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THE OPENING OF SEVENTH DISTRICT MANUFACTURING TO FOREIGN COMPANIES: THE INFLUX OF FOREIGN DIRECT INVESTMENT

*Alenka S. Giese**

Introduction

The 1980s have heralded dramatic changes in the Seventh Federal Reserve District's manufacturing sector.¹ One of the many dimensions of the restructuring of district manufacturing is the increasingly prominent role played by foreign direct investment (FDI). Although FDI has received less attention than other aspects of the transformation of district manufacturing, its analysis is warranted given its exceptional growth, its role in the globalization of the district's manufacturing sector, and the controversy it has stirred. In a nutshell, FDI in the U.S. overall and in the district specifically has increased dramatically over the past decade. Foreign competition in the district has evolved from being primarily in the form of imports to FDI such as acquisitions, joint ventures, and new plants. Since 1978, both employment and total (real dollar) sales of U.S. affiliates of foreign investors have more than doubled. Although western European countries and Canada are still the dominant sources of FDI, the trends in FDI reveal a wave of Japanese investment.

This paper focuses on FDI in manufacturing in the Seventh District. Its objective is to analyze the nature and extent of FDI in district manufacturing and the implications of its strong growth.

This study focuses on three measures of FDI in manufacturing: employment at U.S. affiliates, gross book value of property, plant and equipment of U.S. affiliates, and the number of FDI transactions. Unless otherwise noted, data cover manufacturing only.

In order to better understand the nature of FDI, it is useful to examine the industries that have attracted a significant amount of FDI. An interesting aspect of FDI in the U.S. is that it often flows into the same industries that U.S. FDI traditionally has favored abroad.

*The Boston Consulting Group, Inc., Chicago, Illinois. This paper was written while the author was associated with the Federal Reserve Bank of Chicago. The views expressed are those of the author and do not necessarily reflect those of the FRB of Chicago or the Federal Reserve System.

¹The Seventh District comprises Illinois, Indiana, Iowa, Michigan, and Wisconsin.

Exemplary of this phenomenon is the extraordinary expansion of Japanese FDI in the auto industry. Who would have expected that Japan would build cars in the U.S. and export them to Japan? For example, Honda plans to export one-third of its production of 350,000 vehicles from its new plant in Maryville, Ohio (*Automotive News* [1]).

Table 1 ranks two digit SIC (standard industrial classification) code industries by their share of FDI in the U.S. and the district. It reveals that FDI is not distributed equally across industries, but displays certain preferences. The dominance of the chemical, electrical and electronic machinery, and nonelectrical machinery industries suggests that much FDI flows into technology-intensive industries. Following the tech-intensive industries, the industries in the second tier are dominated by resource-intensive industries such as food and kindred products and paper and allied products. Third in attracting FDI are the capital-intensive industries such as primary and fabricated metals. The reason for their lower ranking is probably that these industries are hobbled by overcapacity in the U.S. (e.g., steel) and thus offer little market expansion opportunity. All the labor-intensive industries accounted for less than 4 percent of the FDI transactions. The relatively weak flow of FDI into labor-intensive industries is explained by combination of relatively high cost labor in the U.S. and the reluctance of foreign investors to deal with organized labor.

The Surge in FDI in Manufacturing - 1978-1986

Over the past decade, FDI in manufacturing has attracted increasingly more attention on the part of economic developers and researchers because of its extraordinary growth. This growth has contributed to the globalization of the U.S. economy and its mainstay industries. Examination of the 1978-1986 growth of the three selected measures of FDI reveals that FDI has soared, both at the national level and in the district. Between 1978 and 1986, national FDI employment nearly doubled from 798,100 to 1,391,100 (Table 2). Similarly, total assets, sales, and gross book value of U.S. affiliates showed strong growth. Total sales of U.S. affiliates more than doubled from \$87.4 billion to \$192.7 billion (1982 dollars), or 120 percent, while gross book value jumped from \$29.4 billion to \$113.0 billion (historical dollars).² National FDI transactions grew from 270 to 452 or 67 percent.

As a result of the surge in FDI, the U.S. role in FDI has evolved from being primarily its largest source to being both the largest source and

²Gross book value cannot be deflated to real dollars because there are no data on the age distribution of the property, plants, and equipment.

the largest recipient. The growing importance of the U.S. as recipient is reflected in total asset data. Between 1977 and 1985, the ratio of the value of total assets of U.S. affiliates to the value of total assets of American-owned foreign affiliates rose substantially from .16 to .56 (BEA data).

Similar to the U.S., the district has experienced strong growth in FDI, though its strength varies depending on which measure is used (Table 2). Between 1978 and 1986, FDI transactions in the district more than doubled from 34 to 69, a 103 percent increase, which surpassed the national average growth of 67 percent. Exceptional FDI growth in the district is not, however, visible in the growth of FDI employment. Over the same period, FDI employment growth in the district fell notably below national growth. In the district, employment grew 47 percent compared to the national growth of 74 percent. The contrasting pictures of growth presented by these two measures demonstrates the importance of examining several measures of FDI and interpreting each one vis-a-vis the others.

