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EXPLAINING INTERSTATE VARIATIONS IN FOREIGN DIRECT INVESTMENT IN THE UNITED STATES

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Foreign direct investment (FDI) in the United States has expanded dramatically during the past decade. The book value of such investment, which involves the acquisition of full or partial ownership and managerial control of U.S. business enterprises by foreign companies, grew from \$35 billion in 1977 to \$262 billion in 1987. That 648 percent increase compares with an increase of only 112 percent in direct investment abroad by American companies over the same period. According to the International Trade Administration of the U.S. Department of Commerce, the U.S. received nearly 40 percent of worldwide foreign direct investment in the early 1980s, compared with 25 percent in the late 1970s and only 2 percent to 3 percent in the 1960s [17].

The individual states of the U.S. have been working diligently and competing aggressively among themselves to gain a share of this direct investment from foreign sources. The officials responsible for economic development have envisioned substantial benefits in the form of enlarged productive capacity and output, higher tax revenues, technological innovation, and, perhaps most importantly, more job opportunities accruing to their state from such investment. Consequently, concerted efforts to attract FDI, including overseas missions by governors and other dignitaries and a variety of tax and financial incentives, have become key elements in the economic development programs of virtually all U.S. states (see, for example, Glickman and Woodward [5], Kudrle and Kite [8], and Tolchin and Tolchin [15,16]).

Notwithstanding the states' widespread involvement in these efforts and a great deal of similarity in the methods that they have utilized, the distribution of FDI among the states has been uneven. Data compiled by the U.S. Department of Commerce show that 53 percent of the completed FDI transactions in the U.S. in 1986 occurred in just six states: California, New York, Texas, New Jersey, Pennsylvania, and Illinois [18]. Those same states accounted for 37 percent of the gross book value of property, plant, and equipment of all nonbank foreign affiliates in the U.S. and 42 percent of employment in such affiliates in 1986 [17]. Ricks and Arpan [12] report that 62 percent of all foreign-

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owned firms in the U.S. in 1984 were concentrated in eleven states and that those states had remained the dominant recipients of FDI throughout the previous ten years.

This indicates that some states have been more successful than others in attracting foreign direct investment. The reasons for this have not been determined fully or definitively. There has been an abundance of both theoretical and empirical studies of FDI. Most of these, however, have been concerned with explaining FDI in general, i.e., why business firms based in one country undertake direct investment in other countries or with identifying the motives underlying the upsurge of FDI in the U.S. as a whole. Considerably less attention has been given to the distribution of FDI in the U.S., and much of the work that has been done in this area has dealt with the locational decisions of specific foreign firms and industries or investors from a particular foreign country. Studies of recent vintage include Bumpas [1], Coleman [2], Glickman and Woodward [4], Harrington, Burns, and Cheung [7], McClain [10], ÓHualacháin [11], Solochoa, Soskin, and Krasoff [14], and Williams and Brinker [19].

This article is based on a broader approach that explores the distribution of FDI among U.S. states as it relates to certain conditions that are measurable across states. The conditions investigated represent the economic situation, the business climate, and the international promotional programs of the states. Basically, if FDI location in the U.S. is considered as a balancing of prospective revenues and costs, then market size and growth, input cost factors, and state governmental commitments to economic development, in general, and attraction of foreign enterprises, in particular, are important. The sections below focus on measures of FDI that are meaningful across states and on variations in FDI in relation to key factors.

Regional Measures of FDI

A problem that is encountered immediately in making state-by-state comparisons of FDI is the selection of a meaningful measure of such investment. The number of completed FDI transactions is identified through the monitoring system of the International Trade Administration (ITA) of the U.S. Department of Commerce. Total transactions amounted to 912 in 1985, with California and New York accounting for 15.7 percent and 13.2 percent, respectively. These gross numbers are not a meaningful measure of FDI across states and may not be related to the value of FDI because of reporting gaps. In 1985 the ITA reported actual dollar values for only 350 of 912 FDI transactions, just 38 percent of the cases reported during that year. Moreover, the reporting varies

from state to state. For example, FDI transactions amounted to \$485 million in Ohio in 1985, but only 50 percent of the cases had reported dollar values. In Michigan only one-third of the FDI transactions had associated dollar values. There appears to be no way to reconcile this gap between the number and value of FDI transactions reported. This transactions-value gap indicates that such data provide incomplete information at best.

The most complete data available on the location of FDI among U.S. states record that investment in terms of the gross book value of fixed assets of U.S. affiliates of foreign firms and in terms of the number of employees in those affiliates. These data are presented in Tables 1 and 2. Texas led all states in terms of gross fixed assets in 1985 with 12.9 percent of the total for the nation. Moreover, the Texas and California shares of gross fixed assets were larger than shares for the New England, Great Lakes, Plains, and Rocky Mountain regions. In terms of affiliate employment, the Southeast region had the largest share which was widely distributed among the twelve states in that region. In the Far West region, on the other hand, there was heavy concentration in California with relatively little FDI in the other states.

