

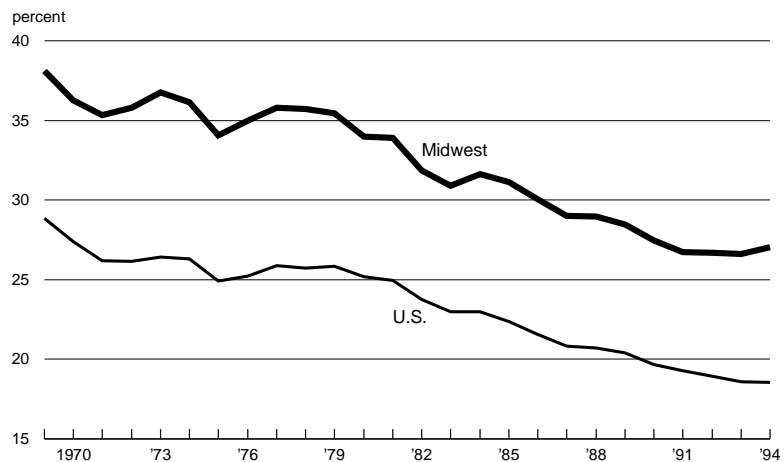
The region has been experiencing a confluence of good fortunes that cannot be counted on to continue indefinitely.

IV. Challenges and Opportunities Ahead

Although fundamental changes in the Midwest economy have put the region on a higher growth path, the region has also been experiencing a confluence of good fortunes that cannot be counted on to continue indefinitely. Restructuring in federal spending-oriented industries will taper off in other regions, and the industries that will thrive tomorrow need not be the ones that are concentrated in the Midwest. In the past, many unforeseen external influences have dealt setbacks to high-performing regions.

The changing Midwest economy faces important challenges, as well as opportunities. Due largely to the rapid pace of globalization, restructuring is taking place in key locations and industry sectors, including the labor-shedding tendency of goods-producing industries—agriculture and manufacturing. A slowdown in these sectors would continue to put pressure on the Midwest's economy and its workers relative to other regions (figure 29). Within agriculture, two of the sector's mainstays—hog and dairy—are consolidating operations and perhaps shifting location to other regions. Within the region's large central cities, the infrastructure and high density were, in many cases, put together for a previous age, not for the twenty-first century. Metropolitan areas will continue to adjust to the decentralization of jobs and people, in line with today's economic preferences for firm and residential location. In many central cities, some of the population has become disconnected—spatially and culturally—from economic opportunities of the metropolitan economy. Metropolitan areas must also struggle with questions of how to effectively govern metro regions containing many highly fragmented governments, each of which makes independent land use decisions which may be suboptimal for the welfare of the larger region's economy. How these changes play out and how the region responds will determine to what degree the region's prosperity is sustained.

Figure 29 Manufacturing's Share of Total Personal Income



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

Most important, despite the region's robust labor force participation and productivity gains, individual and family prosperity have yet to recover to the levels experienced in earlier decades. Prior to the 1980s, the Midwest's per capita income exceeded the nation's. Yet, despite the buoyant expansion of the late 1980s and 1990s, the pre-1980 levels of income have not been recaptured.

Much more remains to be accomplished and, over the longer term, there do not appear to be any discernible natural advantages or reliable external trends that will necessarily sustain the region.³⁸ Public and private policymakers should work hard to avoid complacency and to maintain the region's competitiveness in markets.

The following general findings were uncovered over the course of the Midwest assessment project. They reflect discussions at a series of workshops that attempted to 1) document the remarkable turnaround of the region and explain its current economy and 2) identify the challenges and opportunities ahead. Monitoring and further investigating these challenges and opportunities will require further research and policy analysis in the coming years.

Technology and Productivity³⁹

The previous section of this document addressed the remarkable rebound the Midwest economy has experienced since the early 1980s. While it is difficult to single out the relative importance of each of the contributing factors and developments, it has been demonstrated that the rebound was driven by the region's mainstay sectors: agriculture and manufacturing. Within manufacturing, one of the most exciting but also most difficult to quantify developments has been the advancement of process and production technology and subsequent productivity improvements.⁴⁰

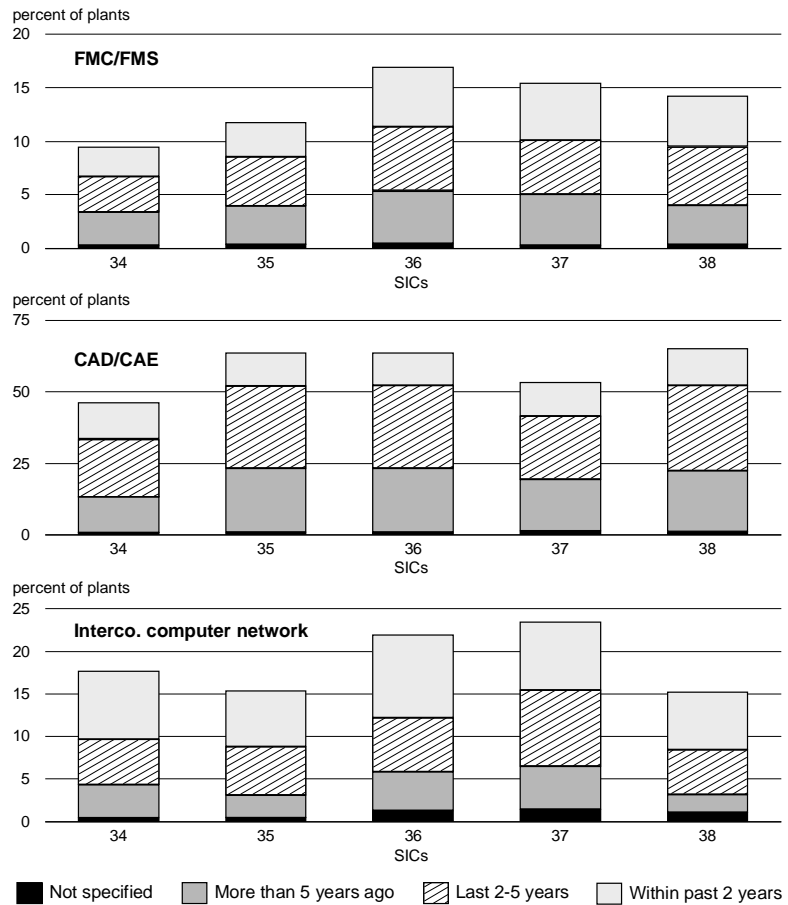
Technological advancements and their successful implementation play an important role in shaping the structure of any economy. As shown by Sukkoo Kim of Washington University, the advent of the railroad and the construction of numerous railroad lines between the 1840s and 1890s dramatically reduced the cost of transportation over land in the U.S. economy.⁴¹ Railroad mileage in operation increased sharply from 30,626 miles in 1860 to 166,703 miles in 1890. This increase in integration set the stage for the subsequent specialization within regions as firms adopted large-scale production methods that were intensive in relatively immobile resources and energy sources. Later, as factors became increasingly mobile and technological innovations favored the development of substitutes, regional resource differences diminished. This trend and a fall in scale economies have caused regions to become much less specialized since WWII.

Although U.S. regional economies have become more alike in industry composition in recent decades, their economic fortunes continue to be volatile in an environment where resources are mobile and markets are often global. Short-run regional economic conditions are determined by whether a region's firms stay at the forefront of technical innovation and productivity improvements in order to further their competitiveness and stimulate capital investments.

As mentioned earlier in this report, two recent surveys of the extent of application of today's best manufacturing practices found that the adoption and application of advanced manufacturing technologies has been widespread across plants and industries, typically with multiple technologies applied per establishment.⁴² Furthermore, the application of best practices is often a recent phenomenon; about half the technologies surveyed had been implemented by current users within the last five years (figure 30).⁴³ This indicates that advanced manufacturing techniques are reshaping manufacturing on a broad scale. With its concentration

of manufacturing industries, the Midwest has undoubtedly benefited from the application of these new manufacturing practices. However, little is known on how adjustment to new manufacturing technologies plays out at the regional level. A regional breakdown of available data and comparisons with similar regions in Europe and Japan are necessary to improve our understanding of that process.⁴⁴

Figure 30 Implementation of Technology among 1993 Users, by SIC



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

Note and Source: See table 5.

Although the evidence on technology adoption is compelling, it is limited, as it concentrates on quantifying certain types of technology being used on the shop floor. To provide an environment conducive to the most productive approaches being used in plants and factories, it is crucial to understand the policies and conditions contributing to successful technology adoption. Surveys of technologies in use are an important first step. However, there is also strong and consistent evidence pointing to the large effect of “soft” factors, such as the design for manufacturing and workplace organization issues, in explaining productivity differences within industries across countries.⁴⁵

The economic revival that has occurred in the Midwest during the past decade has important underpinnings in the increasingly worldwide scope of markets.

Several specific features of technology adoption, as identified in the Canadian and U.S. surveys, are notable, because they indicate potential policy directions for the region:

- The age of the plant did not affect the implementation of these technologies, suggesting that the technological innovations have not and need not be concentrated in plants of recent vintage. However, other critical factors vary by regional location. For example, a geographic analysis of the auto industry, the largest industry in the Midwest, exemplified how multifaceted and complex adjustments to new technologies can be.⁴⁶ While assembly plants are returning to the heart of the country, parts plants are opening in both the Midwest—where new facilities are less likely to locate in the Detroit area and more likely to be in southwestern Michigan, northeastern Indiana, and western Ohio—and the Southeast.
- Larger plants were found to adopt the technologies surveyed more rapidly than smaller plants. In identifying possible challenges to the Midwest's continued application of best manufacturing practices, it seems important to first compare the distribution of plant size across regions. In more general terms, industry-specific adoption paths for implementing new technology might provide information that is key to shaping appropriate policy responses, as well as to evaluating existing policy tools (such as the Tech Assistance Centers operating now in Detroit and Chicago).

