregard economic occurrences in the rest of the world.

The international capital market has also become much more important in the last twenty years. Countries no longer have to rely on their own economies to generate the savings necessary to fund investment and borrowing. Other countries are many times willing to loan money or invest directly in other economies if their savings rate is higher than their investment rate. Much of these international capital flows are for portfolio investment (purchasing debt obligations of another country's firms or government). However, direct investment between countries is becoming more important as national economies continue to globalize.

This globalization process in the United States has caught the eye of the media and some politicians, who wonder if inflows of foreign capital (especially, capital used for direct investment) are "good" for America. Recent Japanese purchases of Columbia Pictures and the Rockefeller Center have brought a negative U.S. response in some circles. Little is understood about the extent of foreign direct investment (FDI) in the United States and its costs and benefits. Most people simply see it as a consequence of the United States' globalization process, but they wonder if increased FDI by foreigners is an indication that the United States is losing its competitiveness.

This paper deals with FDI in one part of the agricultural industry -- the food manufacturing sector.[1] The paper begins by outlining the relative importance of the food manufacturing sector to the U.S. economy and to various regions of the United States. Foreign direct investment in the U.S. food sector is analyzed relative to other manufacturing sectors and the relative position is also analyzed over time by major manufacturing sector. The countries involved in these U.S. plants are analyzed by manufacturing sector, as

are the trade patterns of these U.S. affiliates of foreign companies.[2]

Table 1

Industries Included in this Analysis:

Food and kindred products
Textile mill products/Apparel and other textile products
Lumber and wood products
Paper and allied products
Printing and publishing
Chemicals and allied products
Petroleum and coal products
Rubber and miscellaneous plastic products
Stone, clay,and glass products
Primary metal industries/Fabricated metal products
Industrial machinery and equipment
Electronic and other electric equipment
Transportation equipment
Instruments and related products

For the purpose of this study, manufacturing is divided into fourteen industries--all are at the two-digit standard industrial classification (SIC) level (Table 1). The Bureau of Economic Analysis (BEA) classifies twenty different two-digit SIC industries, but the data on foreign direct investment in the United States is combined for some industries (textiles and apparel, SIC 22 and 23, are combined; lumber and furniture, SIC 24 and 25, are combined; and primary metals and fabricated metals, SIC 33 and 34, are combined). Leather goods and tobacco products are included in the "other" category for U.S. direct investment data, and this category was excluded from the analysis.

Importance of U.S. Food Manufacturing

The food manufacturing industry is extremely important for the United States. In 1987, it accounted for $330 billion in sales (or 13.3% of the $2.476 trillion manufacturing segment of the U.S. economy), $18 billion in exports and 1.45 million jobs (Bureau of Census).[3] Obviously, small changes in this huge industry can have significant ramifications on the entire U.S. economy. In 1987, the food manufacturing industry was the second largest in terms of sales (only $3 billion behind transportation equipment) and its 1.45 million jobs ranked seventh largest in terms of employment (Table 2).

Employment in the food manufacturing sector is spread throughout the United States (Table 3). It is most important in the Mountains and Plains (accounting for over 15% of manufacturing employment in each of those regions) and least important in the Southeast (accounting for only 4.1% of manufacturing employment). The Southeast has a relatively high concentration of employment in chemical and other manufacturing.

Table 2

Size of the Industries Analyzed, 1987

Industry	Sales billion $	Employment 1,000 jobs
Food	330	1,449
Textiles	127	1,753
Lumber	108	1,209
Paper	109	611
Printing	136	1,494
Chemicals	230	814
Petroleum	130	126
Rubber/Plastic	87	831
Stone/Glass	61	524
Metals	267	2,159
Machinery	218	1,844
Electronics	171	1,565
Transport Equipment	333	1,817
Instruments	107	982

Source: Bureau of Census

Table 3. Manufacturing Employment by Region for Selected Industries, in thousands, 1988

Region	Food	Chemicals	Metals	Machinery	Other	Total
Northeast	9.9	16.3	10.5	29.0	43.2	108.9
Mideast	39.4	82.5	31.7	81.9	101.0	368.6
Great Lakes	42.8	47.4	62.0	82.8	126.7	361.9
Plains	15.7	15.1	10.4	24.2	30.0	95.3
Southeast	18.9	111.1	49.6	74.1	176.0	458.9
Southwest	11.1	33.4	12.5	31.6	44.4	132.9
Mountains	5.3	5.1	2.9	5.2	5.6	25.7
Far West	23.7	33.3	14.7	53.7	72.4	197.6

Source: Bureau of Economic Analysis.

