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Economic Performance of Michigan Cities and Metropolitan Areas

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A city provides local government services such as police and fire protection, water and sewer utilities, roads and streets, public transportation, and zoning establishment and enforcement. Geographic boundaries of cities once coincided with areas of regional economic interaction, but long ago urban population and economic activity grew beyond the political boundaries of most cities. Our analysis focuses on both cities and the larger metropolitan areas of which they are a declining part.[1] As economic activity has pushed beyond city boundaries, many central cities have suffered declines in population and economic activity, with fiscal problems exacerbated by the departure of high-income families who are better able and more likely to move to suburbs.

This chapter examines Michigan's cities and metropolitan areas with respect to employment and population growth, per capita income relative to the U.S. average, racial composition, central city population and housing, and public policy related to cities. In evaluating the economic performance of Michigan cities and their surrounding metropolitan areas, we focus on the following topics and find the following results:

1. Industrial Mix and Metropolitan Area Employment Growth. During the 1990s, Michigan MSA employment changes ranged from a decline of 0.5% for Flint to a growth of 31.4% for the Grand Rapids–Muskegon–Holland MSA. These differences in performance relate closely to the industrial specializations of different regions, but are also influenced by changing industrial competitiveness. Michigan and all of its MSAs except Benton Harbor specialize heavily in the motor vehicle industry. During the 1990s, motor vehicle jobs grew by nearly 25% for the United States, but by only 5% for Michigan. Michigan's loss of competitiveness in motor vehicles was shared across most of its MSAs, with Ann Arbor, Lansing–East Lansing, and particularly Flint suffering large percentage declines in motor vehicle employment.[2] All Michigan MSAs except the Grand Rapids–Muskegon–Holland area experienced job losses over the past decade compared to expectations based upon their industrial composition alone. Grand Rapids performed well by maintaining its competitiveness in the growing office furniture industry while improving its competitiveness in a number of other manufacturing industries, including suppliers to the furniture industry.

2. Population and Income Growth. Except for Ann Arbor and Grand Rapids–Muskegon–Holland area, population and income growth in the state's metropolitan areas lagged behind the U.S. average

from 1969 to 2000. Population growth for the Greater Detroit area (Combined Metropolitan Statistical Area or CMSA of Detroit, Ann Arbor, and Flint) ranked third from the bottom of the nation's thirty-two largest MSAs, with growth of 3.4% versus 40.2% for the United States as a whole. The Detroit CMSA saw its relative per capita income fall from 117% of the U.S. average in 1969 to 110.9% in 2000. Within Michigan, population growth between 1969 and 2000 ranged from slight declines for the Detroit, Flint, and Benton Harbor MSAs to growth of 44.8% for Grand Rapids–Muskegon–Holland area and 62.1% for Ann Arbor. Between 1969 and 2000, per capita income relative to that of the United States as a whole declined for all nine of Michigan's MSAs, with declines ranging from only 0.8% for Ann Arbor to 21% for Flint and Jackson. Population growth and changes in relative per capita income also differed substantially across counties in multicounty MSAs. In the Detroit MSA, for example, population declined by 23.3% in Wayne County but grew by 35.1% in Oakland County; Wayne's relative per capita income fell by 17%, while Oakland's grew by 11%.

3. Regional Migration Patterns and Problems of Central Cities. In Michigan's MSAs, outward movement from central cities and counties to suburban areas continued during the 1990s, and has been a pattern common to MSAs throughout the country and world for several decades. Between 1995 and 2001, the core county in six of Michigan's nine MSAs lost several thousand households, and seven suffered total income declines. With only two exceptions (Benton Harbor and Jackson), people moving out of core counties had higher average incomes than those moving into these counties. Analysis of major Midwest MSAs and their central cities reveals a general pattern of rapidly declining central city population between 1970 and 2000 combined with population growth in outlying areas of the MSAs. Grand Rapids was the key exception to this pattern, with no net change in the central city population as total MSA population increased by 43%.

Between 1980 and 2000, declining central city population was partly due to declining household size, which was the general pattern for both central cities and suburban areas. However, while housing units were being added in the suburban areas, central cities were often losing households, with a 24% decline for Detroit and declines in excess of 15% for Flint and Saginaw. In the Detroit MSA, inner suburban areas of Wayne, Macomb, and Oakland Counties also experienced declining populations, as small increases in number of households have not offset declines in household size.

4. Policy Options for Michigan and Its Cities and Suburbs. Suburban growth creates severe challenges for older core cities and counties in providing and financing local government services. This is exacerbated by the fact that the state's core cities house high percentages of persons living in poverty, while serving as workplaces for many suburban commuters. The long search for policy changes or new policies to promote central city revival has not revealed any clear and politically feasible options. Michigan's school finance reform, to the extent that it improves school quality while reducing tax burdens in urban areas, could mitigate urban decline. Similar finance reform could be explored for other local government services, through expanded state or regional revenue sharing. Urban enterprise zones with tax abatements and business subsidies have been tested on a limited basis, and could perhaps be expanded. Greater planning coordination among city, township, and county governments within MSAs might also play an important role, but this option is limited by strong "home rule" policies in Michigan that make such coordination voluntary. These policies will be politically acceptable only if suburban residents can be convinced that helping to fund urban revitalization is in their best interest.

Industrial Mix and Metropolitan Area Employment Growth

A city's location is typically determined by historical availability of transportation and productive resources, and each city or metropolitan area usually has an identifiable specialization in one or more industries. These nodes of concentrated economic activity typically expand over time as population and economic activity of the nation and world grow. The bulk of the state's economic activity takes place in its densely populated cities and adjacent urban and suburban areas. In 2000, the state's nine metropolitan areas covered only twenty-four of the state's eighty-three counties but accounted for 82.2% of the state's population, 89.3% of its earnings, and 84.9% of the state's total employment. While these shares have declined some since 1969, metropolitan areas still main-

tain a larger than average share of the state's economic activity relative to the nation.[3]

Historically, cities have provided innovative environments that have generated business growth through agglomerative economics. Hoover and Giarratani (1985, 339) note, "[Cities] have been the main seedbeds of innovations; in economic terms, this involves the genesis of new techniques, new products and new firms. Such places provide the exposure to a wide range of ideas and problems from which solutions emerge."

Over time, cities or metropolitan areas grow at different rates, depending on their industrial specialization and competitiveness. Thompson (1982) and Hoover and Giarratani (1985) provide good explanations of the typical structure of a region's economy. Every region in a modern economy tends to specialize in production of one or more *export* products or services that are sold to people outside of that region. In Michigan, for example, Detroit and Flint specialize in motor vehicles, Grand Rapids–Muskegon–Holland in office furniture, Lansing–East Lansing in state government, and Ann Arbor in higher education. Regional *export* activities provide the basis for other employment in a region. Other firms in the region may provide parts or services that are used in producing goods or services exported from a region; metal products used in motor vehicles in Detroit, and plastics used in office furniture in the Grand Rapids–Muskegon–Holland area, for example. These are referred to as *indirect export* activities. These inputs can either be imported or produced locally. One way for a region to expand is through *import substitution,* in which a parts supplier locates in the area in order to produce parts that were previously being imported.