Are existing market mechanisms and publicly assisted programs adequate for the transfer of technology and management practices or is there a further role for public or private/public partnership efforts? This question is especially significant in light of the apparent need to improve technology adoption in small plants. Furthermore, the issue of technology adoption is intricately related to other areas of policy interest. In particular, the use of more productive procedures and machinery is generally associated with initial labor shedding, and it leads to a change (typically an increase) in the demand for skills and a possible increase in labor demand as the plant's higher productivity increases its competitiveness. Some have suggested improvements in the structure of the education and training industry so it can better respond to these demands. It is also possible that the strong presence of international competitors in an industry's home market may lead to speedy and complete adjustment to best practices, e.g., by way of technology networks and alliances.

Finally, technology adoption and technological change represent an ongoing process rather than a one-time adjustment, in terms of the number and types of plants involved as well as the types of production approaches chosen. The auto industry frequently serves as a showcase for the implementation of best manufacturing practices and its effects on competitiveness. While domestic auto assemblers made the first adjustments to the new standard in producing vehicles, we now see strong efforts to involve the entire supplier chain.⁴⁷ At the same time, international competition to the Big Three does not stand still, but rather continues to challenge them to further improve their production systems.⁴⁸

Open Markets and Open Borders⁴⁹

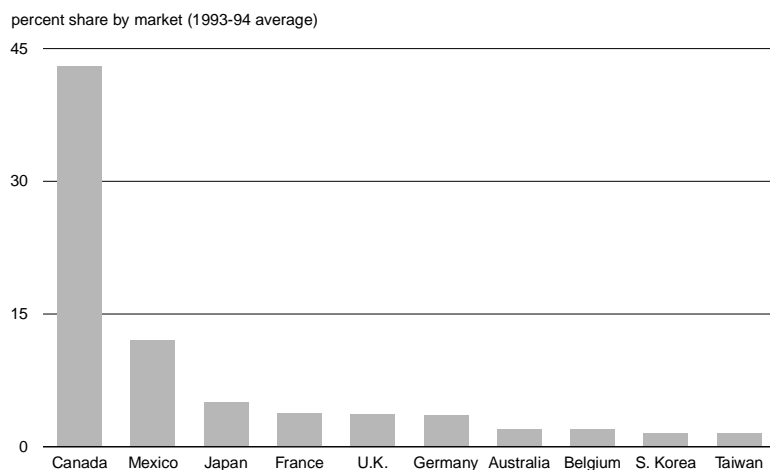
The fabric of the Midwest economy has become intricately interwoven with the international economy. The economic revival that has occurred in the Midwest during the past decade has important underpinnings in the increasingly worldwide scope of markets. An unfettering of markets has been fostered largely through a maintenance and expansion of open borders. Although it has not been an easy

transformation, the current state of Midwest industry owes much to the structural modifications in the economy that were forced, in part, by import competition and the competitive nature of foreign-owned entities that have entered and become an integral part of the domestic market. While export markets (and foreign direct investment) are not the dominant components of demand for the region's output, the health of Midwest industry relies significantly on its external markets. More important, regional growth and regional differences in growth have become increasingly sensitive to the performance of export sectors. In this aspect, the Midwest's performance has recently kept pace or even exceeded overall national trends.

The share of Midwest exports going to North America—Canada and Mexico—is high relative to the nation (figures 31 and 32). However, like the nation, the Midwest is looking to emerging markets in Asia and Latin America for future export growth. Manufacturing industries (be they producers of intermediate products or final goods), especially those associated with capital goods production, have dominated the recent economic revival of the Midwest. The expansion in exports in recent years, as rapid economic expansion in emerging markets abroad combined with continued moderate-to-strong demand from traditional industrial country markets, has played a part in the Midwest's increased interdependence with the global market. In addition, production agriculture, long an important primary goods producing industry of the Midwest, has recorded dramatic increases in exports during recent years.

Finally, contributing to the Midwest's economic revival has been the critical restructuring of its industrial base during the past ten to 15 years, a restructuring that has enhanced Midwest (and U.S.) industrial competitiveness. International trade and investment have played an important role in making the Midwest more competitive on a worldwide basis. The change of Midwest industry to a position of competitiveness in international markets has been importantly related to the competitive impact of imports from abroad and the technology transfers associated with and competition derived from foreign direct investment in major Midwest industries.

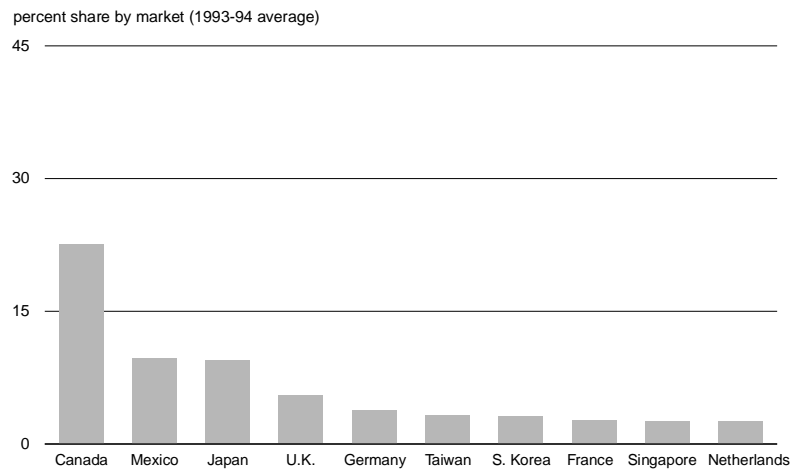
Figure 31 Midwest Exports—Total Manufactured Goods



Note: The Midwest is defined as Illinois, Indiana, Michigan, Ohio, and Wisconsin.

Source: Jack L. Hervey and William A. Strauss, "A Regional Export-Weighted Dollar: A Different Way of Looking at Exchange Rate Changes," *Assessing the Midwest Economy Working Paper Series*, No. GL-2, Federal Reserve Bank of Chicago, 1996 [data compiled from Massachusetts Institute for Social and Economic Research (MISER), *State of Exporter Location Data* (Series 2), 1993 and 1994].

Figure 32 U.S. Exports—Total Manufactured Goods



Source: See Figure 31.

Multilateral and country-to-country regional agreements affecting cross-border trade are entered into from the national perspective. Nationally determined policies influence the rate of domestic inflation, the exchange rate of the dollar versus other currencies, financial market regulations, agricultural production decisions, environmental, safety, and health controls, and many other factors. While such policy actions may be aimed at the domestic economy, they also influence its interaction with the international economy. The more open the national borders are to trade and financial flows, the more important these national policies become in their influence on the economy's international involvement.

Since the late 1940s the U.S. has engaged in numerous trade agreements that have dramatically opened the country's borders to trade by reducing or eliminating tariffs and nontariff barriers. Movement toward such policies has surged in recent years. The U.S.–Canada Automotive Trade Agreement was negotiated in the mid-1960s and the U.S.–Canada Free Trade Agreement (FTA) in 1989; the North American Free Trade Agreement (NAFTA) went into effect in 1994. Even more important are the eight post-World War II multilateral trade agreements, seven of which were negotiated under the auspices of the General Agreement on Tariffs and Trade, the most recent being the Uruguay Round which established the World Trade Organization in 1995.

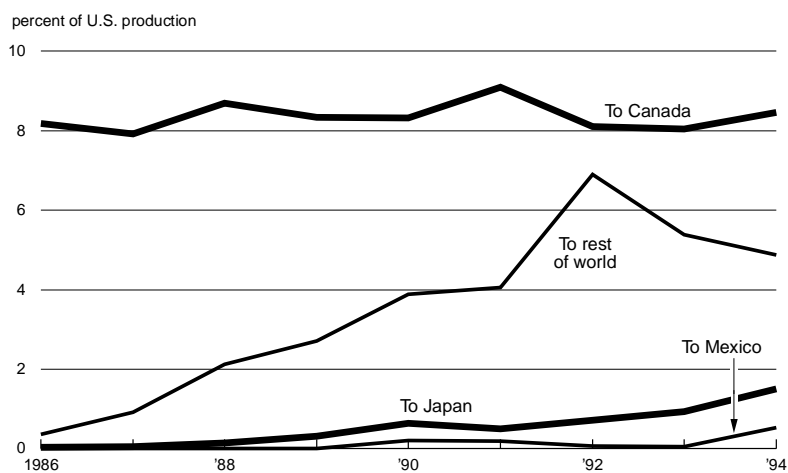
National policies, whether they are trade-related or aimed primarily toward influencing the condition of the domestic economy, can be expected to have varying economic effects on different regions. The Midwest economy has typically responded well to the relaxation of international trade barriers, though not without major industrial restructuring. The recovery of the Midwest's economy over the past ten years and its recent success in international markets are due importantly to the composition of the region's industrial mix, which is heavily oriented toward automotive and capital equipment manufacturing and agricultural production. The appreciation of the dollar exchange rate during the early

1980s and the progress toward lowering trade barriers throughout the 1970s and 1980s promoted a rapid influx of imports. This increased competition provided by imports meant that many Midwest and U.S. industries needed to undergo massive restructuring to retain or regain their competitive position.

For the most part, Midwest industry engaged in a successful restructuring. For example, the domestic automotive industry, heavily concentrated in the Midwest, was profoundly influenced by developments in the international sector. First was the single market influence of the 1965 U.S.–Canada auto pact which promoted a harmonization of the industry across the international border. Arguably the most important impact from the international sphere came as a result of international competition in the domestic market, initially from imports and more recently from the transplanting of foreign production (that is, foreign investment) to U.S. locations, in many cases the Midwest. To the domestic industry's credit, it was able to adjust to meet the competition. The Midwest and Mid-South regions adapted to become the domicile of the automotive transplants, and these companies have helped to transform the domestic industry into a platform for exports outside North America (figure 33).