The growth in Japanese FDI has been even more astounding than FDI growth overall. Between 1978 and 1986, Japanese FDI transactions across all sectors increased over 500 percent in the nation and over 600 percent in the district (no separate data for FDI in manufacturing by country is available for 1978). A similar surge in Japan's presence is seen in the growth in employment of Japanese-owned affiliates. Between 1978 and 1986, Japanese FDI employment grew 141 percent in the nation and 200 percent in the district.

Within the district varying growth trends are visible with several states having relatively greater FDI magnetism (Table 2). In terms of FDI employment, Michigan showed the strongest 1978-1986 growth (61 percent compared to the district average of 47 percent). Also above the district norm in second and third place were Illinois and Wisconsin. Weak FDI employment growth was experienced by Indiana and Iowa. That Iowa's growth is below average is explained easily by its industry mix which is dominated by agriculture and has a relatively low concentration of manufacturing industries. This low manufacturing concentration has translated into a relatively low propensity to attract FDI.

A slightly different picture of FDI growth across district states emerges when transactions are examined. Although Indiana ranked last in terms of FDI employment growth, it ranked first in terms of transactions. The reason is that there was a strong influx of Japanese investment in 1986 (eight of the 11 transactions) that had not occurred in 1978. Iowa showed strong growth because of the relatively small number of transactions during the base year. Illinois came in third, showing above average growth of 190 percent, while Michigan ranked

fourth with below average growth. Illinois' edge was due to the greater amount of FDI it attracted from the United Kingdom and Canada. Wisconsin's decline is attributable to the lack of Japanese investment in the state and declining European investment.

In terms of source countries of FDI, western European countries and Canada traditionally have dominated. Their status, however, has been eroded by the dramatic rise in Japanese FDI. Since 1978, expansion in Japanese FDI has occurred at an above average pace. In 1978, the top five source countries in terms of national FDI transactions were (in rank order): Canada, United Kingdom, West Germany, Japan, and France. The ranking of these countries in the district was slightly different with Canada's and West Germany's position switched (Table 3). By 1986, Japan's position had risen to number one in both the U.S. and the district.

Despite Japan's recent investment spurt in the U.S., it has yet to build up a stock of FDI comparable to that of Canada or the United Kingdom. Among the top five source countries, Japan still holds the smallest share of FDI employment across all sectors (no separate data for 1978 on manufacturing available). Nevertheless, a rise in Japan's status in the district is visible. Between 1978 and 1986, the share of total FDI employment held by western European countries began to fall (approximately 1 percentage point). Japan's share grew from 5 percent to 9 percent, while that of Canada rose from 21 percent to 22 percent (Table 3). In terms of FDI gross book value, Japan's rising presence and West Germany's declining presence are more pronounced. Between 1978 and 1986, Japan's share of total FDI gross book value increased fivefold, placing it as the second largest source country.

The Geographical Dispersion of Manufacturing FDI

With the boom of FDI in the U.S., several questions have arisen regarding FDI in the district: Has the district been fully benefitting vis-à-vis other regions from the strong influx of FDI? Has its historical comparative advantage in manufacturing been an attractor or detractor of FDI? Of particular interest is whether the recent decline in the district's manufacturing sector overall has had negative repercussions on FDI in district manufacturing. If so, this could explain why the district's share of FDI employment has been falling. In order to determine the share of FDI garnered by the district, this section examines the dispersion of FDI and the shifts in its location since 1978.

Regardless of which measure of FDI in manufacturing is used, the East Coast historically has attracted the most FDI. In terms of FDI employment, the South Atlantic region holds the largest share (20.6 percent of the national total), followed by the Mid-Atlantic region (19.1

percent) and the East North Central region (19.0 percent) (Table 4). The first two regions, South and Mid-Atlantic, hold a disproportionate share of national FDI employment (20.6 percent and 19.1 percent, respectively) compared to their share of national manufacturing employment (16.2 percent and 15.8 percent, respectively). In addition, these two regions have the highest share of FDI employment to total manufacturing employment (9.3 percent and 8.9 percent, respectively). The Pacific region, although closest to the economically expanding Pacific Basin, has not yet attracted an exceptional amount of FDI. It ranks fifth in terms of share of national FDI employment and eighth in terms of FDI's share of total manufacturing employment. The dominance by the East Coast probably is due to its relatively close proximity to Europe which historically has been the strongest investor in the U.S.

The geographical distribution of 1986 FDI gross book value diverges slightly from that of FDI employment. The South Atlantic region ranks first again with 18.9 percent of the national total. A switch in the second rank occurs with the West South Central region replacing the Mid-Atlantic region. The West South Central region holds 18.7 percent of the total, followed by the East North Central (15.0 percent) and Mid-Atlantic (14.2 percent) regions. The probable reason for the shift in rank is that FDI in the West South Central region is concentrated in the chemical industry which tends to be more capital-intensive versus labor-intensive.

