Bearing the Brunt:
Manufacturing Job Loss in the Great Lakes Region, 1995–2005

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"The Great Lakes states account for a disproportionately large share of recent U.S. manufacturing job losses."

Findings

Analysis of manufacturing employment and production in seven Great Lakes states and their metropolitan areas from 1995 through 2005 finds that:[1]

- **More than one-third of the nation's loss of manufacturing jobs between 2000 and 2005 occurred in seven Great Lakes states: Illinois, Indiana, Michigan, New York, Ohio, Pennsylvania, and Wisconsin.** Between 1995 and 2005, the United States lost more than 3 million manufacturing jobs. Nearly all of this job loss occurred during the last five years, and 37.5 percent of the loss occurred in the seven Great Lakes states. Michigan lost the most manufacturing jobs between 2000 and 2005 (nearly 218,000), followed by Ohio, Illinois, and Pennsylvania.

- **Despite these job losses, manufacturing remains a major driver of the nation's economy and the economy of the Great Lakes region.** Because productivity was higher in manufacturing than in other sectors of the economy, in 2004, manufacturing accounted for a higher share of gross state product than its share of employment, both nationwide and in six of the seven states in the Great Lakes manufacturing belt. In addition, productivity in the manufacturing sector increased by 38 percent between 1997 and 2004, a much higher increase than the 24.4 percent growth in productivity for all non-farm businesses during that same time period.

- **Manufacturing job losses were pervasive in Great Lakes metropolitan areas.** All but one of the 25 largest manufacturing-dependent metropolitan areas in the Great Lakes region lost manufacturing jobs during the last decade (1995–2005), often at a faster rate than the United States as a whole. Chicago and Detroit lost the most manufacturing jobs in the last five years (over 100,000 jobs each), while Canton, OH, and Flint, MI, lost the greatest shares of manufacturing employment.

- **The metropolitan areas in which manufacturing employment peaked between 1995 and 1997 tended to experience more severe manufacturing job losses between 1995 and 2005 than those in which manufacturing peaked later.** The 13 metropolitan areas where manufacturing employment peaked between 1995 and 1997 saw an average 26.8 percent decline in manufacturing employment between 1995 and 2005. In the other 11 metropolitan areas where manufacturing employment peaked later, between 1998 and 2000, the average metropolitan area lost 18.9 percent of its manufacturing jobs during the decade.

- **Manufacturing job losses were a major reason for slow overall job growth, and sometimes overall job losses, in Great Lakes metropolitan areas.** Furthermore, employment gains in high-wage advanced service industries, which occurred in all but one of the 25 metropolitan areas studied, were not large enough to offset the loss of manufacturing jobs in most areas.

Although not all manufacturing jobs can or should be saved, a combination of trade, health care, and economic and workforce development policies can help to retain and expand employment in high-productivity manufacturing in the United States.

Introduction

More than 47,000 workers at General Motors and auto parts supplier Delphi Corp. recently accepted early retirement offers or buyouts to leave their jobs. When those workers depart by the end of 2006, the two companies will have reduced their combined hourly workforces in the United States by about one-third. Job cuts in U.S. manufacturing, however, extend well beyond the auto industry and the state of Michigan and are having a profound effect on local economies throughout the Great Lakes region.

This report examines recent trends in manufacturing employment in seven states of the Great Lakes manufacturing belt and in the 25 largest manufacturing-dependent metropolitan areas in those states. Trends are compared with information on manufacturing output and on employment in the advanced service sector, consisting of the information, financial activities, and professional and business services industries. As with manufacturing, these industries both pay higher-than-average wages and generate export income for their home regions.[2] Because of their relatively high wages and exportability, and because, unlike manufacturing, they have added jobs during the past decade, the advanced services sector has the potential to be a foundation for high-wage regional economic development.

Table 1. Top 25 Manufacturing-Dependent Metropolitan Areas in the Great Lakes, 2005

Metropolitan Area	Percentage of Total Jobs in Manufacturing	Metropolitan Area	Percentage of Total Jobs in Manufacturing
York, PA	21.7%	Dayton, OH	14.3%
Evansville, IN	19.3%	Cleveland, OH	14.0%
Lancaster, PA	18.9%	Flint, MI	14.0%
Grand Rapids, MI	18.8%	Detroit, MI	13.9%
Reading, PA	18.6%	Davenport, IA	13.6%
Canton, OH	17.7%	Allentown, PA	13.5%
Fort Wayne, IN	17.2%	Scranton, PA	13.4%
Peoria, IL	16.7%	Cincinnati, OH	11.9%
Youngstown, OH	16.7%	Buffalo, NY	11.7%
Milwaukee, WI	16.0%	Indianapolis, IN	11.4%
Toledo, OH	15.5%	Chicago, IL	11.1%
Rochester, NY	14.9%	Ann Arbor, MI	10.7%
Akron, OH	14.6%	United States	10.7%

Notes: The manufacturing percentage for the United States includes the entire nation, both metropolitan and nonmetropolitan.
Ann Arbor's manufacturing job percentage is above the national average but rounds to the national average at one decimal point.
Source: Authors' analysis of Current Employment Statistics data from the Bureau of Labor Statistics.

Methodology

Geographic Coverage

This report covers seven states of the Great Lakes manufacturing belt: Illinois, Indiana, Michigan, New York, Ohio, Pennsylvania, and Wisconsin. These states composed the heart of U.S. manufacturing for most of the last century, still account for nearly one-third of all U.S. manufacturing jobs, and make up the only region of the United States in which nearly all large metropolitan areas (those with populations of at least one million) are manufacturing-dependent.

The report focuses on the 25 largest metropolitan statistical areas (measured by the 2000 population) in the seven selected states. A metropolitan area is counted as being within the seven-state region if the majority of its employment is within one or more of the seven states.[3] Manufacturing-dependent metropolitan areas are defined as those in which manufacturing's share of total metropolitan employment exceeded manufacturing's share of total U.S. employment in 2005 (10.7 percent), as measured by the Bureau of Labor Statistics (BLS) Current Employment Statistics program. Table 1 shows the selected metropolitan areas and the percentage of jobs in each area that were manufacturing jobs in 2005.[4]

Time Period

The report covers the decade 1995–2005. The year 2005 is the most recent year for which a full year of employment data is available. The year 1995 is a suitable starting point for this analysis because it represents a roughly similar point in the business cycle to the year 2005. Changes in employment during the entire 1995–2005 period, therefore, are likely to result from long-term economic shifts rather than from the ups and downs of the business cycle.

The report frequently provides detailed employment information for two subperiods: 1995–2000 and 2000–2005. In each of the seven Great Lakes states covered in this report, total employment, measured as an annual average, reached its pre-

recession peak in 2000. (In contrast, total employment in the United States peaked most recently in 2001, the year in which the latest recession occurred.) In the seven Great Lakes states, the 1995–2000 subperiod roughly corresponds to the end of the pre-recession employment upswing. The 2000–2005 includes the employment downturn and subsequent recovery.

Consistent data on economic output are unavailable for the entire period of 1995–2005. The most recent data are for 2004. Output data for years prior to 1997 use a different industry classification system from the one currently in use and are not comparable to more recent data. Therefore, the output data presented in this report cover only the years 1997 through 2004.

Data Sources

Employment data are from the BLS Current Employment Statistics program, the standard source for the most up-to-date employment data. Other available data sources do not provide employment data for all of 2005. The data are derived from a monthly survey of 400,000 business establishments nationwide. They include only payroll employment in nonagricultural industries. Agricultural workers, the self-employed, unpaid family or volunteer workers, private household workers, and members of the armed forces are excluded.

All employment data in this report are annual averages of seasonally unadjusted data. Although monthly employment data are available from the Current Employment Statistics program, these data are not seasonally adjusted for metropolitan areas. Seasonally unadjusted data sometimes exhibit large monthly swings, obscuring longer-term trends. Annual averages of seasonally unadjusted data avoid this problem.

The report measures manufacturing output and total economic output at the state level using the Bureau of Economic Analysis's (BEA) data on gross state product. Gross state product is the state-level analogue of gross domestic product. However, because there are minor differences between gross domestic product and gross state product for the entire United States, the report uses gross state product as its national-level measure of output when comparing output between individual states and the United States as a whole. BEA does not report measures of economic output for metropolitan areas.

Findings

A. More than one-third of the nation's loss of manufacturing jobs between 2000 and 2005 occurred in seven Great Lakes states: Illinois, Indiana, Michigan, New York, Ohio, Pennsylvania, and Wisconsin.

The Great Lakes states accounted for a disproportionately large share of all U.S. manufacturing job losses. Between 2000 and 2005, the United States lost more than 3 million manufacturing jobs. Michigan alone lost nearly 218,000 (Table 2). Together, the seven Great Lakes states included in this report lost more than 1.1 million manufacturing jobs, or 37.5 percent of all U.S. manufacturing jobs lost. The seven states' combined share of U.S. manufacturing jobs lost between 2000 and 2005 (37.5 percent) exceeded their combined share of U.S. manufacturing jobs in 2000 (32.8 percent).

