
Minnesota's Performance in Attracting Foreign Direct Investment

by Robert T. Kudrle



For several decades after World War II, the phrase “multinational corporation” was virtually synonymous with overseas activity by U.S. businesses. European and Japanese firms moved aggressively into foreign operations only in the late 1960s and early 1970s. As late as 1977, the share of foreign affiliate output in the gross product of the private U.S. economy was only 2.3%. This figure more than doubled during the next decade. Likewise, the growth of employment in foreign-controlled firms in the United States increased by an average of 11.8% per year from 1977 to 1989, and the share of total employment during the same period grew from 1.7 to 4.9%.

Governor Rudy Perpich's administration began a public campaign in 1981 to internationalize Minnesota's business horizons by promoting both increased exports to other countries and foreign direct investment (FDI) in the state. Perpich viewed FDI as a major untapped source of economic revitalization—a tool that could increase overall state wealth and its imperfect but politically salient correlate, jobs. As part of the campaign, Perpich made a series of highly publicized foreign trips, opened the Minnesota Trade Office, and chose a commission to recommend the site for the World Trade Center, which was completed in 1984 in downtown St. Paul.

The 1980s brought painful economic adjustments to Minnesota and most other states. The federal government cut taxes while reducing grants to the states, thereby substantially increasing the service burden placed upon them. Until late in the decade, many states' economic problems were exacerbated by a shrinking industrial base made vulnerable by the ascendant dollar. Therefore, although Minnesota's FDI efforts came earlier, were more dramatic, and were better publicized than most, nearly every state, eager to pursue any development possibilities, jumped onto the international

business development bandwagon. By 1987, all but two states had well-identified parts of state government engaged in some kind of international business development, and nearly every state claimed to be actively recruiting foreign investors.

The sharp increase in FDI—particularly the well-publicized activities of Japanese investors—caused alarm in some circles. No less a figure than Massachusetts Institute of Technology (MIT) economist Paul Krugman predicted that political disputes over FDI would overshadow trade disputes in the 1990s. This did not happen for several reasons. First, the Japanese economy fell into recession in the 1990s, and fears about Japanese dominance disappeared. Second, the rate of expansion of FDI during the 1990s was much lower than earlier, tracking quite closely the growth of the U.S. economy as a whole. Third, even when the negative reaction to FDI was loudest, most of the public and policy makers alike remained supportive of FDI in their own jurisdictions. Although most states maintained minor legal restrictions over foreign investment in agricultural land, finance, and insurance, no significant state-level policy changes unfavorable to FDI were enacted. In retrospect, it appears that the 1980s provided the same period of rapid adjustment to new economic opportunities for foreign firms in the United States that the 1950s and 1960s had afforded U.S. firms in Europe. Throughout Europe in the decades after World War II, penetration by U.S. firms grew rapidly at first, after which the share of U.S. investment remained relatively steady. Despite its rapid rise in the 1980s, the current level of FDI leaves the United States with a considerably lower level than any other major modern economy except Japan, where the estimated stock of direct investment in 1995 was 0.3 % of gross domestic product (compared with 7.7% in the United States, and 13.2% for the European Union).

The study upon which this article is based attempted to evaluate how Minnesota fared during the “foreign investment rush” of the 1980s, the effects of which will last long into the future. My interest in the subject goes back to the days when I served as a consultant for the City of St. Paul during its successful bid for the World Trade Center, and continued when I consulted for the Urban Institute several years later as it evaluated Minnesota’s business development efforts. The

Center for Urban and Regional Affairs supported my research on the evaluation of state international business development efforts in the late 1980s, as well as the more recent study of foreign direct investment in Minnesota upon which this article is based (see sidebar).

The Study

This study attempted to look at FDI comprehensively, and to place the results in an easily understood context. It aimed to fill a gap between purely descriptive writing about variations in state performance and highly specialized statistical studies of certain kinds of investment. The study examined Minnesota in the context of the performance of all 48 contiguous states in the United States¹ using a simple model that considered investment in eight distinct economic sectors, as well as total investment.

Foreign direct investment can be tracked in a variety of ways, including measures of contributions to gross product, total asset ownership, and employment produced. Employment results are reported in this article because employees are most accurately classified among sectors. Table 1 shows the amount of employment generated by FDI by state and by sector in 1996,² as well as the ratio of FDI employment to total employment in the state for each sector.

Based on these data, Minnesota scarcely stands out as a host to foreign direct investment. Its FDI-controlled share of private employment was slightly below the simple national average of all of the states for total investment—3.5 versus 3.6%—and was below the national average for each of the sectoral categories except Real Estate and Other Industries. The important

¹ Alaska and Hawaii are not considered here, or in most other studies of FDI. In addition to their lack of physical proximity to the other 48 states, each has unique attractions as a host for FDI that are largely unrelated to conditions in other states. Specifically, Alaska is host to much of the country’s petroleum investment, and Hawaii is a vacation paradise relatively close to the Far East and has therefore drawn very high levels of foreign real estate investment.