The auto industry, with its strong focus on just-in-time production, encourages, if not demands, suppliers to locate in close proximity to their assembly plants in order to insure timely delivery. General Motors, for example, has requested that state economic development efforts to attract major suppliers to its new Lansing production facility be limited to a thirty-mile radius around the plant. A local parts supplier to a local finished goods export industry might also export some of its parts to finished goods producers in other regions, thus representing both *indirect export* and *export* activity, respectively. Finally, a large percentage of employment in a region generally provides basic services to the people living in the area: schoolteachers, retail workers, construction workers, bank tellers, and so on. These are referred to as *local service* activities. In the Grand Rapids–Muskegon–Holland MSA, for example, export employment accounts for an estimated 47.6% of the four-county total employment, indirect exports employment accounts for 7.8%, and private and public local service producers make up the remaining 44.6%.[4]

Regional specialization is most often measured by a location quotient (LQ) for an industry, which equals the industry's share of regional employment divided by the industry's share of U.S. employment. In 2000 for example, 20.9% of Michigan's employment was in manufacturing and 14% of U.S. employment was in manufacturing. Dividing 20.9% by 14% gives Michigan's location quotient for manufacturing as 1.49. Typically, location quotients are calculated at more detailed levels than for total manufacturing, but a manufacturing LQ gives a quick indication of employment composition in a region. Industrial location quotients somewhat greater than 1.0 are generally used to identify an *export* or *indirect export* industry for a region. In the analysis below we focus on those greater than 1.5.[5] Table 11.1 provides manufacturing LQs for Michigan and each of its nine metropolitan areas, and identifies leading industries of specialization for each region for 1990 and 2000.

Except for the Lansing–East Lansing MSA, which houses the State's capitol and Michigan State University, LQs for manufacturing are considerably greater than one in each of the metropolitan areas. Moreover, except for Flint, which suffered a nearly 40% decline in manufacturing employment, the location quotient for manufacturing either held its own or grew in the 1990s in each region. The Grand Rapids–Muskegon–Holland MSA, for example, ended the decade with a manufacturing concentration that was nearly twice that for the nation as a whole, making it the most specialized in manufacturing of Michigan's MSAs.

A more detailed examination of metropolitan area LQs reveals that their heavy concentration in manufacturing activity is focused mostly in one or two industrial sectors (table 11.1). To no one's surprise, the motor vehicle industry tops the industrial specialization for the state and for six of its nine metro areas. For example, the Detroit area started the 1990s with a concentration in motor vehicles employment that was over 12 times greater than the national average. At the end of the ten years, its concentration dipped only slightly, to 11.8 times as great. Flint, the MSA most heavily specialized in motor vehicles, fared far

TABLE 11.1

Regional Location Quotients for Manufacturing and for Industries with LQs Greater than 1.50 in 2000

	1990	2000
Ann Arbor		
Manufacturing	1.34	1.36
State Education	7.56	7.24
Motor Vehicles & Equipment	11.45	7.16
Federal Medical	2.98	3.58
Fabricated Metal Products	1.46	1.82
Industrial Mach. & Computers	1.58	1.71
Chemicals and Allied Products	1.02	1.60
Detroit		
Manufacturing	1.32	1.49
Motor Vehicles & Equipment	12.30	11.82
Fabricated Metal Products	2.35	2.49
Industrial Mach. & Computers	1.76	1.75
Grand Rapids–Muskegon–Holland		
Manufacturing	1.72	1.96
Furniture and Fixtures	11.34	10.44
Fabricated Metal Products	3.30	3.30
Rubber and Plastics Products	2.03	2.53
Industrial Mach. & Computers	2.17	2.51
Motor Vehicles & Equipment	2.51	2.49
Stone, Clay, Glass, Concrete	1.44	2.15
Chemicals and Allied Products	1.79	2.05
Primary Metal Products	1.61	1.91
General Merchandise Stores	1.53	1.57
Lansing-East Lansing		
Manufacturing	0.83	0.84
Motor Vehicles & Equipment	11.95	7.14
State Education	5.99	5.85
Other State Government	4.42	4.04
Insurance Carriers	1.52	2.16
Saginaw–Bay City–Midland		
Manufacturing	1.52	1.52
Motor Vehicles & Equipment	10.88	8.61
General Merchandise Stores	1.45	1.79

	1990	2000
Benton Harbor		
Manufacturing	1.84	1.89
Primary Metal Products	5.12	5.91
Industrial Mach. & Computers	4.78	3.47
Rubber and Plastics Products	4.00	3.20
Fabricated Metal Products	1.48	1.75
Printing and Publishing	1.85	1.74
Flint		
Manufacturing	1.72	1.29
Motor Vehicles & Equipment	27.62	13.09
Local Gov't Medical	2.98	3.38
General Merchandise Stores	1.70	1.65
Jackson		
Manufacturing	1.35	1.40
Motor Vehicles & Equipment	3.89	3.62
Industrial Mach. & Computers	2.26	3.57
Fabricated Metal Products	5.71	3.19
Kalamazoo–Battle Creek		
Manufacturing	1.49	1.62
Motor Vehicles & Equipment	2.59	5.59
Paper and Allied Products	4.07	3.63
Fabricated Metal Products	2.88	2.06
Food and Kindred Products	2.80	2.03
State Education	1.90	1.83
Primary Metal Products	1.50	1.75
Michigan		
Manufacturing	1.37	1.50
Motor Vehicles & Equipment	9.47	8.12
Fabricated Metal Products	2.35	2.38
Furniture and Fixtures	1.96	2.23
Rubber and Plastic Products	1.65	1.81
Industrial Mach. & Computers	1.67	1.77

SOURCE: U.S. Department of Labor, Michigan Department of Career Development, and authors' calculations.

worse, with its LQ in vehicles falling from nearly 28 in 1990 to about 13 in 2000, as it lost over one-half of the motor vehicle jobs it had in 1990. Even the Grand Rapids–Muskegon–Holland MSA had LQs in motor vehicles of about 2.5, despite its primary specialization in furniture, where its LQs were over 10 for the two years.

Table 11.1 also reveals a few *direct export* industries besides motor vehicles and furniture for certain regions: chemicals in Grand Rapids–Muskegon–Holland and Ann Arbor, food (cereal) in Kalamazoo–Battle Creek, and industrial machinery and computers for Benton Harbor, for example.[6] Most of the remaining manufacturing industries with high LQs—metals, and rubber and plastic products in various regions—probably

represent *indirect export* activity by providing supplies to the motor vehicle or furniture industries. For example, many of the manufacturing industries with high LQs in Grand Rapids–Muskegon–Holland are likely to supply parts to both the furniture and/or auto industries.

Finally, table 11.1 shows that many of the state's metropolitan areas hold strong concentrations in activities in addition to manufacturing. Saginaw–Bay City–Midland, Flint, and Grand Rapids–Muskegon–Holland all have above average concentrations in general merchandise stores, reflecting their role as regional retail centers. Of course, Ann Arbor has heavy specialization in state education (University of Michigan), as well as federal medical (VA) and other state employment (U of M hospital). In addition, the Lansing–East Lansing MSA has a strong concentration in insurance in addition to its obvious concentration in state government and state education (Michigan State University).

Areas with high concentrations in any manufacturing or nonmanufacturing industry may be extremely vulnerable to industry-specific downturns. However, a region is typically pleased with its high specialization in an industry, as long as that industry is doing well and the region is maintaining or increasing its share in the industry. This was the case with the furniture industry in Grand Rapids–Muskegon–Holland during the 1990s before the industry took a major stumble in 2000 and 2001. If industry employment or the regional share of the industry's employment declines significantly, then concern with overspecialization can become intense. This has occurred for the motor vehicle industry in most regions of Michigan since 1980, and it has become a concern in Grand Rapids–Muskegon–Holland with the recent decline in demand for office furniture.

Total wage and salary employment in all metropolitan areas of Michigan except for Flint increased during the 1990s (table 11.2) as the nation enjoyed its longest expansion on record during the decade, and U.S. employment rose by 20.4%. Only the Grand Rapids–Muskegon–Holland and Ann Arbor MSAs outpaced the nation in job growth during the 1990s. Employment in Grand Rapids–Muskegon–Holland rose by 31.4%, while Ann Arbor surpassed the national average by less than a half percent. Employment in the other areas increased more slowly than the national rate. Flint posted a slight (0.5%) decline.