All seven Great Lakes states included in this report, as well as the United States as a whole, experienced severe manufacturing job loss during both the 1995–2005 and 2000–2005 periods (Figure 1). Nearly all the 1995–2005 losses occurred between 2000 and 2005. Between 2000 and 2005, the nation as a whole lost 17.6 percent of its manufacturing job base. During that period, all the Great Lakes states except Indiana (13.9 percent manufacturing job loss) and Wisconsin (14.7 percent loss) lost larger percentages of their manufacturing jobs than the entire nation. Michigan lost the greatest percentage of manufacturing jobs (24.3 percent), followed by New York (22.7 percent). Illinois, Ohio, and Pennsylvania lost 20 to 21 percent of their manufacturing jobs.

Manufacturing job losses were much more severe between 2000 and 2005 than between 1995 and 2000. From 1995 through 2000, Indiana, Michigan, Wisconsin, and the entire United States gained manufacturing

Table 2. Manufacturing Employment Change in the United States and Great Lakes States, 2000–2005

State	Change in Number of Manufacturing Jobs	Percentage Change in Manufacturing Jobs
Michigan	-217,900	-24.3%
Ohio	-207,600	-20.3%
Illinois	-181,400	-20.8%
Pennsylvania	-180,500	-20.9%
New York	-170,700	-22.7%
Indiana	-92,300	-13.9%
Wisconsin	-87,600	-14.7%
United States	**-3,031,000**	**-17.6%**

Source: Authors' analysis of BLS Current Employment Statistics data.

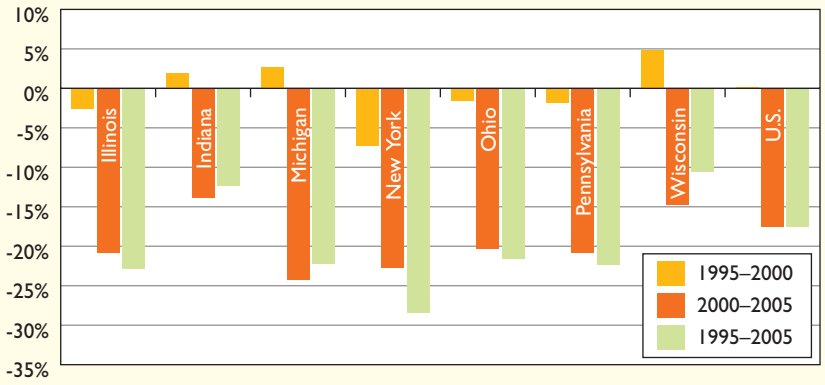
jobs, while the other Great Lakes states lost between 1.6 percent (Ohio) and 7.3 percent (New York) of their manufacturing jobs (Figure 1).[5] Each of the states that lost manufacturing jobs from 1995 through 2000 lost a smaller share of its manufacturing jobs during that five-year period than in the subsequent five-year period.

B. Despite these job losses, manufacturing remains a major driver of the nation's economy and the economy of the Great Lakes region.
Despite the loss of jobs, manufacturing remains a major driver of the economy. For instance, in 2004, manufacturing jobs accounted for a larger share of total gross state product than of total employment nationwide. This was also true in six of the seven states that make up the Great Lakes manufacturing belt, the exception being New York (Figure 2). Moreover, many jobs in other sectors of the economy depend directly or indirectly on manufacturing. Without manufacturing, the economies and populations of the Great Lakes states would be much smaller.

In addition, although manufacturing employment has fallen, inflation-adjusted gross state product in manufacturing has risen (Figure 3).

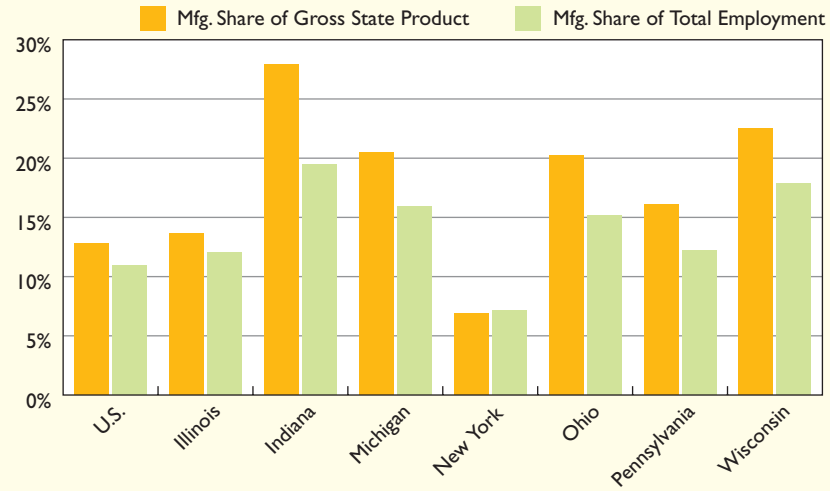
These divergences between manufacturing employment and manufacturing output indicate that manufacturing makes a crucial contribution to productivity. Manufacturing's higher share of output than of employment means that manufacturing is more productive than the rest of the economy. The combination of manufacturing output growth and manufacturing job losses occurred because productivity improved more rapidly in manufacturing than in the rest of the economy. Data from the BLS show that manufacturing productivity grew by 38.1 percent between 1997 and 2004, while the productivity of all non-farm business

Figure 1. Percentage Change in Manufacturing Employment in the United States and Great Lakes States, 1995–2005



Source: Authors' analysis of BLS Current Employment Statistics data.

Figure 2. Manufacturing's Share of Employment and Gross State Product (GSP) in the United States and Great Lakes States, 2004



Sources: Authors' analysis of BLS Current Employment Statistics (employment) and Bureau of Economic Analysis (gross state product) data.

grew by 24.4 percent. Thus, manufacturing is a major driver of overall productivity growth.

C. Manufacturing job losses were pervasive in Great Lakes metropolitan areas.

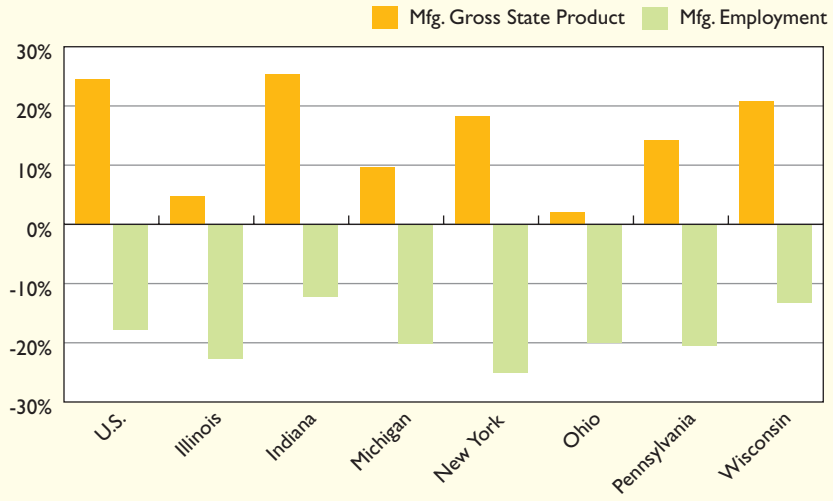
The importance of manufacturing to the U.S. economy, and to the economies of the Great Lakes states in particular, makes manufacturing job losses a major cause for concern. In manufacturing-dependent Great Lakes metropolitan areas, these losses have had an even greater impact on local economies, both because those economies are highly dependent on manufacturing and because, in most cases, manufacturing job losses have been more severe than in the United States as a whole.

Of the 25 metropolitan areas examined in this report, only Peoria, IL, gained manufacturing jobs from 1995 to 2005, and even Peoria suffered manufacturing job losses after 2000. Eighteen of the metropolitan areas (Akron, OH; Allentown, PA; Ann Arbor, MI; Buffalo, NY; Canton, OH; Chicago, IL; Cleveland, OH; Dayton, OH; Detroit, MI; Flint, MI; Fort Wayne, IN; Lancaster, PA; Milwaukee, WI; Reading, PA; Rochester, NY; Scranton, PA; York, PA; and Youngstown, OH) lost a higher percentage of their manufacturing jobs from 1995 to 2005 than did the entire United States.[6]

Five metropolitan areas (Ann Arbor, MI; Canton, OH; Flint, MI; Rochester, NY; and Youngstown, OH) had declines in manufacturing employment that exceeded 30 percent from 1995 through 2005. The Flint, MI, region was the hardest hit, losing more than one-half (55 percent) of its manufacturing jobs over the course of the decade.