² Data from 1996 were used because these were the best recent figures available at the time the research was conducted. Since that time, two more years of state-level data have become available, but they are presented in a new set of business sector categories that are incompatible with earlier measures used. Still newer data at the national level suggest a strong rebound in U.S. FDI from 1998 to 2000. Most experts see this surge as a temporary response to a strong economy in the United States and weaker economies abroad.

Full Report on Foreign Direct Investment Available from CURA

Minnesota as a Host for Foreign Direct Investment: A Comparison with Other States. By Robert Thomas Kudrle. Minneapolis: Center for Urban and Regional Affairs, 2000. CURA 00-3. 75 pp. Free.

This report presents the complete results of a study, conducted by the Freeman Center for International Economic Policy at the University of Minnesota, investigating how well Minnesota has fared in attracting foreign direct investment (FDI) compared with the other 47 contiguous states in the United States. Based on Bureau of Economic Analysis and International Trade Administration data for the year 1996, the study evaluated the significance of various state-level determinants of FDI, including gross state product, gross state product growth rate, geographic location, economic structure, workforce unionization rate, higher education expenditures, and corporate income tax rate.

Using employment figures as the primary measure of investment, Kudrle measured Minnesota’s FDI performance both for aggregate levels of investment, and for eight individual investment sectors: manufacturing, wholesale trade, retail trade, finance, insurance, real estate, services, and other unclassified industries (agriculture, forestry, fishing, mining, construction, transportation, communication, and public utilities). The author found that a state’s overall size and the existing structure of its economy were both significant factors in determining a state’s FDI performance. Based on these results, the report concludes that Minnesota should pursue an indirect approach to foreign direct investment policy by establishing a favorable climate for the attraction, retention, and growth of economic activities that it regards as otherwise desirable.

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Table 1. Sector Employment from Foreign Direct Investment by State, and in Relation to Total State Sectoral Employment, 1996

