Foreign Direct Investment and the Great Lakes Region, 1987–91

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Introduction

Foreign direct investment (FDI) in the U.S. occurs in almost all manufacturing and service industries. FDI is defined as a 10% or greater share of ownership in a U.S. firm by a foreign entity. A U.S. firm with foreign investment is called a (U.S.) foreign affiliate. In recent years, FDI in the U.S., as well as U.S. investment abroad, has played a major role in making the U.S. more competitive on a global basis.

In addition, the presence of FDI in a region has implications for state/local policymakers. For example, will foreign ownership change the relationship between the firm and state/local government? Will the new owners add value or jobs to the area? Questions like these make the study of FDI, particularly at the regional level, beneficial. While this study does not directly answer those questions, it does provide regional policymakers a framework for better understanding the composition of FDI in the Great Lakes region.

This study looks at FDI in the Great Lakes region over the 1987–91 period using a (somewhat) new data series that better allocates FDI by region and industry. The downside to using this series is that currently data are available only for the 1987–91 period. This new data series is available through a joint effort of the Bureau of the Census and the Bureau of Labor, and is known as the BEA-Census LINK data series. This series collects information at the establishment (plant) level as opposed to the more comprehensive Bureau of Economic Analysis (BEA) series that collects data at the enterprise (company) level. The major advantage to using the LINK data is that they more accurately allocate FDI by industries and states, which is why this data series was specifically chosen for this study of the Great Lakes region.[1] (See Appendix A for a comparison of the two data series for 1987 and 1991.)

Another data series used in this study to supplement the LINK data's regional and industrial analysis was the annual new foreign investment transactions series collected by the Department of Commerce's International Trade Administration (ITA). This series uses publicly available data (i.e., news releases, annual reports, etc.) as its data source and is therefore not a complete source of new transaction data. Its purpose is to provide useful information on where new foreign investment is taking place both at the industry and state level, but is *not* intended to explain the year-to-year variances in FDI. Therefore, while this study does use the new transactions data for the 1987–91 period (same as the LINK data's time period), it is used solely to supplement the LINK data in an informative way. Occasionally, 1992–94 new transactions data were used to provide additional information on industry/state trends.

The first section of this study provides an overall look at employment trends in the U.S. manufacturing sector, both firms with foreign investment and all U.S. businesses (of which U.S. foreign affiliates are a subset). The major locational factors firms use to determine where to invest are also presented. The second section examines the major industries of the Great Lakes region with foreign affiliate employment, discusses where in the region FDI is occurring, and attempts to apply some locational factors to each industry. New transactions data provide additional detail on the types and number of firms investing in the region. The last section summarizes FDI in the Great Lakes region.

Employment trends—U.S. foreign affiliates versus all U.S. businesses

U.S. foreign affiliate employment growth over the 1987–91 period outpaced the employment growth of all U.S. businesses in every manufacturing industry except two—paper and allied products, and leather and leather products.[2] Overall, U.S. foreign affiliate manufacturing employment increased 53% compared to a 5% decline in overall U.S. business employment (see figure 1). At the regional level, this trend is even more apparent (see figure 2).

Figure 1 1991 U.S. Manufacturing Employment and 1987–91 Growth

	(——— thousands of employees ———)			
	Foreign affiliates:		All U.S. businesses:	
Industry		Growth (%)		Growth (%)
Total Manufacturing	2,004.6	52.9	18,061.7	(4.7)
Food and kindred products	156.7	42.3	1,467.2	2.9
Tobacco products	2.5	0.0	15.7	(17.8)
Textile mill products	46.3	58.0	391.9	(16.0)
Apparel & other finished products	22.7	140.8	837.9	11.4
Lumber and wood	16.6	19.8	585.0	9.3
Furniture and fixtures	10.0	(35.1)	421.8	14.7
Paper & allied products	49.5	14.5	587.9	3.0
Printing and publishing	100.6	94.3	1,465.6	2.8
Chemicals	232.6	35.4	842.1	4.5
Petroleum refining	25.5	40.1	90.2	0.3
Rubber & misc. plastics	118.3	84.3	822.0	3.6
Leather & leather products	5.8	(41.5)	40.5	(29.1)
Stone, clay, glass, concrete	95.9	48.6	452.8	(5.8)
Primary metals	120.7	54.5	651.8	(1.0)
Fabricated metals	101.8	65.6	1,350.5	(4.1)
Industrial machinery	192.7	66.1	1,766.5	(2.2)
Electrical machinery	235.5	38.2	1,423.8	(7.9)
Transportation equipment	106.9	91.6	1,488.1	(5.6)
Measuring instrs., photo goods, watches	112.7	54.7	877.7	(5.0)
Misc. mfg. industries	26.1	25.0	299.6	(4.0)