There are two reasons for a region to lag the national average in job growth. One is that the region's industrial composition of industries grew more slowly than the national growth rate. The other is that many of the region's firms grew below their industries' average, which suggests that the region's firms in those industries lost their competitive edge. This concept is illustrated first by analyzing the panel for Michigan in table 11.2. In the "Actual Job Growth" columns, total jobs in Michigan grew by 17.7% compared to 20.4% for the United States. Manufacturing employment in Michigan increased by 3.8%, while nationwide manufacturing employment fell by 3.2% during the 1990s. Michigan lagged behind the United States considerably in motor vehicles with a 5.0% growth rate versus 25.2% for the United States as a whole. In other words, manufacturing employment grew more in Michigan than it did nationwide, despite employment growth in its flagship industry, motor vehicles, being well below national employment growth in the industry.

The columns labeled "Predicted Job Growth" calculate Michigan's job growth if each Michigan industry had grown at the same rate as job growth in that industry for the United States. This analysis was carried out for between twenty and fifty industries, depending on data availability by industry for each region. The application of this analysis for a particular industry is demonstrated using the motor vehicle industry. Since national job growth in motor vehicles was 25.2% for the decade, Michigan would have gained seventy thousand motor vehicle jobs *if it had maintained its 1990 share of motor vehicle employment through 2000*. The difference between Michigan's actual job growth in motor vehicles of fourteen thousand and the predicted growth of seventy thousand is the loss of fifty-six thousand jobs due to loss in state competitiveness or market share in motor vehicle jobs. Michigan's share of U.S. motor vehicle jobs declined from about 42% in 1980 to about 35% in 1990, and to about 28% in 2000. The declining share in the 1990s was related to extensive GM plant closings announced early in the 1990s (Crary and Hogan 1992) and expansion of non-Michigan plants, particularly the Japanese-owned "transplants" located in other parts of the United States.

To calculate "Predicted Job Growth" for the manufacturing rows of table 11.2, each manufacturing industry in a region is increased (or decreased) by the growth rate for that industry for the United States, with results summed to yield the predicted job growth for manufacturing. Here we find some good news for Michigan; while the

TABLE 11.2

Wage and Salary Employment Growth for Michigan MSAs, 1990–2000, Actual and Predicted Based on Shift-Share Analysis

Region	Actual Job Growth		Predicted Job Growth[a]		Local Competitiveness[b]	
	Number	Percentage	Number	Percentage	Number	Percentage
United States						
Total jobs	22,356,000	20.4%				
Manufacturing	–609,000	–3.2%				
Motor vehicle	200,900	25.2%				
Michigan						
Total jobs	701,000	17.7%	1,105,000	27.8%	–404,000	–10.1%
Manufacturing	36,000	3.8%	69,000	6.9%	–33,000	–3.1%
Motor vehicle	14,000	5.0%	70,000	25.2%	–56,000	–20.2%
Ann Arbor						
Total jobs	49,300	20.7%	56,600	23.8%	–7,300	–3.1%
Manufacturing	–1,000	–1.8%	5,000	9.0%	–6,000	–10.8%
Motor vehicle #	–4,400	–21.8%	5,000	25.2%	–9,400	–47.0%
Benton Harbor						
Total jobs	6,000	8.8%	16,500	24.3%	–10,500	–15.5%
Manufacturing	–2,400	–11.0%	200	0.9%	–2,600	–11.9%
Motor vehicle	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Detroit						
Total jobs	302,000	15.9%	576,500	30.3%	–274,500	–14.4%
Manufacturing	21,000	4.8%	41,200	9.4%	–20,200	–4.6%
Motor vehicle	28,000	16.2%	43,500	25.2%	–15,500	–9.0%
Flint						
Total jobs	–900	–0.5%	38,900	22.9%	–39,800	–23.4%
Manufacturing	–20,500	–40.2%	8,100	15.9%	–28,600	–56.1%
Motor vehicle #	–17,800	–51.0%	8,700	25.2%	–26,500	–76.2%
Grand Rapids–Muskegon–Holland						
Total jobs	141,400	31.4%	85,700	19.0%	55,700	12.4%
Manufacturing	27,900	20.7%	3,200	2.4%	24,700	18.3%
Furniture	2,500	10.6%	2,400	10.2%	100	0.4%
Motor vehicle[c]	3,000	35.7%	2,100	25.2%	900	10.5%
Jackson						
Total jobs	9,000	16.2%	11,000	19.9%	–2,000	–3.7%
Manufacturing	–400	–3.1%	500	3.8%	–900	–6.9%
Motor vehicle[c]	200	12.5%	400	25.2%	–200	–12.7%
Kalamazoo–Battle Creek						
Total jobs	23,000	11.9%	34,500	17.9%	–11,500	–6.0%
Manufacturing	–1,000	–2.0%	–700	–1.4%	–300	–0.6%
Motor vehicle[c]	5,600	151.4%	900	25.2%	4,700	126.2%
Lansing–East Lansing						
Total jobs	21,500	10.0%	46,500	21.5%	–25,000	–11.5%
Manufacturing	–3,200	–10.2%	4,700	15.0%	–7,900	–25.2%
Motor vehicle[c]	–6,100	–31.8%	4,800	25.2%	–10,900	–57.0%
Saginaw–Bay City–Midland						
Total jobs	18,800	11.5%	33,200	20.3%	–14,400	–8.8%
Manufacturing	–4,500	–10.4%	1,400	3.2%	–5,900	–13.6%
Motor vehicle[c]	–1,100	–8.3%	3,300	25.2%	–4,400	–33.5%

SOURCE: U.S. Department of Labor, Michigan Department of Career Development, and authors' calculations.

(a) Uses U.S. growth rate for detailed industries to predict industrial job growth for each region.

(b) Difference between actual growth for region and prediction using U.S. growth by industry.

(c) Except for U.S., Michigan, and Detroit, regional employment data are published for transportation equipment and not for motor vehicles separately. Since 95% of Michigan transportation equipment employment is in motor vehicles, we have treated transportation equipment employment in other regions as motor vehicle employment.

competitive job loss in motor vehicles was fifty-six thousand, the loss for manufacturing *including* motor vehicles was only thirty thousand. Thus, other manufacturing jobs increased by twenty-three thousand jobs more than predicted. Michigan gained market share in some manufacturing industries that partially offset its declining share in motor vehicles. Had every Michigan industry grown at the national rate for that industry, job growth would have been the predicted rate of 27.8% rather than the actual 17.7% growth rate, so there was a competitive loss of 10.1% in total jobs. Part of the competitive loss for total jobs represents multiplier effects in the local service industries based on the competitive job losses in the state's export sectors.

Returning to the MSAs, manufacturing employment grew by 20.7% for Grand Rapids–Muskegon–Holland and 4.8% for Detroit, but declined for each of the other seven regions. Declines ranged from less than 4% for Ann Arbor, Jackson, and Kalamazoo–Battle Creek to between 10 and 11% for Benton Harbor, Lansing–East Lansing, and Saginaw–Bay City–Midland, and a staggering 40% for Flint. There was a significant reallocation of motor vehicle jobs by region, with losses of 4,400 in Ann Arbor, 17,800 in Flint, 6,100 in Lansing–East Lansing, and 1,100 in Saginaw–Bay City–Midland offset by gains of 28,000 in Detroit, 5,600 in Kalamazoo–Battle Creek,[7] 3,000 in Grand Rapids–Muskegon–Holland, and 200 in Jackson. Only in Grand Rapids–Muskegon–Holland and Kalamazoo–Battle Creek did motor vehicle employment grow at a faster rate than the national rate, but these two areas were starting from very small bases.