Despite the usefulness of these data in revealing the amount and growth of FDI in individual states, their usefulness for comparative analyses among states is limited. On the one hand, affiliate fixed assets and employment in such affiliates naturally will tend to be larger in the bigger states. Figure 1 shows the high degree of association between the level of affiliate employment and population in 1985 and 1977, with R^2 equal to .924 and .893, respectively. Furthermore, the correlation between absolute changes in affiliate employment and the size of the population is .94. Results are similar for gross fixed assets. Such associations indicate that bigger states not only had larger amounts of FDI, but they also experienced greater absolute gains from 1977 to 1985.

On the other hand, rates of growth of affiliate fixed assets and employment are often much higher in the states in which the magnitude of those variables was small in the base year. Table 2 shows, for example, that affiliate employment increased at an average annual rate of 24 percent in New Mexico from 1977 to 1985. Growth in Texas was slower at 15.6 percent per year, despite the fact that the latter experienced an absolute gain in employment of 145,542, compared to only 8,994 in the former.

Gross fixed assets may be adjusted for the size of affiliate employment. This ratio of gross fixed assets per worker, however, leads to obvious problems in interpreting interstate changes. For example, Rhode Island shows a negative change in this ratio from 1977 to 1985, as affiliate employment in that state outgrew the value of gross fixed

assets by a considerable margin. Montana exhibits a large increase, as the change in gross fixed assets outstripped gains in affiliate employment by a factor of more than three to one. The absolute gain in affiliate employment in Rhode Island was 7,280 (14.2 percent) compared to only 1,599 in Montana (10 percent). Using this ratio, foreign affiliates in Rhode Island would appear to be much less capital intensive in 1985 compared to 1977, whereas foreign affiliates in Montana show just the opposite. This hardly indicates that FDI was considerably greater in Montana. For the forty-eight states, the correlation between the percentage change in employment at foreign affiliates and gross fixed assets is only .382. Therefore, changes in book value of fixed assets of foreign affiliates may yield misleading information about impacts of FDI across states.

In order to compensate for such biases in the data, foreign affiliate shares of total state employment were computed for 1977 and 1985. The share of employment at foreign affiliates is not large in the U.S. as a whole, and this is reflected in small shares in most states. In 1977 the largest share of employment by foreign affiliates was 3.3 percent in South Carolina; the low was 0.3 percent in South Dakota. By 1985, Delaware had the highest share at 12 percent, with South Dakota still the low at 0.7 percent. For all forty-eight contiguous states, the average foreign affiliate share amounted to just 1.3 percent in 1977; although that average had more than doubled by 1985, it still only amounted to 2.8 percent. It also should be noted that states with relatively high shares of affiliate employment in 1977 also had high shares in 1985. A rank correlation for affiliate shares in those two years is .87.

Figure 2 shows that all forty-eight states experienced increases in their affiliate shares from 1977 to 1985. The range is sizable. Delaware had the largest increase from 2.6 percent to 12 percent, an absolute gain in share of 9.4 percentage points. Vermont, Idaho, and Wyoming are at the low end, experiencing gains in share of only 0.2 percentage points. Other states with large gains include West Virginia, Maine, Georgia, North Carolina, Tennessee, Ohio, and Pennsylvania. The latter two experienced the largest increases among the older industrialized states. For the forty-eight states, the average gain in affiliate share is only 1.4 percentage points, but a coefficient of variation of 94 percent indicates a relatively high variance among the states during this period.

Explanations of Regional Differences in FDI

Explanations of changes in state foreign affiliate shares of employment can be grouped into three categories: market-related conditions, cost-based factors, and public sector policies and inducements. Market-related conditions reflect factors that influence

the revenue side of a firm's location decision; these are represented by differences in size and economic growth among states. It is expected that larger size and more rapid growth contribute to a stronger state economy and greater opportunities; this, in turn, enhances the environment for FDI. Cost-based factors relate to explicit costs of resources as well as the overall business environment. Other things equal, higher costs and a poorer business environment can be expected to reduce rates of FDI, which are likely to be reflected in smaller changes in affiliate share of employment. Public sector policies at the state level include a myriad of inducements and incentives to locate in a particular state. These range from outright subsidies to a so-called positive attitude toward business issues by state and local officials. In the international arena, state programs and promotions represent a commitment to enhance a state's presence in the world economy. In short, it is expected that changes in affiliate shares across states are related positively to state aggregate economic conditions, inversely to business costs, and positively to international programs and promotional activities. This hypothesis suggests that differentials in affiliate shares are explainable in terms of key regional macroeconomic variables. Such a focus differs from the traditional location decision approach that emphasizes decisions of individual firms. The main issue addressed here is whether observed differentials in changes in foreign affiliate shares of employment are related to variations in aggregate economic environments across states.