Nearly all the metropolitan areas included in this report followed the national and regional pattern of accelerated manufacturing job loss after 2000. Davenport, IA; Dayton, OH; Detroit, MI; Evansville, IN; Grand Rapids, MI; Milwaukee, WI; Peoria, IL; and Toledo, OH, gained manufacturing jobs from 1995 to 2000 and then lost them from 2000 to 2005. Cincinnati, OH had no change in the number of manufacturing jobs between 1995 and 2000 but lost man-

Figure 3. Percent Change in Manufacturing Employment and Inflation-Adjusted Gross State Product in the United States and Great Lakes States, 1997–2004



Note: Gross state product changes are based on gross state product in chained 2000 dollars.
Sources: Authors' analysis of BLS Current Employment Statistics (employment) and Bureau of Economic Analysis (gross state product) data.

Table 3. Top Ten Manufacturing-Dependent Great Lakes Metropolitan Areas with the Largest Absolute Declines in Manufacturing Employment, 2000–2005

Metropolitan Area	Change in Employment, 2000-2005
Chicago, IL	-141,300
Detroit, MI	-103,300
Cleveland, OH	-47,300
Milwaukee, WI	-30,600
Rochester, NY	-26,300
Cincinnati, OH	-24,400
Dayton, OH	-21,600
Buffalo, NY	-19,600
Grand Rapids, MI	-16,300
Canton, OH	-14,100

Source: Authors' analysis of BLS Current Employment Statistics data.

Table 4. Top Ten Manufacturing-Dependent Great Lakes Metropolitan Areas with the Largest Percentage Declines in Manufacturing Employment, 2000–2005

Metropolitan Area	Percent Change in Employment, 2000-2005
Canton, OH	-31.1%
Flint, MI	-29.5%
Ann Arbor, MI	-28.1%
Dayton, OH	-27.0%
Detroit, MI	-26.6%
Rochester, NY	-25.6%
Reading, PA	-24.6%
Cleveland, OH	-24.0%
Buffalo, NY	-23.4%
Scranton, PA	-23.2%

Source: Authors' analysis of BLS Current Employment Statistics data.

ufacturing jobs from 2000 to 2005. Akron, OH; Allentown, PA; Ann Arbor, MI; Buffalo, NY; Canton, OH; Chicago, IL; Cleveland, OH; Fort Wayne, IN; Indianapolis, IN; Lancaster, PA; Reading, PA; Rochester, NY; Scranton, PA; York, PA; and Youngstown, OH lost manufacturing jobs during both five-year periods but their absolute and percentage losses were greater from 2000 to 2005 than from 1995 to 2000. Only Flint, MI, lost more manufacturing jobs, and a greater percentage of its manufacturing jobs, from 1995 to 2000 than from 2000 to 2005.

Tables 3 and 4, respectively, show the 10 Great Lakes metropolitan areas with the largest absolute and percentage losses of manufacturing jobs between 2000 and 2005. Six metropolitan areas (Buffalo, NY; Canton, OH; Cleveland, OH; Dayton, OH; Detroit, MI; and Rochester, NY) were among the ten regions with the largest manufacturing job losses in both absolute and percentage terms.

Appendix A summarizes the absolute and percentage changes in manufacturing employment for all 25 metropolitan areas during the entire decade 1995–2005 and each of the two five-year subperiods.

D. The metropolitan areas in which manufacturing employment peaked between 1995 and 1997 tended to experience more severe manufacturing job losses between 1995 and 2005 than those in which manufacturing peaked later.

There were two distinct patterns of manufacturing job loss from 1995 to 2005 among the 24 metropolitan areas that lost manufacturing jobs during the decade. In 13 metropolitan areas, divided almost evenly between the Midwest and the eastern Great Lakes states (New York and Pennsylvania), manufacturing employment peaked most recently between 1995 and 1997 and fell almost continuously thereafter.[7] These areas are suffering long-term, structural declines in manufacturing employment.

In 11 metropolitan areas, however—all in the Midwest—manufacturing employment peaked most recently in 1998, 1999, or 2000.[8] These places experienced manufacturing job patterns in the late 1990s that more closely resembled (and in some cases were more favorable than) the national average. In these places, although manufacturing never recovered from the 2001 recession, it was healthier in most of these regions prior to the recession than it was in places where manufacturing employment peaked earlier. This may reflect a combination of cyclical and structural influences.

Metropolitan areas that reached their manufacturing employment peak earlier tended to lose larger percentages of their manufacturing jobs over the decade than those in which manufacturing peaked later. The average region whose manufacturing employment peak occurred between 1995 and 1997 lost 26.8 percent of its manufacturing jobs from 1995 through 2005. In contrast, the average region whose manufacturing peak occurred between 1998 and 2000 lost 18.9 percent of its manufacturing jobs over the same period.

It is likely that the differences in manufacturing industry composition among metropolitan areas are responsible for the different patterns of job loss. Although the BLS does not provide the industry detail needed, understanding the problems of particular manufacturing industries at the local level will be necessary to craft local strategies to regain manufacturing jobs.

E. Manufacturing job losses were a major reason for slow overall job growth, and sometimes overall job losses, in Great Lakes metropolitan areas.

The 25 metropolitan areas generally had total job growth that was at best sluggish during the last decade. (See Appendix B for detailed results for each metropolitan area.) Dayton, OH; Flint, MI; and Youngstown, OH had fewer jobs in 2005 than in 1995. Fifteen of the areas studied lost jobs since 2000, even though they had higher total employment in 2005 than in 1995.[9] Only Indianapolis, IN; Lancaster, PA; and Allentown, PA had 1995–2005 total job growth rates that exceeded the national average. Only those three metropolitan areas plus

Akron, OH; York, PA; and Cincinnati, OH added jobs faster than the nation in the last five years.

Manufacturing job losses were a major reason for the poor overall job performance in most of the 25 metropolitan areas. Manufacturing accounted for 190.2 percent of all jobs lost in Dayton, OH from 1995 to 2005, 131.2 percent of all jobs lost in Flint, MI and 397.9 percent of all jobs lost in Youngstown, OH. Manufacturing job losses exceeded total job losses in those regions because some industries other than manufacturing gained jobs. For example, Youngstown, OH, lost 18,700 manufacturing jobs but only 4,700 total jobs between 1995 and 2005. The region gained 14,000 jobs in nonmanufacturing industries (including 600 in advanced services) during that time period; these gains are the reason why manufacturing job losses were larger than total job losses.

Manufacturing accounted for between 62.3 and 875.0 percent of all jobs lost from 2000 through 2005 in the 18 metropolitan areas that lost jobs during that period. In general, metropolitan areas with larger percentage declines in manufacturing employment from 1995 through 2005 had larger percentage declines in total employment over the same period.[10]

Although metropolitan areas that had larger percentage increases in advanced service employment during the decade generally had larger percentage increases in total employment, advanced services did not compensate for the loss of manufacturing jobs in most of the areas studied.[11] All the metropolitan areas except Fort Wayne, IN, gained advanced service jobs from 1995 through 2005, and seven of them (Akron, OH; Allentown, PA; Cincinnati, OH; Davenport, IA; Grand Rapids, MI; Indianapolis, IN; and Lancaster, PA) gained those jobs at a rate that exceeded the national average. In only five metropolitan areas, however (Cincinnati, OH; Davenport, IA; Evansville, IN; Grand Rapids, MI; and Indianapolis, IN), did the gains in advanced service employment exceed the losses in manufacturing employment.

Table 5. Changes in Manufacturing and Advanced Services Employment in 25 Manufacturing-Dependent Great Lakes Metropolitan Areas, 1995–2005

Metropolitan Area	Manufacturing Employment Change (number of jobs)	Advanced Service Employment Change (number of jobs)	Sum of Manufacturing and Advanced Service Employment Changes
Indianapolis, IN	-11,500	46,000	34,500
Cincinnati, OH	-24,400	55,000	30,600
Peoria, IL	3,200	5,000	8,200
Grand Rapids, MI	-11,600	19,200	7,600
Davenport, IA	-2,600	8,700	6,100
Evansville, IN	-200	3,500	3,300
Buffalo, NY	-21,600	20,900	-700
Akron, OH	-14,400	13,500	-900
Allentown, PA	-17,000	15,800	-1,200
Lancaster, PA	-12,200	10,600	-1,600
Ann Arbor, MI	-9,500	5,900	-3,600
Scranton, PA	-11,300	7,100	-4,200
Toledo, OH	-9,900	3,500	-6,400
Reading, PA	-11,500	5,000	-6,500
York, PA	-9,000	2,300	-6,700
Canton, OH	-15,000	4,400	-10,600
Fort Wayne, IN	-9,700	-900	-10,600
Dayton, OH	-21,300	9,400	-11,900
Milwaukee, WI	-29,700	16,000	-13,700
Youngstown, OH	-18,700	600	-18,100
Flint, MI	-26,500	3,700	-22,800
Rochester, NY	-37,400	11,900	-25,500
Cleveland, OH	-52,700	20,500	-32,200
Chicago, IL	-177,000	138,400	-38,600
Detroit, MI	-87,700	31,500	-56,200

Source: Authors' analysis of BLS Current Employment Statistics data.

