Reversal of fortune: Understanding the Midwest recovery

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The Midwest economy has received considerable attention in recent years as it has shed its image as the Rust Belt and reemerged as a strong regional competitor both on the national and international stage. This reversal of fortune has surprised some analysts, and explanations of the region's resurgent strength have often been more anecdotal than empirical. In this article, we take a more systematic approach to analyzing the elements that have contributed to the region's recovery since the mid-1980s.[1] Specifically, we describe the contribution of external and internal factors to the economic revival of the Midwest and identify the challenges and opportunities the region now faces.

Charting the turnaround

A region's economy can be represented by many diverse measures. Unemployment rates are perhaps the most widely recognized indicators of both economic progress and participation of the region's population in the economy. Looking at the aggregate unemployment rate for the Midwest versus the nation from the 1980s to date, two remarkable features can be seen.[2] First, from an average annual rate that exceeded the nation's by 3 percentage points in 1983, the Midwest's unemployment rate had fallen to a full percentage point below the nation's by 1996 (see figure 1). The same year marked the fifth consecutive year that the rate remained below the nation's. A second feature of the labor market reflected by the unemployment rate is the behavior of the Midwest economy during the most recent (1990–91) recession. In prior recessions, the highly cyclical nature of the Midwest economy, combined with the region's eroding share of national production, resulted in a more rapid rise in Midwest unemployment relative to the nation. In contrast, during 1990–91, the underlying secular strength of the region's economy allowed its labor market to continue to gain on its national counterpart and, ultimately, to experience a more fully employed work force.

Despite the Midwest's tight labor markets, its growth of employment and population are not, in general, exceeding the nation's. The Midwest turnaround has been characterized by a convergence in the pace of employment growth with that of the nation. Job growth in the early 1990s was especially strong relative to the nation, but has now probably eased to a pace that is on par with the nation. Because the region's work force is approximately at full capacity, any further supranational employment growth cannot reasonably be expected unless population growth increases sharply. Although recent employment gains in the Midwest have been accompanied by population

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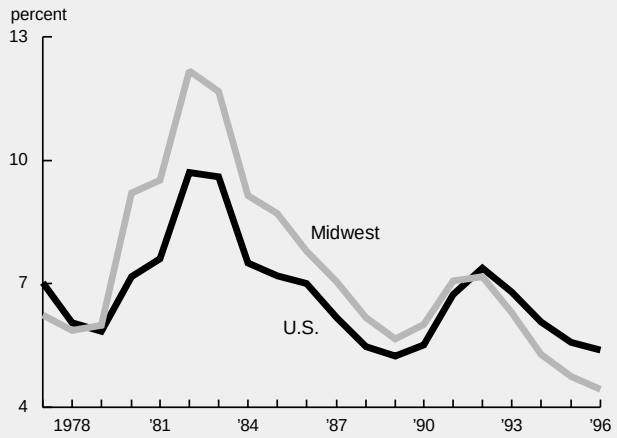
FIGURE 1

Unemployment rates



Note: Unless otherwise noted in tables and figures, Midwest refers to the states of the Seventh Federal Reserve District—IL, IN, IA, MI, and WI.

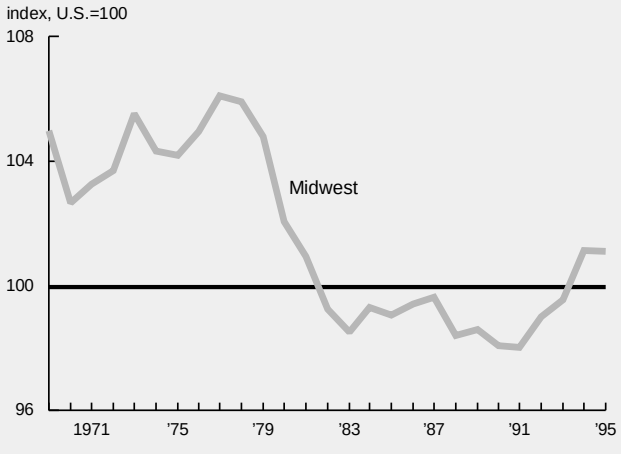
Source: U.S. Department of Labor, Bureau of Labor Statistics.

growth, reflecting a turnaround from a net outflow in the 1980s to a net inflow in the 1990s, the Midwest continues to lag other regions (especially most of the Sun Belt) in terms of population growth.

This combination of strong employment growth and lagging population accounts for the marked improvement in the Midwest's labor force participation relative to the rest of the nation. From a deficit position during the 1980s, the region's ratio of employed, aged 16 and above, to population (at 0.65) has surpassed the U.S. average (0.63).

FIGURE 2

Per capita income



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Heightened work force participation appears to be reviving the incomes of Midwest residents. Per capita income relative to the nation had dipped sharply from a superior position in the late 1970s to an inferior position by the early 1980s. However, the region's relative position began to improve in 1991 and slightly exceeded the national average in 1994 and 1995, the latest year available (see figure 2). Median household income, measured in constant purchasing power, largely parallels this pattern. After dipping to parity with the nation from 1980 to 1983, Midwest income continued on par with the nation through 1994, and is now showing preliminary signs of strength relative to the nation.

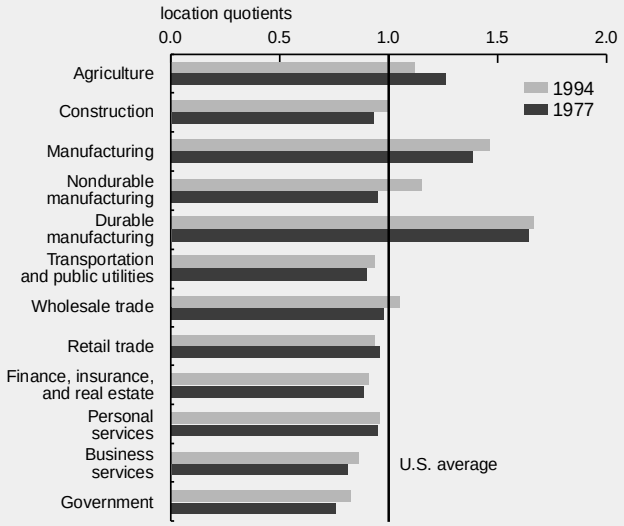
Midwest income continues to flow from the region's traditional industries. The Midwest remains markedly more concentrated than the nation in its mainstay industries—durable goods manufacturing and agriculture (see figure 3). Examining industry composition at a finer level of detail does little to alter this conclusion.