Empirical Measurements and Estimates

Aggregate market-related factors are represented by two variables: population and the growth of nonaffiliate (i.e., domestic) employment. They reflect market size and growth hypotheses with regard to FDI. Cost-related factors are measured by wage levels, union membership, tax burdens, right-to-work laws, and estimates of the so-called business climate. State international program and promotion activities are measured by the dollar allocation in the state budget.

In addition to wage, union, and tax variables, business climate estimates are used to capture an array of business cost factors as a group. Public and private business costs were measured by the mean rankings from Grant Thornton studies of business climate for five years from 1981 to 1985 [6]. These rankings represent comparative listings of states according to perceived costs of manufacturing operations. A listing of items included in Grant Thornton rankings is shown in Table 3. Factors considered in computing labor costs contribute negatively to a state's ranking. In addition, all items in the state and local government fiscal policies category exert an unfavorable influence on business

climate. Labor productivity, state regulations, and energy, environmental, and population factors have a mixed influence.

Skoro [13] has pointed out that Grant Thornton rankings tend to favor low tax, low wage, and low service nonindustrial states with weak union influences. Individual cost variables used in this study support that conclusion. For example, the correlation between the average Grant Thornton ranking for 1981-1985 and the percent of the labor force unionized is .83, indicating that states that ranked poorly in business climate tended to have a higher percent of the labor force represented by unions. Associations between wages and tax burdens and the business climate rankings are also significant, although somewhat weaker. Skoro demonstrated that Grant Thornton rankings are not good predictors of state economic performance and, therefore, that they are not reflective of state business climates in general. Nevertheless, they provide a comparative measure from the manufacturers' cost side.

Measures of business vitality from the Corporation of Enterprise Development also were utilized [3]. These comparative state rankings attempt to measure competitiveness, innovation, and entrepreneurial energy of businesses within states. Skoro [13] notes that CED rankings attempt to measure whether companies are innovative and open to new possibilities. Table 4 lists the components of the CED business vitality rankings. CED also includes measures for human, financial, and physical infrastructure capacity and public policies such as regulatory reform, tax codes, technological, business, and human resource development, community assistance, and capital budgets. These CED rankings represent broader measures of state business environments than the cost-based measures of Grant Thornton; they are used below to capture variations in those environments.

The CED and Grant Thornton rankings cover more than simply wages, taxes, and union affiliation. The cost hypothesis suggests that states ranking high according to the Grant Thornton measures of business climate possess business cost advantages, while those ranking high according to the CED measures have a business environment packed with vitality and entrepreneurial spirit. From a cost perspective, these characteristics would seem to be conducive to business investment, both domestic and foreign. But is this the case with respect to FDI? The tests below focus on the market, cost, and policy variables across states.

Spearman rank correlations between changes in affiliate shares, $\Delta(E_F/E_T)$ from 1977 to 1985, and factors linked to FDI are shown in Table 5. The results are poor for many of the variables representing the hypothesis specified above. Most rank correlations are not significantly different from zero, and some have the wrong sign. Two are worth noting, however. The correlation between $\Delta(E_F/E_T)$ and population is

positive and significant at a probability of .006. The correlation between $\Delta(E_F/E_T)$ and the international budget is also positive and significant at a probability of .001. It should be noted, however, that data for international budgets were only available for thirty-five states. Therefore, these results exclude states such as Delaware, Pennsylvania, and West Virginia that ranked high in terms of increases in foreign affiliate shares.

These bivariate rank correlations are suggestive. They reveal that big states with large international budgets experienced relatively large gains in foreign affiliate shares. But the results do not support the traditional business cost hypothesis about FDI. This is the case whether individual input cost factors are considered (e.g., wage rates) or overall business costs, as represented by the Grant Thornton and CED rankings, are considered. There is little evidence that changes in foreign affiliate shares of employment are related to variations in business cost and climate factors. Wage rate differentials are a case in point. The rank correlation is negative, as expected, but it is not significantly different from zero. This is also the case with respect to tax burdens. This result conforms to a large volume of research finding that taxes have a small influence at best on location decisions. Surprisingly, the rank correlation for the Grant Thornton measure is positive, indicating that low rankings for overall manufacturing costs (e.g., 40 or 48) tended to be associated weakly with larger changes in affiliate shares. In Pennsylvania, for example, the average Grant Thornton ranking was 42 compared to 2 in Florida for 1981-1985; the change in affiliate share between 1977 and 1985 was 1.8 percentage points in the former, compared to 1.2 percentage points in the latter. Other things equal, there appears to be little association between wages, union membership, tax burdens, and business climate and changes in the foreign affiliate share of employment across states.