As evidenced by East North Central's stock of FDI, FDI has flowed beyond the East Coast into the manufacturing heartland. The district, however, has not attracted a significant amount of FDI compared to the East North Central region. The probable reason is that its boundaries include Iowa which has a relatively small manufacturing sector and exclude Ohio which has a dominant manufacturing sector. Thus, it is not surprising that the district's share of national FDI employment falls several percentage points below East North Central's. This share comparison, however, belies the size of FDI in the district. When FDI employment's share of total regional manufacturing employment is examined, its share in the district is only a tenth of a percentage point below East North Central's (6.3 percent compared to 6.4 percent).

Within the district, the leading recipients of FDI have been Illinois and Michigan which is not surprising given the relatively large size of their manufacturing sectors and the strong growth exhibited in their FDI stock in Table 2 (Table 5). FDI manufacturing employment in Illinois accounts for 5 percent of the national total, slightly higher than its share of national manufacturing employment of 4.9 percent. Illinois' locational appeal to FDI is more pronounced when the number of transactions is examined. In 1986, Illinois was the location of 29 transactions which

ranked it third among the 50 states (behind California and New York). Illinois' attractiveness to FDI probably will be fortified by the presence of the Chrysler/Mitsubishi plant in Bloomington-Normal. Michigan's share of FDI manufacturing employment, 3.8 percent, is less than would be expected given its share of national manufacturing employment of 5.3 percent. Michigan, however, has attracted a substantial number of FDI transactions, 20. This ranks it sixth, behind the top three states, Texas, and North Carolina. The ranking of FDI employment in Indiana, Wisconsin, and Iowa corresponds roughly to their share of national manufacturing employment. Iowa has a small manufacturing sector, accounting for only .8 percent of national FDI employment in manufacturing and 1.1 percent of national manufacturing employment.

Although a snapshot of the geographical dispersion of manufacturing FDI provides an understanding of the present status of FDI, it does not offer any information on the geographical dynamics of FDI or conjectures on FDI's future locations. An examination of the shift in regional shares of FDI reveals that the South has been gaining a larger share of the FDI pie, while the North has been losing ground. Evidence of this shift is visible in the change in regional shares of FDI transactions, employment, and gross book value.

In terms of number of transactions, over the past decade FDI has become more geographically dispersed, spreading beyond the coastal states towards the heartland, including the district. Evidence of the district's FDI locational appeal is seen in the district's rising share of total FDI transactions. In 1978, the district's share was 12.6 percent, while that in California alone was 13.7 percent. By 1986, the district's share was up to 15.3 percent, above California's share of 14.8 percent.

Changes in the regional distribution of manufacturing FDI employment reveals a different picture (Table 6). The share of FDI employment held by older manufacturing regions such as New England, Mid-Atlantic, East North Central, and the district has been declining, whereas the share held by southern regions such as East and West South Central has been rising. Between 1978 and 1986, the district's share of FDI employment shrunk from 17.4 percent in 1978 to 14.7 percent in 1986. Similarly, Mid-Atlantic's share fell from 21.4 percent to 19.1 percent over the same period. In contrast, South Atlantic's share jumped to first place from 17.5 percent to 20.6 percent.

There are several possible reasons for the different trends in FDI reflected by transactions and employment. First, the northern manufacturing belt, especially the district, has been beleaguered by a declining manufacturing sector. Between 1978 and 1986, district manufacturing employment dropped a dramatic 19.4 percent whereas South Atlantic's manufacturing employment expanded 2.9 percent. The precipitous decline in the district's manufacturing sector undoubtedly

has had negative repercussions on the flow of FDI into the district. Growth in FDI employment in the district has been lagging national growth. This lag explains why its share of FDI employment has been shrinking. Second, South Atlantic's strength in FDI employment could be explained by the high probability that FDI in the relatively more labor-intensive industries is going to southern regions that offer lower labor costs and less unionization than northern regions. Conversely, the North may be attracting relatively more FDI transactions in the capital and tech-intensive industries. Evidence of the district's tendency to attract FDI into these kinds of industries is the above average number of 1986 transactions in two tech-intensive industries, chemicals and electrical machinery.

When gross book value data are examined, their pattern reveals similar shifts in regional shares, but there are some caveats in interpreting them (Table 6). The main problem is that they are in historical dollars. Thus, they tend to underestimate the share of FDI held by regions with a relatively older capital stock and tend to overestimate the share held by regions with relatively younger capital stock and strong influxes of FDI. For example, for the district, a relatively older manufacturing region, the share of gross book value in both 1978 and 1986 is several percentage points below its share of FDI employment (same case for the Mid-Atlantic and New England regions). In contrast, the share of gross book value of the West South Central region, a younger manufacturing region, is substantially larger than its share of FDI employment. Despite the problems with gross book value data, shifts in the regional shares of gross book value mirror the decline of FDI in northern regions that was visible in the shifts in regional shares of FDI employment. There is one divergence, however. Gross book value data show that South Atlantic's share has declined as well. Unfortunately, because of data limitations, the reason for this cannot be discerned.