It is not surprising, then, to find that the revival in Midwest job and production growth has been led by manufacturing and agriculture. The Midwest lost 2.5 percentage points in its share of the nation's manufacturing employment from 1977 to 1983 (going from roughly 19.5 percent to 17 percent). It has since regained 2 percentage points and the rate of gain has accelerated in the 1990s. Manufacturing industries such as autos and steel have reconcentrated in the Midwest. For example, the region had 31 auto plants in 1996, compared with 27 in 1979. Although nine Midwest auto plants closed between 1979 and 1996, 13 new plants opened.

Rural areas have benefited from both the rising manufacturing tide and the recovery of production agriculture. Over the past 15 years, rural growth in

FIGURE 3

Personal income by industry, Midwest/U.S.



Note: A quotient of 1.0 indicates the same relative importance of an industry for the Midwest as for the U.S. as a whole.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

manufacturing jobs has outpaced metropolitan growth. Meanwhile, the recovery of the farm sector from the debt overhang and sagging markets of the late 1970s and early 1980s has lifted farmland prices. Grain prices are high by historical standards and demand from developing countries has buoyed world markets for grains, meat products, and some processed foods.

Emergence of these goods-producing industries in rural areas—especially manufacturing—has translated into an improvement in population growth and a turnaround from net out-migration to net in-migration.[3] In Midwest rural counties, population declined by 2.2 percent from 1980 to 1990, with 70 percent of counties experiencing declines in absolute terms. From 1990 to 1994, rural Midwest counties recorded population gains of 2.4 percent, with 74 percent reporting gains during this period.[4]

Despite the dramatic swings in rural fortunes, the Midwest's and nation's population continues to shift to metropolitan (metro) areas, much as it has done throughout this century. By 1994, metro areas' share of population was approaching 80 percent in the nation and 76 percent in the Midwest. However, the pace of the shift appears to be slowing considerably in the 1990s, harkening back to the rural–urban turnaround of the 1970s.[5] In metro areas, the natural population increase continues to dominate in-migration. Midwestern metro areas experienced a modest out-migration from 1990 to 1994, even as employment continued to grow. Some workers may be choosing to reside in adjacent counties, while commuting to jobs in metro areas.

Metro areas continue to be magnets for jobs, but the nature of jobs is changing: Many midwestern metro areas are successfully transforming from manufacturing centers to service centers (see table 1).[6] Important industries of the service and information economy of the 1990s include producer services, such as management consulting, advertising, accounting, and business and legal, as well as trade, travel, and financial services. Midwest metro areas have been very successful in attracting these industries and, in some cases, developing a service industry niche, such as sports-oriented travel centers (Indianapolis), convention tourism (Appleton–Oshkosh), health services and insurance (Peoria), air freight/air maintenance centers (Indianapolis), financial services/insurance (Des Moines), automotive R&D (Detroit), and convention–business meeting centers (Chicago).

Industrial restructuring has differed by size of metro area, with large metro areas tending to transform to a greater degree away from manufacturing toward business and financial services.[7] Manufacturing losses in large metro areas, especially core counties, have been sharp. Smaller metro areas have tended to lose out on some business-oriented services such as financial service industries, while picking up the slack, in general, as preferred manufacturing locations. As a result, the Midwest's economic recovery, as reflected in relatively low unemployment rates, has been pervasive across metro areas.

Timing and depth

From 1947 to 1987, the Midwest's (defined in this case as Illinois, Indiana, Michigan, Ohio, and Wisconsin) share of national manufacturing declined from 30 percent to 22.1 percent.[8] To a large extent, this reflected a natural process of population deconcentration within the continental

TABLE 1

Personal income derived from labor and proprietor earnings (indexes of concentration)

	Midwest/U.S.			
	1969	1977	1985	1994
Manufacturing				
Large MSAs	1.31	1.35	1.29	1.30
Core counties	1.28	1.34	1.22	1.20
Medium MSAs	1.52	1.63	1.70	1.70
Small MSAs	1.41	1.48	1.55	1.68
Nonmetro	1.10	1.19	1.34	1.62
FIRE				
Large MSAs	1.00	1.09	1.14	1.15
Core counties	1.12	1.22	1.37	1.32
Medium MSAs	0.70	0.71	0.70	0.78
Small MSAs	0.71	0.73	0.71	0.72
Nonmetro	0.60	0.62	0.51	0.47
Business services				
Large MSAs	1.06	1.07	1.16	1.13
Core counties	1.13	1.02	1.01	0.97
Medium MSAs	0.52	0.58	0.63	0.75
Small MSAs	0.43	0.51	0.54	0.61
Nonmetro	0.49	0.53	0.44	0.40

Note: An index value of 1 signals the same importance of an industry for the Midwest as for the U.S. That is, an index value of 2.0 could be obtained from a 40 percent share of manufacturing in Midwest metro areas divided by a 20 percent share of manufacturing in U.S. metro areas.

Source: U.S. Department Of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

U.S. For example, the Southeast developed manufacturing industries as its work force was released from agriculture, and improvements in technology, infrastructure, and transportation opened up previously isolated areas in many parts of the country.

Recessionary periods were particularly difficult for the Midwest because of its concentration in capital goods and consumer durables, which were most vulnerable to a falloff in demand.[9] Furthermore, the region's technology and physical stock of capital tended to be of earlier vintage (and often lower efficiency) than in other regions of the U.S. and abroad. Consequently, when demand slackened, it was more cost-effective to continue remaining production at newer (lower cost) plants elsewhere. During the 1979–83 period, as the nation passed though two recessions in quick succession, the Midwest lost over one-fifth of its manufacturing work force at the same time that the rural agricultural economy experienced its worst times since the Great Depression.