Other things are not equal, however, and this is not captured by simple correlations. Another test of the hypothesis was made by regressing the changes in affiliate shares of employment against the market, cost, and program variables. In essence this represented a multivariate test of the following relationship:

$$\Delta(E_F/E_T) = \Phi(\text{POP}, g(E_D), \text{UN}, W, \text{RW}, \text{TX}, \text{BV}, \text{IB\$});$$

where:

$$\partial\Phi/\partial\text{POP}, \partial\Phi/\partial g(E_D), \partial\Phi/\partial\text{IB\$}, \partial\Phi/\partial\text{RW} > 0; \text{ and}$$

$$\partial\Phi/\partial\text{UN}, \partial\Phi/\partial W, \partial\Phi/\partial\text{TX} < 0;$$

represent relationships specified above.

Explanatory variables are measured as:

- POP = total population, 1977;
- g(ED) = percent change in nonaffiliate employment, 1977-1985;
- UN = union membership as a percent of employment, 1980;
- W = average hourly earnings in manufacturing, 1977;
- RW = right-to-work state (yes=1; no=0), 1980;
- TX = tax burden per capita, 1983;
- BV = business vitality ranking;
- IB\$ = international budget allocation (dollars), 1984.

In addition to specifying business costs individually with UN, W, and TX, a categorical variable reflecting right-to-work legislation (RW) also was included. Furthermore, mean rankings from the Grant Thornton business climate studies for 1981 to 1985 (\bar{GT}) were used again to capture an array of cost-related factors cited earlier. Four cross-section regressions are given in Table 6.

Regression 1 captures all of the market, business cost, and international program variables. Only the growth of nonaffiliate employment, g(ED), and the international budget allocation, IB\$, have the expected signs and are reasonably significant. The results for the business cost variables are mixed. UN and W have expected negative signs, but are not highly significant. BV and RW are highly significant, but their signs are the opposite of that hypothesized. It was expected that a good business vitality ranking (e.g., 2 or 5) or the existence of a right-to-work law (e.g., RW = 1) would be associated with a larger increase in affiliate shares. This is not the case. In fact, the significance of BV indicates that business vitality--represented by the entrepreneurial spirit rankings of CED--and FDI are not related in a positive way. The following example illustrates this point. Florida, which is a right-to-work state, had a BV ranking of 8 and experienced an increase in foreign affiliate share of 1.2 percentage points. Illinois had a BV ranking of 38 and is not a right-to-work state, but showed a gain in foreign affiliate share of 1.4 percentage points. Moreover, Pennsylvania, which was not included in the sample because of the lack of data on the international budget, experienced a gain in affiliate share of 1.8 percentage points; that state is not a right-to-work state and had a BV ranking of 48.

One problem with regression 1 is that this multivariate estimate is subject to a high degree of collinearity among the independent variables. The percent of the labor force unionized is correlated significantly with average hourly earnings, right-to-work laws, the

international budget, and the growth of nonaffiliate employment. The latter also is associated with business vitality rankings.

Regressions 2, 3, and 4 separate explanatory variables. Regression 2 utilizes the significant variables from regression 1. Coefficients for $g(E_D)$, BV, and IB\$ are highly significant, indicating that changes in affiliate shares were related to domestic employment growth rates and international budget allocations across thirty-five states. But again, business vitality was not a positive contributor to $\Delta(E_F/E_T)$. The fairly low \hat{R}^2 value for regressions 1 and 2 indicates that although a few variables are significantly related to $\Delta(E_F/E_T)$, there is still a lot of unaccounted interstate variation.

Regression 3 addresses the issue of costs and the business environment directly. Both coefficients are highly significant and have the expected signs; moreover, \hat{R}^2 indicates that nearly 57 percent of the variation in growth of nonaffiliate employment is explained by GT and CED variables. It shows that poorer rankings for Grant Thornton measures of business climate and CED measures of business vitality were significantly associated with smaller gains in nonaffiliate employment. In short, states that had poorer rankings for the Grant Thornton array of manufacturers' costs and CED business vitality measures also tended to have lower rates of growth for nonaffiliate employment. Therefore, the link between the business environment and changes in foreign affiliate share, $\Delta(E_F/E_T)$, is indirect because slower growth domestically is related to a smaller change in foreign affiliate share, as indicated by regression 1.