	All Industries	Manufacturing	Wholesale	Retail	Finance*	Insurance	Real Estate	Services	Other Industries
Alabama	61,400 3.2%	37,900 9.8%	8,800 9.3%	3,200 1.0%	0 0.0%	600 2.5%	0 0.0%	6,600 1.5%	3,000 0.5%
Arizona	56,700 2.8%	17,900 8.9%	4,000 3.9%	14,300 3.8%	250 0.5%	1,750 5.5%	300 0.9%	8,900 1.5%	5,500 0.9%
Arkansas	35,100 3.0%	22,900 9.0%	3,500 7.1%	3,200 1.6%	0 0.0%	600 5.3%	100 1.1%	2,500 1.0%	1,500 0.4%
California	545,300 3.9%	194,500 10.5%	93,200 12.3%	65,300 2.8%	4,300 1.6%	17,200 7.9%	6,300 3.3%	109,600 2.5%	49,500 1.2%
Colorado	69,800 3.4%	19,400 9.8%	6,300 6.3%	14,100 3.7%	700 1.9%	4,400 12.4%	400 1.3%	10,200 1.7%	12,600 1.9%
Connecticut	83,300 5.0%	35,800 12.9%	9,000 11.0%	24,600 8.9%	600 1.9%	2,400 3.3%	300 1.9%	6,300 1.2%	3,200 0.8%
Delaware	15,400 3.9%	7,500 12.9%	300 2.1%	3,000 4.2%	0 0.0%	1,750 24.0%	0 0.0%	1,600 1.5%	250 0.2%
Florida	214,400 3.2%	64,600 13.1%	17,800 5.3%	47,400 3.6%	600 0.4%	5,300 4.3%	2,800 2.5%	42,500 1.9%	30,100 1.6%
Georgia	185,900 4.9%	87,900 15.0%	22,200 9.3%	19,700 2.9%	1,000 1.4%	7,600 12.1%	1,100 2.9%	24,300 2.5%	20,300 1.8%
Idaho	11,700 2.2%	3,100 4.2%	1,000 3.4%	5,500 5.5%	0 0.0%	400 6.1%	0 0.0%	900 0.7%	700 0.4%
Illinois	229,700 3.9%	117,500 12.1%	27,000 7.8%	19,400 2.0%	4,300 3.1%	9,100 6.5%	400 0.7%	25,800 1.5%	20,000 1.3%
Indiana	124,900 4.3%	90,400 13.3%	9,600 6.8%	9,100 1.6%	200 0.4%	2,200 4.6%	0 0.0%	7,700 1.1%	4,700 0.6%
Iowa	36,300 2.5%	23,200 9.3%	1,600 1.9%	1,800 0.7%	0 0.0%	2,700 7.1%	0 0.0%	1,400 0.4%	5,500 1.4%
Kansas	41,300 3.1%	16,200 8.2%	6,300 8.3%	2,900 1.2%	100 0.4%	2,200 9.8%	0 0.0%	2,300 0.7%	10,000 2.3%
Kentucky	84,100 4.7%	55,600 17.7%	12,800 15.5%	3,600 1.1%	100 0.3%	500 2.5%	0 0.0%	6,100 1.4%	4,800 0.9%
Louisiana	54,400 2.8%	17,300 9.1%	3,200 3.4%	8,800 2.6%	0 0.0%	1,100 4.2%	0 0.0%	8,000 1.5%	5,400 0.8%
Maine	30,600 5.3%	11,900 13.4%	1,300 5.0%	12,700 11.1%	0 0.0%	500 4.4%	0 0.0%	1,300 0.8%	750 0.4%
Maryland	94,500 4.0%	30,500 17.4%	5,700 5.2%	33,600 7.7%	500 1.1%	4,300 11.0%	300 0.8%	9,500 1.2%	8,600 1.1%
Massachusetts	163,200 5.1%	60,300 13.5%	9,000 5.3%	54,500 10.0%	1,000 1.5%	7,200 9.9%	600 2.0%	23,000 2.0%	7,100 1.0%
Michigan	157,300 3.5%	80,400 8.2%	13,900 6.3%	18,900 2.3%	700 0.8%	2,800 4.1%	200 0.5%	19,100 1.5%	17,200 1.6%
Minnesota	88,900 3.5%	46,500 10.8%	3,500 2.3%	4,400 1.0%	300 0.7%	2,900 5.1%	500 2.0%	5,700 0.8%	25,000 3.8%
Mississippi	21,600 1.8%	12,400 5.0%	2,400 5.3%	2,000 1.0%	0 0.0%	400 3.2%	0 0.0%	2,700 1.0%	1,300 0.3%
Missouri	83,600 3.1%	45,300 10.8%	9,800 6.6%	5,700 1.2%	1,750 3.1%	3,700 8.0%	300 1.1%	5,300 0.7%	10,800 1.4%
Montana	4,200 1.1%	800 3.3%	100 0.5%	1,200 1.5%	0 0.0%	0 0.0%	0 0.0%	500 0.5%	1,500 1.1%
Nebraska	18,100 2.0%	9,000 7.9%	900 1.7%	1,700 1.1%	0 0.0%	700 2.9%	0 0.0%	4,400 1.9%	1,300 0.5%
Nevada	25,000 2.8%	6,000 15.3%	1,200 3.6%	4,800 3.4%	0 0.0%	100 1.1%	300 2.0%	2,600 0.7%	9,300 3.6%
New Hampshire	30,200 5.3%	17,100 16.3%	1,000 3.7%	8,600 7.2%	0 0.0%	1,000 7.5%	0 0.0%	600 0.4%	750 0.5%
New Jersey	206,500 5.5%	94,300 19.5%	32,400 11.9%	29,900 5.0%	3,300 4.8%	8,300 9.6%	600 1.6%	23,700 2.0%	12,900 1.2%
New Mexico	15,400 2.1%	4,300 9.4%	800 2.9%	3,500 2.5%	0 0.0%	100 1.3%	100 1.3%	1,700 0.8%	3,600 1.2%
New York	345,400 4.2%	105,400 11.3%	35,200 8.2%	75,500 6.1%	24,200 10.8%	24,100 13.1%	5,400 3.5%	48,800 1.7%	25,000 1.1%
North Carolina	225,800 5.9%	120,300 14.2%	16,700 9.2%	45,400 7.0%	300 0.4%	4,100 8.9%	300 1.0%	13,000 1.5%	25,100 2.2%
North Dakota	4,800 1.5%	2,200 10.0%	200 0.9%	200 0.3%	0 0.0%	300 6.2%	0 0.0%	1,600 1.7%	200 0.2%
Ohio	223,600 4.0%	136,700 12.4%	13,400 4.7%	31,200 3.0%	100 0.1%	3,000 3.2%	100 0.2%	18,400 1.2%	10,700 0.8%
Oklahoma	35,000 2.4%	17,200 9.8%	3,700 5.6%	4,400 1.7%	300 1.1%	700 3.5%	100 0.7%	4,200 1.1%	1,200 0.2%
Oregon	49,100 3.1%	18,500 7.8%	9,600 10.7%	9,900 3.5%	300 1.0%	1,500 6.1%	200 0.9%	5,100 1.2%	3,800 0.8%
Pennsylvania	234,300 4.2%	118,900 12.7%	16,800 6.4%	37,800 3.9%	900 0.8%	5,700 4.5%	200 0.4%	18,500 1.1%	34,200 2.5%
Rhode Island	19,300 4.1%	8,100 9.8%	1,500 8.0%	6,600 8.1%	0 0.0%	300 3.1%	0 0.0%	1,800 1.2%	900 0.8%
South Carolina	116,000 6.4%	68,500 18.6%	7,000 10.3%	23,600 6.9%	0 0.0%	1,750 7.5%	200 1.1%	7,900 1.9%	6,100 1.1%
South Dakota	5,200 1.4%	2,900 6.0%	300 1.5%	800 1.1%	0 0.0%	200 4.0%	0 0.0%	400 0.4%	700 0.6%
Tennessee	133,600 5.0%	80,600 15.5%	13,700 9.6%	13,700 2.9%	0 0.0%	2,600 7.0%	100 0.5%	13,800 2.0%	8,300 1.2%
Texas	316,900 3.6%	128,000 12.1%	30,900 6.4%	40,000 2.6%	1,100 0.7%	6,600 4.5%	1,800 1.6%	52,300 2.2%	25,800 0.9%
Utah	32,900 3.3%	10,800 8.4%	1,200 2.5%	7,800 4.2%	0 0.0%	300 2.0%	0 0.0%	8,200 3.0%	4,400 1.4%
Vermont	9,800 3.4%	3,400 7.3%	2,100 16.5%	2,300 4.3%	0 0.0%	0 0.0%	0 0.0%	1,400 1.6%	500 0.6%
Virginia	141,200 4.1%	50,000 12.4%	9,500 6.5%	46,300 7.9%	500 0.7%	1,100 2.5%	200 0.5%	14,000 1.5%	18,900 1.6%
Washington	86,000 3.3%	30,700 8.9%	7,500 5.1%	20,200 4.4%	200 0.5%	2,800 6.8%	400 1.2%	13,200 1.9%	10,400 1.2%
West Virginia	26,300 3.7%	11,400 13.8%	2,200 7.2%	3,800 2.8%	0 0.0%	100 1.3%	0 0.0%	2,600 1.4%	5,300 2.1%
Wisconsin	70,700 2.6%	46,000 7.6%	3,300 2.5%	6,600 1.4%	0 0.0%	3,200 5.2%	0 0.0%	6,600 1.0%	4,200 0.6%
Wyoming	6,100 2.6%	2,500 23.0%	300 4.0%	1,300 2.8%	0 0.0%	100 4.1%	0 0.0%	400 0.8%	1,200 1.1%
Average pct.	3.6%	11.4%	6.2%	3.7%	0.8%	5.8%	0.8%	1.4%	1.2%