As mentioned previously, the state's manufacturers, outside of the automotive industry, remained competitive. In Ann Arbor, Grand Rapids–Muskegon–Holland, and Lansing–East Lansing, non-auto manufacturers generally took market share from their national rivals. However, in Detroit, Flint, Jackson, and Saginaw–Bay City–Midland non-auto manufacturers did not successfully retain market shares. For Kalamazoo-Battle Creek, a large competitive job gain in motor vehicles, due to the strong performance of Japanese-controlled transplants, was more than offset by competitive job losses in other industries, such as food (cereal), fabricated metals, and chemicals (not shown separately in the table). The competitive job loss in manufacturing across regions ranged from a low of –0.6% for the Kalamazoo–Battle Creek area to a high of –56.1% for Flint. The Grand Rapids–Muskegon–Holland MSA was the only region to enjoy a competitive increase in manufacturing jobs, with 18.3% of its 20.7% growth in this sector coming from competitive increases. Interestingly, job growth in the area's world-renowned furniture industry was only slightly above the predicted level, with all of the competitive gains coming in other manufacturing industries.

If an area's economic base is competitive, and thus gains market share from its national rivals, then its nonbase industries (retail trade, for example) are also likely to show a competitive gain as these industries expand to serve the larger number of employees in the economic base industries. This endogenous relationship magnifies the area's true competitiveness or lack thereof. For example, total competitive job gains of 55,700 in the Grand Rapids–Muskegon–Holland area were slightly more than double its competitive job gains of 24,700 in manufacturing, for an addition of 12.4% to its total job growth over the decade. For the other eight regions, competitive manufacturing job losses produced competitive losses in total jobs as a multiple of the competitive losses in manufacturing. The multipliers ranged from a low of about 1.2 (7,300 ÷ 6,000) relative to Ann Arbor's manufacturing losses, to 13 for Detroit. Although Ann Arbor nonmanufacturer's lost ground as well, their losses were slight. In fact, Ann Arbor's trade and finance sectors gained share, probably as a result of rapid population growth in this region with many residents commuting to jobs in the Detroit metropolitan area but shopping and banking locally. Many of these new residents may have moved out of the Detroit metropolitan area, thereby reducing nonmanufacturing employment in the Detroit PMSA. Similarly, competitive job losses in nonmanufacturing for Flint might have been considerably greater if Flint were not a fairly easy commute to alternate jobs in neighboring metropolitan areas (including Ann Arbor, Detroit, and Saginaw–Bay City–Midland) so that residents could continue to live in Flint even if they had lost a prior job in Flint.

As the market for a product or service matures and production becomes more standardized, new producers from other areas might expand. Also, local producers will seek less expensive and, typically, more rural environments in which to locate, either at the edge of their cities of origin or in a new region, as indicated by Mills and Lubuele (1997, 731). This suggests that cities must continually provide an environment for the cultivation

of new ideas and products in order to grow and prosper (Markusen 1985). Therefore, it is probably a mistake to blame the state and its cities for not providing a competitive environment for their long-time motor vehicle industry. Motor vehicles are a mature industry, and the tremendous market gains made by foreign nameplates during the 1990s repeat a pattern seen earlier in other industries, such as steel and consumer electronics, where U.S. producers were once dominant. Unfortunately, in six of the state's metropolitan areas, non-auto industries also lost ground. Still, the fact that in three of the metropolitan areas the other manufacturers gained share suggests that the state's cities are still contenders. This is especially true for the Grand Rapids–Muskegon–Holland area, which proved itself as a very productive location for the rapidly innovating office furniture industry and for suppliers wanting to locate close to this expanding industry.

Population and Per Capita Income in Metropolitan Areas

Given the relationship between an area's export-focused manufacturing base and its nonexport services sectors, the loss of competitiveness in most of Michigan's cities and metropolitan areas clearly has had a negative impact on all sectors of their economies. Over the past three decades, Michigan's metropolitan areas as a group lost ground to the nation in terms of population and per capita income. Despite strong population gains in the Ann Arbor PMSA, the greater Detroit CMSA experienced sluggish population growth and witnessed a relative decline to the nation in per capita income.

Among the top thirty-two metropolitan areas in the country, ranked in order of their 2000 population, the Detroit CMSA was ranked sixth in 1969 and eighth in 2000, with San Francisco and Boston moving ahead of Detroit in population over this period.[8] While total U.S. population grew by 40.2% over this thirty-one-year period, Detroit's population grew by only 3.4%, so Detroit's share of U.S. population fell from 2.6% in 1969 to 1.9% in 2000. Cleveland and Pittsburgh were the only two MSAs that performed worse than Detroit in terms of population growth over the thirty-one-year period, with population falling by 4.3% and 12.2% in these two areas, respectively. Other major metropolitan areas from the Great Lakes and Northeast sections of the country, such as New York, Chicago, Philadelphia, and Boston, all grew considerably faster over this period than did the Detroit area.

Virtually all of the areas located in the Great Lakes and Northeast sections of the country experienced growth rates less than half of that for the United States, while areas in the South and West grew by considerably more than the United States as a whole, with many doubling or tripling in size over this period. Glaeser, Scheinkman, and Shleifer (1995) found that a high initial concentration of jobs in manufacturing for an area, which was the case for most Great Lakes and Northeastern urban areas, led to slower population growth over the period from 1960 to 1990. This relationship is explained partly by the fact that jobs in manufacturing declined by 8% between 1969 and 2000, while total jobs increased by 87%. Also, the Great Lakes and Northeastern areas suffered further erosion of jobs in their manufacturing bases, as manufacturing jobs shifted increasingly to areas in the South and West, as documented by Bram and Anderson (2001).

While population growth is an important measure of performance for a region, per capita income is a better measure of a region's economic health. For 1969, per capita income for San Antonio was 82.3% of that of the United States as a whole, and per capita income for San Francisco was 128.8%; for 2000, their incomes were 87.3% and 158.1% of the national rate, respectively. Glaeser (1998) and other researchers have found a positive correlation between the size of a metropolitan area and its per capita income. For 1969, we find a positive correlation of 0.62 between regional per capita income and a region's population, but this correlation falls to 0.47 for 2000. Over the same period, New York increased its relative income level from 128% to 134.3% of that of the United States, despite its relatively slow population growth. Similarly, Boston increased its relative income position by 21.3% despite slow population growth. In contrast, relative income for the Detroit CMSA fell from 117% to 110.9% of the U.S. average between 1969 and 2000 as its manufacturing base eroded and population growth stagnated. Similarly, Cleveland's declining population and manufacturing base was accompanied by a 9.5% decline in its relative income.

Industrial specialization is also important. The relative income in the high-tech region of San Francisco (Silicon Valley) increased significantly even as relative income was declining signifi-

cantly for Los Angeles. Growth in the high-tech sector also helps explain increasing relative incomes in Boston and Seattle (Microsoft). Returning to Detroit, loss of high-wage manufacturing jobs in the vehicle industry during the 1980s was the primary cause for the decline in the area's relative income. Michigan has increased per student spending relative to the national average, but new high-wage jobs have still not been found to fully replace high-paying manufacturing jobs that were lost. This pattern is best explored by looking at economic performance and industrial specialization of the different metropolitan areas of Michigan.

Finally, a metropolitan area's perceived quality of life, especially for younger professionals, has grown as an important determinant of its economic health. Richard Florida (2002) has developed a "Creativity Index" for all metropolitan areas in the nation based on: (1) percentage of workers in "creative class" occupations, including information technology, computer programming, engineering, education, health, and entertainment; (2) the Milken Institute's High Tech Index; (3) patents per capita; and (4) population and cultural diversity. Of the forty-nine metropolitan areas of greater than one million, Detroit is ranked thirty-ninth and Grand Rapids–Muskegon–Holland forty-fourth.