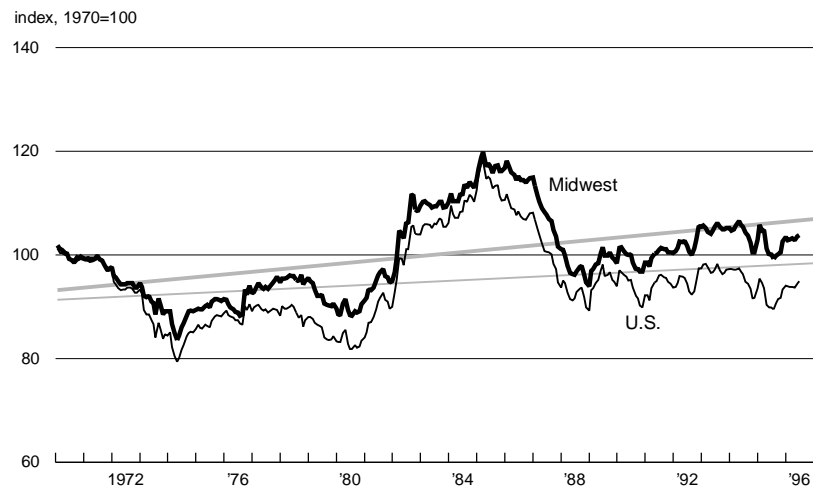
Midwest industrial restructuring contributed to a rapid growth in shipments to foreign markets during the late 1980s and early 1990s. This growth occurred despite the fact that the primary markets to which Midwest industry exports, Canada and Mexico, faced a dollar exchange rate that was appreciating, not depreciating as is typically thought to be the case (figure 34). Recently, however, the terms of trade versus one competitor, Japan, have been moving in Japan's favor, which may pressure domestic automotive production.

Figure 33 Exports of Passenger Cars (U.S.)



Source: Thomas Klier, data obtained from American Automobile Manufacturers Association, *World Motor Vehicle Data*, selected years, reactor comments prepared for the workshop "Global Linkages to the Midwest Economy," held at the Federal Reserve Bank of Chicago, September 18, 1996.

Figure 34 Regional Exchange Rate Indexes for the Midwest and U.S., Durables



Note: The Midwest is defined as Illinois, Indiana, Michigan, Ohio, and Wisconsin. The Midwest index is an export-weighted dollar exchange rate index based on the destinations of the region's exports.

Source: Jack L. Hervey and William A. Strauss, "A Regional Export-Weighted Dollar: A Different Way of Looking at Exchange Rate Changes," *Assessing the Midwest Economy Working Paper Series*, No. GL-2, Federal Reserve Bank of Chicago, 1996.

Agricultural exports of both primary products and processed foods have also surged in recent years. The Midwest is the heart of feed-grain and oil-seed production in the U.S. It is also an important food processing center, accounting for 21% of the nation's food processing industry in 1992 (table 7).⁵⁰ Processed food exports have exhibited strong and steady growth in recent years, in which the Midwest has taken part (figure 35).

Much of the expansion in U.S. exports—both agricultural and manufactured—has occurred in response to growth in emerging markets abroad. Indeed, some estimates suggest that nearly three-quarters of future growth in world trade is expected to arise from such markets. High on the list of import demand by emerging markets are capital goods—machinery and equipment—and the Midwest is well situated to respond.

It is too early to assess the growth and general welfare impacts of the recent North American trade pacts on the region and nation. Nonetheless, preliminary evidence suggests that the intentions of the agreements are beginning to be realized.⁵¹

Open borders have also facilitated foreign direct investments in both the U.S. and Canada. Locally, according to standard measures, each state in the East North Central region of the Midwest has experienced climbing shares of manufacturing employment accounted for by foreign-owned firms (table 8). The region's manufacturing employment by U.S. affiliates, for example, kept pace with the nation from 1977 to 1994, and exceeded the overall U.S. pace in the 1987 to 1994 period. Foreign direct investment in existing U.S. firms was an important factor contributing to the retention of some midwestern industries, for example, the steel and auto industries.

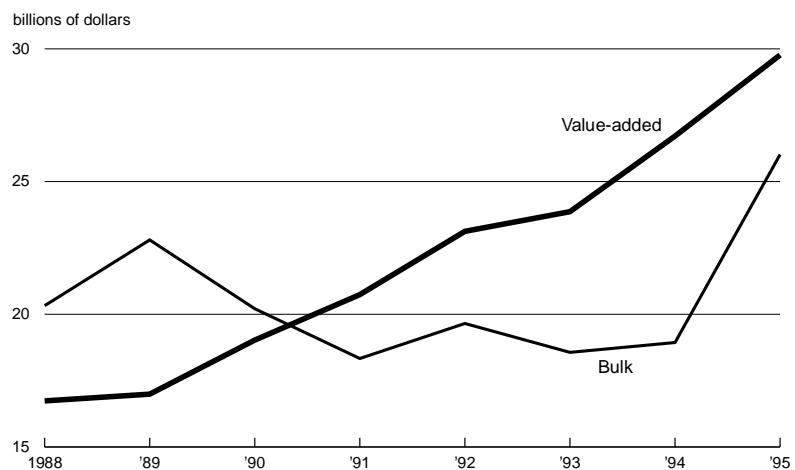
High on the list of import demand by emerging markets are capital goods—machinery and equipment—and the Midwest is well situated to respond.

Table 7 The Top 15 Food Processing Industries in the Midwest

	Rank		Value Added		% of All Midwest Food Processing	
	1992	1982	1992	1982	1992	1982
(---million dollars---)						
Breakfast Foods	1	3	3,470	1,264	10.6	6.9
Confectionery	2	2	2,489	1,472	7.6	8.0
Wet Corn Milling	3	5	2,386	902	7.3	4.9
Cheese	4	8	2,191	788	6.7	4.3
Meat Processing	5	7	1,849	799	5.7	4.4
Meat Packing	6	1	1,743	1,564	5.3	8.5
Processed Milk	7	9	1,687	783	5.2	4.3
Soft Drinks	8	6	1,654	845	5.1	4.6
Bread	9	4	1,482	1,113	4.5	6.1
Cookies & Crackers	10	15	1,210	521	3.7	2.8
Canned Fruits & Veg.	11	17	937	499	2.9	2.7
Flavorings	12	16	902	521	2.8	2.8
Fluid Milk	13	14	885	545	2.7	3.0
Frozen Specialties	14	18	859	393	2.6	2.1
Animal Feeds	15	13	738	575	2.3	3.1
Top 15			24,482	12,584	74.9	68.7
All Food Processing						
Midwest States			32,687	18,308	100	100
United States			156,843	88,419		

Source: Mike Singer and Chris Barfels, "The Food Processing Industry in the Midwest," *Assessing the Midwest Economy Working Paper Series*, No. RE-6, Federal Reserve Bank of Chicago, 1996.

Figure 35 Value-Added versus Bulk Agricultural Exports (U.S.)



Note: The USDA definition of bulk agricultural exports includes traditional farm commodities such as grains, soybeans, and cotton. The high-value group shown here combines the other two categories of agricultural products used by the USDA, i.e. intermediate-value, including, for example, soybean oil, and consumer-oriented, including, for example, snacks.

Source: U.S. Department of Agriculture.

Table 8 Share of Manufacturing Employment at Foreign-Owned Firms

	1988	1989	1990	1991	1992	1993	1994
Illinois	9.5	10.9	11.8	12.6	12.8	12.6	12.3
Indiana	8.4	10.0	13.7	13.0	13.6	13.4	13.3
Michigan	7.0	7.2	7.6	7.8	8.3	8.8	8.6
Ohio	7.9	10.1	11.2	11.9	12.3	12.3	12.2
Wisconsin	7.2	7.6	8.3	8.5	8.2	7.6	7.5
U.S.	8.2	9.5	10.4	11.0	11.2	11.3	11.4

Source: Asim Erdilek and Milton A. Wolf, "R&D Activities and Innovativeness of Foreign-Owned Firms in Ohio," *Assessing the Midwest Economy Working Paper Series*, No. GL-6, Federal Reserve Bank of Chicago, 1996.

Table 9 Real Estate and Commercial Loans (Percent of Total Loans)

	U.S.-Owned Commercial Banks		Total Foreign Banking Offices	
	Real Estate	C&I	Real Estate	C&I
Total U.S.				
1985	27.1%	31.3%	10.8%	43.4%
1990	39.9	26.3	20.5	48.7
1994	42.7	23.3	22.1	51.0
Midwest				
1985	27.3	31.4	7.2	49.5
1990	39.0	29.5	19.3	58.0
1994	42.9	26.6	16.5	61.9

Source: Linda Aguilar, "A Current Look at Foreign Banking in the U.S. and Seventh District," *Economic Perspectives*, Federal Reserve Bank of Chicago, Vol. 19, No. 1, January/February 1995, pp. 20-28.

Open borders to direct investments have assisted the Midwest in several ways, not the least of which is technology transfers in the adoption of state-of-the-art technologies and modes of business operation. In some cases, technology transfer has occurred through information/communication channels, as multinationals and midwestern companies that sell worldwide have adopted new standards and processes.⁵² In other cases, foreign-domiciled firms—both manufacturers, for example, automotive, and service firms, for example, foreign banks—have relocated and transported operational skills directly to the Midwest. In addition, joint ventures between domestic and foreign firms have helped domestic firms to invest in cutting-edge technologies (for example, integrated steel mills). Foreign financial institutions have also entered the region's banking market and provided new sources of competitively priced funds (table 9).

Challenges

Open borders at the national level made these transformations possible, but regional amenities and infrastructure may also have been helpful. While it is the federal government that holds the key to the nation's international trade and investment policy, individual state and metropolitan areas also have an important role to play in the internationalization of the economy. The process of globalization and the spread of international trade agreements have tended to lessen the sovereignty of nations. As nations become more interdependent with the rest of the world through the reduction of trade and investment barriers, national governments cede some of their economic and, thus, political authority to multinational authorities.

Some observers have suggested that, as a result of this process, the role of subnational political jurisdictions, such as states and metropolitan areas, as economic actors is likely to grow.⁵³ In fact, many states and metropolitan areas are examining and revising their policies and infrastructure to facilitate foreign business transactions, investment, visitors, and exports.⁵⁴ States and metro areas in the Midwest have moved toward becoming hosts and centers for foreign investment and the export of services worldwide—business services, financial services, business travel, and tourism.

Others criticize the current response to the global economy as inadequate. Characterizing the current model of local participation by states and metro areas in the expanding international marketplace as that of interstate or intercity competition, they suggest that the “European model” would be a more productive approach for U.S. cities. According to this model, some cities in different countries cooperate in various ways to promote their respective cities' relative advantages and trade flows.⁵⁵ In pairing with international cities, U.S. cities would develop a more global focus, helping them to attract foreign investment and establish global linkages.