A Case Study of FDI in the Auto and Auto Parts Industries

The choice of the auto and auto parts industries for a case study of FDI was based on several factors. First, FDI in the auto and auto parts industries has attracted much attention, including both positive and negative reactions from the media and government organizations--particularly state governments that are scrambling to attract auto plants. Thus, there are ample data on auto and auto parts FDI. Second, auto and auto parts FDI has been growing at above average rates. For example, in the district, the number of transactions in the transportation equipment industry (over 80 percent was in the auto industry) jumped from two in 1978 to seven in 1986, a 350 percent rise, compared to the

average increase across all industries of 136 percent. Third, FDI in the auto and auto parts industries provides an excellent example of the complexities of FDI and of the globalization of U.S. industries.

Because of the differences in the composition and magnitude of FDI between the auto and auto parts industries, the two industries are discussed separately. One striking difference is that the FDI is composed of different source countries. In auto FDI, the Japanese are the sole players, whereas in auto parts FDI, the Europeans and Canadians have a foothold as well. Another difference is found in the reasons that underlie the foreign firms' move to the U.S. The Japanese original equipment manufacturers (OEMs) began production in the U.S. in order to hurdle existing and potential trade barriers, whereas the Japanese auto parts producers followed suit in order to best meet the needs of the Japanese OEMs. In other words, their move was precipitated by that of their primary customers. In contrast, the move to the U.S. by Canadian and West German auto parts producers was independent of any direct ties with U.S.-located customers. In a sense, they started from scratch, while the Japanese producers already had some guaranteed market share in the U.S. FDI in the auto industry will be discussed first.

Seven of the nine Japanese OEMs have established new plants and/or formed joint ventures in the U.S. (Table 7; Suzuki and Daihatsu Motor Co. have not). Japanese presence on U.S. soil is a phenomenon of the 1980s. The pioneer was Honda who built a plant in Ohio in 1982. Over the past few years, the other Japanese OEMs have been fast to follow Honda's initiative. In terms of the U.S. location of the Japanese OEMs, they have tended to favor the district or neighboring states; that is, in or near the U.S. auto industry hub. The only location outside this area is the NUMMI plant in Fremont, California.

The preferred type of entry has been sole entry, accounting for four of the seven Japanese entries into U.S. production. Joint ventures, however, have been nearly as popular, accounting for the three remaining entries. Two of the joint ventures follow the expected pattern: a Japanese OEM forms a venture with a U.S. OEM. There is, however, one aberration: a joint venture between two Japanese OEMs (Fuji and Isuzu). The sole entries and the Japan-Japan joint venture suggest that a majority of the Japanese OEMs have become confident enough with their knowledge of the U.S. auto market and have the needed capital to establish U.S. operations on their own. In regards to their reaction to unions--that do not exist in the Japanese auto industry--half have accepted union representation and half have not. Nissan was adamantly against it. Local content will be discussed along with the auto parts industry.



The motives of Japanese OEMs to move to the U.S. fit the framework outlined earlier. The Industrial Bank of Japan's (IBJ) study of Japanese auto industry participation in the U.S. market found four main motives. The first two are economic and the second two are strategic. The Japanese OEMs feel that the threat of protectionism is rising. They expect that the voluntary export restrictions will be maintained. There is the potential of relatively high profits from production in the U.S. Contributing to the high profitability are relatively lower corporate taxes (at all three government levels) and the strong demand for Japanese cars. The Japanese OEMs view the U.S. market as the most lucrative in terms of expansion. Because car production in Japan is expected to plateau or decline, it is only through further expansion into foreign markets that they will be able to increase production. They want to strengthen their sales network through a more reliable supply of cars. That the IBJ did not mention the appreciation of the yen as a factor supports the point that changes in exchange rates are usually not a decisive factor in FDI.

It is interesting to examine the reactions of the Big Three to the Japanese invasion of their turf. GM, Ford, and Chrysler have not been sitting idly as the Japanese OEMs make greater inroads into the U.S. market. Their initial reaction in the late 1970s was to lobby for more rigorous import restrictions. They appear to have been playing for time in order to boost their competitiveness through an overhaul of their operations and model designs (Chrysler epitomizes the transformation). As they revamped their organization, they began attempts to recoup their U.S. market share by offering better quality and service, plus smaller models.