Table 5 shows the changes in manufacturing and advanced service employment in each metropolitan area between 1995 and 2005, along with the sum of these two changes. For metropolitan areas that both lost manufacturing jobs and gained advanced service jobs (all 25 metropolitan areas shown except for Peoria, IL, which gained manufacturing jobs, and Fort Wayne, IN, which lost advanced service jobs), the sum of the two changes is the amount by which the gain in the number of advanced service jobs exceeded the number of manufacturing jobs lost. The table lists metropolitan areas in order of this sum. In most of the regions shown, this sum is a negative number, indicating that gains in advanced service jobs did not make up for losses of manufacturing jobs.

Public Policy Can Help Retain and Expand Manufacturing Jobs

Manufacturing is critical to American productivity and its growth and hence to the American standard of living. The manufacturing-dependent metropolitan areas of the Great Lakes region, in particular, must retain and modernize their manufacturing bases if they are to remain economically viable. Advanced service industries, which in principle could have substituted for manufacturing as drivers of regional prosperity, have not generated enough jobs to offset recent manufacturing job losses in most of the Great Lakes region's manufacturing-dependent metropolitan areas.

It is often argued, however, that there is nothing that public policy can or should do to reverse the loss of manufacturing jobs. Without giving up the benefits of free trade, how can the federal or state governments enable Canton, OH, to compete with Canton, China, in manufacturing? Is not the cost advantage of low-wage countries simply too great for American producers to overcome?

There are some U.S. manufacturers whose productivity does not and is not likely to overcome the labor cost advantage of low-wage countries. Others, however, can be cost-competitive with producers in the lowest-wage countries, and many others could become competitive with productivity increases of 7 to 10 percent per year over a three- to five-year period.[12] The manufacturing jobs in these firms are the ones that should be retained and expanded. With a combination of trade, health care, and economic and workforce development policies, they can be.

Trade policy is the responsibility of the federal government. Meaningful, enforceable labor and environmental standards in international trade agreements would correct market failures that currently give many low-wage countries an artificial cost advantage over the United States. U.S. government pressure on countries such as China, which keeps its currency artificially low, would also reduce the artificial cost advantages those countries enjoy. Thus far, the federal government has failed to act meaningfully on either of these issues.

Some form of universal health care coverage would help to reduce the compensation costs of U.S. manufacturers who provide health insurance for their workers and retirees. In the absence of federal action, states can and should act to spread the cost of health care financing widely among their residents and businesses, rather than rely on employers to foot the bill for their workers.

Economic and workforce development policies at both the federal and state levels can play a major role in helping U.S. manufacturers upgrade their production processes and in helping workers gain the skills they need to work more productively within those processes. Federal funding of the Manufacturing Extension Partnership program, which helps small and medium-sized manufacturers become more productive, should be increased (not reduced, as the current administration has repeatedly proposed). So should federal funding of workforce development programs that help incumbent workers acquire new skills.

States, which partially fund the Manufacturing Extension Partnership program, should expand their efforts to help manufacturers adopt cutting-edge technologies, reorganize work to increase productivity, and move into less price-competitive product markets. The following are examples of desirable state policies:

- Some states, such as Pennsylvania, fund "early warning" systems that identify manufacturing plants at risk of closing and intervene to help them remain competitive; other states should do so as well. These initiatives could be funded by redirecting economic development spending away from expensive efforts to recruit new firms from out of state.
- States should condition all economic development assistance they provide to firms on firms' agreement to participate in performance benchmarking and upgrading-assistance programs.
- To the extent that Great Lakes states continue to provide financial incentives to lure manufacturers to relocate, they should provide those incentives only to firms that buy a substantial portion of their components and raw materials from within the region. Such within-region sourcing will benefit local economies in those states more than will sourcing without regard to location.
- States should help manufacturers form consortia dedicated to product and process upgrading, modernization, and associated worker training. Such consortia already exist in the Milwaukee area and northeast Ohio and in a growing number of advanced manufacturing industry clusters in Pennsylvania.[13]

Finally, federal and state policies must help manufacturing-dependent regions replace those manufacturing jobs that cannot be retained. Such policies could help those regions diversify their industrial bases (e.g., by building on existing technologies, skills, or other regional assets), expand employment in existing high-wage service-sector firms, and foster the growth of small, locally based firms.

Appendix A. Absolute and Percent Changes in Manufacturing Employment in the 25 Metropolitan Areas, 1995–2005, 1995–2000, and 2000–2005

Metropolitan Area	Percentage Change: 1995–2005	Percentage Change: 1995–2000	Percentage Change: 2000–2005	Absolute Change: 1995–2005	Absolute Change: 1995–2000	Absolute Change: 2000–2005
ILLINOIS						
Chicago-Naperville-Joliet, IL-IN-WI	-26.3%	-5.3%	-22.2%	-177,000	-35,700	-141,300
Davenport-Moline-Rock Island, IA-IL	-9.3%	5.3%	-13.9%	-2,600	1,500	-4,100
Peoria, IL	11.9%	28.4%	-12.8%	3,200	7,600	-4,400
INDIANA						
Evansville, IN-KY	-0.6%	6.3%	-6.5%	-200	2,200	-2,400
Fort Wayne, IN	-20.9%	-4.3%	-17.3%	-9,700	-2,000	-7,700
Indianapolis-Carmel, IN	-10.2%	-0.2%	-10.1%	-11,500	-200	-11,300
MICHIGAN						
Ann Arbor, MI	-30.4%	-3.2%	-28.1%	-9,500	-1,000	-8,500
Detroit-Warren-Livonia, MI	-23.5%	4.2%	-26.6%	-87,700	15,600	-103,300
Flint, MI	-55.0%	-36.1%	-29.5%	-26,500	-17,400	-9,100
Grand Rapids-Wyoming, MI	-13.6%	5.5%	-18.1%	-11,600	4,700	-16,300
NEW YORK						
Buffalo-Niagara Falls, NY	-25.2%	-2.3%	-23.4%	-21,600	-2,000	-19,600
Rochester, NY	-32.9%	-9.8%	-25.6%	-37,400	-11,100	-26,300
OHIO						
Akron, OH	-22.6%	-2.5%	-20.6%	-14,400	-1,600	-12,800
Canton-Massillon, OH	-32.4%	-1.9%	-31.1%	-15,000	-900	-14,100
Cincinnati-Middletown, OH-KY-IN	-16.5%	0.0%	-16.5%	-24,400	0	-24,400
Cleveland-Elyria-Mentor, OH	-26.1%	-2.7%	-24.0%	-52,700	-5,400	-47,300
Dayton, OH	-26.7%	0.4%	-27.0%	-21,300	300	-21,600
Toledo, OH	-16.2%	2.3%	-18.1%	-9,900	1,400	-11,300
Youngstown-Warren-Boardman, OH-PA	-31.4%	-10.9%	-23.0%	-18,700	-6,500	-12,200
PENNSYLVANIA						
Allentown-Bethlehem-Easton, PA-NJ	-27.3%	-5.8%	-22.8%	-17,000	-3,600	-13,400
Lancaster, PA	-21.5%	-0.9%	-20.8%	-12,200	-500	-11,700
Reading, PA	-26.9%	-3.0%	-24.6%	-11,500	-1,300	-10,200
Scranton-Wilkes-Barre, PA	-24.5%	-1.7%	-23.2%	-11,300	-800	-10,500
York-Hanover, PA	-19.0%	-3.4%	-16.2%	-9,000	-1,600	-7,400
WISCONSIN						
Milwaukee-Waukesha-West Allis, WI	-18.2%	0.6%	-18.6%	-29,700	900	-30,600

Source: Authors' analysis of Bureau of Labor Statistics (BLS) Current Employment Statistics data.

Appendix B. Employment Trends in the 25 Metropolitan Areas, 1995–2005

(For additional informational graphics on these metros go to http://www.brookings.edu/metro/mei.htm)

Akron, OH

Metropolitan Akron posted modest job gains prior to the recession, losses in 2001 and 2002, and gains in each subsequent year. The region added 19,700 jobs (a 6.3 percent increase) from 1995 through 2000, and gained 6,900 jobs (a 2.1 percent increase) from 2000 through 2005. During the entire decade, total employment increased by 8.6 percent (an addition of 26,600 jobs), well short of the national growth rate.