Source: Foreign Direct Investment in the United States: Establishment Data for Manufacturing. Census Bureau and Bureau of Economic Analysis, CD-ROMs.

Figure 2 1991 Manufacturing Employment and Growth by Region, 1987–91

Region	(——— thousands of employees ———) Foreign affiliates:	Growth (%)	All U.S. businesses:	Growth (%)
Southeast	566.9	50.9	4,420.6	(0.9)
Great Lakes	439.4	75.7	4,006.8	(4.3)
Mideast	365.0	32.1	2,883.2	(13.2)
Far West	242.2	54.5	2,583.3	(3.4)
Southwest	137.5	51.8	1,305.5	1.7
Plains	116.1	101.0	1,344.9	1.7
New England	112.5	31.5	1,149.3	(14.9)
Rocky Mountain	24.6	53.7	368.1	4.2
Total U.S.	2,004.6	52.9	18,061.7	(4.7)

Source: Foreign Direct Investment in the United States: Establishment Data for Manufacturing. Census Bureau and Bureau of Economic Analysis, CD-ROMs.

Since most foreign investment is in the form of a merger or acquisition, an increase in U.S. foreign affiliate employment does not necessarily imply that foreign investment growth occurs at the expense of or outside of all U.S. businesses, because U.S. foreign affiliate employment is a subset of total U.S. employment. What can be said is that even though overall manufacturing employment has declined in the U.S., foreign direct investment in U.S. manufacturing industries is still strong, with some industries and regions attracting more than others.

Based on 1991 establishment employment data, over two-thirds of manufacturing employment by U.S. foreign affiliates is concentrated in 3 regions in the U.S.—the Southeast, the Great Lakes, and the Mideast (see figure 3). The Southeast region had the largest share of total U.S. foreign affiliate employment in 1991 with a 28% share. The Great Lakes region had the next largest share with 22%, and the Mideast ranked third with an 18% share.

Why has FDI in the U.S. grown so rapidly? One reason is simply that over the period studied (1987–91), foreign investment in the U.S. was attractive because the U.S. was a good place in which to invest. The U.S. economy was strong, the dollar was weak relative to most other major currencies, and the U.S. market for goods and services was (and is) a large and growing market. But where to invest and in what industries is also a consideration for investors. In general, the literature on the location of FDI offers the following factors:

- Market entry or expansion
- Upstream/downstream industries
- Access to raw materials
- Safeness of mature, low–growth industries (less risk)
- Tendency of firms to"follow the leader" to minimize risk and maintain a level of momentum in the industry[3]
- Traditional factors such as agglomeration economies, urban density, and availability of skilled labor and technology[4]

Figure 3 Regional Shares of FDI Employment, 1991

	Share (%)
Southeast	28.3
Great Lakes	21.9
Mideast	18.2
Far West	12.1
Southwest	6.9
Plains	5.8
New England	5.6
Rocky Mountain	1.2

Source: Foreign Direct Investment in the United States: Establishment Data for Manufacturing. Census Bureau and Bureau of Economic Analysis, CD-ROM.

- Government regulations
- Incentives offered

Another factor is location in relation to the investor's home country. For example, the West Coast is more conveniently located for Asian investors versus the East Coast.

The Great Lakes region

In 1991, 15 of the 20 manufacturing industries in the Great Lakes region had a 15 percent or greater share of total U.S. foreign affiliate employment. Only the Southeast region had a heavier concentration of industries with FDI. Several industries in the Great Lakes region, such as primary metals and transportation equipment, had very large shares (46% and 33%, respectively) of total U.S. affiliate employment. Primary metals is the region's top U.S. foreign affiliate employer in absolute numbers followed by industrial machinery and electrical machinery (see figure 4).