Although the Big Three primarily have undertaken an offensive/defensive strategy, they also have recognized the benefits of the if-you-can't-beat-them-join-them strategy. All three have stock interests in a Japanese OEM (Table 8). GM leads the pack in terms of ownership with 41.6 percent of Isuzu, followed by Ford with 25 percent of Mazda, and Chrysler with 24 percent of Mitsubishi. In addition, they have formed joint ventures with their Japanese counterparts. GM successfully has teamed with Toyota and established NUMMI. Chrysler is nearing the finishing touches of its joint venture with Mitsubishi. Although Ford has yet to consummate a joint venture, it is discussing such a deal with Nissan. In addition to joining leagues directly, GM and Chrysler also have been importing cars from Japan. Nineteen percent of GM's captive imports come from Japan, while 36 percent of Chrysler's originate there.

As the Japanese OEMs have set up shop in the U.S., Japanese auto parts suppliers have followed suit. Over the past decade, they have become the dominant source of FDI in the auto parts industry,

numbering 126 and accounting for nearly 40 percent of all foreign auto parts firms in the U.S. (Table 9). Their strong presence is only a recent phenomenon compared to that of European and Canadian firms. Prior to the influx of Japanese auto parts firms, West German firms had made the deepest inroads into the U.S. market (67 firms).

The location of these firms tends to be concentrated in or near the district. Proximity to customer tends to be especially important to the Japanese auto parts suppliers, though some distance is necessary in order to not bid up labor rates. The importance of proximity is due to the just-in-time (JIT) inventory demands of the Japanese OEMs. JIT translates into delivering the exact volume and quality when needed.

Similar to the Japanese OEMs, the Japanese auto parts firms have opted for sole entry, with most being wholly owned by Japanese. Joint ventures, however, have not been shunned because they provide some important benefits. Most of the auto parts joint ventures were motivated by the need to improve technological and manufacturing capabilities and attain higher production levels in order to benefit from economies of scale. For example, many of the joint ventures have involved cooperative agreements covering robotics, machine vision, and artificial intelligence. In addition, because most Japanese auto parts suppliers have weak links to the Big Three, a joint venture with a U.S. firm offers access to the Big Three as well as the after market (i.e., replacement sales).

As mentioned above, the move by Japanese auto parts producers to the U.S. in large part was triggered by the move of Japanese OEMs. There are several economic factors that were catalysts in the Japanese OEMs move and the subsequent move of their suppliers. The IBJ study highlights three primary factors motivating the suppliers. First, there is fear of declining domestic sales. The expected decline in auto production in Japan translates into sales declines for the Japanese-based auto parts producers. Second, it is predicted that the OEMs will produce more parts in-house. Third, there is the perception of first-come, first-serve. The Japanese auto parts producers fear that if they do not follow their OEM customers to the U.S. they will be excluded from supplying not only the Japanese OEMs, but also the Big Three and the burgeoning Japanese replacement parts market in the U.S. The latter two markets have yet to be fully tapped by the Japanese and offer important market expansion opportunities.

Another threat that has motivated the Japanese auto parts suppliers to move to the U.S. is more restrictive domestic content legislation. The U.S. GAO estimates that in 1985 Japanese OEMs in the U.S. had 54.5 percent domestic content, while U.S. auto makers had 93.5 percent (USGAO [25]). They predicted that by 1990, the domestic content will be 67.5 percent and 89.0 percent, respectively.

To reduce the disparity between the Japanese and U.S. rates, certain special interest groups such as the UAW have been lobbying for domestic content legislation that would require upward of 75 percent domestic content.

Similar to the Japanese OEMs, the Japanese auto parts producers' decision to move was not based upon a stronger yen, even though this has lessened the financing required to move. The yen, however, has played a role in increasing the domestic content of Japanese autos made in the U.S. As the value of the yen vis-a-vis the dollar increases, Japanese OEMs in the U.S. are increasing their purchases of parts and materials from U.S.-based firms, though these firms are predominantly Japanese-owned.

Unlike the Japanese OEMs, the Japanese auto parts producers were not attracted to the U.S. by strong profit potential. To the contrary, profitability has been low. The Japanese auto parts producers face a difficult situation. On the one hand, they have yet to reach production levels high enough to benefit from economies of scale. On the other hand, they have to price their parts to compete with imports produced in greater volume in order to gain orders from the Japanese OEMs. According to IBJ, they are struggling to beat the price of imports and only have been benefiting gradually from the appreciation of the yen. In order to improve their price competitiveness, several have been forming joint ventures with U.S. auto parts producers that allow them to hurdle the high costs of start-up and benefit from economies of scale.

In sum, the overview of FDI in the auto and auto parts industries has revealed several interesting features of FDI. Much of the FDI in the auto industry was precipitated by increasing protectionist sentiment. In a sense, there is irony in the chain of events that triggered the inflow of FDI. In trying to protect certain U.S. industries from foreign competition by building trade barriers, the U.S. federal government indirectly and probably unintentionally has brought the foreign competitors to U.S. soil. The initial move by the Japanese OEMs triggered a second wave of moves by Japanese auto parts producers. This second wave may accelerate if stronger domestic content legislation is enacted. The Big Three, realizing that they cannot stem the tide of FDI, have joined forces with the Japanese either through part ownership of a Japanese OEM or a joint venture. These types of cross cultural interactions have raised some thought-provoking questions regarding the costs and benefits of FDI to U.S. manufacturers overall.