Manufacturing employment declined slightly prior to the 2001 recession, dropped dramatically in 2001 and 2002, and then remained relatively flat. The region lost 1,600 manufacturing jobs (a 2.5 percent decline) from 1995 through 2000, and an additional 12,800 (a 20.6 percent decline) from 2000 through 2005. During the entire decade, manufacturing employment declined by 22.6 percent (a loss of 14,400 jobs), significantly worse than the national rate decline.

Advanced service employment increased from 1995 through 2005, but job gains in this sector were not enough to offset job losses in manufacturing. Employment in advanced services increased by 13,500 jobs (25.7 percent) over the decade. From 1995 through 2000, employment in advanced services increased by 4,700 jobs (9.0 percent); and from 2000 through 2005, the region added 8,800 advanced service jobs (an increase of 15.4 percent).

Allentown, PA

Metropolitan Allentown gained jobs at a healthy rate prior to the 2001 recession, lost a modest number from 2001 through 2002, but has rebounded in recent years. From 1995 through 2000, the region added 32,200 jobs (an increase of 11.1 percent). From 2000 through 2005, total employment increased by 12,900 jobs (4.0 percent). Its relatively strong performance in the second half of the decade contributed to a 15.5 percent growth rate (45,100 jobs added) over the entire 1995–2005 period, surpassing the national growth rate as well as the growth rates of most of the other 25 metropolitan areas.

Manufacturing employment has declined almost continuously since 1995, although most of the decline occurred between 2000 and 2003. The region lost 3,600 manufacturing jobs from 1995 through 2000 (a decline of 5.8 percent) and 13,400 manufacturing jobs (a 22.8 percent decline) from 2000 through 2005. In total, manufacturing employment declined by 27.3 percent (17,000 jobs) over the entire decade, nearly 10 percentage points greater than the national rate of decline.

Employment in advanced services increased almost continuously from 1995 through 2004, although these gains did not make up for the loss of manufacturing jobs through 2004.[14] Advanced service employment rose by 12,800 jobs (27.4 percent) from 1995 through 2004. From 1995 through 2000, the region gained 9,900 advanced service jobs (an increase of 21.2 percent); and from 2000 through 2004, it added an additional 2,900 advanced service jobs (a 5.1 percent increase).

Ann Arbor, MI

Metropolitan Ann Arbor gained jobs continuously until its employment peak in 2001. The region gained 19,900 jobs (an increase of 11.0 percent) from 1995 through 2000 and gained a modest 1,900 jobs (0.9 percent) from 2000 through 2005. During the entire period 1995–2005, total employment in the metropolitan area increased by 12.0 percent (21,800 jobs), just short of the national growth rate.

Manufacturing employment declined from 1995 through 1997, increased until its peak in 1999 and fell substantially thereafter. The region lost 1,000 manufacturing jobs (a decline of 3.2 percent) from 1995 through 2000 and 8,500 more (a 28.1 percent decline) from 2000 through 2005. The result over both periods was a decline in manufacturing employment of 30.4 percent, much greater than the national rate of manufacturing job loss and among the highest manufacturing job loss rates of the 25 metropolitan areas studied in this report.

Advanced services gained a modest number of jobs from 1995 through 2005, although this gain was not enough to make up for the loss of manufacturing jobs. Employment in this sector increased by 5,900 jobs (18.9 percent) between 1995 and 2005. During the first half of the decade, the region added advanced service jobs at a rate higher than the national average. From 1995 through 2000, the region added 8,600 jobs (an increase of 27.6 percent), but from 2000 through 2005, it lost 2,700 advanced service jobs (a decline of 6.8 percent).

Buffalo, NY

Metropolitan Buffalo added jobs at a relatively slow rate prior to the 2001 recession, reached its jobs peak in 2000, and lost jobs in most of the following years. The region gained 18,900 jobs (a 3.5 percent increase) from 1995 through 2000, and lost 11,600 jobs (a 2.1 percent decline) from 2000 through 2005. During the 1995–2005 period, employment grew more slowly than the national average, increasing by just 1.4 percent (7,300 jobs).

Manufacturing employment has fallen every year since 1995. The region lost 2,000 manufacturing jobs

(a decline of 2.3 percent) from 1995 through 2000. It lost an additional 19,600 manufacturing jobs from 2000 through 2005 (a 23.4 percent loss). In total, the metropolitan area lost 21,600 manufacturing jobs (a 25.2 percent loss) over the entire decade. Manufacturing accounted for more than the total of all jobs lost since 2000.

The advanced service sector added jobs steadily throughout the decade, nearly making up for job losses in manufacturing. From 1995 through 2005, the region added 20,900 advanced service jobs. Employment in the sector rose faster in the first half of the decade than the second. From 1995 through 2000, the sector grew by 12,600 jobs (14.2 percent). From 2000 through 2005, it grew by 8,300 jobs (8.2 percent).

Canton, OH

Metropolitan Canton had modest job gains before the 2001 recession and job losses during most of the following years. The region gained 12,200 jobs (a 7.0 percent increase) from 1995 through 2000. It lost most of those jobs during and after the recession, save for a small upturn in total employment in 2005. Total employment fell by 10,600 jobs (5.7 percent) from 2000 through 2005. During the entire period 1995–2005, the region gained just 1,600 jobs (a 0.9 percent growth rate).

Manufacturing employment grew modestly from 1995 through 1998, declined from 1999 through 1998 and declined 2005. The region lost 900 manufacturing jobs (a 1.9 percent loss) from 1995 through 2000 and lost an additional 14,100 manufacturing jobs (31.1 percent) from 2000 through 2005. The result was a 32.4 percent decline in manufacturing employment loss from 1995 through 2005 (a loss of 15,000 jobs). Manufacturing accounted for more than the total of all jobs lost since 2000.

Although the Canton region gained advanced service jobs between 1995 and 2005, the gains did not make up for job losses in manufacturing. Advanced service employment rose by 4,400 jobs (20.9 percent) during the decade. Job growth in this sector was more rapid before the recession than after. From 1995 through 2000, advanced services grew by 4,100 jobs (19.4 percent). From 2000 through 2005, 300 jobs were added (1.2 percent growth).

Chicago, IL

Total employment in metropolitan Chicago grew moderately before the 2001 recession, declined from 2000 through 2003, and rose again in 2004 and 2005. The region gained 346,000 jobs (an 8.2 percent increase) from 1995 through 2000. Despite recent gains, total employment fell by 109,900 (2.4 percent) from 2000 through 2005. Over the entire period 1995–2005, the region gained 236,100 jobs (5.6 percent), well below the national average growth rate.

Manufacturing employment declined almost continously since 1995, with the largest annual losses occurring in 2001 and 2002. The region lost 35,700 manufacturing jobs (a decline of 5.3 percent) from 1995 through 2000 and another 141,300 (22.2 percent) from 2000 through 2005. The result was a loss of 177,000 manufacturing jobs (a 26.3 percent decline) over the entire decade, the largest total loss of all regions included in this analysis. Manufacturing accounted for more than the total of all jobs lost since 2000.

Employment in the advanced service sector rose during the decade but was unable to offset the loss of manufacturing jobs. The region gained 138,400 advanced service jobs from 1995 through 2005, adding jobs during the first half of the decade, and losing them in the second. From 1995 through 2000, advanced services grew by 179,300 jobs (18.2 percent). From 2000 through 2005, they declined by 40,900 jobs (3.5 percent).

"There are some U.S. manufacturers whose productivity does not and is not likely to overcome the labor cost advantage of low-wage countries."

"Federal and state policies must help manufacturing-dependent regions replace those manufacturing jobs that cannot be retained."

Cincinnati, OH

Metropolitan Cincinnati posted healthy employment gains prior to the 2001 recession, lost jobs from 2000 through 2002, and has added jobs in each subsequent year. The region gained 97,500 jobs (a 10.6 percent increase) from 1995 through 2000, and an additional 17,900 (1.8 percent) from 2000 through 2005. During the entire 1995–2005 period, the metropolitan area added 115,400 jobs (12.5 percent, or just short of the national growth rate).

Overall, manufacturing employment was unchanged from 1995 through 2000. The region experienced its greatest manufacturing job losses in 2001 and 2002. These contributed to a total loss of 24,400 manufacturing jobs (a 16.5 percent decline) from 2000 through 2005. Accordingly, manufacturing employment for the entire decade declined by 16.5 percent, slightly better than the national rate.

Advanced service employment increased every year from 1995 through 2005, easily making up for the job losses in manufacturing. The sector added 55,000 jobs from 1995 through 2005. Job growth in the sector was more rapid during the first half of the decade than it was in the second. From 1995 through 2000, advanced services grew by 39,800 jobs (22.3 percent). From 2000 through 2005, they grew by 15,200 (7.0 percent)

Cleveland, OH

The Cleveland region had moderate job gains prior to the recession, peak employment in 2000, and job losses every year thereafter. The region gained 75,000 jobs (an increase of 7.1 percent) from 1995 through 2000. During and immediately after the 2001 recession, total employment dropped precipitously, and by 2005 the number of jobs in the metropolitan area was below its 1996 level. From 2000 through 2005, the region lost 65,200 jobs (a 5.7 percent decline). During the entire decade, job gains amounted to just a 0.9 percent increase (a total of 9,800 jobs).

