Chapter 4 — The Relocation of Industry

The news spreads quickly whenever a large, aging factory shuts down. Newspapers and television newscasters interview workers at the plant gates. Their poignant stories, repeated many times since the late 1970s, are not pretty. Longtime employees suddenly lose their jobs, which often paid good wages and benefits. Cities lose the tax base that these plants have provided. The community loses the civic participation and steadying influence of both the workers and the company.

Yet elsewhere, manufacturing jobs are growing. American manufacturing has been on the move, decentralizing and diversifying, often in ways far less visible than the wrenching shutdowns in the nation’s older, more built-up industrial areas.

To get at these trends and many more, we built an extensive database to examine changes in wages, employment, establishments, and other measures of manufacturing for each of the country’s 3,142 counties for the years 1977 through 1999.

We identified the 704 counties with the highest manufacturing employment levels and then selected the top sixth and bottom sixth in manufacturing job and payroll change. That left us with 232 counties, 116 where manufacturing was expanding and 116 where it was declining.

We then grouped these 232 counties into seven different categories, based on the size of their manufacturing sector and changes in employment and payroll. This gave us a useful perspective from which to weigh the relative performances of manufacturing in each of the counties. Trends in each of these groups fluctuated significantly from national averages. Four of the seven groups, with 116 counties, did better than the nation. Three, also with 116 counties, fared worse. We gave the groups names: “Hinterland Highspots”, “Metro Movers,” “Freeway Flyers,” and “Gradual Growers” for the expanding counties; “Sliding Goliaths,” “Mid-range Sliders,” and “Smaller Sliders” for the contracting counties. Our methodology is explained in Appendix A but the basic characteristics of each of the seven categories are described in Table 4-1.
Table 4-1 Categories of Sample Counties

<table>
<thead>
<tr>
<th>Category</th>
<th>Metropolitan Area</th>
<th>Interstate Highway</th>
<th>1995 Manufacturing Employment</th>
<th>Number of Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hinterland Highspots</td>
<td>No</td>
<td>No</td>
<td>4,800 or more</td>
<td>15</td>
</tr>
<tr>
<td>Metro Movers</td>
<td>Yes</td>
<td>Either</td>
<td>4,800 or more</td>
<td>40</td>
</tr>
<tr>
<td>Freeway Flyers</td>
<td>No</td>
<td>Yes</td>
<td>4,800 or more</td>
<td>20</td>
</tr>
<tr>
<td>Gradual Growers</td>
<td>Either</td>
<td>Either</td>
<td>4,800 or more</td>
<td>41</td>
</tr>
<tr>
<td>Counties Gaining Momentum Total</td>
<td></td>
<td></td>
<td></td>
<td>116</td>
</tr>
<tr>
<td>Smaller Sliders</td>
<td>Either</td>
<td>Either</td>
<td>4,800 to 9,999</td>
<td>34</td>
</tr>
<tr>
<td>Mid-range Sliders</td>
<td>Either</td>
<td>Either</td>
<td>10,000 to 34,999</td>
<td>46</td>
</tr>
<tr>
<td>Sliding Goliaths</td>
<td>Either</td>
<td>Either</td>
<td>35,000 or more</td>
<td>36</td>
</tr>
<tr>
<td>Counties Losing Momentum Total</td>
<td></td>
<td></td>
<td></td>
<td>116</td>
</tr>
<tr>
<td>Total Counties in Sample</td>
<td></td>
<td></td>
<td></td>
<td>232</td>
</tr>
</tbody>
</table>