After a languid recovery in 1983, the Midwest economy showed some vigor in 1984, supported by strengthening auto demand. However, in 1985 and 1986, the dollar value of overall export sales from the region remained flat despite depreciation of the value of the dollar against currencies of trading partners.[10] Domestic markets for capital goods, other than computer-related purchases from coastal regions, also continued to disappoint.

Beginning in 1987, the Midwest's capital goods sectors began to recover late in the expansion and exports began to grow. In the agricultural sector, farm equipment purchases and exports began to show some life and balance sheets began to strengthen.

Many observers believed that the shakeout of the early 1980s was so severe that it destroyed a large portion of the most inefficient and antiquated physical capital stock. Accordingly, the renewed strength of the Midwest in the second half of the decade was interpreted as an inevitable bounce-back in production and productivity, albeit from a much lower baseline level.[11] Even as other regions such as the Southwest and New England began to experience economic setbacks, few believed that these setbacks would continue for very long. Although the high-tech industry, the darling of the decade, was toppling in New England, along with defense-related industries there and elsewhere, many believed that a bounce-back in high technology was only a matter of time, and that the Midwest was at a disadvantage because the fastest growing sectors were almost nonexistent in the region.[12] It also took some time before the extent of overbuilding in real estate in other regions could be fathomed. The coastal regions and parts of the Southwest struggled through the overbuilding and savings and loan debacles to a significantly greater extent than the conservative and still "shell-shocked" Midwest. Through the distorted lens of these events, fundamental changes underlying a sustained turnaround of the Midwest were difficult to distinguish.

Today, it is evident that the signs of strength in the Midwest economy of the mid- to late 1980s were more than the anticipated snap-back from the restructuring of the early 1980s. Much of the adjustment had taken place by 1985 and the transitory shocks in other regions have significantly dissipated. Yet, the pace of economic growth in the Midwest remains strong and capacity utilization remains high. The Midwest economy has been changing from within during the past ten to 15 years, and these changes have been supported by favorable external conditions and trends.

External conditions

External factors in the Midwest's economic turnaround include technological and organizational changes in the automotive industry, which have favored its reconcentration in the midsection of the nation; the geographic pattern of federal defense spending; declining real energy prices, important both as an input to the region's industries and as a determinant of demand for its products; and, from the mid-1980s until recently, a declining dollar, which improved the international competitiveness of the region's companies.

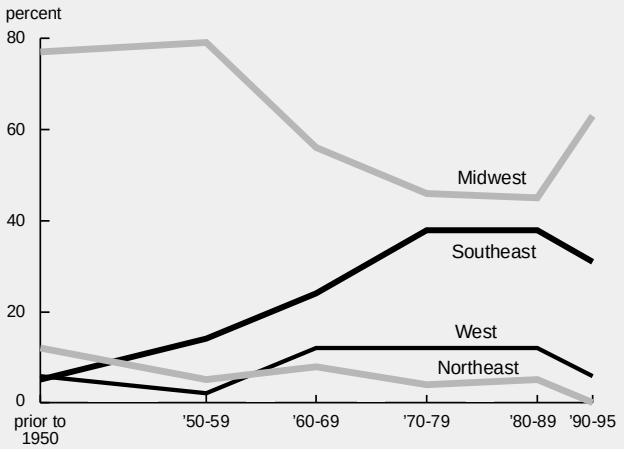
Changing geography of the auto industry

U.S. auto assembly plants have tended to reconcentrate in the Midwest over the 1980s and 1990s. Auto supplier plants had tended to disperse over the three decades to 1990, but this trend appears to be reversing during the 1990s (see figure 4) as more technologically advanced and innovative automotive parts and services providers continue to locate in the Midwest. The reconfiguration of auto assembly, the continued preference of supplier R&D operations to locate close to Detroit, plus evidence of spatial clustering of tier 1 supplier plants around their assembly plant customers suggest a strengthening of agglomeration effects in the auto industry.

As discussed in Rubenstein (1996), the reconcentration of auto assembly has resulted from broad changes in the industry's product mix that, consistent with neoclassical location theory, have changed the economics of plant location in favor of the midsection of the country. The costs of distributing the final product to the customer have always been important in deciding the location of auto assembly plants. Henry Ford opened far-flung branch assembly plants to produce identical Model T cars closer to the population centers outside the Midwest; it was cheaper to ship parts to branch assembly plants than to ship finished automobiles across the country from a centrally located assembly plant. Soon, General Motors and Chrysler emulated that strategy. However, by the 1960s the proliferation of car and truck models meant that location strategy was no longer optimal. The number of different car and truck models sold in the U.S. increased eightfold, from 30 in 1955 to 241 in 1995, while sales only doubled from about eight million units to about 16 million in 1995. With reduced output per individual model, the entire output would best be produced at one plant. Consequently, the geographic argument for an interior location became compelling; that way the company could minimize the cost of distributing the output to a national market. As a result, during the past 16 years auto producers have opened assembly plants in the interior, especially

FIGURE 4

Auto supplier plants by region and start-up date



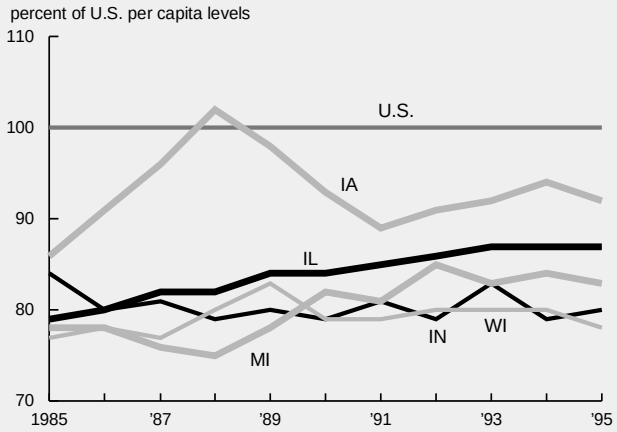
Note: The Midwest refers to IL, IN, MI, OH, and WI. The Southeast refers to AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, TX, VA, and WVA. The Northeast refers to CT, DE, ME, MD, MA, NH, NJ, NY, PA, RI, and VT. The West refers to all other states.