Table 4. Measures of FDI in the U.S. for 14 Industries, 1987

Industry	No. of Affiliates	Total Assets *Billion $*	Sales *Billion $*	Employees *Thousands*	Exports *Million $*	Imports *Million $*
Food	161	24.05	22.86	142.6	518	1,641
Textile/Apparel	81	3.53	3.30	40.4	90	280
Lumber/Wood	44	1.72	1.80	13.9	197	228
Paper	45	6.48	6.70	46.1	410	385
Printing	77	9.78	8.30	77.2	117	117
Chemicals	190	77.35	72.11	395.8	6,849	5,200
Petroleum	255	79.67	71.99	114.9	1,186	8,971
Rubber & Plastics	102	5.96	6.59	47.6	285	976
Stone, Clay, Glass	107	16.48	13.38	103.2	185	633
Primary/Fabricated Metal	227	23.17	26.66	159.3	1,507	3,680
Industrial Machinery	294	13.06	13.77	109.3	1,391	2,876
Electric	181	20.37	26.58	216.8	2,048	4,758
Transportation	76	7.69	8.38	55.7	620	2,303
Instruments	98	6.84	6.78	64.6	680	821
Total	1,739	223.46	225.08	1,542.6	15,487	24,546

Source: Bureau of Economic Analysis.

Analysis of the FDI position In U.S. Food Manufacturing

There is less foreign involvement in the U.S. food manufacturing sector (relative to its size) than many other manufacturing sectors, though the absolute numbers are still huge. Just under 7 percent of those food manufacturing sales, or $22.9 billion, were by subsidiaries of firms with foreign parents (Table 4).[4] These foreign subsidiaries operating in the United States had assets of $24.1 billion and employed 142,600 people. Table 4 includes data on measures of FDI in the United States for all fourteen industries. The chemical industry has the largest presence of foreign affiliates by many measures (sales, employees and exports). Foreign chemical firms accounted for 31.4 percent of U.S. shipments. The petroleum industry is also quite large, with almost $80 billion in assets and $72 billion in sales.

Foreign affiliates operating in the United States account for the highest proportion of U.S. shipments in petroleum (55.2%), chemicals (31.4%), stone/clay/glass (21.8%) and electrical/ electronic equipment (15.5%). All other industries have foreign companies accounting for less than 10 percent of U.S. shipments. The share of foreign affiliate sales for the food manufacturing industry place it seventh among the 14 industries.

Obviously, FDI is important to the United States because it generates over 1.5 million jobs and increases the availability of products to U.S. consumers. Many of these jobs might not exist without investments by foreign firms. It is clear that most foreign firms tend to import more than they export, but nonetheless, if FDI substitutes for exports by the parent firms, the United States certainly imports less and exports more because of these foreign investments.

The food manufacturing industry has one of the higher import/export ratio (3.17), indicating that foreign-owned food firms in the United States rely more on imports than they do on exports. Industries with low import/export ratios are paper and chemicals (where foreign-owned firms actually export more than they import), while the petroleum industry has the highest import/export ratios (7.56). The import/export ratio for all manufacturing is 1.58.

Foreign firms are slightly more productive than U.S.-owned firms when measured as sales per worker (Tables 2 and 4). Foreign firms had a higher sales per worker ratio in eight of the fourteen industries. In food manufacturing, however, all United States firms (both U.S. and foreign-owned) had $228,000 in sales per worker, while the foreign-owned firms had $160,000 in sales per worker.