Indiana and Ohio had the largest U.S. foreign affiliate employment in the primary metals industry in 1991 in the region (see figure 5)—two states that have traditionally been large steel producers. These two states also had the largest number of new primary metals investment transactions in the region over the 1987–91 period. In total, the region received 35 new FDI transactions over the period, about one-fourth of all new transactions in the industry. New investment in this industry can be attributed to several locational factors: access to raw materials, an established industrial structure, traditional factors such as agglomeration economies, urban density, and the availability of skilled labor and technology.

Industrial machinery was the region's second largest foreign affiliate employer in 1991, accounting for about 25% of all U.S. affiliate employment. Overall, the region accounts for 31% of all U.S. business employment in the region. This industry represents the largest foreign affiliate employer for both Michigan and Wisconsin, but Illinois had the largest number of affiliate employment in the region. The region received 83 new industrial machinery transactions, or 21% of all industry transactions over the period.

Figure 4 Great Lakes Establishment Employment Data, 1987 and 1991

SIC	Industry	1987	1991	% Growth
Total Manufacturing		250,136	439,408	75.7
20	Food and kindred products	24,622	36,170	46.9
22	Textile mill products	500	750	50.0
23	Apparel & other finished products	350	2,775	692.9
24	Lumber & wood products, except furn.	1,600	3,103	93.9
25	Furniture and fixtures	1,100	3,350	204.5
26	Paper and allied products	9,067	11,474	26.5
27	Printing and publishing	9,274	20,195	117.8
28	Chemicals and allied products	18,684	33,030	76.8
29	Petroleum refining and related inds.	2,628	5,184	97.3
30	Rubber and misc. plastic products	12,066	30,204	150.3
31	Leather and leather products	500	40	-92.0
32	Stone, clay, glass, concrete products	8,445	13,755	62.9
33	Primary metals	29,101	52,387	80.0
34	Fabricated metals	18,432	27,706	50.3
35	Industrial machinery	24,186	47,650	97.0
36	Electrical machinery	25,888	41,304	59.5
37	Transportation equipment	13,758	30,035	118.3
38	Measuring instrs., photo goods, watches	12,438	18,915	52.1
39	Misc. mfg. industries	2,781	3,533	27.0

Source: Foreign Direct Investment in the United States: Establishment Data for Manufacturing. Census Bureau and Bureau of Economic Analysis, CD-ROMs.

Figure 5 The Great Lakes Region at a Glance

State	1991 foreign affiliate employment	Percentage growth 1987–91	Largest industry[1]
IL	114,639	83.5	Food and food products
IN	80,589	98.0	Primary metals
MI	75,073	41.1	Industrial machinery
OH	122,915	89.3	Primary metals/Transportation equipment *
WI	46,192	60.2	Industrial machinery

[1] Largest industry with U.S. foreign affiliate employment.
* Employment range only provided by BEA.

Source: Foreign Direct Investment in the United States: Establishment Data for Manufacturing. Census Bureau and Bureau of Economic Analysis, CD-ROMs.

Electrical machinery was the region's third largest foreign affiliate employer in 1991. Indiana leads the region in foreign affiliate employment in this industry, while Illinois had the most number of new electrical machinery FDI transactions (in the region) over the 1987–91 period. In total, the region received 55 new electrical machinery transactions, or 15% of all industry transactions. Many of these transactions were made by Japanese investors in the subindustry that makes industrial electrical apparatus such as motors and generators (however, this industry *does not* include auto engines).

Both industrial machinery and electrical machinery are supplier industries to the region's auto manufacturing industries, which include both domestic and foreign producers. Thus, the large presence of both industries in the region is consistent with FDI locational theory. For example, many of the region's new transactions in the industrial machinery industry were by Japanese investors in the metalworking machinery subindustry, which produces, among other things, machine tools used in auto production.

While transportation equipment is not one of the largest industries in the region or the nation with U.S. foreign affiliate employment, it is one of the faster growing industries in the region in terms of foreign affiliate employment (up 118% over the 1987–91 period). Because of the region's longstanding ties to the transportation industry, it is not surprising that the region received more new transportation equipment transactions than any other region (76 transactions) over the 1987–91 period, accounting for 45% of all new industry transactions. The region received another 25 new transactions in this industry over the 1992–94 period. Most of the transactions in this industry were by Japanese investors and were plant expansions at existing auto production facilities as well as plant expansions and new plants for auto parts production.