Source: Bureau of Economic Analysis, Operations of U.S. Affiliates of Foreign Companies, Table G7, http://www.bea.doc.gov/bea/uguide.htm#_1_23

* Finance does not include depository institutions.

question, however, is how well Minnesota is doing by comparison with its *potential* as a host for foreign direct investment. If states with severe weather always do poorly in attracting FDI, for example, then maybe Minnesota has been unusually successful.

Methodology. To answer this question, the study examined the accumulation of FDI activity across all 48 states for the year 1996 by employing regression analysis. This approach assumes that measurable increases or decreases in several independent variables can predict the value of the dependent variable—in this case, FDI-related employment. Regression analysis attempts to quantify how much the dependent variable changes (and in what direction) in response to a one-unit change in any single independent variable, holding the other independent variables constant.

There are important limitations to the study's findings due to the use of the state as the unit of analysis and the resulting sample size of 48, which is relatively small for the purposes of statistical analysis. The small number makes it difficult to isolate the effects of specific independent variables, particularly when the variation in one variable across all 48 states is small, or when variations among two or more independent variables are correlated with each other. Moreover, each additional variable increases the difficulty of finding a persuasive statistical result. To minimize this problem, independent variables that showed high levels of correlation with other variables were excluded from the analysis. However, this increases the risk that important factors were left out and that the true causes are therefore misunderstood.

I began my research by exploring previous studies of FDI and the many

variables these studies considered. Most variables did not show a high and consistent level of correlation with alternative measures of accumulated foreign activity in various sectors. This included measures of climate and temperature, an encouraging finding for Minnesota.

A few independent variables that have proven important in other studies seemed to be logical candidates as causal factors for the level of FDI. Gross state product, or *GSP*, provides the best single measure of a state's total economic activity. If foreign investment were attracted equally by state economic activity of all kinds, this variable would explain all of it. Although I did not expect that extreme assumption to hold, I did expect total economic activity measured by *GSP* to have a strong and positive influence on investment, despite the fact that some early statistical studies of FDI had ignored it.