Table 5 presents FDI data by subsector of food manufacturing. Foreign direct investment is most prevalent in beverages, dairy and the "other" subsector (when measured by assets and sales). The "other" category alone accounts for 45 percent of sales and 43 percent of employment. Since 1977, dairy and "other" manufacturing have seen the highest growth rate, while the grain milling and baking subsectors have seen the slowest increase (BEA). The meat subsector has the highest concentration of exports per dollar of U.S. sales and foreign-owned firms in that subsector actually export more than they import. This contrasts sharply with the beverage subsector, where imports are over 14 times exports.

Most FDI in the United States emanates from the more developed regions of Canada, Western Europe, and Japan. Table 6 shows sales of U.S. affiliates by country of the foreign owner. European-owned firms accounted for 65 percent of all manufacturing sales for U.S. affiliates in 1987, Canadian-owned firms accounted for 19 percent, and Asian-owned firms (mostly Australian and Japanese firms) accounted for 11 percent.

Foreign ownership patterns vary significantly between industry, but in all industries, countries outside these three regions account for little U.S. affiliate sales (the lone exception is the petroleum industry where Latin American firms accounted for 18 percent of foreign-owned sales in the United States for 1987). Canadian-owned firms were prominent in printing (accounting for 48% of sales from foreign-owned firms in 1987) and primary/fabricating metal manufacturing (22% of foreign-owned sales in 1987). Asian-owned

Table 5. FDI Measures for Food and Kindred Products by Subsector, 1987

Sub-Industry	No. of Affiliates	Total Assets *Billion $*	Sales *Billion $*	Employees *Thousands*	Exports *Million $*	Imports *Million $*
Meats	14	0.24	1.18	4.8	54	39
Dairy	10	1.57	2.94	17.9	33	120
Fruit & Veg.	7	0.36	0.43	4.1	3	8
Grain Milling	9	0.18	0.06	0.2	5	28
Bakery	10	1.21	2.08	20.9	8	48
Beverages	36	12.42	5.79	33.4	53	763
Other	53	8.05	10.38	61.3	362	637
Total Food & Kindred	139	24.05	22.86	142.6	518	1641

Source: Bureau of Economic Analysis

Table 6. Sales of U.S. Affiliates by Country of Ownership, 1987.

Industry	Total *Billion $*	Canada *Billion $*	Europe *Billion $*	Asia *Billion $*
Total Food & Kindred	22.86	3.17	17.97	1.41
Textiles	3.30	0.54	2.03	0.58
Lumber	1.80	0.32	1.01	0.47
Paper	6.70	1.24	4.65	0.60
Printing	8.30	3.94	3.76	<.39
Chemicals	72.11	D	D	2.27
Petroleum	71.99	1.32	52.51	2.21
Rubber & Plastic	6.59	D	3.05	D
Stone, Clay, Glass	13.38	0.34	11.07	1.56
Primary/Fabricated Metal	26.66	5.95	9.37	6.07
Industrial Machinery	13.77	<1.19	9.41	2.76
Electric	26.58	<3.29	19.90	3.27
Transportation	8.38	<.63	5.74	2.01
Instruments	6.78	0.07	4.79	0.46
Total Manufacturers	225.08	43.71	146.88	23.76

D -- not disclosed to preserve confidentiality

Source: Bureau of Economic Analysis

firms (particularly Japanese firms) were prominent in lumber (26% of foreign-owned sales in 1987), primary/fabricated metals (23% of foreign-owned sales in 1987), transportation equipment (24% of foreign-owned sales in 1987) and industrial machinery (20% of foreign-owned sales in 1987). European firms accounted for at least 35 percent of foreign-owned sales in every industry, but were particularly strong in stone, clay and glass (83%) and food (79%).