Usually, geographical comparisons of manufacturing have concentrated on comparisons of states or metro areas. By going deeper, to the county level, we were able to examine more closely the complex makeover that has swept across the manufacturing sector. Figure 4-2 shows the variations in employment changes, for all of the counties in the lower 48 states, over the 1977-1997 period. Note that it is not uncommon to see both expanding and contracting counties in the same state.
In bold relief, our data define a Great Scattering. First, the center of gravity in American manufacturing has moved from the East Coast to the rebounding Midwest, the South, and the West. Second, manufacturing has been shifting outward to the fringes of the metropolitan areas, more outlying sites along the interstates and, in some cases, to rural counties. Over 1979-1999, the share of manufacturing wages going to workers in the 25 counties with the largest payrolls in this sector fell from 30 percent to 25 percent. During the same period, the portion of these wages going to workers in the 2,642 counties with the smallest payrolls rose from 18 percent to 22 percent (Figure 4-3). During the last two decades of the twentieth century, manufacturing became much more geographically dispersed.
The dispersion is even more dramatic when comparing individual counties. The largest counties in manufacturing payroll in 1979 were not the same as those in 1999, of course. New York slipped 32 positions, from 4th to 36th. St. Louis slipped from 29th to 103rd. Baltimore City slid from 51st to 119th. Meanwhile, Maricopa County, Arizona (Phoenix) rose from 30th to 17th; Kent County, Michigan (Grand Rapids) from 52nd to 17th and Travis County, Texas (Austin) jumped all the way from 163rd to 19th.

Often, the counties’ destinies rose or fell not so much as a result of a particular public policy, but rather because of the quality of management at their largest manufacturing employers. For example, labor-management relations can vary greatly from one plant to another, even within a single company. General Motors and the UAW have had a particularly hard time getting along at GM’s plants in
Norwood, Ohio and Framingham, Mass., but relations have been notably better at the company’s plant in Lansing, Mich.

Changes in market tastes can force industrial restructuring that distinctly alters production locations. The late Don Ephlin, vice president of the United Auto Workers, lamented the closing of East and West Coast auto plants, but explained it in this way:

“It used to be that all Chevrolets were alike and when that was the case, we had six Chevrolet plants scattered across the United States. But when they started to make six different kinds of Chevrolets, it became necessary for economic reasons to produce most of those models near the center of the country.”

For this reason and others, the auto industry executed a sweeping locational shift, mostly in the 1980s. Analysts summarized the moves at a 1996 Federal Reserve Bank of Chicago workshop. They found that 24 of the nation’s 57 auto assembly plants were in the Northeast and the West in 1979, but that by 1996 these regions had only 14 of 58 plants as production gravitated to the Midwest and the South. Automakers opened 21 plants in the Midwest and the South over this period, but only one in the other two regions. The big winners: the corridors paralleling Interstates 65 and 75, home to 39 auto assembly plants vs. only 27 in 1979.

Often but not always, the states gaining the most in population and political strength are those where manufacturing has by various yardsticks been picking up steam. Texas, several Mid-South states and selected states in the South and West, all gaining population and congressional seats, also happen to be picking up momentum in manufacturing. The reverse has proven to be true for New York and some other states with minimal population gains and shrinking congressional delegations. Manufacturers seeking lower shipping costs have located plants close to growing numbers of customers in rapidly expanding urban areas such as Atlanta and Dallas.

However, manufacturing is also expanding where population is light. From 1988 to 1997, the states with the most rapidly growing manufacturing payroll were South Dakota, Nevada, North Dakota, New Mexico, and Idaho with Nebraska, Utah, and Wyoming also ranking in the top ten. Cities are not much of a draw. Counties not
part of metropolitan areas, 1,343 in our sample, added 308,000 jobs from 1972 to 1997. Meanwhile, 685 metropolitan counties lost 1,354,000 jobs.

From 1988 to 1997, the states with the most rapidly growing manufacturing payroll were South Dakota, Nevada, North Dakota, New Mexico, and Idaho with Nebraska, Utah, and Wyoming also ranking in the top ten.

In part, the moves are being driven by a competitive imperative, to become more efficient. A manufacturer saddled with an inefficient three- or four-story, 50-year-old factory in the heart of the city simply cannot hold its own in competition with modern, low-slung plants in less developed areas. In many cases, companies can’t find enough land to build in the city, or, if they can find it, face zoning, environmental or political obstacles. This is particularly apparent in the larger cities of the Midwest. There, manufacturing in the core cities of a number of large metropolitan areas has slipped precipitously, but industrial activity has expanded in other counties in the same state. The outlying plants often tend to have newer equipment than did their forerunners in the core cities. Their production processes thus are more flexible, more mobile.