Some research has also suggested that investment might be larger in a particular state in anticipation of future demand from within that state. Therefore, the second variable included in my analysis, *growth*, was a measure of the rate of growth of *GSP* between 1980 and 1996.

The study also employed a new variable, *sector*, based on my focus on investment at the sector level, and my hunch that the variations in FDI may depend quite strongly on the economic structure of the state. For example, if a state has a high level of manufacturing activity, it might be expected to provide fertile soil for foreign activity in that sector, all else being equal. More importantly, because as much as 80–90% of all entering FDI in recent years has taken place through acquisition rather than “greenfield” investment (investment from the ground up), the size of the sector roughly indexes the opportunity for such acquisition.

Variables related to a state's location have also proven important in previous studies. Europeans traditionally entered American markets and gained experience with FDI in the United States through the Northeast. Investment from the Far East (especially Japan) frequently began with activity on the West Coast. These states together are designated by the variable *coast*.

The variable *far*, which measures the distance of a state's center from the city of Pittsburgh, was also used in this study with the expectation that a state's distance from the manufacturing belt would be associated with a lower foreign manufacturing presence because of the high geographic interdependence in some manufacturing subsectors, particularly automobiles and parts, an industry in which foreign investors have been particularly active.

Finally, the study included a variable, *union*, that is influenced by public policy: trade union³ membership. Low unionization may be attractive to foreign investors. Union membership as a percentage of the workforce is included in every regression result reported below.

Results. Table 2 shows a representative regression from the study for each of the sectors examined. The numbers reported are regression coefficients, which indicate how many units of change in employment are associated with a one-unit movement in each of the independent variables, and in which direction. A minus sign indicates a negative relationship—that is, an increase in the independent variable is associated with a decrease in FDI-related employment.

The results reported in Table 2 fall into three categories, based on the *statistical testing*. For results in boldface type, there is a less than 1% chance that the expected association between the independent variable and FDI-related employment is accidental (meaning there is no actual relationship between the variables). For results in italics, there

Table 2. Regression Coefficients for Foreign Direct Investment in the Forty-Eight Contiguous United States, 1996

Sector	Independent Variables						R ²
	GSP	Sector	Growth	Coast	Union	Far	
Manufacturing	0.226	255.095	2.641	-13.627	-0.037	-2.401	0.876
Wholesale	0.068	1.605	-0.369	1.793	-0.105	—	0.777
Retail	0.106	84.114	2.486	4.841	-0.213	—	0.700
Finance	0.009	11.816	-0.243	0.274	0.018	—	0.339
Insurance	0.020	85.010	0.051	-0.186	0.008	—	0.777
Real Estate	0.004	51.374	-0.085	0.158	-0.015	—	0.657
Services	0.090	24.183	-0.654	1.034	-0.291	—	0.898
Other	0.061	—	0.845	-0.896	0.145	—	0.687
Total	0.659	—	3.201	1.232	-0.697	-2.164	0.930

³ For example, so-called right-to-work legislation, now in force in 20 states, effectively diminishes union power by removing the requirement of a person's union membership (or the payment of a compensatory fee) as a condition of continuing employment at a workplace. Two other public policy variables—state expenditure on higher education and state corporate income taxes—have received much attention in recent studies of FDI. Both of these variables were considered in this study, but neither variable showed any promise in explaining FDI or FDI-related employment. This does not mean that these variables are irrelevant; data limitations may simply have masked their influence.

is a less than 5% percent chance that the expected association between the variables is accidental. Finally, for results reported in regular type, there is a greater than 5% chance that the expected association between the variables is accidental, and the result is therefore assumed to be unreliable. R^2 indicates the fraction of the total variation in employment across the states that is associated with the variation in all of the independent variables taken together.

Manufacturing. A state's *GSP* apparently has a strong and positive impact on foreign investment in manufacturing, and the results suggest that this positive association extends across all investment sectors. The relative size of the state's manufacturing sector also draws FDI. Gross state product is measured in thousands of dollars, and the size of the state sector relative to other sectors is measured as a decimal fraction. FDI-related employment is measured in thousands. The results therefore suggest that, all else being equal, an additional million dollars of gross state product will be associated with an additional FDI manufacturing employment of 226 persons. Holding the gross product of the state (and all other variables) constant, a 1% increase in manufacturing's share in state employment will raise FDI manufacturing employment by 2,551 persons. As expected, *far* significantly diminishes a state's appeal in terms of manufacturing investment. The negative sign for *coast* does not imply that having an ocean coastline somehow deters manufacturing investment. It appears to mean that the factors leading to manufacturing activity generally have not attached to coastal states and do not do so for FDI