Source: James Rubenstein, "The evolving geography of production—Is manufacturing activity moving out of the Midwest? Evidence from the auto industry," *Assessing the Midwest Economy Working Paper Series,* No. SP-3, Federal Reserve Bank of Chicago, 1996.

along the I-65/I-75 corridor, and closed coastal plants. While freight costs can account for the reconcentration of auto production in the Midwest, variables such as the local labor climate, access to highways, and general costs of doing business influence the selection of particular communities or sites.

FIGURE 5

Per capita federal expenditures



Source: Kerry Sutten, "Federal spending in the Northeast and Midwest: Fiscal 1995," Northeast–Midwest Institute, Washington, DC, June 1996.

Federal spending patterns

Historically, the Midwest has not fared well relative to other regions in terms of receiving money from Washington. Measured as a percentage of U.S. per capita levels, federal expenditures were below the national average in each of the five states of the Seventh Federal Reserve District from 1985 to 1995, with the exception of Iowa in 1988 (see figure 5). First, because of the small concentration of defense-related industries, federal procurement spending in the region is particularly weak. For example, in fiscal 1995, Illinois ranked 47th and Indiana and Wisconsin tied for 46th on per capita military procurement expenditures. In addition, the relatively small number of military bases in the region keeps military spending on wages and salaries significantly below the U.S. average. Spending by the federal government for grants, federal salaries and wages, and direct payments in the Midwest is generally below average on a per capita basis.

Over the past ten years, however, regions that depended heavily on federal dollars have been particularly affected by program cuts. Defense spending reductions and the difficulty of converting defense industries to nondefense functions have damaged economies in California and New England. Figures on U.S. military procurement spending from 1985 to 1996 and projected to 2002 demonstrate the spending boom in states with concentrations of defense-related industries in the 1980s ($80 billion in 1991) and the rapid decline in expenditure levels in the 1990s (an estimated $40 billion in 1998). A study of the Chicago economy suggests that even those industries in the Midwest that have traditionally done business with the federal defense establishment may convert to civilian products relatively easily.[13]

The Midwest is also less reliant on federal transfers (primarily Medicaid, social welfare, and highway infrastructure funds) than many other regions. According to data compiled by the Northeast–Midwest Institute, in fiscal 1994 federal transfers on average represented 27.7 percent of total state budgets in the U.S.[14] Federal transfers comprised 25.8 percent of the Illinois budget, 28.4 percent of the Indiana budget, 25.7 percent of the Iowa budget, 25.4 percent of the Michigan budget, and 24.4 percent of the Wisconsin budget.

Energy

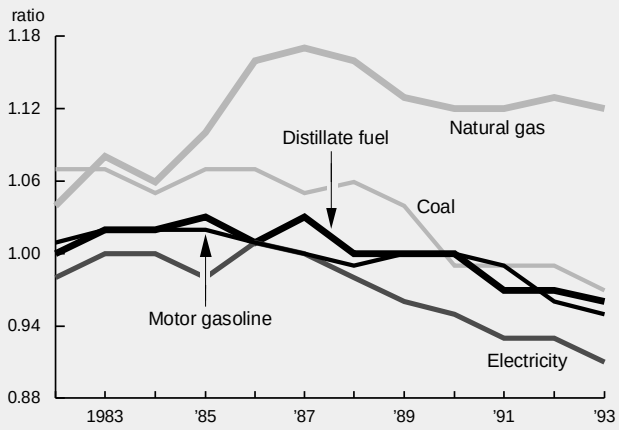
Delivered prices of all major fuels have declined in the Midwest since the early to mid-1980s (Bournakis, 1996). Despite recent price run-ups, national real gasoline prices are currently lower than in 1967 and 25 percent lower than their peak in the latter half of the 1970s. At that time, high petroleum-based fuel prices exerted a significant drag on Midwest industry and hampered sales of domestic automakers. Recently, midwestern energy prices have been edging down relative to national energy prices (see figure 6). Why these prices have eased is not clear but may be due to external developments, such as deregulation of the U.S. natural gas market since the mid-1980s, or regional issues, such as state–local tax and regulatory policies.

Exports

Exports now account for 13 percent of U.S. gross domestic product, compared with 8 percent in 1987 and 5 percent in 1971. From

FIGURE 6

Ratio of Midwest to U.S. fuel prices



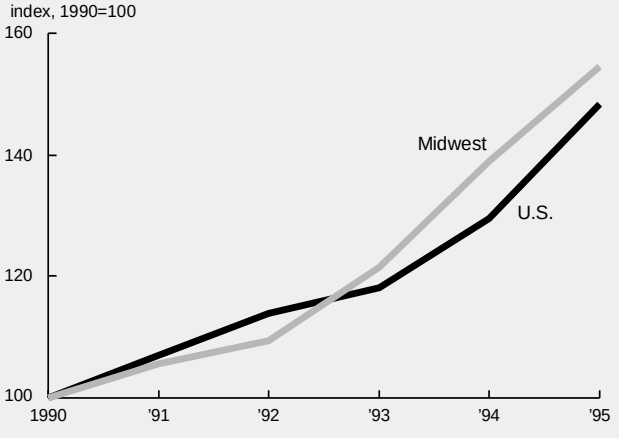
Source: Athanasios Bournakis, "Energy and environmental issues for the Midwest economy," *Assessing the Midwest Economy Working Paper Series,* No. SP-5, Federal Reserve Bank of Chicago, 1996.