Quality-of-life indexes are plagued with problems, and Florida's study has its critics. Nevertheless, quality of life matters, regardless of how it is measured, and it is rare for any of Michigan's metropolitan areas to make the top ten of one of these lists. It cannot be denied that the Detroit metropolitan area faces serious economic challenges that may hinder its ability to hold its own against the nation's better-performing areas.

Data on population and per capita income for Metropolitan areas in Michigan and the counties they include appear in table 11.3.There are currently nine MSAs in Michigan, with three of these combined into the Detroit–Ann Arbor–Flint CMSA. Population in these metropolitan areas as a whole has grown more slowly than for the state, but still accounted for 82.2% of Michigan's population in 2000, compared to 85.5% in 1969. In 2000, the six-county Detroit PMSA accounted for 44.7% of Michigan's (eighty-three counties) population, down from about 51.0% in 1969. There is no question that Detroit remains the dominant MSA in terms of population in spite of its declining share. In 2000, the Grand Rapid–Muskegon–Holland area's population was about one-fourth of Detroit's, Ann Arbor's about one-eighth, Flint's, Lansing–East Lansing's, Kalamazoo–Battle Creek's, and Saginaw–Bay City–Midland's each about one-tenth, and Benton Harbor's and Jackson's each about one-thirtieth of Detroit's.

Four of Michigan's MSAs, Detroit, Flint, Saginaw–Bay City–Midland, and Benton Harbor, showed virtually no net growth or slight declines in population between 1969 and 2000, with the Detroit PMSA showing a loss of about 5% by 1989 but reversing this loss by 2000. Each of these four regions suffered significant manufacturing job losses in the 1980s and/or the 1990s. Only Grand Rapids–Muskegon–Holland and Ann Arbor exceeded the U.S. population growth of 40.2% over this period.

As is the case for MSAs throughout the United States, wide variation exists in relative per capita income levels for Michigan MSAs. For 1969, relative income levels ranged from 18.1% above the U.S. level for Detroit to 1.3% below for Grand Rapids–Muskegon–Holland. By 2000, this range had widened substantially to 15.3% above the U.S. level for Ann Arbor and 17.3% below for Jackson. Between 1969 and 2000, per capita income relative to the U.S. declined for all nine of Michigan's MSAs, with declines ranging from only 0.8% for Ann Arbor to over 20% for Flint and Jackson. While seven of Michigan's nine MSAs had per capita income above the national average in 1969, only the Ann Arbor and Detroit PMSAs exceeded the national average in 2000.

If the Michigan MSAs are ranked from highest relative income level 1 to lowest level 9, dramatic shifts occurred in rankings between 1969 and 2000. Grand Rapids–Muskegon–Holland increased its ranking from 9 to 3, while Flint's ranking declined from 3 to 8 and Jackson's fell from 4 to 9. As expected, these changes in relative income position are partly related to changing industrial composition for Michigan's MSAs, as discussed in the previous section. The competitiveness of the Grand Rapids–Muskegon–Holland MSA's manufacturing base helped it significantly improve its relative income ranking in Michigan. Ann Arbor saw strong population growth of 62.1% and fairly stable per capita income despite below predicted employment growth during the 1990s. For all of the state's other MSAs, weak employment growth contributed to their lackluster population growth and falling relative per capita income trends.

Population growth and relative income levels often show greater variation across counties

TABLE 11.3

Population, Per Capita Income, and Unemployment for Michigan MSAs and Counties

Region	1969 Population Thousands	1969 Population % of MI	2000 Population Thousands	2000 Population % of MI	% Change from 1969	Regional Per Capita Income as % of US 1969	Regional Per Capita Income as % of US 2000	Unemployment Rate 2001
Michigan	**8,781**	**100.00%**	**9,952**	**100.00%**	**13.3%**	**107.8**	**98.8**	**5.0%**
Metropolitan portion	7,505	85.47%	8,180	82.20%	9.0%	112.0	104.4	n.a.
Nonmetropolitan portion	1,276	14.53%	1,772	17.80%	38.9%	82.7	73.0	n.a.
Detroit–Ann Arbor–Flint (CMSA)	**5,282**	**60.15%**	**5,464**	**54.90%**	**3.4%**	**117.0**	**110.9**	**n.a.**
Detroit (PMSA)	**4,477**	**50.98%**	**4,445**	**44.66%**	**–0.7%**	**118.1**	**112.9**	**4.8%**
Wayne	2,685	30.58%	2,059	20.68%	–23.3%	112.2	95.1	5.5%
Oakland	885	10.08%	1,196	12.02%	35.1%	144.6	155.7	3.6%
Macomb	621	7.07%	791	7.94%	27.4%	114.6	105.8	4.7%
St. Clair	118	1.35%	165	1.65%	39.8%	100.8	86.9	6.5%
Monroe	116	1.32%	146	1.47%	25.9%	98.3	95.2	4.1%
Lapeer	51	0.58%	88	0.89%	72.5%	92.2	87.8	6.3%
Grand Rapids–Muskegon–Holland (MSA)	**754**	**8.59%**	**1,092**	**10.97%**	**44.8%**	**98.7**	**94.9**	**4.7%**
Kent	411	4.68%	576	5.79%	40.1%	101.6	101.0	4.7%
Ottawa	123	1.40%	239	2.41%	94.3%	100.3	95.1	4.0%
Muskegon	157	1.78%	171	1.71%	8.9%	93.1	77.5	6.5%
Allegan	64	0.72%	106	1.07%	65.6%	90.5	89.7	4.3%
Ann Arbor (PMSA)	**359**	**4.09%**	**582**	**5.84%**	**62.1%**	**116.1**	**115.3**	**2.9%**
Washtenaw	224	2.55%	324	3.26%	44.6%	123.9	124.5	2.2%
Livingston	54	0.62%	158	1.59%	192.6%	112.2	115.3	3.0%
Lenawee	81	0.92%	99	1.00%	22.2%	97.5	85.5	5.3%
Kalamazoo–Battle Creek (MSA)	**393**	**4.48%**	**453**	**4.55%**	**15.3%**	**101.6**	**88.1**	**4.5%**
Kalamazoo	196	2.23%	239	2.40%	21.9%	104.6	94.3	3.9%
Calhoun	142	1.62%	138	1.39%	–2.8%	102.1	86.9	5.1%
Van Buren	56	0.63%	76	0.77%	35.7%	89.9	70.6	5.7%
Lansing–East Lansing (MSA)	**371**	**4.23%**	**448**	**4.50%**	**20.8%**	**101.7**	**91.3**	**3.3%**
Ingham	258	2.94%	279	2.81%	8.1%	102.6	93.6	3.5%
Eaton	66	0.75%	104	1.04%	57.6%	102.8	85.2	3.1%
Clinton	47	0.54%	65	0.65%	38.3%	95.1	90.9	2.7%
Flint (PMSA)	**446**	**5.08%**	**437**	**4.39%**	**–2.0%**	**106.6**	**85.6**	**7.1%**
Saginaw–Bay City–Midland (MSA)	**398**	**4.53%**	**403**	**4.05%**	**1.3%**	**99.1**	**90.7**	**5.1%**
Saginaw	219	2.50%	210	2.11%	–4.1%	97.6	84.6	5.6%
Bay	116	1.32%	110	1.11%	–5.2%	93.7	88.4	5.3%
Midland	62	0.71%	83	0.83%	33.9%	114.3	109.2	3.8%
Benton Harbor (MSA)	**164**	**1.86%**	**163**	**1.63%**	**–0.6%**	**102.3**	**87.1**	**5.3%**
Jackson (MSA)	**143**	**1.63%**	**159**	**1.59%**	**11.2%**	**103.8**	**82.7**	**5.0%**