Table 3. Deviations from Predicted Foreign Direct Investment Employment Levels for the State of Minnesota, 1996

	Unexplained employment	Percentage of employment
Manufacturing	-3,541.61	-0.82%
Wholesale	-3,886.62	-2.58%
Retail	-7,801.38	-1.71%
Finance	-563.62	-1.24%
Insurance	-479.55	-0.84%
Real Estate	211.34	0.83%
Services	-3,134.89	-0.43%
Other Industries	15,218.67	2.33%
Total	5,216.30	0.20%
Total w/o NW-KLM	-16,784.00	-0.64%

either. The R^2 value for this sector indicates that the independent variables considered in the study explain nearly 88% of the variation in manufacturing FDI employment among the 48 states.

A measure of Minnesota's performance relative to the other 47 states was employed for all of the sectors analyzed, and the results are reported in Table 3. Correcting for the factors presented in Table 2, Minnesota's shortfall from the expected value of FDI manufacturing employment for the state is 3,542 persons. In other words, characteristics of the state other than those included in the equation are causing that many fewer persons to be employed by foreign investors than would have been expected. This amounts, however, to less than 1% of the state's manufacturing labor force.

Wholesale Trade. Wholesale trade accounted for 9.8% of national FDI-related employment in 1996. My analysis shows a negative association between employment and unionization. If one takes the result at face value, it implies that a 1% increase in the unionization of the labor force decreases wholesale FDI by 105 workers. Many of these wholesale establishments are associated with international trade linked in various ways to the investing firm. Unsurprisingly, the *coast* variable is highly significant; being one of the 13 coastal states results in an increase of nearly 1,880 jobs in wholesaling, which is nearly 18% of the average state value of FDI wholesale employment. Minnesota has an employment shortfall in wholesale trade of 3,887 persons, which is 2.6% of the estimated size of the state's wholesale sector.

Retail Trade. Retail trade, which accounted for about 16.5% of national FDI employment, presents a set of sectoral characteristics quite different from the previous two. One would expect a very high correlation between total retail FDI employment and personal income, which is too closely associated with *GSP* to be included in the equation, and also little variation across the states in the size of the retail sector relative to *GSP*. The link between local income and retail demand also suggests the likelihood that the growth rate of demand could be important and significant, a prediction confirmed by my analysis. *Coast* is also significant, and boosts retail jobs by approximately 4,841. Minnesota again experienced a shortfall, in this case 7,801 jobs, which is slightly more than 1.7% of retail employment in the state.

Finance. Finance is a very small direct investment sector, accounting for roughly 1% of total employment in 1996. This figure does not include depository institutions, for which state-level data were not available. By definition, acquisition can occur only in areas with existing activity in finance, and even greenfield investors might be expected to seek labor in areas where domestic finance is particularly well established. In fact, only about one-third of the variation in the data can be tracked to the independent variables examined, the lowest level in the study by far, and only *GSP* is statistically significant. Minnesota's performance as a host to financial service investment shows another shortfall, in this case 564, which is 1.24% of financial employment in the state.

Insurance. Insurance employment in the 48 states was about three times that of finance. As in the finance sector, one might expect some "huddling" in well-established insurance centers where targets of acquisition will also be concentrated, and here this hunch was confirmed by my results. The large and significant coefficient suggests that for every 1% increase in the relative size of the insurance industry in a state, the level of employment by foreign insurance companies goes up by between 715 and 850 jobs. In sharp contrast with the finance sector, three-fourths of the variation in the data can be explained by the variables considered here. Once again, Minnesota has a shortfall—in this case, 480 jobs, which is 0.84% of the state's workforce in the insurance sector.

Real Estate. The real estate category includes only firms for which real estate is the primary business. FDI-related employment in the real estate sector is the smallest of any of the sectors studied, a mere 27,000 employees in 1996, or about one-half the size of total FDI-related financial sector employment. As in the case of insurance, there is a highly significant positive coefficient related to the size of the real estate sector in the state, suggesting some mix of acquisition targets and well-developed labor expertise. The fraction of variation explained is a relatively modest two-thirds. Other regressions for real estate included variables used only for this sector. The possibility that restrictions on either foreign ownership of agricultural land or on corporate ownership of land could negatively affect the interest of foreigners in building real estate businesses was examined, but neither measure was

associated with FDI employment. Real estate is the first sector in which Minnesota has more employment than predicted, with 211 more people employed in foreign-owned real estate enterprises than expected.