1992 to 1995, exports from the Midwest grew even more dramatically than exports from the U.S. as a whole (see figure 7). Exports from the region's telecommunications, farm machinery, construction machinery and equipment, machine tools, and specialized capital goods sectors, as well as the agriculture sector, have grown rapidly during the past ten years to meet growing demand from developing markets worldwide.[15] The lion's share of future trade expansion is expected to derive, not from trade with developed nations, but from emerging markets in Asia and South America.[16]

Currency swings since the dollar's peak in early 1985 are often cited in the popular press as having boosted midwestern exports and shielded domestic markets from displacement by foreign imports. The Midwest's share of Big Three auto production has increased since 1991. Thanks to the reconcentration of domestic automakers and the presence of Japanese automakers, the region's share of domestic car production has climbed from 45 percent in 1981 to more than 56 percent.[17] However, the drop-off in the dollar's value was completed by 1987. Over the past nine years, aggregate trade-weighted dollar indexes suggest that the currency-influenced terms of trade have remained mostly flat, even as exports have continued to climb. Moreover, recent research by Hervey and Strauss (1996) suggests that the dollar has appreciated rather than depreciated against currencies of nations to which the Midwest exports.[18]

FIGURE 7

Total exports



Source: Massachusetts Institute for Social and Economic Research.

Changing how we do business (internal adjustments)

The Midwest's constancy in line of business and evidence of productivity gains driven by internal private and public sector actions suggest that internal factors have also been important sources of regional revival. In particular, midwestern industry has adopted new technologies and modes of business operation, and the region's relative cost position has improved. The public sector has facilitated regional competitiveness by prudent taxation and spending policies, by focusing spending on value-producing services and public infrastructure, and, more recently, by adopting innovative delivery of public services. So too, the region's "institutional capital"—public and private organizations, including universities, research

centers, and business and civic organizations—proved responsive in the face of economic crisis.

Technology and organization

There is substantial evidence that the Midwest has changed the way it does business—its organization, mode of operation, and technology. As discussed in Klier (1996), implementation of best manufacturing practices, notably lean manufacturing technologies, has helped revitalize Midwest manufacturing. Lean manufacturing, which gained widespread attention in the early 1980s, combines aspects of both craft and mass production, ranging from teamwork on the shop floor, to emphasis on low inventory and flexible production equipment, to close relationships with suppliers. The most familiar setting is the U.S. auto industry. Successful auto assembly operations have been transplanted to the U.S. environment by companies such as Toyota, Honda, and Mitsubishi. In some cases, existing assembly plants, such as GM's NUMMI venture with Toyota in California, have been transformed through organization and technology alone.

The extent to which this experience is characteristic of manufacturing in general was addressed in two large-scale studies.[19] Both Statistics Canada (Baldwin, Diverty, and Sabourin, 1988) and the U.S. Census Bureau (1988 and 1994) administered surveys of manufacturing technologies to measure the extent and type of advanced manufacturing technologies used in their respective country's manufacturing plants. Both surveys found that the application of advanced manufacturing technologies was widespread across plants and industries, typically with multiple technologies applied per establishment (see table 2). These results indicate that advanced manufacturing techniques are reshaping manufacturing on a broad scale. In the Midwest, more concentrated in manufacturing than any other region, these technological advances have tended to boost the economy.

At the same time, the region's industries are outside those (mostly defense) sectors that require both a change in product mix and a transformation in technology. Regions specializing in declining industries, such as defense-oriented manufacturing, must change not only how business is conducted but the entire product mix. To date, for several regions that compete with the Midwest, the barriers of changing both "how" and "what" have been too high to bring about the resurgent experience of the Midwest.

Costs of business operation

The neoclassical view in economics suggests that firm location is significantly driven by the search for low costs of operation.

TABLE 2

Application of some advanced technologies

	FMC/ FMS	CAD/ CAE	Interco. network
	(----percent of plants using----)		
Plant employment			
20–99	7.6	49.5	12.0
100–499	21.4	76.4	28.4
500+	40.4	87.2	47.1
Age of plant			
Less than 5 years	13.4	63.5	15.0
5–15	13.3	62.0	18.0
16–30	13.4	64.4	20.5
Greater than 30	15.2	63.1	22.0
Major industrial groups			
Fabricated metal products	9.5	46.5	16.7
Industrial machinery and equipment	11.8	64.1	15.4
Electronic and other electric equipment	17.0	64.2	21.9
Transportation equipment	15.5	53.9	23.4
Instruments and related products	14.2	65.5	15.3

Notes: The table reports information on three of the 17 advanced manufacturing technologies surveyed. They are defined as follows:

Flexible manufacturing cells and systems (FMC/FMS): two or more machines with automated material handling capabilities controlled by computers or programmable controllers, capable of single/multiple path acceptance of raw material and single/multiple path delivery of finished product.

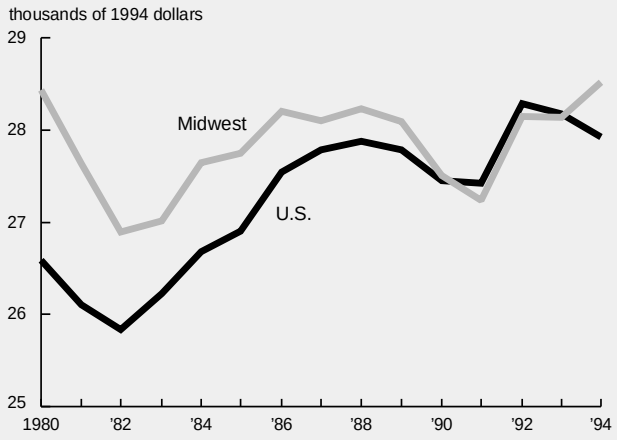
Computer-aided design and engineering (CAD/CAE): use of computers for drawing and designing parts or products and for analysis and testing of designed parts or products.

Intercompany computer network (Interco. network): use of network technology to link subcontractors, suppliers, and/or customers with the plant.

Source: U.S. Department Of Commerce, Bureau of the Census, *Current Industrial Reports: Manufacturing Technology: Prevalence and Plans for Use,* 1994, tables 4D and 4E.

FIGURE 8

Real per worker earnings



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Labor costs commonly comprise the largest share of operating costs to business enterprises. This implies that capital investment flows toward regions with low wage costs and that job openings grow in tandem with capital investment. In many instances, labor does not migrate, as might be expected, toward high-wage areas, because job openings are absent due to rigid wages and, perhaps, institutional features such as unionization.[20] As a result, economies with low wage costs can experience economic growth of capital and labor.