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

NOTES: MSAs in this table have been ranked in descending order based upon their 2000 population. MSA = Metropolitan Statistical Area of one or more counties. The Detroit, Ann Arbor, and Flint Primary MSAs are also shown as the Detroit–Ann Arbor–Flint Combined MSA in this table.

within a given MSA than across different MSAs. The Detroit six-county PMSA, for example, experienced a 22,000 or 0.7% population decline from 1969 to 2000, as population in Wayne County (the center) declined by 636,000 or 23% while the five outlying counties each experienced population growth of 25% or more. Nearly half of the population loss for Wayne County was made up for by gains in Oakland County, with most of the rest of the loss made for up by gains in the other four counties. Of counties in the Detroit PMSA, the highest percentage increase in population was 72.5% for sparsely settled Lapeer County. Of all the counties listed in table 11.3, Livingston's

population grew at the fastest rate, with an increase of 192.6% between 1969 and 2000. This rapid growth is related to the county's location at the intersection of US-23 and I-96, which gives its residents convenient access to jobs in Ann Arbor, Oakland County, Lansing–East Lansing, and Flint. In terms of per capita income relative to the United States, there is huge variation across counties in the Detroit PMSA as well, from a low of 86.9% for St. Clair County to 155.7% for Oakland County in 2000. This illustrates a national trend toward increasing geographic segregation for residents of large MSAs based on income levels, as discussed by Anas, Arnott, and Small (1998) and Mills and Lubuele (1997). In contrast to the wide range of income levels for the Detroit, Grand Rapids– Muskegon–Holland, Ann Arbor, and Saginaw–Bay City–Midland multicounty MSAs, income levels were fairly homogeneous across the three counties in the Lansing–East Lansing MSA.

The final column of table 11.3 gives unemployment rates for 2001. Unemployment rates ranged from a low of 2.9% for Ann Arbor to a high of 7.1% for Flint. There is a fairly strong pattern of a negative correlation between an area's unemployment rate and its relative income position, but this is most often related to both variables being influenced by average education levels in a region. For example, relatively high incomes and low unemployment rates occur in Washtenaw County (Ann Arbor) and Oakland County due to relatively high education levels in these counties. Twenty years ago, Thompson (1982, 240) identified Flint as an exception to this pattern, as Flint had a high relative income but high relative unemployment, despite having a low relative education level. Since then, Flint has lost its relative income advantage.

Regional Migration and Problems of Central Cities

In the previous section, we identified a general pattern of rapid population growth for MSAs in the South and West of the United States, while Detroit and other MSAs in the Great Lakes and Northeast regions have shown little growth or even declines in populations in recent decades. In this section, we analyze population movements within U.S. and Michigan MSAs, and find a pronounced pattern for declining central city and central county populations and relative incomes as population migrates to more and more distant suburbs over time. We also find that African Americans have accounted for increasing shares of central city population in Michigan's MSAs over the past twenty years.

In table 11.4, tax return data from IRS are analyzed to reveal patterns of migration of households into and out of core counties of each of these MSAs. These data span the period from 1995 to 2001, so they do not correspond specifically to the time period (1969–2000) covered in table 11.3, but they demonstrate important patterns in the flow of households and accompanying incomes among regions. These patterns in migration aid in understanding some of the differences in population growth and income levels revealed in table 11.3, and demonstrate a general pattern of urban decentralization.

In table 11.4, the MSA and its core county are shown in the center column, together with net inflows (+) or outflows (–) of households and income in millions of dollars for that core county with respect to all outside areas. The left-hand set of columns identifies migration between each core county and its neighboring counties (see list at bottom of table), with the first row showing migration from the neighboring counties to the core county and the second row showing migration to the neighboring counties from the core county. For Washtenaw County, for example, 8,695 households moved from neighboring counties *to* Washtenaw, representing earnings of $348 million, while 9,848 households moved *from* Washtenaw to neighboring counties, representing earnings of $449 million. This produced a net outflow of 1,153 households (8,695 less 9,848) and $101 ($348 less $449) million from Washtenaw to neighboring counties. The right-hand set of columns provides similar information, but with respect to all migration to or from Washtenaw County from areas beyond the neighboring counties. For these "More Distant Areas," the net inflow is 12,063 households and $499 million in income. Combining the migration for the two outside areas produces combined net inflows of 10,910 households and $398 million for Washtenaw County, as shown in the central column.

The intercounty migration data in table 11.4 show that we are a nation of movers and that the gross flows of households and income to and from the core counties of Michigan's MSAs are large. For example, as shown in table 11.4, although Wayne County lost 60,000 households, on net, during the six-year period, 174,000 households moved into the county and nearly 90,000 of these

TABLE 11.4

Household Migration to and from Core Counties of MSAs (1995–2001)

Household Migration From & To Neighboring Counties						MSA Core County			Household Migration From & To More Distant Areas					
# of HH Moving		Average $ per HH		Million $ Moving		COMBINED NET CHANGE IN: # of HH	Income $Mil.		# of HH Moving		Average $ per HH		Million $ Moving	
8,695	@	$40,036	=	$348	⇒	Ann Arbor		⇐	53,798	@	$44,992	=	$2,421	
9,848	@	$45,636	=	$449	⇐	Washtenaw County		⇒	41,735	@	$46,032	=	$1,921	
–1,153				–$101	NET	10,910	$398	NET	12,063				$499	
5,431	@	$29,357	=	$159	⇒	Benton Harbor		⇐	15,595	@	$37,444	=	$584	
6,171	@	$27,967	=	$173	⇐	Berrien County		⇒	18,330	@	$36,956	=	$677	
–740				–$13	NET	–3,475	–$107	NET	–2,735				–$93	
89,866	@	$39,488	=	$3,549	⇒	Detroit		⇐	83,926	@	$33,405	=	$2,804	
131,954	@	$44,109	=	$5,820	⇐	Wayne County		⇒	101,789	@	$40,303	=	$4,102	
–42,088				–$2,272	NET	–59,951	–$3,571	NET	–17,863				–$1,299	
7,337	@	$34,431	=	$253	⇒	Flint		⇐	40,457	@	$35,324	=	$1,429	
6,724	@	$37,229	=	$250	⇐	Genesee County		⇒	47,863	@	$35,841	=	$1,715	
613				$2	NET	–6,793	–$284	NET	–7,406				–$286	
27,318	@	$32,481	=	$887	⇒	Grand Rapids		⇐	53,752	@	$35,515	=	$1,909	
31,474	@	$39,015	=	$1,228	⇐	Kent County		⇒	48,966	@	$37,135	=	$1,818	
–4,156				–$341	NET	630	–$250	NET	4,786				$91	
6,306	@	$33,062	=	$208	⇒	Jackson		⇐	13,396	@	$34,179	=	$458	
5,786	@	$32,224	=	$186	⇐	Jackson County		⇒	13,731	@	$32,902	=	$452	
520				$22	NET	185	$28	NET	–335				$6	
11,166	@	$29,534	=	$330	⇒	Kalamazoo		⇐	30,372	@	$33,726	=	$1,024	
10,852	@	$33,386	=	$362	⇐	Kalamazoo County		⇒	33,878	@	$40,771	=	$1,381	
314				–$33	NET	–3,192	–$389	NET	–3,506				–$357	
19,306	@	$29,311	=	$566	⇒	Lansing		⇐	39,554	@	$27,568	=	$1,090	
21,800	@	$34,475	=	$752	⇐	Ingham County		⇒	43,129	@	$32,359	=	$1,396	
–2,494				–$186	NET	–6,069	–$491	NET	–3,575				–$305	
4,896	@	$30,466	=	$149	⇒	Saginaw		⇐	18,255	@	$31,616	=	$577	
5,047	@	$34,322	=	$173	⇐	Saginaw County		⇒	23,653	@	$32,558	=	$770	
–151				–$24	NET	–5,549	–$217	NET	–5,398				–$193	

SOURCE: Internal Revenue Service.