Conclusion

This analysis of FDI was motivated primarily by FDI's expanding presence in the Seventh District and the growing attention that it has

been drawing. A diverse array of organizations and individuals such as economic developers and domestic producers have become interested in FDI and have formed contrasting opinions regarding its costs and benefits. Part of the limelight has resulted from the controversies that FDI has generated regarding its impact on the U.S. economy, domestic employment, and producers. In trying to understand and analyze the nature of FDI in district manufacturing, this paper has examined its industry preferences, its accelerating growth, and its geographic distribution.

In addition, the paper shows how the growing presence of FDI in the district has been transforming the competitive landscape. As the threat of protectionism looms larger, foreign firms have been altering their U.S. expansion strategies and have hurdled the threat through FDI. As a result, domestic producers are confronted not only with foreign competition in its traditional form of imports, but also face-to-face competition with foreign firms producing on U.S. soil. In addition to reacting to existing or potential trade barriers, foreign firms have moved to the U.S. in order to optimize the use of their tangible assets (e.g., production expertise) and their intangible assets (e.g., R&D).

In order to examine more closely the nature of FDI and the reaction of U.S. producers to the foreign invasion of their own turf, the auto and auto parts industries were highlighted. The case study revealed that the Big Three have pursued a blend of strategies to retain their competitiveness vis-a-vis their Japanese counterparts. They initially took a defensive stance and then progressed to an offensive approach mixed with a join-'em strategy. The reaction of the Big Three may have important implications for other domestic producers who face direct foreign competition. Domestic producers must adapt to the presence of FDI because it shows no sign of fading.

The restructuring of district manufacturing most likely will continue to be influenced by the presence of foreign firms. Their presence is a double-edged sword in terms of economic impact. Their presence can contribute to boosting the competitiveness of domestic producers through, for example, technological transfer or synergistic joint ventures. On the other hand, their U.S. production may lead to overcapacity problems in certain industries and thus trigger retrenchment on the part of domestic producers.

As a result, economic developers who promote FDI must consider its potentially dichotomous economic impact. Because it is impossible currently to predict with any accuracy the net cost/benefit of FDI, the best that can be done is to understand its implications and impacts through an examination of what motivates it, which industries and geographical areas attract a disproportionate amount of it, and how domestic producers are reacting to it.

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Table 1
FDI by Industry in the U.S. and the Seventh District
FDI Transactions: 1986

United States

Industries (in the U.S.)	Number	Share of Total (percent)
Electrical Machinery	75	16.6
Chemicals	69	15.3
Nonelectrical Machinery	66	14.6
Food & Kindred Products	39	8.6
Paper & Allied Products	38	8.4
Primary Metals	29	6.4
Instruments & Related Products	24	5.3
Transportation Equipment	24	5.3
Fabricated Metals	19	4.2
Total Top Industries	383	84.7

Seventh District

Industries (in the district)	Number	Share of Total (percent)
Chemicals	15	22.7
Electrical Machinery	11	16.7
Nonelectrical Machinery	9	13.6
Transportation Equipment	7	10.6
Fabricated Metals	5	7.6
Primary Metals	4	6.1
Food & Kindred Products	3	4.5
Paper & Allied Products	3	4.5
Rubber & Miscellaneous Plastics	3	4.5
Total Top Industries	60	90.8

Source: International Trade Administration, U.S. Department of Commerce, *Foreign Direct Investments in the U.S.: 1986 Transactions* (September 1987)

Table 2
Growth in Manufacturing FDI in the U.S. and Seventh District:
1978-1986

FDI Employment			
	1978 (thousands)	1986 (thousands)	1978-1986 Growth (percent)
UNITED STATES ¹	798.1	1,391.1	74
SEVENTH DISTRICT	138.5	204.0	47
Illinois	44.6	69.7	56
Indiana	28.8	37.0	28
Iowa	8.1	10.9	35
Michigan	33.0	53.0	61
Wisconsin	21.4	33.4	56

FDI Transactions			
	1978	1986	1978-1986 Growth (percent)
UNITED STATES	270	452	67
SEVENTH DISTRICT	34	69	103
Illinois	10	29	190
Indiana	2	11	450
Iowa	1	3	200
Michigan	11	20	82
Wisconsin	10	5	-50

¹ United States = 50 states and the District of Columbia

Source: Bureau of Economic Analysis, U.S. Department of Commerce, *Foreign Direct Investment in the U.S.: Operations of U.S. Affiliates, 1977-80* (1985); *Foreign Direct Investment in the U.S.: Operations of U.S. Affiliates, 1986* (1988); International Trade Administration, U.S. Department of Commerce, *Foreign Direct Investments in the U.S.: Completed Transactions, 1974-1983* (June 1985); and *Foreign Direct Investments in the U.S.: Completed Transactions, 1986* (September 1987)