1,343 counties not part of metropolitan areas added 308,000 jobs from 1972 to 1997. Meanwhile, 685 metropolitan counties lost 1,354,000 jobs.

The exteriors of the newer plants are indistinguishable — if even they can be seen at all — from structures occupied by, say, insurance companies. Often, they are light assembly plants, seldom identifiable by smokestacks or other unmistakable signs of the industries of an earlier age. In other cases though, such as with the Nucor plant in Crawfordsville, Indiana or the Toyota plant in Georgetown, Kentucky, they are huge industrial complexes.

Manufacturing made quite a difference in the economic life of the counties of the seven categories. Table 4-4 illustrates how much
better the four categories of expanding counties did versus the three
groups of contracting counties.

Table 4-4 Summary Statistics of Classified Counties

<table>
<thead>
<tr>
<th>Category</th>
<th>1997 Mfg Employment</th>
<th>% Incr Mfg 77-97</th>
<th>% Incr Mfg 86-97</th>
<th>% Incr Mfg 95-97</th>
<th>% Incr MfgPay 79-97</th>
<th>% Incr MfgPay 86-97</th>
<th>% Incr MfgPay 95-97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hinterland Highspots</td>
<td>119,140</td>
<td>85.9%</td>
<td>54.3%</td>
<td>4.3%</td>
<td>407.7%</td>
<td>139.1%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Metro Movers</td>
<td>723,998</td>
<td>152.2%</td>
<td>65.1%</td>
<td>15.9%</td>
<td>445.2%</td>
<td>171.7%</td>
<td>31.5%</td>
</tr>
<tr>
<td>Freeway Flyers</td>
<td>169,449</td>
<td>74.3%</td>
<td>53.3%</td>
<td>6.0%</td>
<td>293.2%</td>
<td>151.7%</td>
<td>18.0%</td>
</tr>
<tr>
<td>Gradual Growers</td>
<td>651,184</td>
<td>69.1%</td>
<td>43.2%</td>
<td>7.1%</td>
<td>252.5%</td>
<td>117.3%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Expanding Counties</td>
<td>1,663,781</td>
<td>99.6%</td>
<td>53.9%</td>
<td>10.4%</td>
<td>333.7%</td>
<td>145.2%</td>
<td>24.3%</td>
</tr>
<tr>
<td>Smaller Sliders</td>
<td>209,893</td>
<td>-39.5%</td>
<td>-28.2%</td>
<td>-9.2%</td>
<td>-23.8%</td>
<td>-6.8%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Mid-range Sliders</td>
<td>812,064</td>
<td>-33.2%</td>
<td>-22.8%</td>
<td>-9.6%</td>
<td>-54.2%</td>
<td>-18.6%</td>
<td>-3.6%</td>
</tr>
<tr>
<td>Sliding Goliaths</td>
<td>2,531,768</td>
<td>-41.9%</td>
<td>-28.6%</td>
<td>-5.3%</td>
<td>-38.8%</td>
<td>-14.7%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Contracting Counties</td>
<td>4,533,725</td>
<td>-40.0%</td>
<td>-27.1%</td>
<td>-9.5%</td>
<td>-41.0%</td>
<td>-15.1%</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Total Sample</td>
<td>5,217,506</td>
<td>-22.8%</td>
<td>-12.4%</td>
<td>-1.7%</td>
<td>-75.2%</td>
<td>-38.9%</td>
<td>7.2%</td>
</tr>
</tbody>
</table>

Note: Data was collected on all counties for the years 1977 through 1997. However, the Census Bureau change from SIC codes to NAICS industry codes in 1998 introduces some minor problems in interpreting trends from before 1998 to later periods. The changes do not seriously affect the analysis but the authors feel the years prior to 1998 present a clearer picture of expansion and contraction in manufacturing.

Table 4-5 shows how the country’s major regions compare, measured by the number of counties each region landed in the expanding and contracting categories. Although the Midwest, South, and West have fared better in this analysis, special circumstances benefitted these three regions. Auto and truck sales were especially robust during most of the 1990s and this prosperity greatly aided the Midwest and, to some degree, the South. Computer and aircraft sales were also robust and bolstered the West and a few other areas.
A wide variety of factors influenced manufacturing expansion or contraction in these counties. Industry sales, model changes, market shifts, climates, terrain, retirements, acquisitions, mergers, political changes, and luck all influenced which counties expanded and contracted. In some counties, greater foresight and better planning worked to encourage industrial expansion while neglect of major repelling forces made expansion more difficult in others.