NEIGHBORING COUNTIES FOR EACH CORE COUNTY (COUNTIES IN EACH MSA ARE SHOWN IN BOLD):

Washtenaw (Ann Arbor): **Lenewee**, **Livingston**, and Monroe
Berrien (Benton Harbor): Cass, LaPorte (IN), St. Joseph (IN), Van Buren
Wayne (Detroit): Genesee, **Lapeer**, **Livingston**, **Macomb**, **Monroe**, **Oakland**, **St. Clair**, Washtenaw
Genesee (Flint): Lapeer, Livingston, Shiawassee
Kent (Grand Rapids): **Allegan**, Barry, Ionia, Montcalm, **Muskegon**, Newaygo, **Ottawa**
Jackson (Jackson): Calhoun, Hillsdale, Ingham, Washtenaw
Kalamazoo (Kalamazoo): Allegan, **Calhoun**, St. Joeseph, **Van Buren**
Ingham (Lansing): **Clinton**, **Eaton**, Ionia, Livingston, Shiawassee
Saginaw (Saginaw): **Bay**, **Midland**, Tuscola.

households moved into Wayne County from its surrounding counties. Of the 234,000 households that moved out of Wayne County, more than half moved to its neighborhood suburban counties. On net, Wayne lost 42,000 households to neighboring counties and 18,000 to more distant areas. The loss of households was accompanied by a net loss of about $3.6 billion in income, and the loss in income from lost households was compounded because the incomes of out-migrants from the county were considerably higher than the incomes of in-migrants.

Washtenaw (Ann Arbor), Kent (Grand Rapids), and Jackson (Jackson) Counties gained population through net household migration, with the other six MSAs all losing population in their core counties. Washtenaw is clearly the big gainer, attracting on net nearly 11,000 households during the period. The net gains in households for Washtenaw and Kent counties occurred in the two MSAs in Michigan with the fastest population growth, as shown in table 11.3. The net inflow of households for Kent County was too small to offset lower incomes for in-migrants than for out-migrants, so there was a net loss of income as a result of migrating households. The other six MSAs all suffered fairly large net out-migrations of both households and income from their core counties.

For most of the core counties, migration to and from neighboring counties was only a fraction of that to and from more distant areas. The exception to this was Wayne County in the Detroit PMSA, where migration to neighboring counties exceeded that to more distant areas. This may be due partly to the extensive list of neighboring counties in this case. It was also the case that incomes of out-migrants from core counties were typically 10% to 20% higher than those of in-migrants. This may reflect a tendency for younger generations with lower incomes to move into core counties to be closer to jobs, while older generations with higher incomes move to the suburbs for a more peaceful family life. The only two areas with higher average incomes for in-migrants than out-migrants were Berrien County (Benton Harbor MSA), which is likely due to the "lake effect," as wealthier households seek shoreline residences, and, surprisingly, Jackson, which could be spillover growth from fast-growing and higher-income Washtenaw County.

The nation's cities have always played important roles in the lifecycle of households. Young households with low initial incomes often find cities attractive for greater opportunities for entertainment, employment, and reasonable housing costs. However, as households mature and gain income they tend to move to the suburbs. In addition, professional households tend to be the most mobile and, thus, the most likely to leave the core counties of slow-growing metropolitan areas for other urban areas or for more rural settings. Finally, wealthy retirees are known to flock southward to enjoy warmer weather. Due to all these factors, it is not surprising that most of the state's core counties lost millions of dollars in income due to net out-migration from 1995 to 2001, as shown in table 11.4. Again, Washtenaw County is a strong exception, as well as Jackson County, which, again, may be capturing some of the spillover growth from Washtenaw County. These overall trends reveal an on-going challenge to the state's core counties. If the outflows continue and grow, core counties will find themselves in more severe fiscal and economic situations in the future, and as we are about to see, the plight of central cities may be even worse.

Table 11.5 displays population patterns over the past three decades for central cities and suburbs in Detroit and Flint PMSAs and Grand Rapids–Muskegon–Holland MSAs, in the context of other MSAs in the Midwest and the Great Lakes area. With the exception of Grand Rapids and Chicago, central city population has declined for each of the past three decades for the MSAs shown in table 11.5. By 2000, Detroit's central city population had declined to 63% of its 1970 level, and central city population had declined by similar amounts for Flint, Buffalo, Cleveland, and Pittsburgh, and by an even more for St. Louis. Smaller net declines of 14 to 18% occurred for central cities of Chicago, Milwaukee, and Toledo. Only Grand Rapids has successfully reversed earlier population central city declines, with gains in the 1980s and 1990s fully offsetting population losses of the 1970s. Chicago's recovery has been confined to the 1990s, and is far less complete than that for Grand Rapids.

For Detroit and Flint, suburban population increases roughly offset central city population losses, and Toledo demonstrated a similar pattern.[9] Interestingly, the examples of Grand Rapids and Chicago suggest that rapid population growth for an MSA may be needed to provide adequate housing demand for population to increase in central cities. In other words, core cities may depend on strong suburbs to support the public and civic functions, as well as employment oppor-

TABLE 11.5

Population Change for Selected PMSAs, MSAs, and Central Cities in the Midwest

MSA	Area	Population Based on Census for				Population Index: 1970 = 100		
		1970	1980	1990	2000	1980	1990	2000
Michigan Cities								
Detroit PMSA	Metro area	4,490,902	4,387,783	4,266,654	4,441,551	98	95	99
	Central city	1,511,336	1,203,339	1,027,974	951,270	80	68	63
	Outer area	2,979,566	3,184,444	3,238,680	3,490,281	107	109	117
	City share	33.7%	27.4%	24.1%	21.4%			
Flint PMSA	Metro area	441,341	450,449	430,459	436,141	102	98	99
	Central city	193,380	159,611	140,761	124,973	83	73	65
	Outer area	247,961	290,838	289,698	311,168	117	117	126
	City share	43.8%	35.4%	32.7%	28.7%			
Grand Rapids–Muskegon–Holland MSA								
	Metro area	763,226	840,824	937,891	1,088,514	110	123	143
	Central city	197,534	181,843	189,126	197,800	92	96	100
	Outer area	565,692	658,981	748,765	890,714	117	132	158
	City share	25.9%	21.6%	20.2%	18.2%			
Other Midwest/Great Lakes Cities								
Buffalo	Metro area	1,349,211	1,242,826	1,189,288	1,170,111	92	88	87
	Central city	462,783	357,870	328,123	292,648	77	71	63
	Outer area	886,428	884,956	861,165	877,463	100	97	99
	City share	34.3%	28.8%	27.6%	25.0%			
Chicago	Metro area	7,099,469	7,246,032	7,410,858	8,272,768	102	104	117
	Central city	3,362,825	3,005,072	2,783,726	2,896,016	89	83	86
	Outer area	3,736,644	4,240,960	4,627,132	5,376,752	114	124	144
	City share	47.4%	41.5%	37.6%	35.0%			
Cleveland	Metro area	2,419,274	2,277,949	2,202,069	2,250,871	94	91	93
	Central city	751,046	573,822	505,616	478,403	76	67	64
	Outer area	1,668,228	1,704,127	1,696,453	1,772,468	102	102	106
	City share	31.0%	25.2%	23.0%	21.3%			
Milwaukee	Metro area	1,403,688	1,397,143	1,432,149	1,500,741	100	102	107
	Central city	717,124	636,212	628,088	596,974	89	88	83
	Outer area	686,564	760,931	804,061	903,767	111	117	132
	City share	51.1%	45.5%	43.9%	39.8%			
Pittsburgh	Metro area	2,683,853	2,571,223	2,394,223	2,358,695	96	89	88
	Central city	520,167	423,938	369,879	334,563	82	71	64
	Outer area	2,163,686	2,147,285	2,024,344	2,024,132	99	94	94
	City share	19.4%	16.5%	15.4%	14.2%			
St. Louis	Metro area	2,461,367	2,419,552	2,498,186	2,603,607	98	102	106
	Central city	622,236	453,085	396,685	348,189	73	64	56
	Outer area	1,839,131	1,966,467	2,101,501	2,255,418	107	114	123
	City share	25.3%	18.7%	15.9%	13.4%			
Toledo	Metro area	607,163	616,864	614,128	618,203	102	101	102
	Central city	384,015	354,635	332,943	313,619	92	87	82
	Outer area	223,148	262,229	281,185	304,584	118	126	137
	City share	63.2%	57.5%	54.2%	50.7%			