Food and food products were the region's fourth largest foreign affiliate employer in 1991, but the Great Lakes is the largest region in the nation with foreign affiliate employment in this industry. Food and food products are the largest industry with affiliate employment in Illinois and the second largest in Wisconsin. However, the region received only 20 new foreign transactions in this industry (or 11% of the total) over the 1987–91 period compared to the Far West, which had 75 new transactions. Over the 1992–94 period, the region received only another 3 new transactions out of a total of 92 new transactions. Many of the new transactions in the Far West region were in the beverages subindustry, particularly wine. Also, many of the new transactions in the Far West were by Japanese investors, who may, in this case, be looking to invest in a region more because of its relative location (i.e., close to Asia/Pacific Rim) rather than other, more traditional locational factors.

The chemicals industry ranked fifth in the region in terms of U.S. foreign affiliate employment in 1991. However, the Great Lakes region is the third largest region in the U.S. with foreign affiliate employment in this industry and received 65 new foreign investment transactions, or 20% of all transactions in this industry over the 1987–91 period. Ohio and Michigan received many of these new transactions, which were primarily in the industrial inorganic chemicals subindustry, the plastics material and synthetic resins subindustry, and the miscellaneous chemicals products subindustry.

Conclusion

The Great Lakes region has much to offer foreign investors. Over the 1987–91 period, the region moved up in rank from the third largest region in the nation with affiliate employment to the second largest (see figure 2). The region's affiliate employment growth rate outpaced the nation's as well as the top (Southeast) region's. In terms of new foreign investment transactions over the period, one out of five new transactions were in the Great Lakes region. The region tied for second place with the Mideast region for number of new transactions over the period.

What makes the region attractive for foreign investment? Because, overall, the Great Lakes region embodies many of the locational factors necessary for FDI. For example, the transportation industry, while not large in terms of U.S. foreign affiliate employment (relative to other industries), has an established industry structure, is a significant source of upstream/downstream industries, utilizes skilled labor and technology in the region, and provides a point of entry for new or expanding auto production. Because of the interconnections between the auto, industrial machinery, electrical machinery, and primary metals industries in the region, these same locational factors would apply to all of them.

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Notes

[1] See *Foreign Direct Investment in the United States, Establishment Data for Manufacturing, 1991* for BEA's description of why the LINK data more accurately allocate state and industry data.

[2] The BEA uses employment ranges in some industries to avoid disclosure of confidential information. Whenever a range was given, the lowest value for the range was used in any growth calculations. Thus, even though only a range was given in paper and allied products in 1987, the decline was still evident by its reported 1991 number. However, the decline in leather and leather products foreign affiliate employment is not as certain because only a range was given for 1991, a range with a lower starting value than its 1987 number.

[3] Stephen Meyer and Tao Qu, p. 9.

[4] Ibid., p. 8.

Appendix A BEA Enterprise Data vs Establishment Data, 1987 and 1991 by Region

	Establishment Data			Enterprise Data		
Region	**1987**	**1991**	**% Growth**	**1987**	**1991**	**% Growth**
Southeast	375.9	566.9	50.9	409.1	573.4	40.2
Great Lakes	250.1	439.4	75.7	299.2	446.5	49.2
Mideast	276.3	365.0	32.1	313.4	356.9	13.9
Far West	156.7	242.2	54.5	170.5	257.1	50.8
Southwest	90.6	137.5	51.8	119.2	143.9	20.7
Plains	57.7	116.1	101.0	72.7	118.8	63.4
New England	88.5	112.5	31.5	94.9	115.8	22.0
Rocky Mountain	16.0	24.6	53.7	23.2	26.8	15.5
Total U.S.	**1,311.4**	**2,004.6**	**52.9**	**1,542.0**	**2,038.8**	**32.2**

Notes: Establishment data are the BEA-LINK plant–level data.
Enterprise data are the BEA company–level data.

Source: Foreign Direct Investment in the United States: Establishment Data for Manufacturing. Census Bureau and Bureau of Economic Analysis, CD-ROMs and *Foreign Direct Investment in the U.S.* Bureau of Economic Analysis, diskettes, 1987 and 1991.