Examining midwestern markets and the trading patterns that have developed *within* the region suggests a different, region-based direction. Despite the growth of markets abroad, specialization and the lion's share of trade by midwestern firms continue to take place domestically. For example, of the \$140 billion of goods the Chicagoland region exported in 1995, \$119 billion went to the rest of the U.S., \$10 billion to Canada, \$1 billion to Mexico, and \$10 billion to the rest of the world.⁵⁶

The size of these trade flows makes it imperative that we improve our understanding of intraregional and interregional linkages. Are there significant unmeasured interstate and international flows in services as well as manufactured goods? What are the implications locally, regionally, and nationally of policies that promote distortionary regulations, taxes, and fiscal issues that may be limiting intraregional and international trade, investment, and labor flows. Such distortionary policies may include: different weight and length limits on trucks, different and conflicting state tax regimes, barriers and impediments to skilled labor migration, failure to harmonize or rationalize state–local tax codes, prohibitions against foreign ownership of property, and the trade distortions among states or across international borders that arise through selective tax abatements and the restrictions on imports that grow out of questionable, as well as legitimate, health, safety, and environmental reasons.⁵⁷ Inherent in each of these policy issues is a conflict between economic rationale and political will and possibility. Such conflicts cannot be eliminated from the economic/political environment. However, a commitment among researchers and policymakers to ask the most relevant questions, answer them to the best of their ability, and implement the resulting recommendations will go a long way toward a more prosperous Midwest economy.

Despite the growth of markets abroad, specialization and the lion's share of trade by midwestern firms continue to take place domestically.

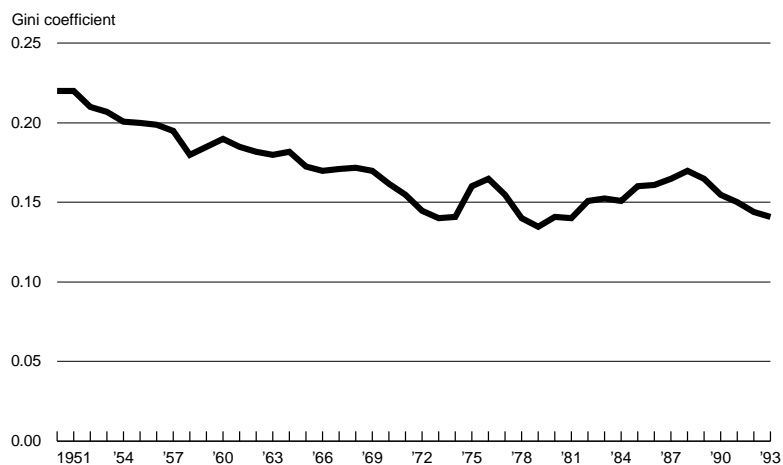
Work Force Issues⁵⁸

A long-term look at U.S. regions suggests that the industry specialization that occurred in the past has reversed in recent decades—broad regions, defined in multistate groups by the U.S. Census Bureau, have become less specialized in their industry composition over the course of this century.⁵⁹ If this is correct, it would help to explain the convergence of per capita income across U.S. regions, a trend that has been observed for as long as such information has been recorded. Occasional periods of regional divergence relate to discrete shocks, such as OPEC's restriction of oil supply in the 1970s, that cause individuals and firms to react to the changing fortunes of firms (figure 36).

From a policy perspective, once regional incomes have essentially converged, growth and income differences would more likely be determined by shifts in the ability of regions to build capacity effectively—work force skills, well-crafted infrastructure, and public sector amenities that contribute to high quality of life and locational attraction for households—than by shifts in the demand for goods.

Despite the Midwest's robust recovery over the past ten years and the high labor force participation now underway, the region's per capita income relative to the nation has not yet regained its former prominence. Some have suggested that while the region has caught up to its underemployment problems through job creation in the service sector, many of these jobs do not pay as well as the manufacturing jobs they have replaced. The region's income distribution and opportunities for blue-collar, middle-income workers have deteriorated. Although external conditions may temporarily raise demand, and therefore income levels, for workers in the Midwest, higher skill and educational levels often provide the only sustainable income advantage for regions. A challenge for the region, then, will be to offer sufficient access and opportunities for workers to attain the right mix of education and skills.

Figure 36 Dispersion of Per Capita Income among States, 1950–93



Note: The Gini coefficient is a widely used measure of income inequality. A coefficient of 0 would indicate perfect equality, i.e. all states would have the same per capita income; a coefficient of 1 would reflect perfect inequality.

Source: Fred Giertz and Shekhar Mehta, "Regional Income Trends and Convergence," *Assessing the Midwest Economy Working Paper Series*, No. SP-4, Federal Reserve Bank of Chicago, 1996.

The U.S. and Midwest economies are becoming increasingly centered on the flow of information and knowledge creation.

Analysis of the work force process identified two basic areas that are now undergoing significant, if not profound, changes. First, the U.S. and Midwest economies are becoming increasingly centered on the flow of information and knowledge creation. Accordingly, workers who are able to perform in this new environment are being rewarded in the marketplace and, from a growth perspective, a deficit or surplus of high-performing workers will determine the region's growth and welfare.

By historical standards, the portion of the work force having low skills has declined. Nonetheless, rising skill levels have been insufficient to keep up with the pace of rising skill demands. Surveys of new jobs being created by business suggest that new skill demands are higher than those of previous and existing jobs. An extensive survey of firms located in four major metropolitan areas (Atlanta, Detroit, Los Angeles, and Boston) reported that skill needs for new jobs have risen, even in the relatively short time frame of the last five to ten years.⁶⁰ Even in the blue-collar/service category, often perceived as requiring the fewest skills, 32% of the surveyed firms indicated that skill needs had increased. Table 10 illustrates the daily tasks and the credentials employers are demanding of new hires for various job categories. The particular skills that relate to the new "knowledge" worker include both technical skills, related to computers and automated machinery, and interpersonal skills, such as the ability to communicate and to work in cooperative situations.

New skill demands have resulted in several identifiable challenges. Much of the educational infrastructure is not now geared to meet below-college skill needs of the rapidly evolving business sector. For this reason, both public and private efforts are being created or stepped up. Midwest states like Wisconsin and Illinois are embracing school-to-work programs that directly link school curricula with either business guidance or work-site learning. More directly, public vocational schools in some states, such as Iowa, may provide a customized curriculum or training program to meet the needs of a particular industry or large individual company. The highly visible rise of in-house training programs and corporate universities, such as those of McDonald's and Motorola, further demonstrates the need for enhanced skills among the adult work force, as well as the efficacy of work-based or business-guided training and learning.

Table 10 Skills and Credentials Required for New Jobs

	All Jobs	College Required	No College Required	
			White-Collar	Blue-Collar/Service
(-----fraction requiring task or credentials-----)				
Daily Task Performance				
Customer Contact	.73	.82	.82	.51
Reading or Writing Paragraphs	.68	.91	.67	.51
Arithmetic	.68	.77	.70	.56
Computer	.56	.74	.70	.20
Required Credentials				
High School Diploma	.78	1.00	.82	.54
GED Accepted	—	—	.66	.44
GED Not Accepted	—	—	.16	.10
General Work Experience	.70	.75	.72	.62
Specific Work Experience	.64	.74	.64	.56
Previous Training or Certification	.43	.56	.39	.37

Notes: All results are sample weighted. A dash indicates information not available.

Source: Harry Holzer, "Employer Skill Needs and Hiring Procedures," presentation prepared for the workshop "Work Force Developments: Issues for the Midwest Economy," held at the Federal Reserve Bank of Chicago, May 15, 1996.

The challenge of moving welfare recipients into the work force has become all the more pressing due to the recent reforms affecting federally funded programs

A second work force issue relates to the persistent problem of bringing disadvantaged workers into the work force and the emerging problem of falling incomes among less-skilled workers. In 1994, unemployment among high school dropouts ran at 15% to 16%, while unemployment for college graduates was 4%. It is generally accepted that greater work force participation among low-income and disadvantaged people can increase levels of economic well-being, remedy deficient perceptions of self-worth, and lessen social ills. Poor job prospects can mean that adults lacking labor force experience may not acquire the fundamental skills needed to find and keep a job when opportunities arise. At the same time, motivation for training and education can become dampened and poverty-related social problems acquired which, in turn, become further obstacles to permanent labor force participation.

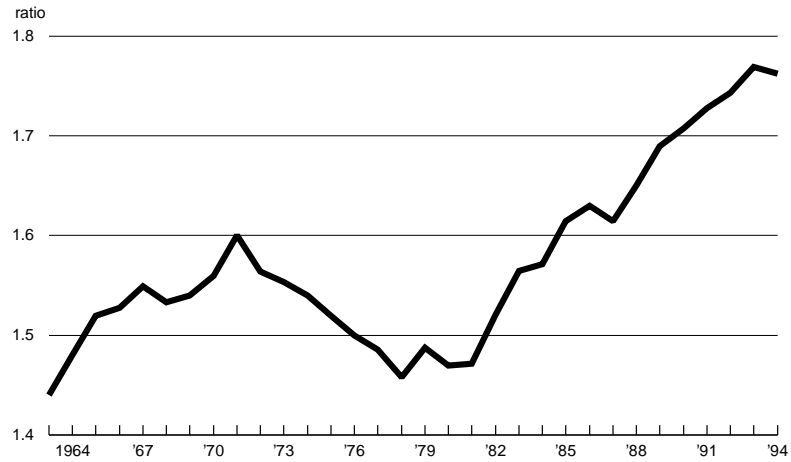
The challenge of moving welfare recipients into the work force has become all the more pressing due to the recent reforms affecting federally funded programs, such as Aid to Families with Dependent Children (AFDC). The federal government is transferring responsibility for welfare programs to state and local governments while providing funding through so-called block grants, which have fewer mandates or requirements attached. The size of block grants will vary with the progress that states demonstrate in moving low-income households from welfare to work. At this point, the robust economic expansion has reduced welfare roles sharply, allowing most states to show some level of success.⁶¹ However, an economic reversal will provide a more rigorous test of a state's ability to bring welfare recipients into the work force. Those regions that are successful will have an economic advantage in the years ahead. The potential downside is that some states may meet federal guidelines by reducing eligibility for welfare among low-income households, rather than successfully moving them out of poverty and into the work force. To date, states' experience in training disadvantaged workers to move permanently into the work force indicates it is a lengthy and costly process.⁶²

Both newly fashioned government policies and innovative prototype work force programs for the disadvantaged will need to take into account this self-feeding cycle of poverty and work force participation. The most widely used program structure for integrating disadvantaged workers into the work force emphasizes a strong dose of training, followed by introduction of the client to a (permanent) job setting. In contrast, new and somewhat more successful programs try to move prospective workers quickly into job situations, with minimal prior training or with basic coaching on interview and day-to-day job behaviors. However, following introduction to the labor force, the client may be offered a set of support services that may include child care, family or substance-abuse counseling, repeated job placement assistance, and more extensive training.