Services. The discrete service categories are broken down for national-level tabulations, but not for the state level. The service sector includes the following:

- ▶ hotels
- ▶ business services
- ▶ motion pictures
- ▶ engineering, architectural, and surveying services
- ▶ accounting, research, management, and related services
- ▶ health services
- ▶ other services

Somewhat surprisingly, relative service sector size has a positive effect on FDI-related employment, suggesting that, despite the mixed bag of activities, service sector size still gauges acquisition targets, and perhaps that the same state-level forces that draw domestic activity also draw foreign investors as well. The negative coefficient for the *union* variable is both larger and more significant than for any other sector. This implies that every 1% decrease in unionization is associated with 291 more FDI-related service jobs. A high 90% of the total variation in FDI-related employment can be explained by the variables considered here. The Minnesota shortfall for the service category is 3,135 jobs.

Other Industries. This data category is a grab bag, but it includes some important activities: agriculture, forestry, and fishing; mining; construction; transportation and communication; and public utilities. Together these accounted for about 9.6% of FDI employment in 1996. Despite the variety of activities included in this category, many of these industries are subjected to substantial government regulation. Although only foreign agricultural landownership is regulated at the state level, federal regulation is a significant factor. Telecommunications regulations have recently been liberalized, but both telecommunications and broadcasting have historically had a 20% foreign-ownership cap. Similarly, in domestic air transport, there has been a 25% cap on foreign ownership, subject to discretionary waiver by the Secretary of Transportation, who has used it to bargain with specific foreign governments for concessions to U.S. airlines. For some forms of natural resource

exploitation, the federal government also limits foreign activity.

Clear expectations about this sector are hard to develop. Given its heterogeneity, no attempt was made to discover what part of a state's economy the various activities represent. Several of the sectors involved are so heavily unionized that state-level unionization would not likely affect the overall results. It is also important to note that the Department of Commerce rule making 10% ownership in a firm sufficient for all of a firm's activities to count as "foreign investment" can be expected to produce some odd results.

Results for this sector indicate that less than 70% of the total variation in employment is explained by the variables considered in this study. As was the case with the finance sector, which is about one-tenth the size of the present category, only the *GSP* variable produced a significant result.

This is the only category besides real estate in which Minnesota has higher employment than predicted, with 15,219 more people employed than expected. Unfortunately, there is a simple and somewhat discouraging explanation for this result, one that also provides an important reminder about the limitations of the data. The home countries of investors could not be systematically considered for each state in this study due to data limitations. Nonetheless, home country data for Minnesota is very instructive for the category Other Industries. A total of 22,500 Minnesota employees were reported as working for Dutch firms in 1996. Because there are no large Dutch investments in Minnesota outside of the airline industry, one has to assume that virtually all of these employees worked for Northwest Airlines. In other words, Minnesota's positive employment result for this category is largely due to the Dutch firm KLM's 19.6% temporary ownership share in Northwest Airlines—a minority stake in a firm that has always been located in Minnesota.

Total Investment. The preceding analysis demonstrates enough diversity among apparent causal variables and R^2 to cast doubt on the wisdom of discussing state-level FDI without considering specific sectors. Nonetheless, many studies of FDI rank states by their overall position, so it is important to consider total investment as part of the current analysis. As in the case of all previous results, *GSP* is by far the most significant single determinant of total

FDI, implying that every million dollars of additional state product is associated with 659 additional FDI jobs. There is little else to report. Only the *far* variable makes a significant showing, reflecting its importance in manufacturing and the nearly 45% share of that sector in total FDI employment. Nevertheless, 93% of total variation in employment is explained by the variables considered here.

Minnesota's unpredicted extra employment for all investment sectors is 5,216, but the reasons for this apparently strong showing have already been noted: the KLM investment in Northwest, which was completely liquidated by May 1998. The last row in Table 3 shows the results for Minnesota with the estimated state employment from KLM-Northwest removed: a shortfall of 16,784 jobs, or about 0.64% of the total 1996 workforce for the state. Clearly some other states' apparent positions in the overall FDI pecking order may be just as tenuously dependent on one firm's behavior as was Minnesota's. At the same time, no one could seriously claim that the KLM investment stake had much, if anything, directly to do with the attractiveness of Minnesota as a site for FDI.

Policy Implications

The original justification for encouraging FDI was the same as that for most other economic development proposals in the 1980s: to create jobs. But unemployment rates have varied sharply around Minnesota, and even successful FDI promotion often brings foreign investment to sectors least in need of employment gain, meaning much of the new labor must be imported. From the perspective of 2001, even the general objective of job promotion may seem anachronistic in light of Minnesota's high employment rate and consequent labor shortages throughout much of the state. Moreover, although such high employment rates have not persisted for a long time, and they are unlikely to do so in the future, FDI cannot fine-tune a state's economy. Across the business cycle, only FDI linked directly to foreign markets and not highly correlated with U.S. domestic demand would help to stabilize employment rates.