State international budget allocations are related to population levels and business climate and vitality rankings in regression 4. Population is highly significant, and its positive sign indicates that larger states had bigger international budgets. In addition, higher business costs and poorer business vitality rankings were related positively to larger international budgets. This result suggests that states ranking poorly in terms of cost factors had a higher commitment to international programs as measured by the size of the budget allocation. The upshot is that business costs tended to hold down changes in affiliate share through a negative impact state growth, but that this was offset to some extent by a commitment to international promotional activities represented by the budget allocation.

A closer examination of individual states illustrates the last point. For example, Ohio had a mean Grant Thornton ranking of 42 for the 1981-1985 period. Not surprisingly, Ohio is regarded as a relatively high cost production state by manufacturers. But with its international budget of \$1,900,000 in 1984, the state ranked third highest in the nation, exceeded only by New York and Illinois with budgets amounting to \$2,500,000. Those two states also rated poorly in terms of business

costs, with Grant Thornton mean rankings of 41 and 42, respectively. Nevertheless, in terms of the change in foreign affiliate share of employment from 1977 to 1985, the rankings for New York, Illinois, and Ohio were 20, 18, and 6, respectively, among the forty-eight contiguous states. The results from regression 4 indicate that across states those changes were related positively to state size and state international budget allocations, which offset the negative influence of business costs to some extent.

Conclusions and Implications

Although the empirical results point in the right direction, they are not robust and need to be viewed as preliminary. Nevertheless, certain aspects are worth noting.

First, FDI is not large in the U.S., and the data problems are immense. Little [9] has pointed out that FDI occurs primarily through acquisitions rather than construction of new facilities (greenfield plants) and that acquisitions may account for more than 80 percent of the dollars and employment involved. She indicates further that in 1986 acquired firms employed more than 400,000, while new establishments by foreign-owned firms created only about 19,000 new jobs. Without an improvement in data sources, it will remain extremely difficult for regional analysts to move from a reclassification of employment from domestic to foreign that accompanies acquisitions to analyses of net additions to employment from FDI. Until such data are available, more detailed analysis of regional FDI functions will be restricted to case studies for which primary data have been gathered.

Second, the results do support the hypothesis specified with regard to changes in foreign affiliate shares and size of state, economic growth, business costs, and state international programs. Aggregate economic growth can be regarded as a proxy for higher profit potential in the sense that more rapid growth may reflect higher expected rates of return. Size of state, which is an important determinant of the level of foreign affiliate employment and international budget allocations, may reflect market-related factors such as opportunities for investment (or takeover of U.S. firms), resource availability, and sales, as well as exposure and experience with international programs. A larger international budget allocation is accompanied by a staff commitment and foreign offices, all of which appear to enhance the FDI environment.

Third, input costs and the business environment do not appear to be related directly to changes in affiliate shares across states. There seem to be offsetting influences. On the one hand, higher costs and a poorer business environment were related negatively to nonaffiliate employment growth as economic cost theory suggests; this tends to

reduce the increase in affiliate share, other things equal. Other things, however, are not equal. In fact, the results show that states that had higher costs also tended to have larger international budgets. That commitment to international programs and promotion appears to offset negative influences associated with a so-called poor business climate. With respect to the differentials in FDI across states, the results do not support low wage, low tax, low unionization arguments. In fact, relatively high cost states such as New York, Illinois, Ohio, Pennsylvania, and Rhode Island experienced large increases in their foreign affiliate shares. The low business cost proposition is too simple, and it is questionable with respect to the distribution of FDI in the United States.

Fourth, a larger international budget, accompanied by more staff and foreign offices, does seem to yield benefits. Although such budgets may or may not represent optimal use of state funds, a larger commitment to international programs was related to gains in foreign affiliate shares of employment across the states examined. But this is not as revealing as it appears, because the gross international budget figures include both export promotion and FDI activities. Therefore, the results reported above cannot be viewed as an evaluation of state programs aimed directly at incoming FDI itself.

Finally, from an economic development perspective, the results raise questions about whether smaller states with smaller industrial sectors and smaller international budgets can compete successfully for FDI in a global arena. So far, successful states have been relatively large with something to offer foreign-owned firms. It is possible that the variance in foreign affiliate shares may get wider because the have-nots may not be able to catch up.