A more general manifestation of falling incomes among less-skilled workers is the so-called wage gap. As figure 37 illustrates, the wage gap has widened between those with higher formal educational credentials and those with lower education credentials. Moreover, the wage structure has changed dramatically since 1980, even within education levels.⁶³

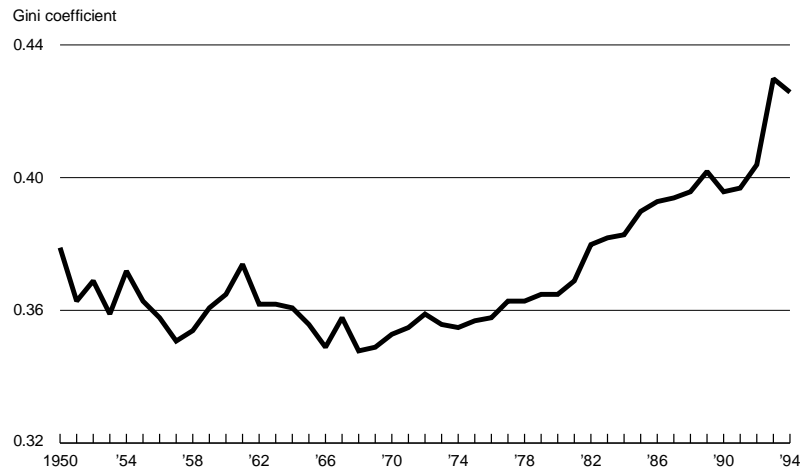
Figure 38 shows the Gini coefficient for each year from 1950 through 1994 and provides striking evidence of growing family income inequality nationwide.⁶⁴ In the Midwest, income inequality increased faster among the industrial states—Illinois, Indiana, Michigan, Ohio, and Wisconsin—than in the rest of the nation (table 11). However, only Michigan and Illinois had inequality levels above the national average. Income inequality in the agricultural Midwest—Iowa, Minnesota, Nebraska, and North and South Dakota—also increased, but at a rate that was below the U.S. average.

Figure 37 Wage Premium, College Educated versus High School Educated (U.S.)



Source: Kevin Murphy, "Wage and Income Disparity Trends," presentation prepared for the workshop "Work Force Developments: Issues for the Midwest Economy," held at the Federal Reserve Bank of Chicago, May 15, 1996.

Figure 38 Family Income Inequality in the U.S., 1950–94



Source: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P60, various years.

The relationship between economic growth and income inequality appears to be inconsistent.⁶⁵ Traditionally, greater economic growth had led to greater income equality, but this pattern does not seem to be holding for many of the states in the Midwest. In the agricultural Midwest, a decline in the percentage of the population employed in agricultural jobs has acted to mitigate a widening of income inequality. Incomes within the agricultural sector vary greatly and this high wage inequality tends to increase the Gini coefficient in states with greater agricultural employment. Additional factors that seem to be associated with increasing inequality in some regions are increases in the number of female-headed households and increases in immigration. On the other hand, higher labor force participation rates seem to reduce inequality.

Table 11 North Central Region Family Income Inequality Trends, Gini Coefficients

Region	1990 Gini	1990 Gini Rank ^a	1960 Gini Rank ^b	1970–90 Change in Gini ^c	1970–90 Change in Gini Rank ^d	1980–90 Change in Gini ^e	1980–90 Change in Gini Rank ^f
East North Central							
Ohio	.3939	26	43	.0809	1	.0587	3
Indiana	.3767	39	33	.0547	12	.0467	16
Illinois	.4094	16	27	.0647	4	.0596	1
Michigan	.3993	21	38	.0703	2	.0534	10
Wisconsin	.3675	46	35	.0415	22	.0365	36
West North Central							
Minnesota	.3804	36	23	.0344	33	.0390	29
Iowa	.3728	43	19	.0258	41	.0110	48
Missouri	.4035	17	16	.0265	40	.0448	17
North Dakota	.3756	42	18	.0066	47	.0304	43
South Dakota	.3842	34	15	-.0018	48	.0265	44
Nebraska	.3774	38	20	.0164	45	.0338	39
Kansas	.3894	30	24	.0394	24	.0387	31
U.S. Average	.3984	na	na	.0414	na	.0421	na

^a The 1990 Gini rank for the 48 contiguous states. A low rank is associated with relatively *more* family income inequality.

^b The 1960 Gini rank for the 48 contiguous states. A low rank is associated with relatively *more* family income inequality.

^c The 1970–90 change in the Gini coefficient. A greater change is associated with a larger increase in inequality.

^d The rank ordering of the 1970 to 1990 change in the Gini coefficient for the 48 contiguous states.

^e The 1980–90 change in the Gini coefficient. A greater change is associated with a larger increase in inequality.

^f The rank ordering of the 1980 to 1990 change in the Gini coefficient for the 48 contiguous states.

Notes: The Gini coefficient is a measure of income equality; na indicates information is not applicable.

Source: W. Levernier, M. Partridge, and D. Rickman, "Variation in State Income Inequality, 1960–90," *International Regional Science Review*, No. 3, 1996. The data were based on the 1960, 1970, 1980, and 1990 decennial census, where the actual family income was from the preceding year (i.e., 1959, 1969, 1979, and 1989).

Whether the widening wage gap is a problem or an opportunity (or both) remains open to debate.⁶⁶ Some observers believe that widening income disparities may result in problems in societal stability and in the talents of those who cannot acquire skills by their own devices being underused. At first blush, channeling public training subsidies toward those with low skills seems to be the most efficacious means to close the gap, especially since low-skilled individuals may face high barriers in financing their own education and training. An alternative viewpoint is that the increasing returns to skills, knowledge, and education should be viewed as an aggregate opportunity rather than as a problem. The focus of human capital investment need not be on the less skilled. Rather, investment should be directed toward those adult work force segments yielding the greater returns—be they low-, medium-, or high-skilled workers. Such an approach could ultimately benefit all skill segments. For example, channeling workers from medium- into high-skilled categories would lower the supply (and tighten wages) of low- to medium-skilled categories.

Education of the Young

Arguments favoring education of adults can lose some of their force in choosing between elementary/secondary education and adult training. The private and social returns of education for children tend to accrue over the long term and often include personal income as well as public benefits in reducing crime and welfare support. The

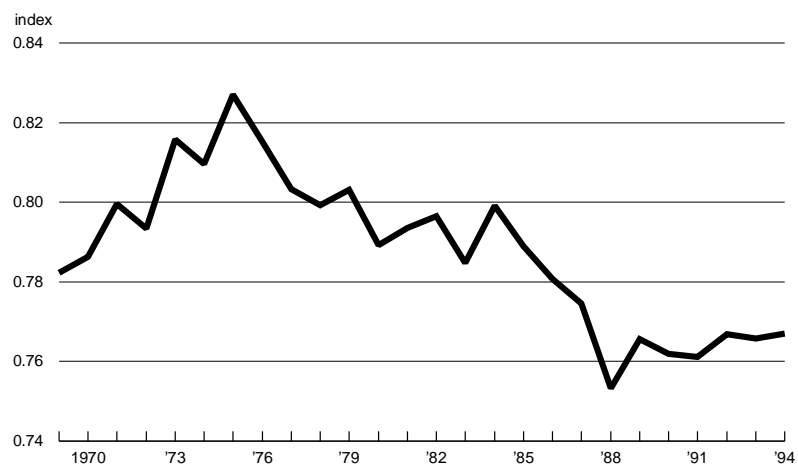
There are many experiments (and alternative models) underway in the region to improve elementary/secondary education.

case for public intervention and reform may be especially compelling for low-income families, which often face obstacles in financing childhood education. Low-income families may not be able to borrow against future earnings due to lack of collateral and they have fewer options for relocating to an area with a better public school system. Much education is delivered as a public service by local school districts, and some districts are deficient in educational provision and/or retention, whether due to neighborhood/family conditions, poorly performing schools, or other reasons.

Many poorly performing school systems can be found in the cities at the center of large urban areas. As discussed in the Federal Reserve Bank of Chicago's 1994 report on Midwest educational reform efforts, there are many experiments (and alternative models) underway in the region to improve elementary/secondary education.⁶⁷ These include voucher programs, contracting out to private school companies, charter schools, takeovers of poorly performing schools by oversight bodies, and bottom-up democratization of local schools. These fledgling efforts should continue, along with evaluation, possible expansion, and policy discussion of alternatives. So too, current fiscal conditions of state and local governments probably would allow a careful look at state aid programs to provide a floor under local school system spending. Such inquiries should go hand-in-hand with reviews of state regulatory restrictions as they affect educational efficiency.