Growth in FDI since 1977

Foreign direct investment in the United States is not a new phenomena, but it has increased tremendously in the 1980s as part of the U.S. globalization process. Table 7 shows how various measures of FDI in the food manufacturing sector have grown since 1977. Sales by foreign-owned food firms in the United States totalled only $6.98 billion in 1977, but there as been a steady growth since that time. The most rapid growth for the food sector has been in assets and sales, 593 percent and 331 percent, respectively. Growth in the other indicators has been between 100 and 200 percent over the years shown.

Table 8 shows growth rates for those indicators by major manufacturing industry and for all manufacturing industries. All manufacturing industries experienced tremendous growth over these years. The fastest growth was in the value of assets (574%), but growth in exports (489%) and imports (422%) were also quite strong. Growth in the number of affiliates and their employment were much lower than the other categories.

The fastest-growing industry shown is transportation equipment, which was very small in 1977 and is still only the eighth largest industry in terms of affiliates sales. The increase in Japanese automobile productive capacity is well-documented. However, this is the category that the Japanese have the largest presence, and they accounted for only 26 percent of the foreign assets in this category. Overall, the Japanese accounted for only 7.6 percent of the foreign assets in manufacturing, behind the United Kingdom's 22.7 percent, Germany's 12.9 percent, and Switzerland's 8.4 percent. For most industries, asset growth has exceeded other measures, though export growth is very high for some industries too. This is partially due to the fact that investment in most sectors has been large in recent years and asset prices have increased. Thus, there has been little depreciation in the purchase price of these assets.

The food manufacturing industry has seen a slightly larger growth in assets than all manufacturing, but other FDI measures have experienced slower growth than all manufacturing. Import and export growth have been particularly slow in food relative to all manufacturing. This indicates that much of the recent FDI activity for food products has been to reach the U.S. market. Only 2.2 percent of the sales from these foreign-owned food firms are exported and imports account for only 7.2 percent of sales (Table 7). The export percentage is lower for food than for all industries except petroleum, printing and stone, clay and glass. Most foreign-owned firms in other industries export more than 6 percent of their output. However, it is obvious that in all industries, the FDI is basically used as a means to access the huge U.S. market and is thus a potential substitute for U.S. imports.

There has been a general upward trend in the import/export ratio for food over time too, though 1988 was a year of unusually large exports (Table 7). In the late 1970s and early 1980s the import/export ratio was between 1.5 and 2.3, whereas for 1984 through 1987, the ratio was always greater than 3.0. The dynamics of importation and exportation depend upon how long a plant has been in existence and whether the acquisition was through a buyout of existing facilities or construction of a new facility. One would think that as a firm establishes itself, its exports would increase relative to imports, but this is not consistent with the time series on food imports and exports. It could be that the recent wave of new investment keeps putting upward pressure on imports, and exports have yet to catch up.

Table 7. FDI Measures for Food and Kindred Products, 1977 to 1988

	No. of Affiliates	Total Assets *Billion $*	Sales *Billion $*	Employees *Thousands*	Exports *Million $*	Imports *Million $*
1988	161	30.32	30.05	169.3	978	1,592
1987	139	24.05	22.86	142.6	518	1,641
1986	141	21.02	21.67	160.2	504	1,580
1985	133	18.66	19.45	150.7	376	1,449
1984	135	14.91	18.32	146.3	463	1,727
1983	135	13.53	16.61	139.0	545	1,526
1982	128	12.46	14.85	126.4	597	1,435
1981						
1980	117	8.20	11.96	120.4	617	952
1979	101	6.42	10.18	111.1	690	1,037
1978	88	5.13	8.14	84.0	433	882
1977	77	4.37	6.98	72.1	327	751

Source: Bureau of Economic Analysis

Table 8. Percentage Change in FDI Measures for Various Industries, 1977-88

Industry	No. of Affiliates	Total Assets	Sales	Employees	Exports	Imports
Food	109%	593%	331%	135%	199%	112%
Chemicals	67%	422%	366%	93%	760%	525%
Petroleum	90%	232%	180%	49%	105%	20%
Primary/Fabricated Metal	91%	474%	425%	134%	510%	383%
Industrial Machinery	123%	447%	425%	134%	510%	383%
Electric	216%	576%	460%	155%	566%	428%
Transportation	438%	1539%	3715%	1844%	3000%	2334%
Total Manufacturing	121%	574%	432%	157%	489%	422%

Source: Calculated from Bureau of Economic Analysis

Actions of Foreign-owned Food Manufacturing Firms

Data on international trade by foreign-owned food firms is fraught with disclosure problems. The BEA will not release data that might disclose operations of individual firms. Thus, foreign-owned firm exports by country of destination can only be broken into Europe and Japan, though imports include data from Canada.