Manufacturing employment declined every year since 1995, with its greatest losses occurring during and immediately after the recession (2001–2002). The region lost 5,400 manufacturing jobs (2.7 percent) from 1995 through 2000, a small number of jobs relative to the 47,300 it lost (a 24 percent decline) from 2000 through 2005. This accounted for 72.5 percent of all jobs lost since 2000. During the entire decade, manufacturing employment fell by 52,700 (26.1 percent).

Employment in advanced services increased moderately from 1995 through 2005, but job gains in this sector did not make up for job losses in manufacturing. Advanced service employment rose by 20,500 jobs (9.6 percent) over the decade, reaching its peak in 2000. From 1995 through 2000, the sector grew by 31,900 jobs (14.9 percent). From 2000 through 2005, it lost 11,400 jobs (4.6 percent).

Davenport, IA

Total employment in metropolitan Davenport grew moderately prior to the 2001 recession, reached a peak in 1999, and has not yet recovered to that level. From 1995 through 2000, the region added 15,200 jobs (an increase of 8.8 percent). Despite gains in 2004 and 2005, the metropolitan area lost 1,200 jobs from 2000 through 2005. During the entire period 1995–2005, total employment increased by 8.1 percent (14,000 jobs), only a modest increase relative to the national average.

Manufacturing employment grew from 1995 through 1998, declined through 2003, and has partially rebounded since 2003. From 1995 through 2000, the region gained 1,500 manufacturing jobs (a 5.3 percent increase), but it lost 4,100 manufacturing jobs (a decline of 13.9 percent) from 2000 through 2005. The result was a loss of 2,600 manufacturing jobs

(a 9.3 percent decline) over the entire decade, relatively less severe than the national experience. Manufacturing accounted for more than the total of all jobs lost since 2000, although it did gain 1,300 manufacturing jobs from 2003 through 2005.

The region saw healthy job gains in its advanced service sector over the course of the decade, making up for job losses in manufacturing. Employment in the sector rose by 8,700 jobs (31.1 percent) from 1995 through 2005. From 1995 through 2000, advanced services grew by 4,400 jobs (15.7 percent), and from 2000 through 2005, it grew by 4,300 jobs (13.3 percent).

Dayton,OH

The Dayton region posted slight job gains prior to the recession, and declined at a brisk pace over the remaining period. The region gained 14,700 jobs from 1995 through 2000 (3.5 percent), but by 2003 the number of jobs in the region had fallen below its 1995 level. Total employment fell by 25,900 jobs (5.9 percent) between 2000 and 2005, resulting in a loss of 11,200 jobs (a 2.7 percent decline) over the entire decade.

Manufacturing employment remained basically unchanged from 1995 through 2000 (with some variation during the intervening years), adding just 300 jobs (an increase of 0.4 percent) during the period. Sharp declines during and shortly after the recession contributed to a loss of 21,600 manufacturing jobs (a decline of 27.0 percent) from 2000 through 2005. During the entire decade, manufacturing employment declined by 21,300 (a 26.7 percent loss and a much faster rate of decline than the national average). Losses in the sector accounted for 83.4 percent of all jobs lost in the region since 2000.

Employment in advanced services increased during the decade, but not enough to make up for the loss of manufacturing jobs. From 1995 through 2005, advanced service employment rose by 9,400 jobs (12.9 percent). The sector gained 7,000 jobs (an increase of 9.6 percent) from 1995 through 2000. It reached its peak in 2001 and declined slightly in several subsequent years. Overall, employment in the sector increased by 2,400 (3.0 percent) from 2000 through 2005.

Detroit, MI

After moderate gains prior to the 2001 recession, total employment in metropolitan Detroit declined substantially between 2000 and 2002, and continued downward thereafter. From 1995 through 2000, the region added 169,000 jobs (an increase of 8.3 percent). However, nearly all those gains were erased between 2000 and 2005 as the metropolitan area lost 165,700 jobs (7.5 percent) during this period. During the entire decade, total employment increased by only 0.2 percent (an addition of 3,300 jobs).

Manufacturing employment in the region grew by 15,600 jobs from 1995 through 2000 (an increase of 4.2 percent). However, sharp declines in 2001 and 2002 left manufacturing employment levels below their pre-recession low, with additional losses in each subsequent year. The region lost 103,300 manufacturing jobs from 2000 through 2005 (a decline of 26.6 percent). During the entire decade, manufacturing employment declined by 87,700 jobs (a decline of 23.5 percent), well above the national rate of decline. Manufacturing accounted for 62.3 percent of all jobs lost in the region since 2000.

The Detroit region saw moderate employment gains in its advanced service sector from 1995 through 2005, although these gains were not sufficient to offset the job losses in manufacturing. Advanced service employment rose by 31,500 (6.4 percent) from 1995 through 2005. This sector gained jobs prior to the recession but lost jobs almost continuously thereafter. From 1995 through 2000, advanced services grew by 69,300 (14.0 percent). From 2000 through 2005, the sector lost 37,800 jobs (6.7 percent).

Evansville, IN

Metropolitan Evansville saw moderate job gains prior to the 2001 recession. Employment during the decade peaked in 2002. From 1995 through 2000, the region added 14,200 jobs (an increase of 8.6 percent). From 2000 through 2005, it lost 700 jobs (a decline of 0.4 percent), although the region posted a small gain in 2005. During the entire decade (1995–2005), total employment increased by 8.2 percent (13,500 jobs), well below the national average growth rate.

Metropolitan Evansville reported almost the same number of manufacturing jobs in 2005 as in 1995. The region gained 2,200 manufacturing jobs (a 6.3 percent increase) from 1995 through 2000, but lost 2,400 (a 6.5 percent decline) from 2000 through 2005. The result was a net loss of 200 manufacturing jobs (a 0.6 percent decline) over the entire decade, much smaller than the nationwide percentage loss of manufacturing jobs.

Employment in advanced services increased moderately from 1995 through 2005, easily offsetting the small decline in manufacturing employment. The sector gained 3,500 jobs (15.2 percent) over the decade, although it lost jobs from 2001 through 2004. From 1995 through 2000, advanced services grew by 5,100 jobs (22.1 percent). From 2000 through 2005, the sector lost 1,600 jobs (5.7 percent).

Flint. MI

Metropolitan Flint has been losing jobs since its peak employment in 1997. The region lost 11,500 jobs (6.6 percent) from 1995 through 2000, and another 8,700 jobs (5.3 percent) from 2000 through 2005. During the entire

period 1995–2005, the region lost 20,200 jobs (a decline of 11.5 percent).

The decline in manufacturing has been even more dramatic. Since 1995, job losses have been large and persistent. The region lost 17,400 manufacturing jobs (a 36.1 percent decline) from 1995 through 2000, and an additional 9,100 (a 29.5 percent decline) from 2000 through 2005. In total, the region lost 26,500 manufacturing jobs during the decade, a decline of 55.0 percent, far exceeding the rate of decline in all the other metros in this analysis. Manufacturing accounted for more than the total of all jobs lost since 2000.

Employment in advanced services increased by 3,700 jobs (18.4 percent) from 1995 through 2005, not nearly enough to offset the losses in manufacturing. From 1995 through 2000, the region added 4,200 advanced service jobs, while it lost 500 in the subsequent period from 2000 through 2005.

Fort Wayne, IN

Total employment in metropolitan Fort Wayne climbed at a moderate rate prior to the 2001 recession, posting most of its gains in the two-year period from 1996 through 1998. The region gained 11,300 jobs (an increase of 5.5 percent) from 1995 through 2000. After declining in 2001 and 2002, total employment has grown each year, although not by enough to make up for earlier losses. From 2000 through 2005, the region lost 3,700 jobs (a decline of 1.7 percent). During the entire period 1995–2005, total employment increased by 3.7 percent (7,600 jobs), only a minor increase relative to the national average job growth rate.

Manufacturing employment changed very little from 1995 through 1998, declined from 1998 through 2004, then grew again in 2005. The region lost 2,000 manufacturing jobs (a 4.3 percent decline) from 1995 through 2000 and an additional 7,700 jobs (a 17.3 percent decline) from 2000 through 2005. During the entire decade, the region lost 9,700 jobs (a 20.9 percent decline),a greater rate of loss than the national average. Manufacturing accounted for more than the total of all jobs lost since 2000. However, the region did gain 700 manufacturing jobs in 2005.

Advanced service employment peaked in 1998 and has fallen every year since. During the entire decade, the advanced service sector lost 900 jobs (a decline of 2.4 percent), although from 1995 through 2000, employment in the sector increased by 3,100 jobs (8.4 percent). From 2000 through 2005, the sector lost 4,000 jobs (a 10.0 percent decline).