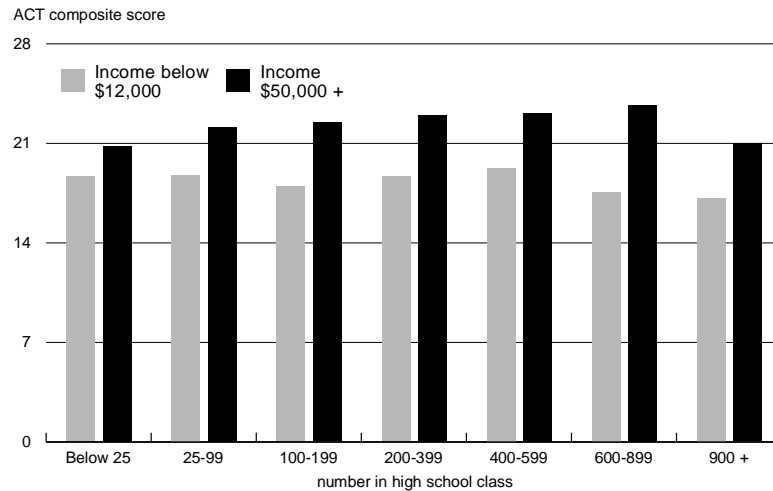
Rural areas are also a source of concern with respect to education. Returns to education and skills in the 1980s seemed to favor metropolitan areas over rural areas. In the Midwest, the premium of urban wages to rural wages widened for both service and manufacturing jobs. The important question is whether rural areas can move from the low-wage niche to a high-productivity (high-wage) niche. In manufacturing, rural labor productivity dropped 23% below metropolitan labor productivity during the 1980s.⁶⁸ Although the gap in wage rates is even larger, rural areas seem to attract low-productivity manufacturing jobs rather than high-tech jobs. Similar findings were established for the service industries (figure 39).⁶⁹

Figure 39 Midwest Rural Per Capita Personal Income, 1969–94
(Relative to Metro Area Per Capita Personal Income)



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

Figure 40 ACT Composite Scores of 1995 Graduates in Midwestern States, by Income Level and High School Class Size



Source: Thomas F. Pogue and James Maxey, "The Quality of Rural Education in the Midwest," *Assessing the Midwest Economy Working Paper Series*, No. RE-5, Federal Reserve Bank of Chicago, 1996.

Is this a result of deficiencies in worker skills related to rural schools? There is a widespread view, in both rural and urban areas, that the educational system in rural areas is inadequate. This is typically attributed to a small and shrinking population, which translates into declining enrollments, rising costs, and increasing pressure to curtail course offerings, merge with other districts, or both. However, when rural schools in several Midwest states were examined, the quality of rural education in the region was found to be high relative to what was available in the past and roughly on par with urban opportunities and outcomes.⁷⁰ Indeed, rural/urban college-bound testing score differentials may well reflect differences in work force opportunities and family income levels rather than a lack of educational opportunities (figure 40). Further research may be helpful in addressing whether the types of job opportunities in rural areas lead to modestly lower levels of educational achievement or lower levels of achievement lead to fewer high-skilled job opportunities.

Rural Areas⁷¹

The rural rebound has been associated largely with two goods-producing industries—agriculture and manufacturing—along with the expanding tourism and retirement component of the service industry.

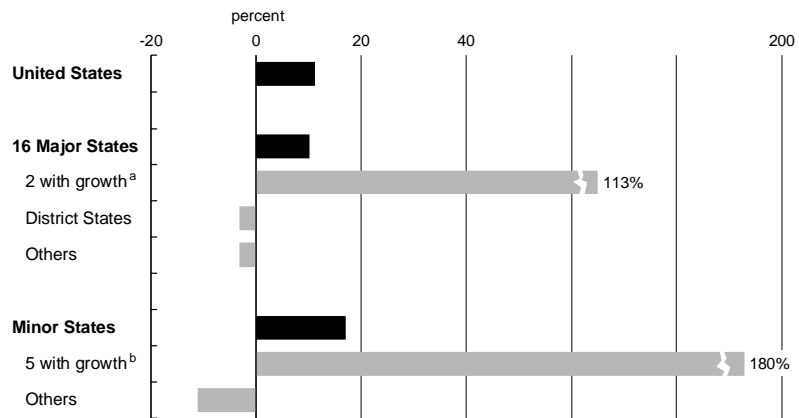
Changing fortunes in the Midwest have long been tied to agriculture. Sagging agricultural fortunes in the early 1980s and the sector's subsequent recovery through the mid-1990s mirrored the fall and rise in the Midwest economy. But agriculture's influence on economic performance has waned over the years and no doubt will continue to do so. Meanwhile, the importance of rural manufacturing has increased. In the Midwest, rural manufacturing jobs have risen slightly over the past 15 years, while those in urban areas have declined by more than one-fifth.⁷²

Rural population growth still lags that of urban areas. Rural communities face many challenges if the gap is to be narrowed. The linkages between the number and location of jobs and overall economic activity are complex and not always predictable. Ironically, much of the challenge facing the rural Midwest relates to

the continuing productivity gains in both agriculture and manufacturing. Those gains are prerequisites for maintaining a competitive edge in an increasingly global marketplace. But they also can translate into fewer jobs, despite expanding output. Looking to the future, the mega farms that characterize the latest wave of agricultural restructuring foreshadow continued declines in the number of farms and farm families. Perhaps more critically, the issues surrounding mega farms raise concerns about whether the Midwest will retain its dominance in pork and milk production and related food processing activities (figures 41 and 42).

Figure 41 The Mega Hog Farms Are Mostly Apparent in a Few “Rapid Growth” States Which Now Account for Nearly One-Fourth of All Hogs

Change in Hog Inventories, 1990–95

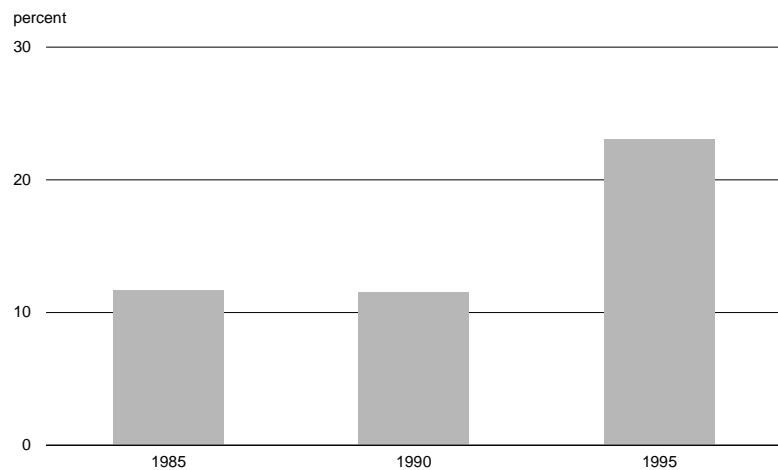


^aMissouri and North Carolina.

^bColorado, Mississippi, Oklahoma, Utah, and Wyoming.

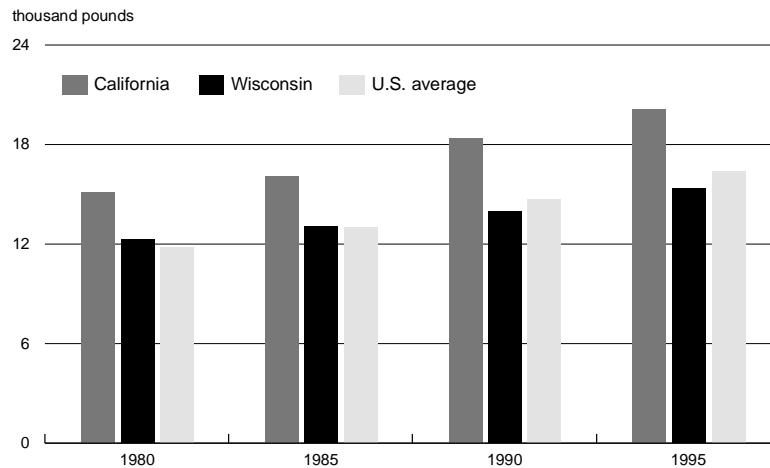
Note: District states are Illinois, Indiana, Iowa, Michigan, and Wisconsin.

The “Growth” States’ Share of Hogs



Source: Gary L. Benjamin, “Industrialization in Hog Production: Implications for Midwest Agriculture,” *Assessing the Midwest Economy Working Paper Series*, No. RE-4, Federal Reserve Bank of Chicago, 1996.

Figure 42 Annual Milk Output Per Cow Tends To Be Lower in Midwest States Where Dairy Farms Are Smaller



Source: Mary Keough Ledman, "The Changing Dairy Sector," paper presented at the workshop "The Changing Rural Economy of the Midwest," held at the Federal Reserve Bank of Chicago, March 8, 1996.

Corporate downsizing, the centralization of informational systems, and the need to stay on the cusp of technological advances may add obstacles to job growth in rural manufacturing. For these reasons, productive government efforts in rural development often lie in programs for retraining those whose jobs have been lost due to changing market conditions.

Other challenges are also evident. In recent years, the producer-services industry has enjoyed rapid growth nationwide but comparatively modest growth in the Midwest. In addition, the rural/urban gap in wages is widening in manufacturing and producer-services.⁷³ High-skilled and/or high-paying occupations are increasingly concentrated in metropolitan areas. This may, in part, reflect the perception that amenities, such as health care, cultural activities, and transportation, are better in urban areas. However, it does not appear that rural workers are less productive than urban workers.⁷⁴ Nor is the student of the rural school system handicapped by a lower-quality education than that offered the urban student. There is some evidence that the wage level of rural jobs may be more a reflection of the types of jobs offered than of the skills of the rural labor force.

Rural communities can pursue several avenues toward preservation, renewal, or growth. Lower living costs and access to a well-educated, highly productive labor force in rural areas remain key factors for communities seeking growth. Rural communities may have important quality of life advantages, such as a cleaner environment, less crime, less congestion, and a greater sense of community. But the availability and quality of rural health care will remain a critical factor in how well rural life is judged.⁷⁵ Advanced delivery techniques and strategic restructuring of health-care facilities and services are allowing some rural areas to keep more health-care dollars at home and to make rural living more appealing to workers and retirees alike. Some rural areas may choose to develop their assets as resort or recreational facilities. The upper Midwest has much to offer in this regard.⁷⁶ The choices involved in such a pursuit illustrate the dilemma facing many rural communities. Well-chosen and well-directed development may help to preserve a rural

Lower living costs and access to a well-educated, highly productive labor force in rural areas remain key factors for communities seeking growth.

lifestyle while enhancing its economic vitality. However, externally driven changes can also overwhelm the very character of a rural community that is most appealing to its existing residents. Therein lies a dilemma: rural communities have the option to change and survive or to refuse to change and run the risk of perishing through the continued migration of their most productive workers.