Table 3
FDI by Source Country in the Seventh District: 1978 and 1986

Country ¹	FDI Transactions in Manufacturing		Total FDI Employment and GBV ²	
	Number	Share of Total 1978 1986 (percent)	Share of Employment 1978 1986 (percent)	Share of Gross Book Value 1978 1986 (percent)
Canada	6	11	10	11
France	1	2	2	2
Japan	5	37	8	37
United Kingdom	11	13	18	12
West Germany	23	6	38	5
			21	22
			10	9
			5	9
			21	21
			14	13
				20
				24
				7
				15
				12
				10

¹Another country that ranks in the top five in terms of stock of FDI is the Netherlands with 12 percent of the gross book value of U.S. affiliates in the nation. The Netherlands is excluded here because there were no transactions with it in 1986

²Total U.S. affiliates (i.e., all sectors) data used because no separate data on manufacturing are available

Source: Bureau of Economic Analysis, U.S. Department of Commerce, *Foreign Direct Investment in the U.S.: Operations of U.S. Affiliates, 1977-80* (1985); *Foreign Direct Investment in the U.S.: Operations of U.S. Affiliates, 1986* (1988); International Trade Administration, U.S. Department of Commerce, *Foreign Direct Investments in the U.S.: Completed Transactions, 1974-1983* (June 1985); and *Foreign Direct Investments in the U.S.: Completed Transactions, 1986* (September 1987)

Table 4
Regional FDI Employment in Manufacturing: 1986

Region ¹	Number of Employees (thousands)	Region's Share of U.S. FDI Manufacturing Employment (percent)	Region's Share of U.S. Manufacturing Employment (percent)	FDI Share of Region's Manufacturing Employment (percent)
New England	85.5	6.1	7.4	6.0
Mid-Atlantic	265.2	19.1	15.8	8.9
South Atlantic	286.2	20.6	16.2	9.3
East North Central	263.9	19.0	21.8	6.4
SEVENTH DISTRICT	204.0	14.7	17.1	6.3
East South Central	101.9	7.3	7.0	7.7
West North Central	66.3	4.8	6.8	5.1
West South Central	111.3	8.0	7.9	7.4
Mountain	48.6	3.5	3.2	8.1
Pacific	152.5	11.0	13.7	5.9
California	127.3	9.1	10.9	6.2

¹ Census regions are used: New England = CT, ME, MA, NH, RI, and VT; Mid-Atlantic = NJ, NY, and PA; South Atlantic = DE, DC, FL, GA, MD, NC, SC, VA, and WV; East North Central = IL, IN, MI, OH, and WI; East South Central = AL, KY, MS, and TN; West North Central = IA, KS, MN, MO, NE, ND, and SD; West South Central = AR, LA, OK, and TX; Mountain = AZ, CO, ID, MT, NV, NM, UT, and WY; Pacific = AK, CA, HI, OR, and WA

Note: Percent figures sum to greater than 100 because the district states are included in the East and West North Central regions

Source: Bureau of Economic Analysis, U.S. Department of Commerce, *Foreign Direct Investment in the U.S.: Operations of U.S. Affiliates, 1986* (1988)

Table 5
Three Measurements of Manufacturing FDI in the Seventh District: 1986

	FDI Employment		FDI Gross Book Value		FDI Transactions	
	Number (thousands)	Share of United States (percent)	Value (\$ million historical)	Share of United States (percent)	Number	Share of United States (percent)
SEVENTH DISTRICT	204.0	14.7	13,108	11.8	69	15.3
Illinois	69.7	5.0	4,848	4.4	29	6.4
Indiana	37.0	2.7	2,046	1.8	12	2.6
Iowa	10.9	.8	826	.7	3	.7
Michigan	53.0	3.8	3,630	3.3	20	4.4
Wisconsin	33.4	2.4	1,758	1.6	5	1.1

Source: Bureau of Economic Analysis, U.S. Department of Commerce, *Foreign Direct Investment in the U.S.: Operations of U.S. Affiliates, 1986* (1988); and International Trade Administration, U.S. Department of Commerce, *Foreign Direct Investments in the U.S.: 1986 Transactions* (September 1987)

Table 6
Shifts in Regional Shares of Manufacturing FDI: 1978-1986

Regions ¹ (ranked by employment share)	1978 Share of U.S.		Regions (ranked by employment share)	1986 Share of U.S.	
	FDI Employment (percent)	FDI Gross Book Value (percent)		FDI Employment (percent)	FDI Book Value (percent)
Mid-Atlantic	21.4	17.1	South Atlantic	20.6	18.9
East North Central	20.9	15.3	Mid-Atlantic	19.1	14.2
South Atlantic	17.5	22.2	East North Central	19.0	15.0
SEVENTH DISTRICT	17.4	12.2	SEVENTH DISTRICT	14.7	11.8
Pacific	12.4	9.8	Pacific	11.0	10.3
West South Central	6.8	12.4	West South Central	8.0	18.7
New England	6.7	4.6	East South Central	7.3	6.6
East South Central	6.3	10.0	New England	6.1	4.1
West North Central	5.5	5.6	West North Central	4.8	4.7
Mountain	2.4	2.0	Mountain	3.5	2.4