Grand Rapids, MI

Metropolitan Grand Rapids saw strong job gains prior to the 2001 recession; however, declines during and after the recession put an end to its impressive job growth. From 1995 through 2000, the region added 53,400 jobs (an increase of 15.2 percent), although it lost 11,900 jobs (a decline of 2.9 percent) from 2000 through 2005. During the entire decade, total employment increased by 11.8 percent (41,500)—just short of the national average growth rate.

Manufacturing employment increased from 1995 through 1998, declined substantially from 1999 through 2003, and experienced small declines in 2004 and 2005. The region gained 4,700 manufacturing jobs (an increase of 5.5 percent) from 1995 through 2000, but lost 16,300 (an 18.1 percent decline) from 2000 through 2005. The result for the entire decade was a loss of 11,600 manufacturing jobs (a decline of 13.6 percent), less severe than the national decline. Manufacturing accounted for more than the total of all jobs lost since 2000.

Employment in advanced services increased dramatically prior to the recession, declined subsequently, but still made up for the loss in manufacturing over the entire decade. From 1995 through 2005, advanced service employment rose by 19,200 jobs (30.8 percent). From 1995 through 2000, advanced services employment grew by an impressive 20,200 jobs (32.4 percent). From 2000 through 2005, it decreased by 1,000 jobs (1.2 percent).

Indianapolis, IN

Metropolitan Indianapolis had healthy job growth from 1995 through 2005, gaining jobs in every year except 2002. From 1995 through 2000, the region added 94,900 jobs (an increase of 12.5 percent). From 2000 through 2005, it added another 34,300 jobs (an increase of 4.0 percent). Consequently, total employment increased by 129,200 jobs (17.0 percent) from 1995 through 2005, outpacing the national average growth rate. The Indianapolis area had the highest total job growth rate of any of the 25 metropolitan areas analyzed in this report.

Manufacturing employment declined slightly from 1995 through 2000, posting a loss of 200 jobs (a 0.2 percent decline). From 2000 through 2005, the region lost 11,300 manufacturing jobs (a 10.1 percent decline). During the entire decade, the region lost 11,500 manufacturing jobs, or a 10.2 percent decline, which was lower than the national rate of decline.

The Indianapolis region gained advanced service jobs almost continuously from 1995 through 2005, with job gains in this sector making up for losses in manufacturing. During the entire decade, the region added 46,000 advanced service jobs. Most of these gains occurred prior to the 2001 recession, as the region added 35,100 (an increase of 22.9 percent) advanced service jobs from 1995 through 2000. From 2000 through 2005, it added another 10,900 (5.8 percent).

Lancaster, PA

Total employment in metropolitan Lancaster increased every year from 1995 through 2005, resulting in a rate of job growth well above the national average. The region gained 23,300 jobs (an increase of 11.5 percent) from 1995 through 2000 and another 9,200 jobs (a 4.1 percent increase) from 2000 through 2005. During the entire period 1995–2005, total employment in the region increased by 16.0 percent (32,500 jobs).

Manufacturing employment fell slightly prior to the recession and more rapidly thereafter. From 1995 through 2000, the region lost just 500 manufacturing jobs (a decline of 0.9 percent), but from 2000 through 2005, it lost 11,700 (a decline of 20.8 percent). The result was a decline of 12,200 manufacturing jobs (21.5 percent), outpacing the national rate.

Employment in advanced services increased every year from 1995 through 2005, although these gains were not large enough to offset the job losses in manufacturing. Advanced service employment rose by 10,600 jobs (41.6 percent—the largest percentage gain of all metros analyzed) during the decade. From 1995 through 2000, advanced services grew by 7,100 jobs (27.8 percent). From 2000 through 2005, the sector grew by 3,500 jobs (10.7 percent).

Milwaukee, WI

Total employment in metropolitan Milwaukee grew at a moderate rate prior to the 2001 recession, declined during and after, and has not yet recovered to its pre-recession peak. The region gained 63,900 jobs (an increase of 7.9 percent) from 1995 through 2000 and lost 32,500 jobs (a decline of 3.7 percent) from 2000 through 2005. During the entire period 1995–2005, total employment in the region grew by 3.9 percent (an increase of 31,400 jobs), nearly 10 percentage points slower than the national growth rate.

Manufacturing employment had modest gains in 1997 and 1998, but has declined every year since. From 1995 through 2000, the region added 900 manufacturing jobs (an increase of 0.6 percent), while from 2000 through 2005 it lost 30,600 manufacturing jobs (a decline of 18.6 percent). During the entire decade, manufacturing employment fell by 18.2 percent (29,700 jobs), higher than the national rate, but better than those of most of the other 24 metropolitan areas. Manufacturing accounted for 94.2 percent of all jobs lost in the region since 2000.

From 1995 through 2005, employment in advanced services increased by 16,000 jobs (9.6 percent), but the gains in this sector were not enough to make up for job losses in manufacturing. The region added 23,100 advanced service jobs from 1995 through 2000, and lost 7,100 such jobs between 2000 and 2005.

Peoria, IL

Metropolitan Peoria saw moderate job gains preceding its recent employment peak in 2000. After several years of job losses during and after the 2001 recession, the region began adding jobs again in 2004 and was nearly back to its former peak level by 2005. From 1995 through 2000, total employment in the metropolitan area grew by 16,600 jobs (10.2 percent). From 2000 through 2005, the region lost 800 jobs (a decline of 0.4 percent). During the entire 1995–2005 period, total employment increased by 9.7 percent (15,800 jobs), well short of the national growth rate.

The Peoria region was the only one of the 25 metropolitan areas that gained manufacturing jobs between 1995 and 2005. It gained 7,600 manufacturing jobs (an incredible 28.4 percent increase) from 1995 through 2000, with most of those gains occurring in 1996. From 2000 through 2005, the region lost 4,400 manufacturing jobs (a 12.8 percent decline), although it did gain 3,200 manufac-

"A combination of trade, health care, and economic and workforce development policies can help to retain and expand employment in high productivity manufacturing in the United States."

turing jobs from 2003 through 2005. This late surge equaled the gain over the entire decade, as manufacturing employment increased by 11.9 percent from 1995 through 2005.

Advanced service employment increased by 5,000 jobs (19.8 percent) from 1995 through 2005. Job growth in this sector was more rapid during the first half of the decade than during the second half. From 1995 through 2000, advanced services grew by 2,800 jobs (11.1 percent). From 2000 through 2005, it grew by 2,200 jobs (7.9 percent).

Reading, PA

Overall, total employment in metropolitan Reading increased moderately from 1995 through 2000, with the region gaining 13,000 jobs (an 8.2 percent increase). It, however, lost 2,900 jobs from 2000 through 2005. The result was a 6.4 percent increase in total employment (a gain of 10,100 jobs) over the entire decade, much slower than the national growth rate.

Manufacturing employment declined almost continuously from 1995 through 2005, experiencing its most significant losses from 2000 through 2003. The region lost 1,300 manufacturing jobs (a 3.0 percent decline) from 1995 through 2000, and an additional 10,200 jobs (24.6 percent) from 2000 through 2005. The result was a decline in manufacturing employment of 26.9 percent (11,500 jobs) over the entire decade, significantly worse than the national average. Manufacturing accounted for more than the total of all jobs lost since 2000.

The region gained 5,000 advanced service jobs from 1995 through 2005 (a 20.8 percent increase), although these gains were not large enough to make up for job losses in manufacturing. Almost all of the job growth in the sector occurred prior to the recession. From 1995 through 2000, advanced services grew by 4,900 jobs (20.4 percent). From 2000 through 2005, it grew by only 100 jobs (0.3 percent).

Rochester, NY

Total employment in metropolitan Rochester increased moderately prior to the 2001 recession. However, an overall job loss from 2000 through 2003 combined with sluggish growth in recent years has left total employment below its 1998 level. From 1995 through 2000, the region gained 28,500 jobs (an increase of 5.7 percent). From 2000 through 2005, it lost 17,700 jobs (a 3.3 percent decline), with most of the decline occurring in 2002. Overall, total employment increased by just 2.2 percent (10,800 jobs) over the entire decade.

Manufacturing employment in the region has declined rapidly, falling each year since its peak in 1997. The region lost 11,100 manufacturing jobs (a 9.8 percent decline) from 1995 through 2000 and lost an additional 26,300 manufacturing jobs (a 25.6 percent decline) from 2000 through 2005. The sector accounted for more than the total of all jobs lost since 2000. During the entire decade, manufacturing employment declined by 32.9 percent (37,400 jobs), the second largest percentage decline of all metropolitan areas analyzed.