Canadian-owned firms appear to be more dependent on their parents for products than European-owned firms (Table 9). Canadian-owned firms account for only 14 percent of foreign-owned food sales, but they account for 30 percent of the imports by foreign-owned food firms. Much of this is probably due to proximity and lower transportation costs between the parent and affiliate. Canadian-owned firm exports cannot be determined (due to disclosure), but they do not account for more than 20 percent of food exports by foreign-owned firms (Table 9).

Foreign-owned food firms export a higher proportion of their products to Japan than would be expected. Japanese-owned food firms accounted for virtually no sales in the United States for 1987, but Japan is the destination for 31 percent of the exports from foreign-owned food firms. It is possible that a complex combination of factors has encouraged foreign firms to invest in the United States to access the Japanese food market. Access to lower-priced ingredients and labor (relative to Japan) and lower transportation costs (relative to Europe) could be factors in these decisions. However, sales to Japan still account for only less than 1 percent of sales for these foreign-owned firms.

Europe accounts for 46 percent of the exports from foreign-owned U.S. food firms and 57 percent of the imports for these food firms. Both of these percentages are less than the 79 percent of foreign-owned U.S. sales accounted for by Europeans. The European-owned firms are concentrating more on sales to U.S. consumers and companies than other foreign-owned firms.

Many observers speculate that multinational firms account for a large percentage of trade between nations. Table 10 confirms that most imports by foreign-owned food firms originate with the parent (55%) or a foreign affiliate in another country (6%). This trade relationship, however, is not as strong as other manufacturing industries (where trade between the U.S. affiliate and the parent accounts for 72% of exports). Most food exports of foreign-owned firms go to companies unaffiliated with the foreign parent, though 39 percent are exports to the foreign parent. Other manufacturing industries tend to have more exports (in percentage terms) to affiliates in other countries. Thus, the foreign-owned U.S. firm is shipping to a third country. Such shipments account for a very small percentage of food trade.

Endnotes

[1]For this paper, the food manufacturing industry is Standard Industry Class 20, which is food and kindred products. It does not include tobacco products, textiles or wood products.

[2]The firm located in the home country is called the parent. Subsidiaries of this parent firm which are located in other countries (including the United States) are called affiliates.

[3]The base year for this study is 1987 for most information because it is the last year when foreign investment data and U.S. manufacturing data are available.

[4]These sales by affiliates of foreign parents are considered U.S. sales and shipments in all Department of Commerce data. These foreign affiliate sales are quite different from imports from foreign countries. The latter are carefully identified when discussed in this paper.

References

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Table 9. International Trade of Foreign-owned Firms by Country of Destination, in Million Dollars, 1987

Manufacturing Sector	Canada	Europe	Japan	Total
Exports				
Food and Kindred	D	240	158	518
All Manufacturing	4,042	8,929	1,126	15,487
Imports				
Food and Kindred	497	942	32	1,641
All Manufacturing	4,274	14,358	4,195	24,546

D -- not disclosed to preserve confidentiality

Source: Bureau of Economic Analysis

Table 10.

International Trade of Foreign-owned Firms by Affiliation of Destination Firm, in Million Dollars, 1987

Manufacturing Sector	Total Exports	Exports to Parent	Exports of Other Affiliates	Exports to Unaffiliated Firms
Exports				
Food and Kindred	518	200	15	303
All Manufacturing	15,487	4,491	2,683	8,313
Imports				
Food and Kindred	1,641	907	102	633
All Manufacturing	24,546	17,570	1,158	5,819