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Table 1
Gross Fixed Assets--U.S. Affiliates of Foreign Firms
(\$ millions)

	1977	1985	1985 Percentage Distribution	Average Annual Rate of Growth 1977-1985
TOTAL	66,785	293,560	100	20.3
NEW ENGLAND	2,011	7,778	2.6	18.4
Connecticut	512	1,868	0.6	17.6
Maine	291	1,354	0.5	21.1
Massachusetts	695	3,065	1.0	20.3
New Hampshire	173	605	0.2	16.9
Rhode Island	173	435	0.1	12.2
Vermont	167	451	0.2	13.2
MIDEAST	9,269	40,206	13.7	20.1
Delaware	385	2,790	1.0	28.1
Maryland	919	3,140	1.1	16.6
New Jersey	2,963	9,328	3.2	15.4
New York	2,845	15,253	5.2	23.4
Pennsylvania	2,067	8,600	2.9	19.5
GREAT LAKES	8,997	29,923	10.2	16.2
Illinois	2,582	9,119	3.1	17.1
Indiana	869	2,738	0.9	15.4
Michigan	2,400	6,192	2.1	12.6
Ohio	2,362	8,660	3.0	17.6
Wisconsin	784	3,214	1.1	19.3
PLAINS	3,883	12,098	4.1	15.3
Iowa	342	1,401	0.5	19.3
Kansas	271	1,199	0.4	20.4
Minnesota	2,009	4,249	1.4	9.8
Missouri	908	3,027	1.0	16.2
Nebraska	125	443	0.2	17.1
North Dakota	202	1,389	0.5	27.3
South Dakota	26	390	0.1	40.3
SOUTHEAST	15,777	69,880	23.8	20.4
Alabama	1,221	2,984	1.0	11.8
Arkansas	155	1,069	0.4	27.3
Florida	1,525	9,702	3.3	26.0
Georgia	1,553	8,048	2.7	22.8
Kentucky	651	3,880	1.3	25.0
Louisiana	3,161	12,938	4.4	19.3
Mississippi	502	2,312	0.8	21.0
North Carolina	1,878	7,598	2.6	19.1
South Carolina	2,137	5,937	2.0	13.6
Tennessee	1,335	4,621	1.6	16.8
Virginia	824	5,103	1.7	25.6
West Virginia	835	5,688	1.9	27.1

Table 1 (continued)
Gross Fixed Assets--U.S. Affiliates of Foreign Firms
(millions of dollars)

	1977	1985	1985 Percentage Distribution	Average Annual Rate of Growth 1977-1985
SOUTHWEST	8,336	48,294	16.5	24.6
Arizona	548	3,700	1.3	27.0
New Mexico	250	1,876	0.6	28.7
Oklahoma	795	4,835	1.6	25.3
Texas	6,743	37,883	12.9	24.1
ROCKY MTS	1,946	11,873	4.0	25.4
Colorado	674	4,561	1.6	27.0
Idaho	67	351	0.1	23.0
Montana	280	1,870	0.6	26.8
Utah	424	2,647	0.9	25.7
Wyoming	501	2,444	0.8	21.9
FAR WEST	5,748	41,202	14.0	27.9
California	4,746	34,704	11.8	28.2
Nevada	72	1,083	0.4	40.3
Oregon	209	1,747	0.6	30.4
Washington	721	3,668	1.2	22.5

Source: U.S. Department of Commerce [17, pp. 125-126]

Table 2
Employment in U.S. Affiliates of Foreign Firms

	1977	1985	1985 Percentage Distribution	Average Annual Rate of Growth 1977-1985
TOTAL	1,218,711	2,853,590	100	11.2
NEW ENGLAND	75,568	169,820	6.0	10.7
Connecticut	22,590	43,123	1.5	8.4
Maine	5,713	21,210	0.7	17.8
Massachusetts	30,326	71,279	2.5	11.3
New Hampshire	8,361	16,499	0.6	8.9
Rhode Island	3,838	11,118	0.4	14.2
Vermont	4,740	6,591	0.2	4.2
MIDEAST	300,185	632,789	22.2	9.8
Delaware	6,202	35,167	1.2	24.2
Maryland	21,483	49,235	1.7	10.9
New Jersey	85,010	153,350	5.4	7.7
New York	121,545	239,255	8.4	8.8
Pennsylvania	64,526	150,155	5.3	11.1
GREAT LAKES	231,743	481,908	16.9	9.6
Illinois	73,841	144,312	5.1	8.7
Indiana	30,390	54,759	1.9	7.6
Michigan	41,140	81,734	2.9	9.0
Ohio	55,794	137,877	4.8	12.0
Wisconsin	30,578	63,226	2.2	9.5
PLAINS	61,423	126,064	4.4	9.4
Iowa	9,346	18,419	0.6	8.9
Kansas	8,788	14,443	0.5	6.4
Minnesota	17,553	35,450	1.2	9.2
Missouri	20,166	45,630	1.6	10.7
Nebraska	3,454	7,571	0.3	10.3
North Dakota	1,386	2,774	0.1	9.1
South Dakota	730	1,777	0.1	11.8
SOUTHEAST	264,648	706,497	24.8	13.1
Alabama	14,313	29,693	1.0	9.6
Arkansas	9,778	18,283	0.6	8.1
Florida	28,250	95,188	3.3	16.4
Georgia	30,693	106,999	3.7	16.9
Kentucky	15,490	36,034	1.3	11.1
Louisiana	18,367	50,589	1.8	13.5
Mississippi	5,734	15,906	0.6	13.6
North Carolina	45,671	116,173	4.1	12.4
South Carolina	35,077	66,477	2.3	8.3
Tennessee	26,215	69,405	2.4	12.9
Virginia	23,814	69,039	2.4	14.2
West Virginia	11,246	32,711	1.1	14.3