The differences between regions of the country are quite pronounced, but often not as much as the differences between counties in the same state. Our sample included counties from 43 states and, of these, 17 states (nearly 40 percent) had counties listed in both the expanding and contracting lists.

**Relocation: A combination of attracting and repelling forces**

Before looking more closely at each of our groups of counties, we should take note of reasons why manufacturing gradually moves from one location to another. Many factors, based on both realities and perceptions, influence the location of industry. Seldom is any one factor the primary cause of industry relocating. Rather, many forces are often involved, and this mixture rarely repeats itself. Ev-
ery case is different, depending on the industry, the timing, the age of the plant, and many other variables.

Only infrequently does a manufacturer actually pick up and move an entire plant. Huge investments in machinery, special facilities, logistics, and training occur over the life of a factory, which on average lasts about 70 years. The scope of these investments usually offsets the economic advantages of simply pulling up stakes.

Instead, most manufacturing movements take place in small, almost imperceptible increments. Selected processes get moved to satellite plants. More work is contracted out. Mergers lead to partial consolidations. Key employees strike out on their own, perhaps moving to different locations.

Repelling forces

Both attracting forces to the new location and repelling forces from the old location are active when industry expands out of its home location or physically relocates. Here is a list of the repelling forces that influence industrial location. While they are present in all regions, they are particularly evident in large core cities.

1. Shortage of land

Expanding and thriving businesses usually need more space, and often more land, for expansion. Cities and built-up suburbs are densely occupied, thus significant amounts of land are seldom available.

2. High costs of land, particularly if it is polluted

If land is available in such areas, it can be far more expensive in “brownfield” areas than in virgin or “greenfield” sites because of the high cost of cleanup. Concern about liability for polluted sites can scare off both buyers and sellers, discouraging redevelopment of such land. Some states and communities have passed legislation to ease this concern, but even in these instances the cost of buying and preparing industrial land often remains high.
3. Objections of residents

Sometimes even the noblest companies meet resistance to expansion from residents. Citizens’ objections can lead to prolonged reviews and hearings that drive up costs and scare off the companies.

4. Inadequate infrastructure

Modern manufacturing depends heavily on the reliable delivery of energy, communications, and other supplies and services at reasonable cost. Yet, the infrastructure may be aging or ineffective in some communities. Power plants are often old and few new ones are being built. Some electrical transmission systems are overloaded, unreliable, or high cost. Competent suppliers may have left the region.

5. Insufficient supply of good labor

Low unemployment rates limit the labor supply in many regions. Unemployed workers who are available often lack the skills manufacturers need. Sometimes, employers worry that relations with high-risk employees will turn contentious and legalistic.

6. Building codes that block modernization

Overly stringent building codes can discourage expansion and modernization, usually in core cities.

7. High labor costs

Local unions leaders or their rank and file may insist on perpetuating unrealistic work rules, which translate into high costs that erode a company’s competitiveness. In some cases, wages well above those paid by competitors encourage managements to look elsewhere.

8. Incompetent management
Ultimately, good management is essential for the success of the company and not every company has it.

9. **Costly or ineffective public services**

Companies sometimes view taxes as inordinately high, especially relative to the quality of schools, police protection, and other services.

10. **Cumbersome regulation**

Regulatory agencies sometimes impose heavy burdens on businesses by holding up approvals on permits or saddling them with many layers of uncoordinated rules.

11. **Mergers and acquisitions**

In some cases, ownership changes, particularly common in recent years, can generate newly rationalized business structures that lead to cutbacks and closings. In other cases, poorly integrated mergers produce similar results.

12. **Poor transportation**

What was once an excellent location with efficient access to primary suppliers and customers may today be a highly congested area, surrounded by slow-moving heavy traffic. Railroads may no longer be effective as modes of transportation.