Evidence from the past ten to 15 years is consistent with this theory in partly explaining the Midwest turnaround. The Midwest has long been reputed as a high-wage locale, especially for manufacturing. But over the past ten to 15 years, workers in the Midwest have apparently eased their wage demands relative to those of their national counterparts. Real per worker earnings approached national levels from 1980–82 and continued to converge throughout the 1980s (see figure 8).[21] While these figures are merely suggestive of labor costs, changes in the level of hourly wages of workers in the manufacturing sector point in the same direction (see table 3).[22] Adjusting for differences in industry mix, Midwest manufacturing wages eased from 17 percent above national levels in the early 1980s to a 13 percent premium in the 1990s.

As mentioned earlier, energy prices in the region have also eased relative to national prices, including prices of coal and natural gas, which the region consumes in greater proportion than the nation.[23] The region has also taken measures toward greater energy conservation and efficiency; at the same time, industry composition has shifted away from energy-intensive sectors. Today, the Midwest consumes much less energy relative to gross state product than 20 years ago (see figure 9). Thus, Brown and Yücel (1995) suggest the region would experience dramatically milder responses to potential oil price shocks (less than half of 1980 levels).

The public sector

Some analysts suggest that the Midwest has assisted its own revival through judicious fiscal policies. The region followed a conservative fiscal path characterized by minimal increases in levels of taxation (even during the 1990–91 recession) and conservative spending policies. At the same time, public spending was generally above national levels in areas that are seen as contributing to economic growth, such as education and highway expenditures, while spending was below national levels in areas less associated with economic growth, such as government administration, corrections/prisons, and welfare expenditures (see figure 10).

It is hard to say to what extent this behavior contributed to the

TABLE 3

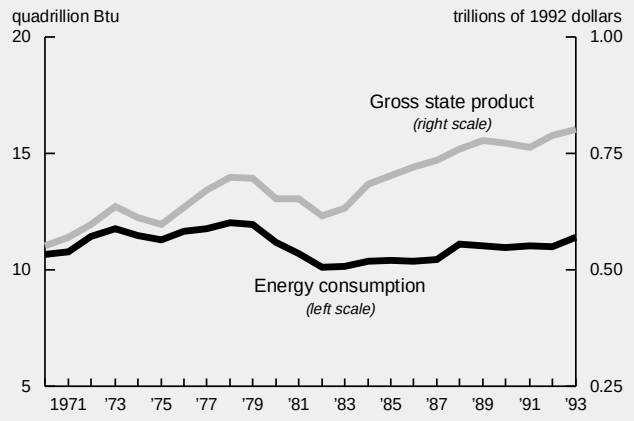
Index of relative wages in manufacturing: Midwest versus U.S.

	1979	1983	1989	1993	1995
Illinois	1.09	1.10	1.07	1.03	1.02
Indiana	1.16	1.14	1.12	1.12	1.13
Iowa	1.16	1.14	1.03	1.04	1.03
Michigan	1.30	1.32	1.29	1.31	1.32
Wisconsin	1.09	1.11	1.03	1.04	1.03
Midwest	**1.17**	**1.17**	**1.13**	**1.13**	**1.13**

Source: U.S. Department of Labor, Bureau of Labor Statistics.

FIGURE 9

Midwest energy consumption and gross state product



Source: See figure 6

Midwest's economic revival, since the relationship between public spending/taxation and economic growth has not been definitively demonstrated. Beneficial effects between state–local government fiscal health and private sector economic growth run in both directions, thereby making it difficult to discern cause from effect.

The Midwest's current prosperity is evident in its state and local sector, as midwestern state and local governments have, in general, rebuilt their budget balances and improved their fiscal position. While the national average state fund balance (as a percentage of state expenditures) was slightly more than 5 percent in 1996, Indiana recorded a fund balance of 20 percent; Iowa, 15 percent; and Michigan, 13 percent. The recessionary period of the early 1980s reduced the region's fiscal capacity and induced states to strain their capacity to fund public spending. However, Midwest states are seen to have begun easing the strain on their fiscal capacity by the mid-1980s.[24] The fiscal experience of District states followed the same break with the past that has characterized the economic performance of the region. Unlike previous recessions which had usually forced dramatic tax increases in the region, the national recession of 1990–91 had a relatively shallow impact.[25]

Institutional capital

Nonprofit institutions and organizations that engage in economic growth and development policies and programs are often believed to be influential to regional growth. In her 1995 book *World Class*, for example, Rosabeth Moss Kantor suggests the places that succeed in the new global economy often do so because they have created and supported organizations, their so-called institutional capital.[26] These organizations are often found in the not-for-profit sector and include public–private partnerships and councils, nonprofit organizations of business leaders, public–private development councils, foundations, trade associations, chambers of commerce, research centers at local universities, and research institutes.

The Midwest has fostered a rich endowment of organizations that form its institutional capital stock, contributing to a variety of regional economic development efforts. In the case of state and local economic development planning, for example, community-based organizations and local business associations provide important information to public-sector decisionmakers on which efforts and programs work best and often promote solutions that fall outside of narrow political boundaries.[27] For example, several multistate efforts have addressed environmental challenges in the Midwest. One such effort is aimed at understanding the atmospheric science and fashioning compliance solutions to the ozone-related ambient air quality standards of the Clean Air Act Amendments.[28] Another arises from the Great Lakes Water Quality Initiative, a basin-wide approach to reducing toxic contamination of the Great Lakes system.[29] Proactive development initiatives at a multistate level have been no less common, including tourism and export promotion and efforts to broaden skill standards and certification.[30]

What does the future hold for the Midwest?