Employment in advanced services increased during the decade, but not enough to offset job losses in manufacturing. From 1995 through 2000, advanced service employment increased by 13,900 jobs (a 17.3 percent increase). From 2000 through 2005, however, employment in the sector declined by 2,000 jobs (2.1 percent). In total, the region gained 11,900 advanced service jobs (a 14.8 percent increase) from 1995 through 2005.

Scranton, PA

Metropolitan Scranton had modest job gains prior to the recession, losses in 2001 and 2002, and gains in each subsequent year. The region added 15,400 jobs (an increase of 6.3 percent) from 1995 through 2000. From 2000 through 2005, it lost 1,200 jobs (a decline of 0.5 percent). During the entire 1995–2005 period, total employment in the region increased by 5.8 percent, well shy of the national growth rate.

Manufacturing employment fell almost continuously from 1995 through 2005. The region lost 800 manufacturing jobs from 1995 through 2000 (a 1.7 percent decline), and from 2000 through 2005, it lost 10,500 more manufacturing jobs (a decline of 23.2 percent). The result for the decade was a decline in manufacturing employment of 24.5 percent (a loss of 11,300 jobs), significantly higher than the national rate of decline. Manufacturing accounted for more than the total of all jobs lost since 2000.

Employment in advanced services increased over the course of the decade but not enough to compensate for job losses in manufacturing. Advanced service employment rose by 7,500 jobs (20.7 percent) from 1995 through 2000 and fell by 400 jobs (0.9 percent) from 2000 through 2005. The result was a 19.6 percent increase in advanced service employment (a gain of 7,100 jobs) over the entire decade.

Toledo, OH

Total employment in metropolitan Toledo increased steadily until its peak in 2000. Sharp declines during and after the 2001 recession left total employment below its 1997 level. The region gained 24,300 jobs (an increase of 7.5 percent) from 1995 through 2000, but from 2000 through 2005 total employment fell by 16,300 jobs (4.7 percent). Consequently, over the entire 1995–2005 period, total employment in the region increased by only 2.5 percent (8,000 jobs).

Manufacturing employment grew

modestly prior to the recession, increasing by 1,400 jobs (2.3 percent) from 1995 through 2000. The region lost a small number of manufacturing jobs in 2000. More substantial manufacturing job losses began occurring in 2001. Losses occurred in every year since, although the rate of decline has slowed in recent years. From 2000 through 2005, the region lost 11,300 manufacturing jobs (a decline of 18.1 percent). Overall, manufacturing employment declined by 16.2 percent (9,900 jobs) from 1995 through 2005. Manufacturing accounted for 69.3 percent of all job losses in the region since 2000.

In total, the region had only modest job gains in its advanced service sector during the decade. Employment in this sector increased by 3,500 jobs (7.3 percent) from 1995 through 2005, offsetting roughly one-third of the job losses in manufacturing. The sector gained 6,800 jobs (a 14.2 percent increase) from 1995 through 2000. From 2000 through 2005, it lost 3,300 advanced service jobs (a 6.0 percent decline).

York, PA

Metropolitan York gained 12,700 jobs (an increase of 7.9 percent) from 1995 through 2000. During and immediately after the 2001 recession, employment in the region declined, but growth in 2004 and 2005 resulted in a net gain of 4,100 jobs (an increase of 2.4 percent) from 2000 through 2005. During the entire decade, total employment in the region increased by 10.5 percent, below the national rate, but better than most other metros analyzed.

Manufacturing employment fell almost continuously from 1995 through 2005. Most of these losses occurred between 2000 and 2003. The region lost 1,600 manufacturing jobs (a 3.4 percent decline) from 1995 through 2000 and an additional 7,400 (a 16.2 percent decline) from 2000 through 2005. The result was a 19.0 percent decline in manufacturing jobs (a total loss of 9,000) over the decade, a rate more severe than the national average.

From 1995 through 2005, the region gained advanced service jobs in every year except 2001 and 2002 (although the declines in these years were relatively large). Overall, job gains in this sector did not make up for job losses in manufacturing. Advanced service employment increased by 2,300 jobs (10.9 percent) from 1995 through 2005. From 1995 through 2000, the sector grew by 3,000 jobs (14.2 percent), and from 2000 through 2005, it declined by 700 jobs (2.9 percent).

Youngstown, OH

The Youngstown region gained a small number of jobs prior to the 2001 recession, but a dramatic decline in 2001 left total employment at the lowest point since 1995. From 1995 through 2000, total employment increased by 7,000 jobs (an increase of 2.8 percent), while it fell by 11,700 jobs (a decline of 4.6 percent) between 2000 and 2005. Consequently, total employment over the entire 1995–2005 period was down 1.9 percent (a loss of 4,700 jobs).

Employment in manufacturing declined in each year since 1995. The region lost 6,500 manufacturing jobs (a decline of 10.9 percent) from 1995 through 2000, and another 12,200 (a 23.0 percent decline) from 2000 through 2005. The result was a loss of 18,700 manufacturing jobs over the entire decade, producing a rate of job loss (31.4 percent) well above the national average. Manufacturing accounted for more than the total of all jobs lost since 2000

Employment in advanced services remained relatively flat from 1995 through 2005, growing by just 600 jobs during the decade (an increase of 1.8 percent). The region gained 1,300 advanced service jobs (an increase of 4.0 percent) from 1995 through 2000 and lost 700 jobs (a decline of 2.1 percent) from 2000 through 2005.

Endnotes

1. The analysis uses Bureau of Labor Statistics and Bureau of Economic Analysis data.

2. Many of the services these industries produce—such as Internet services, securities brokerage, and legal services—are consumed by people who live outside the region in which the services are produced, either because the services can be performed remotely or because consumers often travel to the producers' locations.

3. Thus, the Davenport, IA, metropolitan area is included in the Great Lakes region because the majority of its employment is in Illinois. Other included metropolitan areas that straddle the region's boundary are Cincinnati, OH and Evansville, IN.

4. For convenience, this report refers to metropolitan areas by the name of the first city that appears in the full title of the metropolitan area. Appendix A lists the included metropolitan areas by their full titles.

5. Manufacturing employment in the United States rose each year from 1995 through 1998 and then fell each year from 1999 through 2005. The Great Lakes states generally exhibited similar patterns of manufacturing job change, gaining manufacturing jobs for part or all of the late 1990s and losing them in every subsequent year. The states' peak years of manufacturing employment occurred in 1997, 1998, or 1999. Ohio lost manufacturing jobs in 1997 and gained them again in 1998. Wisconsin gained manufacturing jobs in 2005.

6. A similar group of 18 metropolitan areas (Akron, OH; Allentown, PA; Ann Arbor, MI; Buffalo, NY; Canton, OH; Chicago, IL; Cleveland, OH; Dayton, OH; Detroit, MI; Flint, MI; Grand Rapids, MI; Lancaster, PA; Milwaukee, WI; Reading, PA; Rochester, NY; Scranton, PA; Toledo, OH; and Youngstown, OH) lost a larger percentage of manufacturing jobs from 2000 to 2005 than the national average.

7. These 13 were Akron, OH; Allentown, PA; Buffalo, NY; Chicago, IL; Cleveland, OH; Flint, MI; Indianapolis, IN; Lancaster, PA; Reading, PA; Rochester, NY; Scranton, PA; York, PA; and Youngstown, OH.

8. These 11 were Ann Arbor, MI; Canton, OH; Cincinnati, OH; Davenport, IA ; Dayton, OH; Detroit, MI ; Evansville, IN; Fort Wayne, IN; Grand Rapids, MI; Milwaukee, WI ; and Toledo, OH.

9. These 15 were Buffalo, NY; Canton, OH; Chicago, IL; Cleveland, OH; Davenport, IA; Detroit, MI ; Evansville, IN; Fort Wayne, IN ; Grand Rapids, MI; Milwaukee, WI ; Peoria, IL; Reading, PA; Rochester, NY; Scranton, PA; and Toledo, OH.

10. The correlation coefficient between the 1995–2005 percentage changes in manufacturing employment and total employment for all 25 metropolitan areas is .57, and is statistically significant at the .01 level.

11. The correlation coefficient between the 1995–2005 percentage changes in advanced service employment and total employment for all 25 metropolitan areas is .62, and is statistically significant at the .01 level.

12. Authors' estimates based on Michigan Manufacturing Technology Center analyses.

13. The final three state economic development policy recommendations made here are explained in more detail in Dan Luria, Matt Vidal, and Howard Wial, "'Full-Utilization Learning Lean' in Component Manufacturing: A New Industrial Model for Mature Regions, and Labor's Stake in its Success." Sloan Industry Studies Working Paper WP-2006-03, Alfred P. Sloan Foundation, 2005.

14. Because of a data limitation for advanced services employment for the Allentown, PA, region in 2005, the text presents data for this sector from 1995 through 2004. Manufacturing employment in metropolitan Allentown fell by 16,700 jobs (26.8 percent) from 1995 through 2004.

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