13. **Companies reach the end of their useful lives**

Even well-run companies sometimes decide to cease operations. A retiring owner, facing harsh economic times or lacking an adequate yield on invested assets, might opt for liquidation. Competitors might run the company out of business. In some cases, the property may be more valuable than the business itself. Changing technologies may eliminate the demand for the company’s products.
Yet another repelling force merits special mention — litigation, which can expose manufacturers in all parts of the country to huge, unbudgeted expenses. A 1996 Chicago Tribune story, which documented the impact of litigation in shutting down one of the nation’s most venerable manufacturers of grinding machines, illustrates the problem. That year, a jury awarded $7.3 million to an injured worker in a product liability judgment against Rockford, Ill.-based Mattison Technologies. The worker was injured by a Mattison grinder in 1991, but the company sold the machine in 1948 and it had worked safely until the accident. “I don’t see how we can be at fault for a machine we have not seen for 40 years,” protested Bill Farris, president of Mattison. The company, which had only $20 million in annual revenue, filed for a Chapter 11 bankruptcy reorganization soon after the verdict was returned.

The list of manufacturing companies impaired by capricious product liability judgments is very long. In 1992, an expectant mother was involved in a head-on collision in her car, equipped with an airbag. The bag deployed and both the mother and baby were saved, but the escaping gases allegedly caused some burns on the left hand which reportedly healed in a few weeks. A jury awarded the plaintiff $3.75 million in punitive damages plus $730 in compensatory damages to every owner of 1988 to 1990 model Chrysler car registered in Pennsylvania. There are many other examples of such awards.

It is not the purpose of this book to comment on the adequacy of the nation’s liability laws or on the many stifled initiatives aimed at reform. Other more qualified people are involved on both sides of this question. Instead, we focus on the ramifications of bizarre awards on the prosperity of the nation, the availability of employment, and on the long-term competitiveness of American industry. Damage awards are paid for by somebody. Though all manufacturers enter business with the realization that they will be held responsible for reasonable product liability, excessively large damage awards limit the money available for researching better methods, developing better products, and expanding manufacturing operations. They can serve as an enormous disincentive to be in business — a powerful repelling force. In some cases, the awards can put the company, and all of its workers, completely out of business.

While none of these repelling forces may be individually sufficient to abruptly cause relocation, they often become meaningful factors in long-term trends. To some degree, they fester. Out of love for the
community, loyalty to people, proximity to business associates, or procrastination, company managers may not respond to repelling forces for a long time. Reaction to them often comes only after a cataclysmic event such as a decline in market share, a recession, or the changing of key management. Sooner or later, though, any of the above repelling forces can provide the impetus for change.

The accumulation of repelling forces is somewhat natural. When a plant reaches advanced age, almost everything surrounding it has also changed markedly from the conditions that existed at the time the plant was built. This combination of age, changing conditions, and preferences on the part of contemporary managers can influence the decision to continue in a present location, liquidate the business, or move to a new location. Sometimes, the repelling forces only surface when other attracting forces become evident.

Attracting forces

Attracting forces may unfold but often as a second stage after the repelling forces take root. The usual sequence: something about the present location irritates employers and then they become attracted to new locations.

The attracting forces may include the desire to be on an interstate network near the center of a large market. They may include better climates, or lower costs — not only labor costs but other costs as well.

\[ \text{Attracting forces often unfold as a second stage after the repelling forces take root.} \]

1. Shifting locations of major customers or suppliers

One of the most significant attracting forces is proximity to major customers or suppliers. Some industrial relocation is inevitable, given the shifting locations of emerging industries. Beyond that, end-product companies are trying to reduce their
suppliers to a smaller and more trusted number. Sometimes, companies have to move closer to their major customers in order to achieve or maintain their status as preferred suppliers.

2. Work ethic

A strong educational system, little competition from capable, high-paying employers or simply a conviction that people in a particular region are good workers can lead an employer to rate “work ethic” as a significant advantage.

3. Quality

Workers at some plants have strengthened the reputations of their regions by making products widely recognized for their high quality.