Metropolitan Areas⁷⁷

While regions have become less specialized in their industry composition,⁷⁸ metropolitan areas are becoming distinct and specialized as they establish important economic linkages throughout the nation and the world. As such, they have become the dominant feature of the economic geography of the nation. Compared with other regions, the Midwest's central cities are often older and were configured to support a denser population concentration and a largely manufacturing-driven economy. Their differences will affect their prospects for growth and influence their optimal public policy focus and direction. Prospects for metropolitan areas must be examined in the context of the continuing trend toward economic and population deconcentration within metro areas. To ensure that metropolitan areas can compete for growth, policymakers need to understand the forces driving deconcentration and whether this will enhance or hinder these areas' economic prospects.

Historically, midwestern metro areas have been more heavily oriented toward manufacturing. As a result, the conversion toward a services-driven economy may be more challenging for this region. To date, Midwest metropolitan areas have been highly successful in restructuring out of manufacturing and into service sectors.

As manufacturing jobs have been lost, metro areas and central cities have been gaining service jobs rapidly. Cities have increasingly become the service centers of the Midwest and their levels of specialization have increased, as reflected in the share of employment and income devoted to business services and financial services. For example, Chicago has built on its strength in key service industries such as the commodities exchanges by adding other specialized trading services such as bond options and interest rate swaps to provide a wider range of risk-management tools.

Despite their successes, metropolitan areas face formidable challenges.⁷⁹ Technological advances in the processing of information portend dramatic changes for the workplace and for the desired location of emerging service firms.⁸⁰ Metropolitan areas that are suitable or can adapt to these changes will be more likely to grow and prosper. In addition, quality of life and cost of living issues as they relate to labor supply have become increasingly important for many types of service establishments. Attractive amenities and living costs can induce workers to accept lower wages and salaries than otherwise and can help attract the most creative personnel and business owners. While metro areas can do little to influence their climate, other amenities may be more malleable: recreation, transportation, cultural activities, and the quality and cost of public services.

Furthermore, if they are to build on current gains in growth and prosperity, city and suburb alike will need to address the supply side of the work force development equation. Much of the region's unskilled work force is concentrated in the large metropolitan areas—particularly, but not exclusively, in the central cities. For example, the poverty rate among City of Chicago households approaches 22% compared with 12% for the overall metro area. Distance to work becomes an issue for low-income workers located far from middle-income neighborhoods and job opportunities. For these workers, the relatively low wages offered may not justify the transportation costs.

Job networks that identify suburban job opportunities for central city residents in conjunction with transportation and family care assistance programs may be a somewhat more promising strategy than inner-city job creation.

As a result, job networks that identify suburban job opportunities for central city residents in conjunction with transportation and family care assistance programs may be a somewhat more promising strategy than inner-city job creation.⁸¹

If current trends continue, many central cities will continue to face the problems of transforming to a lower density of living and working. Much more needs to be understood about why firms and people are spreading out within metro areas and whether these trends will continue. More fundamental issues include why particular types of jobs have been relocating to the suburbs and why low-income households tend to concentrate in central city neighborhoods where finding jobs and access to jobs can be difficult.

Many observers believe that several current policies encourage the movement of people and economic activity out of central cities. For example, the arrangements by which we govern our metropolitan areas have explicitly or implicitly subsidized the suburbanization of jobs and housing. Federal tax codes for personal income taxes favor the acquisition of more expensive homes, so high-income residents tend to move out of the cities into suburbs with larger, more expensive homes. Meanwhile, car owners do not typically pay the marginal cost of their driving behavior in terms of pollution caused, congestion, highway infrastructure costs, or other related problems such as controlling highway water runoff and traffic control.⁸² Consequently, these policies may have encouraged jobs and residences to spread farther apart than might have been expected in an unsubsidized environment.

Others point to the fragmentation of government, which tends to push high-income households to the suburbs and, at the same time, to confine low-income households to the central city. Quality schools continue to be a driving force behind suburban residential location. High-income households may choose to locate in suburbs because they provide services that are of particular interest to them. Low-income residents may be excluded, e.g., by requirements that single-family rather than multifamily housing be built and that dwellings be built on large lot sizes, which raises the price hurdle to enter the community. Municipalities often exercise broad powers in controlling land use.

Policies to address such issues range from the federal level, where changes in federal tax codes favoring ever-larger housing consumption may be gradually modified over time, to state–regional changes in the ways we govern metropolitan areas. The latter may involve greater cooperation and planning to provide for adequate housing across broad income strata in the metropolitan area.

Those who believe that technological changes are driving decentralization have suggested that the changing needs of the economy in the 1990s have rendered the older, high-density central cities obsolete in their current form. The Midwest's most rapid development took place during the age of mass industrialization from the late 1800s to the early 1900s. For this reason, midwestern cities often have a very dense core of population, with older buildings and infrastructure. Businesses and people have since spread out across metropolitan areas because doing so is rational and efficient. It follows that concerted efforts to discourage deconcentration would be costly, perhaps even misguided.

Clearly, this divergence of opinion suggests that a better understanding is needed of the factors that favor deconcentration and the linkages within and between metro areas. Not all industries have deconcentrated, so there may be opportunities to preserve or return accessible jobs to city locations. The finance, insurance, and real estate sector (FIRE) has tended to maintain or heighten its

The fragmentation of suburbs into many entities has led to more land use and development decisions being made by many small (mostly municipal) governments.

concentration in core counties of large metropolitan areas. Identifying and perhaps facilitating the factors that make central city locations the preferred domicile for such industries may help provide additional economic vitality to cities and employment opportunities to city residents.

Central cities also need to recognize and overcome barriers to investment that may encourage firms to seek suburban locations. For example, the inability to assemble large parcels of land for redevelopment is often seen as a problem.⁸³ Similarly, environmental remediation of former industrial sites may present a larger hurdle for the Midwest than for competing regions.⁸⁴ Owing to its early industrial legacy, the region's developed areas contain a large number of sites with toxic contamination. Moreover, policies such as federal legislation to remediate environmentally contaminated sites seem to have ample room for improvement. Even with such policy improvements, however, recent research conducted in the Chicago area suggests that decontamination alone, while it may increase the value of the land, may not suffice to spur development.⁸⁵

Fragmentation of government may pose no less a challenge for suburban governments than for the central cities of large urban areas. While the issues are far from settled, statistical studies tend to indicate that competition among local governments stimulates lower cost, greater productivity, and/or a more customized set of public services.⁸⁶ To the contrary, however, at a time when metro economies would benefit from region-wide marketing of their image and locational advantages to the global community, the typical metro area has found it difficult to organize its many interests into a single voice.⁸⁷

The fragmentation of suburbs into many entities has led to more land use and development decisions being made by many small (mostly municipal) governments. In many midwestern states, local government controls land use as to type—residential, commercial, or industrial. Moreover, by fashioning local zoning ordinances, granting selective variances to those ordinances, and imposing impact fees for specific developments, local governments exercise very tight control. Insofar as small local governments exercise land use controls in their own interests, the larger interests of surrounding communities may be neglected or harmed. For example, one suburb may refuse to provide for the development of an industrial or commercial facility because it is dirty, unsightly, or requires costly public services. However, in the process, potential job opportunities for the broader labor market area will be lost. The converse problem may also arise—fragmented suburbs may court businesses that are clean and more than pay their own way in taxes to the host community. However, the burden of attendant population influx and highway congestion may be borne by neighboring communities that may not benefit from the attendant property tax or retail sales tax revenues.⁸⁸

At this point, our understanding of the impact of governmental fragmentation on the growth and well-being of metro area economies remains in its infancy. At the least, the current state of knowledge presents conflicting options. It is clear that efficient and well-configured metropolitan areas are important to the future success of the Midwest, because they will be magnets for attracting economic growth. However, it is still difficult to understand what the optimal configuration for metropolitan areas should be or what public policies will bring this about. As such, we need to increase our understanding of the linkages within and outside metro areas.

From welfare reform to education and training, there is increasing freedom for the states to design their own policies.

State-Local Government Policies⁸⁹

Due to the global and competitive nature of the U.S. economy, as well as the trend to transfer responsibility from the federal government to the states, the role of state and local government has become all the more important. To date, it appears that the region's governments have demonstrated innovation rather than complacency as the numerous policy experiments throughout the District attest. For example, we can consider Wisconsin's path-breaking welfare reform measures and Michigan's dramatic restructuring of its state and local tax structure related to its reform in school funding. Still, if the trend toward greater devolution of responsibilities continues, it will magnify the challenge to the state-local sector to carefully choose spending and regulatory policies. So too, state differences in tax structure will likely become magnified in their importance to growth and development.

The U.S. is in the middle of a very dynamic period in which the nation's very definition of federalism is changing. In practice, this means assigning many federal responsibilities to the state and local sector. From welfare reform to education and training, there is increasing freedom for the states to design their own policies. However, with freedom comes responsibility, and this is why state fiscal policy is becoming more crucial.

Two particular challenges emerge. As the states expand their roles in these policy areas, they will need to be sure that their tax and fiscal systems can support these programs. This is particularly critical since many of these social programs are designed to improve the human capital of the states' work force. As such, they will require consistent, well-designed, long-term investment. If state revenue systems are volatile, programs might come and go and the benefits of promising state experiments might be lost, or at least disrupted, because of funding constraints. In addition, state and local fiscal policies have received considerable attention in the last several years as analysts have questioned whether state and local governments have the capacity and the discipline to develop policies that not only benefit their immediate locale or create politically lucrative conditions but also enhance national economic welfare.

Tax and Economic Development Policy

Not many analysts or observers believe that subnational tax and spending policies exert the most significant influence on investment location decisions.⁹⁰ Both site relocation firms and academic analysts point to other issues, such as quality of life and quality of labor force, as paramount to new firms and expanding businesses. Nonetheless, subnational governments continue to search for and experiment with tax and spending policies that they hope will boost growth and well-being in their communities.