¹See Table 4 for definition of regions

Note: Percent figures sum to greater than 100 because the district states are included in the East and West North Central regions

Source: Bureau of Economic Analysis, U.S. Department of Commerce, *Foreign Direct Investment in the U.S.: Operations of U.S. Affiliates, 1977-80* (1985) and Bureau of Economic Analysis, U.S. Department of Commerce, *Foreign Direct Investment in the U.S.: Operations of U.S. Affiliates, 1986* (1988)

Table 7
FDI by Japanese Auto Makers¹

Company	Type of Entry	Location	Date Open	Annual Capacity (full)	No. of Employees (estimates)	Unionized	Local Content ² (percent)
Honda of America Mfg. Inc.	Sole entry	Marysville, OH (an additional plant planned)	1982	360,000 (an additional 150,000 projected by 1991)	4,200	No	60 (75 projected)
Nissan Motor Mfg. Corp. USA	Sole entry	Smyrna, TN	1983	240,000	3,250	No	50-60
New United Motor Mfg., Inc. (NUMMI)	Joint venture Toyota-50% GM-50%	Fremont, CA	1984	250,000	2,500	Yes	50
Mazda Motor Mfg. Corp USA	Sole entry	Flat Rock, MI	1987	240,000	3,500	Yes	50 (75 projected)
Diamond-Star Motors Corp	Joint venture Chrysler-50% Mitsubishi-50%	Bloomington-Normal, IL	1988	240,000	2,900	No	60

Table 7 (continued)

Company	Type of Entry	Location	Date Open	Annual Capacity (full)	No. of Employees (estimates)	Unionized	Local Content ² (percent)
Toyota Motor Mfg. USA Inc.	Sole entry	Georgetown, KY	1988	200,000	3,000	Yes	65 (75 projected)
Subaru- Isuzu Automotive Inc.	Joint venture Fuji-51% Isuzu-49%	Lafayette, IN	1989	120,000	1,700	undecided	55
TOTAL U.S.A.				1,650,000	21,050		

¹There are no other foreign auto makers (including trucks) operating assembly plants in the U.S. Volkswagen of America, Inc. closed its U.S. plant in 1988

²It has been estimated that 90 percent to 95 percent of the local content of Japanese U.S.-built autos is supplied by Japanese U.S. plants (Iannone [13])

Source: *The Motor Industry of Japan*, Japan Automobile Manufacturers Assoc., Inc. (1987); *Automotive Industries* (June 1987); *Automotive News* articles on Japanese plants in the U.S. (1986-1988)

Table 8

U.S. Big Three Auto Makers and Their Ties to Japanese Auto Makers: 1988

Company

Ties with Japanese Auto Makers

General Motors Corp.

- owns 41.6 percent of Isuzu
- imports Isuzu car sold as Chevrolet Spectrum (90,000 autos imported in 1985).
- expected to be a supplier of major components for Subaru-Isuzu plant
- joint venture with Toyota (NUMMI)
- owns 5.3 percent of Suzuki and imports a Suzuki car sold as Chevrolet Sprint
- joint venture with Suzuki in Ingersoll, Ontario
- total imported autos and trucks in 1987 from Japan = 140,000 (19 percent of total captive imports)

Ford Motors Corp.

- owns 25 percent of Mazda
- Mazda plant in Flat Rock produces Ford Probe (60 percent of production)
- Mazda supplies Ford's foreign affiliates
- discussing a joint venture with Nissan to produce a new auto in North America
- no autos or trucks imported from Japan

Chrysler Motors Corp.

- owns 24 percent of Mitsubishi
- joint venture with Mitsubishi (Diamond-Star)
- imports cars and trucks from Mitsubishi sold as Plymouths and Dodges
- Mitsubishi supplies engines for various Chrysler models
- total imported autos and trucks in 1987 from Japan = 235,000 (36 percent of total captive imports)

Source: John Holusha, "Mixing Cultures on the Assembly Line," *New York Times* (June 5, 1988); U.S. International Trade Commission *U.S. Global Competitiveness: The U.S. Automotive Parts Industry* (December 1987); *Automotive News* articles on auto makers in the U.S. (1986-1988)

Table 9
Foreign Auto Parts Manufacturers in the U.S.: 1988

Country	No. of Firms	No. of Employees (estimates)
TOTAL	324	100,000
Japan	126 ^a	n.a.
West Germany	67	22,000
Canada	17	3,000 ^b
France	13	12,000
United Kingdom	7	2,200

^aOwned or partly owned by Japanese companies, projected to 1990

^bCanadian plants tend to be relatively small

Source: Motor and Equipment Manufacturers Association, *Automotive Parts International* (Feb. 12, 1988 and March 25, 1988)