4. Favorable legislative, legal and tax climates

Some states have enacted labor legislation or established elements of judiciary systems that are perceived to be fair and even-handed by employers. Some communities stress “business friendly” legal and regulatory climates particularly attractive to manufacturers. Tax levels do matter, though probably not as much as some would suggest.

5. Industrial swarming

Sometimes, a single manufacturer or several manufacturers attract a network of suppliers with special technical skills to a region. The strong presence of major manufacturers may give rise to high-technology foundries, machine shops, heat treaters, plating shops, metal stampers, and other supporting industries. The availability of cost-effective services may also provide attraction.

6. Economic incentives

Often, manufacturers offer such good wage and benefit packages that they are sought by many communities. This
competition has sometimes led governments to offer substantial subsidies to companies locating new plants.

7. **Transportation.**

Ready access to the interstate highway system, reasonably priced and effective air transportation, and good rail connections are all attributes appealing to many manufacturers. Some may also be attracted by the close proximity to suppliers and customers.

8. **Ownership changes**

While some ownership changes may be highly leveraged, poorly-thought-out ventures with little added value, others may be quite well-developed strategic initiatives. Some ownership changes do result in significant investment at the acquired site.

9. **Attractive wage rates**

Regions with low wage rates are of interest to some employers, particularly those with labor costs that are relatively high as a percentage of overall costs or when skills are less crucial to the attainment of high product quality.

10. **The weather**

Weather can become a factor. The milder climates of the Mid-South and the Southwest are attractive to some companies.

These attracting forces can offer a rosy alternative to the manufacturer wishing to expand, but many locations have these attributes. Some communities succeed and their industrial base grows, but many do not. So the combination of these repelling and attracting forces, together with the individual situations, are often superimposed on another important variable, the quality of the company itself.
The important variable — the company itself

Companies vary enormously in their financial strength, innovation, quality, and rapport with workers, suppliers, and home communities. Attracting and repelling factors affect both the good and the not-so-good companies, but the good companies handle these forces differently. Well-regarded companies seem better able to read and prepare for market trends. They focus their investments on important corporate attributes such as higher product quality, better service, expeditious product development, and production efficiency in order to provide lasting benefits to customers. Not-so-good companies often focus on offices, executive compensation, mergers, acquisitions, public image, the shortcomings of workers, and a variety of topics unrelated to what the customer is buying. The personality and motivation of the larger industrial employers in any community has a great deal to do with the retention and growth of manufacturing.

Later in this book the authors will present more examples of how corporations vary in their approaches to their missions, markets, and home communities. The United States is blessed with some excellent companies and when they exist, local communities usually prosper. When good companies are not present, economic difficulties for the entire community usually unfold over long periods of time.

Emotionalism as a Locating Force

Although basic considerations of revenue and cost play a role in decisions about industrial location and relocation, these important decisions are not always based entirely on rational appraisals. Emotionalism creeps into decisions about where companies should be, or should not be — particularly if the company is not doing well. In some cases, companies may seek new surroundings largely because management is incapable of running the business properly in any location, but the current location gets the blame. Top officers of poorly performing companies often rationalize their mistakes. Occasionally, managers become introspective and recognize that modifications in their own behavior may be important remedial steps in restoring the health of the firm. Too often, though, executives in charge of troubled companies blame everything else, including the local business climate. This mentality may lead to company relocations that are not necessary.
Non-economic factors often influence industrial relocation. Personal factors, including personality clashes between management and unions, between management and city officials, or between management and landlords, affect company expansion, contraction or relocation decisions. It is by no means certain that rational managers, prudent labor leaders, and statesmanlike public officials will co-exist in the same town simultaneously. Often, one incompetence feeds upon another to create cleavages that are not healed. Thus emotionalism does influence the location of industry.

**Summing Up Chapter 4**

- Industrial relocation is driven by a combination of repelling and attracting forces.
- Repelling forces often act first.
- Attracting forces surface later.
- Striking contrasts differentiate manufacturing counties. Some are gathering momentum while others are losing strength.
- In general, manufacturing is very gradually moving away from larger cities to communities with fewer repelling forces and stronger attracting forces.
- The quality of the companies located in the communities appears to be major factor in industrial growth or decline. It is good to have Nucor. It is not good to have LTV.