Two types of tax policies can be used by state and local governments to boost or maintain growth, development, or economic well-being. The first is selective tax abatements and special services awarded to industries and, more commonly, to individual firms, which have been proliferating over the past 30 to 40 years. The second is a general tax structure that will encourage and not unduly inhibit development.

Ironically, many of the points of contention in today's public policy arise when subnational governments appear to become too mindful of the development implications of their actions. While analysts and experts may have a measured idea of the influence of taxes on development, policymakers and elected officials may

instead act on the perceptions of the voting public who, in turn, tend to overstate the efficacy of tax policy. As a result, subnational governments are often accused of being overzealous in bidding down general taxes on business or, more commonly, in granting selective abatements to individual, and perhaps highly visible, companies. The public is often misled into viewing the rewards of development programs in terms of the number of reported jobs “created,” despite the fact that immediate job effects associated with development programs are often illusory or offset by attendant job losses.

Instead, most analysts, including both advocates and critics of selective incentives, suggest that state–local governments take a more considered approach in the use of incentives, such as evaluating each situation in light of its impact on general welfare as in cost–benefit analysis. Some believe that sunshine laws requiring states to disclose better information would allow more credible program evaluations of selective abatement type tax policies and economic development programs that target specific industries and geographic areas.

Other observers believe that subnational governments are overzealous because, despite the costs and risks, the competitive nature of the economic development game prevents them from exercising unilateral restraint; to do so invites economic decay. Few mutual compacts among states to forego the use of selective abatements have been created. Accordingly, it has been proposed that subnational governments should be restricted in their ability to use selective abatements.⁹¹ Otherwise, abatements that are effective in influencing investment decisions are likely to damage national economic productivity by relocating firms to locales to which they are not physically suited.

Defenders of selective abatement policy argue that the very selectiveness of such tax incentives can be a virtue.⁹² For example, it is argued that those communities experiencing intransigent unemployment (or underemployment) can use tax abatements to employ local residents.⁹³ Others argue that selective abatements can be used, not to create distortions favoring selected firms and industries, but to overcome existing distortions and deficiencies in the tax code when the alternative, correcting the existing tax code, proves to be politically unworkable. Still others assert that subnational governments can effectively use selective abatements to foster industry “clusters” of related firms in close geographic proximity that can benefit states by creating higher multiplier effects in the local economy. In sum, many subnational governments in the Midwest generally oppose proposals to circumscribe their development and selective taxation prerogatives.

At this point, further research is needed to choose among available options. The merits of both sides need to be scrutinized. Some believe that subnational governments can, perhaps with some advisory assistance, make more intelligent use of abatements. Others believe that, much like the use of subnational tariff authority, no possible good and much potential damage can arise from the ability of subnational governments to use selective abatements.

In addition to better-informed policy regarding selective abatements and incentives, there is a need for better understanding and reform of state and local governments’ general tax code to promote regional growth and well-being. Analysts of taxation have long advocated that taxes should be imposed in an even-handed way across a very broad basis.

This principle has recently been revived in examining the scope and methods by which state and local governments tax business activity. It is argued that government spending for business services should be thought of as a fifth factor of production. Accordingly, business should be taxed in proportion to state–local spending on services provided to business, such as transportation, public safety, and fire protection. A general tax on the value added of the business sector by place of origin is one such approach. In this way, goods produced by the business sector would be priced to include the cost of government services. More important, a system based on this benefit principle could become a vehicle for dialogue between the electorate and the government on delivery of services valued by business, allowing government to play its proper and vital role in state–local growth.

Do existing tax practices of state–local governments approximate the benefit principle? To answer this question, recent research examined tax-financed, state–local expenditures nationwide, paying particular attention to the Midwest, on public services benefiting households versus those benefiting business entities.⁹⁴ Comparing each state’s dollars of business taxes paid to dollars of public services received, it is clear that taxes far outweigh business services provided (table 12). In midwestern states and other regions, the ratio of state–local business taxes to tax-financed business services ranges from 1.5 to 2.0. Any restructuring of the tax system in accord with the benefit principle would therefore require lower taxes or greater business-related public services.⁹⁵

Table 12 State and Local Business Taxes and Expenditures, 1992

Region	Business Expenditures*	Taxes	Ratio of Taxes to Expenditures
(-----millions of dollars-----)			
U.S.	\$94,136	\$160,514	1.71
New England	5,076	9,022	1.78
Mid-Atlantic	16,762	29,899	1.78
East North Central	15,077	27,781	1.84
West North Central	6,228	9,843	1.58
South Atlantic	15,735	22,837	1.45
East South Central	4,290	6,768	1.58
West South Central	8,589	17,909	2.08
Mountain	5,471	8,169	1.49
Pacific	16,906	28,285	1.67
Seventh District	12,760	23,816	1.87

*State–local business expenditures are those state–local government expenditures attributed to services that benefit business entities.

Source: William Oakland and William A. Testa, "The Benefits Approach to Business Taxation," *Economic Perspectives*, Federal Reserve Bank of Chicago, January/February 1996, pp.2-19.

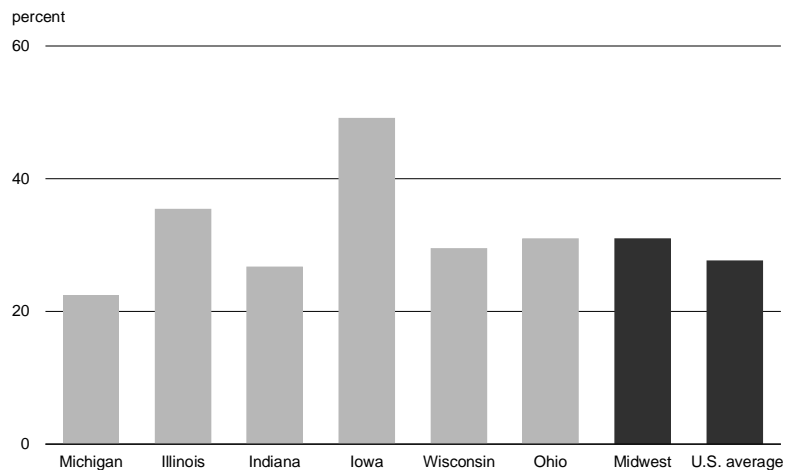
Infrastructure⁹⁶

For a goods-intensive region such as the Midwest that depends on roads and rails to bring agricultural and manufactured goods (and their inputs) to market, transportation infrastructure remains very important. There is little doubt that highways are essential for economic development. Highways are the primary means by which businesses transport their products and markets are linked together. More than 70% of goods manufactured in the U.S. are transported by trucks along the nation's highways. Well-maintained highways are critical for cities and states to attract and retain business. Corporate chief executive officers list access to major highways as a key factor in location decisions. In addition to providing direct services to businesses and households, highways affect economic performance by enhancing the productivity of other factors of production, such as labor or private capital, and by creating an attractive economic climate.

Capital outlays for highways (on a per capita basis and adjusted for inflation) have increased considerably for the U.S. and the Midwest. From 1980 to 1992, U.S. highway capital outlays per capita increased 51%, having declined during the previous two decades. Highway capital outlays per capita in the Midwest grew 65% during this period. Although the federal government provides significant funding through the federal gas tax and the highway trust fund, state and local governments are responsible for construction, maintenance, and much of the planning. Highway expenditure is the largest single capital outlay of state and local governments. Nationally, 27% of state-local governments' capital outlay budget goes to highways, with education (both K-12 and higher education) a close second at 23%.

The Midwest (defined here as Illinois, Indiana, Iowa, Wisconsin, Michigan, and Ohio) follows the national pattern fairly closely, with 31% of the region's capital outlay budget going to highways and 26% to education. Among the Midwest states, Iowa devotes the largest share of its capital budget to highways, at 49%, and Michigan the smallest share, at 22% (figure 43).

Figure 43 Highways' Share of Total Outlays (1992)



Source: Randall Eberts, "Highway Infrastructure: Policy Issues for Regions," *Assessing the Midwest Economy Working Paper Series*, No. SL-2, Federal Reserve Bank of Chicago, 1996.

Research in recent years has focused on the impact of an additional dollar of highway investment on economic development. Some initial estimates found extraordinary returns to public capital investment, which indicated significant underfunding of public capital stock, particularly highways. These estimates also promised almost immediate payback in terms of higher output growth from investment in public capital. Recent refinements to these estimates show a much more modest overall impact of additional highway investment on economic productivity. While consensus has yet to be reached, recent studies indicate that a 1% increase in highway capital stock reduces business costs by 0.06% to 0.08%. These estimates vary by industry. For industries such as primary metals and motor vehicles, which are concentrated in the Midwest, a 1% increase in highway capital stock reduces costs 0.22% and 0.19%, respectively (table 13).

Infrastructure investment alone may not be sufficient to stimulate growth. However, for regions that experience bottlenecks and congestion, additional investment to make the highway transportation system more efficient could enhance regional productivity and competitiveness. At the same time, previous research has tended to overstate the payoffs from public transportation investment. The Midwest will need to carefully study the efficacy of enhanced transportation infrastructure and its influence on the region's economy. The tight linkages among states in the region, and between the region and Ontario, Canada, also suggest that cooperative planning and research in selecting improvements would be mutually beneficial.

Table 13 Public Capital Elasticity

Industry	Percent Change in Business Costs
Primary Metals	-0.22
Printing & Publishing	-0.20
Instruments	-0.19
Motor Vehicles	-0.19
Stone, Clay, and Glass	-0.18
Petroleum Refining	-0.17
Fabricated Metals	-0.17
Rubber and Plastics	-0.16
Machinery, ex. Electrical	-0.16
Chemicals	-0.16
Electrical Machinery	-0.15
Overall U.S.	-0.04
Transportation & Warehousing	0.03
Construction	0.07

Note: Public capital elasticity is defined as the percentage change in business costs in response to a 1% increase in highway capital stock.

Source: Randall Eberts, "Infrastructure's Role in Economic Development," presentation prepared for the workshop "Designing State-Local Fiscal Policy for Growth and Development," held at the Federal Reserve Bank of Chicago, July 17, 1996.