Table 2 (continued)
Employment in U.S. Affiliates of Foreign Firms

	1977	1985	1985 Percentage Distribution	Average Annual Rate of Growth 1977-1985
SOUTHWEST	84,177	283,688	9.9	16.4
Arizona	6,885	33,603	1.2	21.9
New Mexico	1,965	10,959	0.4	24.0
Oklahoma	8,710	26,967	0.9	15.2
Texas	66,617	212,159	7.4	15.6
ROCKY MTS	22,526	50,338	1.8	10.6
Colorado	11,150	31,068	1.1	13.7
Idaho	1,920	2,806	0.1	4.9
Montana	1,394	2,993	0.1	10.0
Utah	5,908	10,336	0.4	7.2
Wyoming	2,154	3,135	0.1	4.8
FAR WEST	143,532	360,707	12.6	12.2
California	124,232	299,267	10.5	11.6
Nevada	2,347	7,556	0.3	15.7
Oregon	5,056	18,746	0.7	17.8
Washington	11,897	35,138	1.2	14.5

Source: U.S. Department of Commerce [17, pp. 125-126]

Table 3

Grant Thornton Business Climate Categories and Factors

((-) indicates unfavorable influence, (+) indicates favorable influence)

Labor Costs

- (-) Annual average hourly manufacturing wages
- (-) Three year percent growth in hourly manufacturing wage
- (-) Nonagricultural union membership per 100 workers
- (-) Two year percent change in nonagricultural union membership

Availability and Productivity of Labor Force

- (-) Percent of nonag work time lost to stoppages in last two years
- (+) Vocational education enrollment as a percent of population
- (+) Percent of population 18 and over who are high school graduates
- (+) Value added per dollar of manufacturing production payroll
- (+) Annual average hours worked per week

State-Regulated Employment Costs

- (-) Average annual unemployment insurance cost per covered worker
- (+) Net worth of unemployment insurance trust fund per covered worker
- (-) Maximum weekly workers' compensation payment
- (-) Average workers' compensation insurance rate per \$100 of payroll

State and Local Government Fiscal Policies

- (-) State and local taxes per \$1,000 of personal income
- (-) Percent change in taxes over the last three years
- (-) Expenditure growth vs. revenue growth for the last three years
- (-) State and local debt per capita
- (-) State and local welfare expenditure per capita

Other Items

- (-) Fuel and electrical costs per million BTUs in manufacturing
- (-) Percent of state expenditures devoted to environmental control
- (+) Population per square mile
- (+) Absolute change in population over last three years

Note: Adapted from Skoro [13, p. 141]

Table 4
Corporation for Enterprise Development
Business Vitality Factors

Business Competitiveness

Export-related manufacturing as a percent of state manufacturing, 1983
New capital expenditure per production worker, 1984
Percent of business with *Inc. Magazine* 1962-1986 growth index > 20
Fortune 1000 headquarters per million residents

Entrepreneurial Energy

Percent of businesses founded after 1981 with more than ten employees by 1/86
Nonagricultural self-employed as a percent of labor force, 1980
Percent of the female labor force owning businesses, 1982
Percent of the minority labor force owning businesses, 1982

Note: Adapted from Skoro [13, p. 146]

Table 5
Spearman Rank Correlations
Change in Foreign Affiliate Share and State Economic Variables

Variable	r	Probability > t-value	n
Population (1977)	.390	.006	48
Percent change in nonaffiliate employment	-.026	.862	48
Average hourly earnings (1977)	-.107	.468	48
Union membership percentage (1980)	.079	.593	48
Grant Thornton mean ranking (1981-1985)	.178	.227	48
Business vitality ranking (1986)	.134	.365	48
Policies ranking (1986)	-.255	.080	48
Capacity ranking (1986)	.053	.723	48
Per capita tax burden (1983)	.091	.537	48
International budget allocation (1984)	.523	.001	35