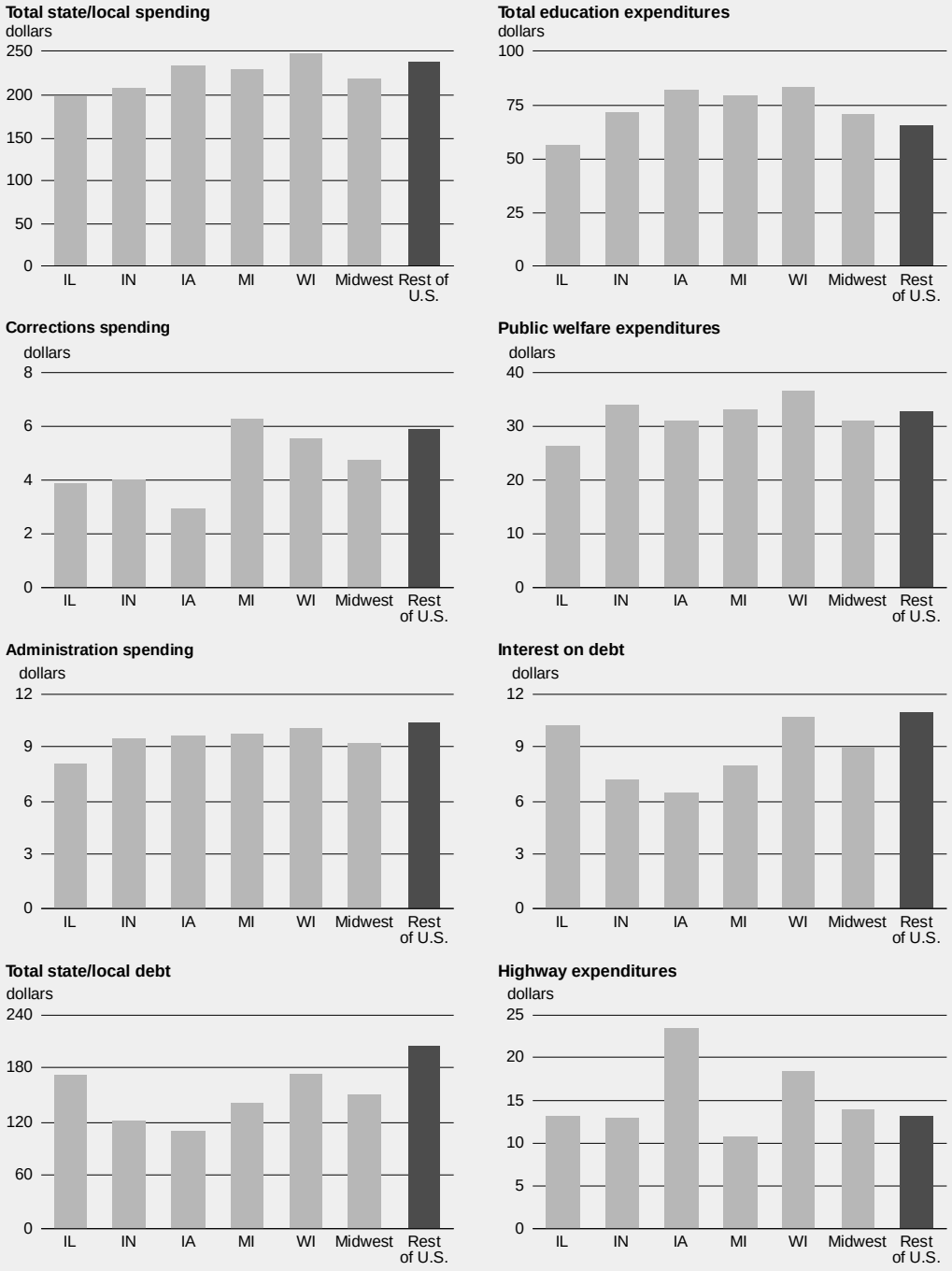
This article has identified developments that have restored the region's luster. With ten to 15 years hindsight it is evident that, while business cycle timing and external factors have been very important, profound changes have taken place in the way midwestern businesses and governments compete and conduct their

affairs. Although it is impossible to discern the relative contribution of these forces with a great deal of precision, it is clear that the Midwest is partly responsible for its own recovery.

The challenges and opportunities facing the region can be discussed in terms of two important characteristics of this economic recovery: the resurgent strength of the region's

FIGURE 10

State and local public sector spending per $1,000 personal income, 1993



Source: U.S. Department of Commerce, Bureau of the Census, "State and local government finance estimates, by state," Internet at www.census.gov/govs/www/index.html, March 17, 1997.

mainstay industries and the increase in labor force participation. First, production agriculture and manufacturing exhibited startling resilience during this period by improving productivity, regaining market share, and aggressively targeting export markets. In this regard, there is reason for optimism. Following the shocks of the 1980s, the region's firms will most likely stay on their guard with regard to changing technology and the benchmarks of global competition. So too, much of the future growth in export markets is expected to derive from developing countries, whose needs for the region's products—capital goods and agricultural products—are expected to continue to grow.

Second, the region's labor force faces an important challenge. Will work force numbers and skills be adequate to sustain the growth that the region has experienced in the 1990s? In achieving recent growth, the region has drawn from both new work force entrants and adults who were unemployed or underemployed. However, this pool of skilled workers is now showing signs of strain. Currently tight labor markets suggest the need for midwestern workers who no longer are seen as disproportionately expensive relative to other regions. Labor supply may become further strained in the years ahead, because the work force in the Midwest is reported to be older than in the nation, so loss of workers through retirement is likely to be relatively high in the region.[31]

Insofar as the region's two industry mainstays—agriculture and manufacturing—continue to shed labor, a lower level of growth in the work force may be needed. If so, natural population growth, upgrading of skills, and work force innovations to bring more people into the labor force may suffice. For example, job networking of workers from the inner city to the suburbs and moving welfare recipients into the workplace may ease labor market pressures. Furthermore, some workers may decide to defer retirement, especially if the rewards of working become more attractive.[32]

In-migration of population could provide another "release valve" to labor market pressures. In most parts of the Midwest, the cost of living does not present a barrier to in-migration. The median home price in the Midwest is the lowest of any of the four regions defined by the National Association of Realtors; the association's index of housing affordability is also more favorable here than in other regions. However, significant in-migration to the region has not occurred to date, although out-migration has been stemmed. Moreover, regions from which the Midwest might expect to draw workers, such as the West Coast and the Northeast, are experiencing labor market tightening.