It has long been known that efforts to attract FDI to Minnesota begun with such fanfare under the Perpich administration met with only modest success at best. But could we have done better? This study suggests some answers.

First, the data used in the study include both acquisitions and greenfield investments. The latter were over one-quarter of the total FDI by value in 1980; this had dropped to 16.1% in 1990 and 11.8% by 1993. National data for 2000 indicate an astonishing 99% of outlays were for acquisitions. A drive to bring available FDI to Minnesota during this period would increasingly have involved what amounts to investment brokerage. But can state policy really do much to improve foreign intelligence about Minnesota firms that might be ripe targets for takeover? Even if such policy made economic sense, would it have been politically viable? Negative answers to both questions probably underlie an increasing emphasis within the Minnesota Trade Office toward export assistance and away from attempts to lure more FDI. In 1986, trade office resources devoted to export promotion exceeded that for FDI encouragement by only 60%. By the early 1990s, resources earmarked exclusively for FDI had virtually disappeared. This looks like a wise reordering of priorities, although little is known about the effectiveness of the export-oriented activity. It should also be noted that the resources used by the state for international business development are modest, and have remained remarkably stable; the international business budget was \$2,202,000 in 1986, and \$2,018,000 in 2000.

One argument against brokerage seems clearly wrong. Some believe that FDI, or out-of-state investment more generally, contributes far more to employment or state wealth when brand-new enterprises are begun. But outsiders can typically make the best acquisition bid for a firm when they have superior production or marketing strength. A takeover could reduce employment by improving productivity without improving market share, but typically this is not the case. Stronger firms usually improve their market position, and that will typically lead to increases in employment, although the employment increases may not all take place in the state where the main activity is located. In addition, both greenfield investment and acquisitions can reduce employment in competing firms in the state.

Greenfield investments have other characteristics that make their relative employment impact uncertain. Even in periods of high unemployment, most new operations do not draw heavily on

a broad range of unemployed workers. Instead, they draw on individuals with specific skills across local, state, regional, and national labor markets, often yielding a modest impact on local unemployment. Business expansion in times of high employment could create labor market difficulties for other firms that might cause them to relocate. Hence, the impact of many greenfield investments, not only on local employment but also on the tax base, may be as hard to predict as that of an acquisition.

In general, of course, there is a presumption of increased economic activity from both kinds of FDI. This, in turn, is expected to have an uncertain but positive impact on both employment and the fiscal situation of the immediate jurisdiction—assuming that too much revenue has not been foregone to lure the investment in the first place, as many believe was the case with Alabama's successful bid for a Mercedes plant. This argument applies equally to all types of out-of-state investment. Moreover, this study established that overall state size and the existing structure of the state's economy are overwhelmingly strong factors in determining a state's FDI potential. The second factor captures some combination of takeover targets for acquirers and appropriate personnel for both acquirers and greenfield investors. In addition, the line between FDI activity and other business is becoming increasingly blurred. As FDI matures, much new foreign economic activity in a state will come from foreign firms already settled in other states, and presumably using criteria for expanding their activities that are virtually identical to their American-owned counterparts.

The winning entry in the apocryphal license plate slogan contest, "Iowa—Gateway to Nebraska," suggests one cause of Minnesota's shortfalls from predicted investment. Most other states in the region, notably Wisconsin, show deficits using the same predictors. Minnesota is geographically disadvantaged for most location-sensitive investment, and appears to hold no unusually strong attraction for most of the rest. Even the strong showing in real estate largely reflects Canadian investment based on experience with property management in severe weather.

The broad picture of FDI determinants summarized here suggests that Minnesota's best approach to FDI promotion is indirect. The state should

establish a favorable climate for the attraction, retention, and growth of economic activities that it regards as desirable. If that strategy works, FDI is likely to play a modest positive role without much special attention.

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Neighborhood Organizations Conference

The Center for Urban and Regional Affairs will sponsor a conference on "The Role and Future of Neighborhood Organizations in the Twin Cities" on Tuesday, October 30, 2001, from 1:30 to 8:00 PM. The conference will be held at the University of Minnesota's Hubert H. Humphrey Center, located at 301 19th Ave. S. on the West Bank of campus.

Neighborhood organizations face unprecedented challenges as housing conditions and business prospects change, crime rates increase, relationships with government agencies become more uncertain, and raising funds becomes more difficult. This conference will provide key information and discussion on the current neighborhood environment, the changing role of neighborhood organizations, and what neighborhood organizations can do to adapt and thrive in these challenging times.

The conference is free, but registration is required. To register, call (612) 625-1551. For more information about the conference, contact Kris Nelson at (612) 625-1020 or nelso193@umn.edu, or Jay Clark at (612) 625-2513 or clark037@umn.edu.