Table 6
Cross-Section Regression Estimates

Dependent Variable	(1) $\Delta(EF/ET)$	(2) $\Delta(EF/ET)$	(3) $g(ED)$	(4) IB\$
constant	.01139	-.00026	.47741	-479.57
POP	.20 X 10 ⁻⁶ (.267)	--	--	.07926 (.000)
g(ED)	.02075 (.009)	.02945 (.000)	--	--
UN	-.00036 (.088)	--	--	--
W	-.00071 (.574)	--	--	--
RW	-.00596 (.008)	-.00332 (.065)	--	--
TX	.27 x 10 ⁻⁵ (.669)	--	--	--
BV	.00025 (.004)	.00026 (.001)	-.00623 (.000)	14.619 (.009)
IB\$.36 x 10 ⁻⁵ (.048)	.34 x 10 ⁻⁵ (.010)	--	--
\bar{GT}	--	--	-.00561 (.000)	13.368 (.027)
\bar{R}^2	.456	.402	.569	.545
n	35	35	35	35

Note: Probability > t-value in parentheses

Figure 1
Foreign Affiliate Employment and Population
48 States

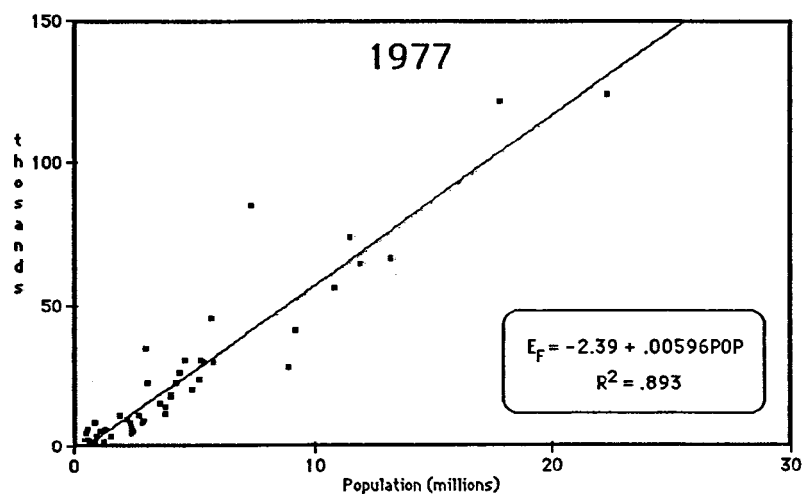
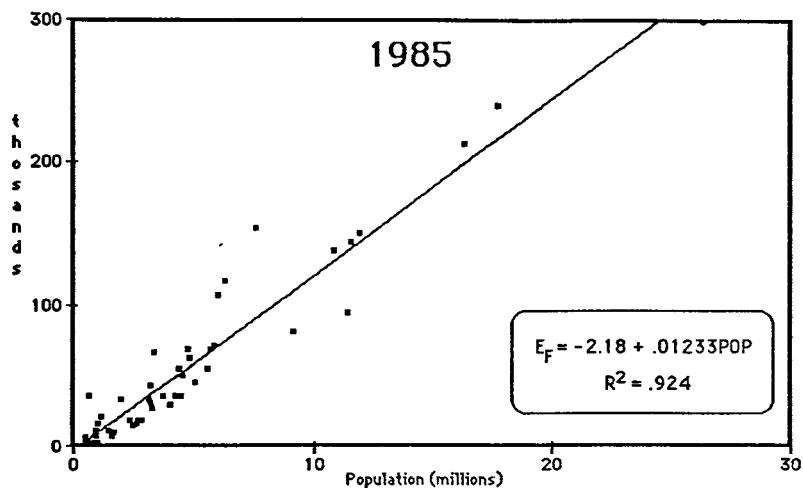
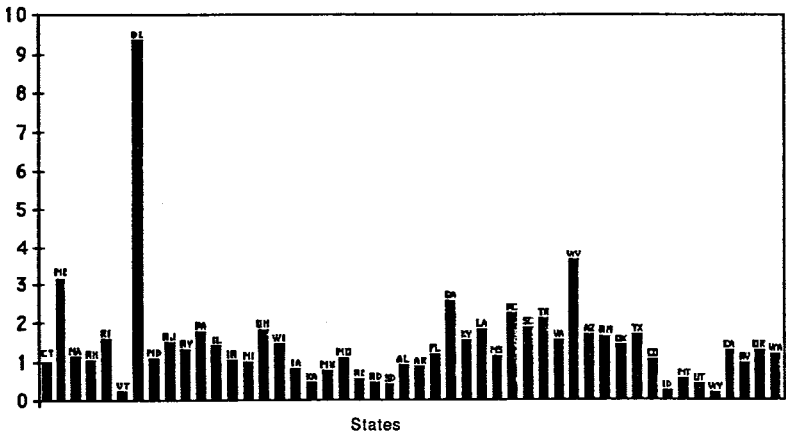


Figure 2
Changes in Foreign Affiliate Shares of Employment
1977 to 1985



Note: Changes in affiliate shares are the differences between the percent share in 1985 and the percent share in 1977