An alternative approach to easing labor shortages is the upgrading of skills of the existing and emerging work force. This is a preferred approach, because higher skills tend to be rewarded in the form of higher wages and income for Midwest residents. For this to come about, workers must act to acquire needed skills or credentials and policymakers must act to create publicly assisted training, educational, and job-assistance programs or increase the effectiveness of existing programs. Young adults continue to enter the work force, but there is concern that some training/educational programs have fallen into disrepair or were abandoned during the early 1980s, when one in five manufacturing jobs evaporated in the region and growth in other sectors stagnated. As a result, a renewed push is needed to reestablish school-to-career and other programs in selected skill areas. In the absence of such initiatives, the region's residents could miss opportunities for better and higher paying jobs and the region's businesses and property owners could miss significant income-generating opportunities.

NOTES

[1]For a more detailed summary of this work, see Testa, Klier, and Mattoon (1997). Unless specified otherwise, Midwest refers to the states of the Seventh Federal Reserve District—Illinois, Indiana, Iowa, Michigan, and Wisconsin.

[2]See Allardice and Bergman (1996).

[3]See Johnson (1996).

[4]Surprisingly, net migration into the rural Midwest exceeded population gains derived from natural increase, that is, births minus deaths. Throughout this century, population gains in rural counties have generally been realized through natural increase concurrent with net out-migration of young adults. By the 1990s, the resulting aging of the population, coupled with in-migration, resulted in a

notable reversal; in-migration gains were leading those achieved by natural increase in rural counties of the nation and the Midwest.

[5]See Johnson, op. cit.

[6]See Groshen and Robertson (1993).

[7]For further industry-specific analysis, see Testa (1992). Other authors note the further spatial division of labor by size of metro area according to industries or facilities characterized by routinized or "back office" operations and those engaged in "command and control," operations such as corporate headquarters or highly specialized business and legal services. For further discussion, see Atkinson (1996) and Federal Reserve Bank of Chicago (1996a).

[8]Kim (1996).

[9]Howland (1984).

[10]Languishing total dollar volume of exports is somewhat expected in this instance because rising physical quantities of exports may be slight or insufficient to make up for lower dollar prices per physical unit, that is, the "J-curve" effect. Of course, other forces, especially changing economic growth of export destinations, also determine export sales.

[11]A more farsighted view of the region is attributed to Annable (1985) and Swonk (1991).

[12]For example, Browne (1983).

[13]Research completed by Philip Israilevich on defense-related businesses in the metro Chicago economy found that less than 1 percent of the total output of goods and services in the Chicago economy was related to military procurement expenditures in 1987 (during the height of the military spending boom). Furthermore, electrical machinery, business services, food, and control instruments were the industry groups that accounted for 73 percent of the procurement funds that the metro economy received. These industry groups can serve civilian as well as defense markets without the difficult transition associated with prime contractors, such as ship builders, plane manufacturers, or weapons and munitions firms. See Israilevich and Weiss (1992).

[14]Sutten (1996).

[15]See Aguilar and Singer (1995) and David Walters' comments in Federal Reserve Bank of Chicago (1996d).

[16]Walters, ibid.

[17]The share of production has slipped during 1996. Some analysts partly attribute this slippage to the climbing value of the dollar versus the yen. See Meredith (1997).

[18]Hervey and Strauss (1996) constructed foreign currency measures against the dollar that are specific to the Midwest's export composition. They found that the Midwest's export success has run counter to deleterious trends in the exchange currencies of the region's major export destinations. It is likely that the region's export success derives from a favorable expansion and pattern of expansion in foreign markets and from improving productivity.

[19]Baldwin, Diverty, and Sabourin (1994); U.S. Department of Commerce, Bureau of the Census (1994).

[20]A popular exposition of the neoclassical theme with regard to the recent Midwest experience can be found in Swonk (1996). For a discussion of the possible effects of one such institutional feature, that is, right-to-work laws, see Holmes (1995); also Kendix (1990).

[21]Such figures are merely suggestive and not definitive, assuming, for example, the shift between part-time and full-time workers across regions does not distort the findings, and that the findings are not similarly distorted by regional differences in labor force growth.

[22]The evidence is also consistent with falling wages having resulted from a shrinking economy (and shrinking labor demand). The early period strongly suggests the falling wages were caused by loss of manufacturing and attendant high-paying jobs and by excess supplies of willing workers. It is unclear, as yet, whether lower wages have helped revive investment and employment in the region.

[23]See Bournakis (1996).

[24]Fiscal capacity measures of a state are constructed by comparing a state's per capita tax base to the nation's, aggregated across all commonly used tax bases, for example, sales, income, and property value. See U.S. Advisory Commission on Intergovernmental Relations (1989).

[25]See Mattoon and Testa (1992).

[26]See Kantor (1995). The hypothesis that long-developed regions will necessarily have an advantage in sustaining growth during a period of adversity or shock remains contentious. For an opposing hypothesis, see Kendix, op. cit. For a balanced and wide-ranging discussion of the role of such institutions in economic development, see Bonser (1995). For an in-depth discussion of state and local government development initiatives and concepts in the 1980s, see Eisinger (1988).

[27]For example, see Ameritrust Corporation (1994), Wisconsin Strategic Development Commission (1985), Iowa Business Council and Federal Reserve Bank of Chicago (1987), and the Commercial Club of Chicago (1984).

[28]To understand and facilitate compliance with urban ozone regulations, the Lake Michigan Air Directors Consortium has been studying regionwide atmospheric chemistry; see Gerritson (1993).

[29]The Council of Great Lakes Governors has been active in shaping the new environmental guidance for protecting the basin's water quality. See DRI/McGraw Hill (1993).

[30]For a review of such efforts, see McNulty (1991).

[31]McAlinden, Smith, and Cole (1995).

[32]Judy and D'Amico (1997).

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