SOURCE: U.S. Bureau of Census and authors' calculations.

tunities of the core cities, which highly affect their attractiveness to potential residents. However, a more traditional argument would be that Grand Rapids and Chicago succeed because of the strength of their private sectors in generating jobs that support the suburban population growth.

Table 11.6 focuses more closely on a range of Michigan cities and their population patterns relative to their surrounding counties. The MSAs comprise from one to six counties, and the numbers in parentheses after each MSA indicate the number of counties in the area. Data for 1980, 1990, and 2000 indicate a continuing decentralization within urban counties in Michigan. Eight of the twelve major central cities lost population in both the 1980s and 1990s, as indicated by the "Total" percentage change columns, and Kalamazoo City gained population during the 1980s but lost population during the 1990s. For these cities, percentage declines over the two decades summed to lows of approximately 3% and 5% for Kalamazoo and Battle Creek, respectively, and more severe decreases exceeding 20% for Detroit, Flint, and Saginaw. Ann Arbor, Grand Rapids, and Midland were exceptions, with their central city populations growing over the two decades by about 6%, 9% and 12%, respectively.

Outside the central cities, central county population increased for every county during the 1990s and in all but five counties in the 1980s. Four counties suffered net declines in their suburban population over the two decades, but declines were only about 1% for suburban Wayne (Detroit), Calhoun (Battle Creek), and Saginaw Counties, with a more substantial 6% decline for suburban areas of Bay County. For the more common pattern of expanding population, suburban population increased by a low of 7% for Genesee County (Flint) and a high of 40% for Kent County (Grand Rapids) over the two decades. Given patterns of declining or slow-growing city populations and generally increasing suburban population, the city share of each county usually declined significantly between 1980 and 2000. Flint's share of Genesee County population fell from 35% to 29%, and even the 9% growth in city population for Grand Rapids failed to prevent a decline in its share of county population from 41% in 1980 to 34% in 2000. Three cities nearly maintained their shares of county population, however. These were Midland, where city and suburban population both grew by about 12% over the two decades, and Battle Creek and Bay City, where city population declines were nearly matched by suburban population declines.[10]

Table 11.6 also decomposes population changes in some very useful ways. Fundamentally it starts with the population in households (excluding, primarily, college dormitories and prisons). There are two reasons that total household population may change. First, the number of households may change, usually through changes in numbers of dwelling units (vacancy rates can also change), and this represents an important measure of net housing stock. Second, household size may change. If a child moves out of a house in Detroit to live in an apartment in suburban Warren, for example, the population of Detroit has fallen even though the family still lives in Detroit; the child now represents a new household in Warren. Beginning in the 1970s, the end of the "baby boom" reduced household size in most U.S. cities from well over 3 people per household to 2.5 people per household or less. A drop of 0.5 members per household would reduce population over 16%, even with *no change* in the number of households.

To understand this, consider Flint, where population within households fell by about 12.5% between 1980 and 1990. Assuming that the number of households had stayed constant, Flint's population would have still fallen by 6.3%, because households became smaller. However, almost half of the change, 6.2%, occurred because of a decrease in the number of occupied housing units. Housing units typically leave the market either through vacancy or abandonment (and ultimately being torn down). We see in table 11.6 that about 6% of the Flint housing supply left the market from 1980 to 1990, and an even larger 9% left from 1990 to 2000.

From 1980 to 1990, household size declined in all of the cities and suburban areas of their counties listed in table 11.6. Number of households (occupied housing units) increased in the suburban portion of every county, but number of city households declined by 13.6% in Detroit, and by smaller amounts in Pontiac, Flint, Jackson, Battle Creek, and Saginaw. This suggests substantial deterioration of central city housing stock in these cities relative to the surrounding counties. During the 1980s, the number of housing units (housing supply) in the remaining six central cities increased, and by enough to more than offset declines in household size in Ann Arbor, Grand Rapids, Kalamazoo, and Midland. Change in supply varied dramatically for different central cities, from a decline of 13.6% for Detroit/Highland Park to an

TABLE 11.6

Impact of Changes in Number of Housing Units and Household Size on Central City and County Population

MSA Central City/County	Population 1980	% Population Change Due to # HHs	% Population Change Due to HH Size	% Population Change Due to Total	Population 1990	% Population Change Due to # HHs	% Population Change Due to HH Size	% Population Change Due to Total	Population 2000
Ann Arbor PMSA (3)									
Ann Arbor city	107,966	6.0%	–3.7%	1.5%	109,592	8.4%	–4.0%	4.0%	114,024
Rest of Washtenaw County	156,782	15.2%	–5.6%	10.6%	173,345	24.8%	–4.3%	20.5%	208,871
City as % of county	40.8%				38.7%				35.3%
Detroit PMSA (6)									
Detroit and Highland Park	1,231,248	–13.6%	–1.0%	–14.9%	1,048,095	–10.3%	2.2%	–7.6%	968,016
Rest of Wayne County	1,106,643	4.5%	–8.4%	–3.9%	1,063,592	6.7%	–4.0%	2.8%	1,093,146
City as % of county	52.7%				49.6%				47.0%
Pontiac city	76,715	–3.4%	–3.9%	–7.2%	71,166	–2.1%	–2.8%	–6.8%	66,337
Rest of Oakland County	935,078	16.3%	–8.1%	8.3%	1,012,426	15.4%	–4.4%	11.4%	1,127,819
City as % of county	7.6%				6.6%				5.6%
Flint PMSA (1)									
Flint city	159,611	–6.2%	–6.3%	–11.8%	140,761	–9.3%	–1.8%	–11.2%	124,943
Rest of Genesee County	290,838	10.1%	–10.5%	–0.4%	289,698	12.3%	–5.3%	7.4%	311,198
City as % of county	35.4%				32.7%				28.6%
Grand Rapids–Muskegon–Holland MSA (4)									
Grand Rapids city	181,843	5.0%	–1.1%	4.0%	189,126	5.7%	–1.1%	4.6%	197,800
Rest of Kent County	262,663	24.3%	–5.8%	18.6%	311,505	23.4%	–2.7%	20.9%	376,535
City as % of county	40.9%				37.8%				34.4%
Jackson MSA (1)									
Jackson city	39,739	–1.8%	–4.5%	–5.8%	37,446	–3.4%	0.4%	–3.0%	36,316
Rest of Jackson County	111,756	7.4%	–7.7%	0.5%	112,310	11.7%	–3.7%	8.7%	122,106
City as % of county	26.2%				25.0%				22.9%
Kalamazoo–Battle Creek MSA (3)									
Kalamazoo city	79,722	3.2%	–2.2%	0.7%	80,277	0.0%	–4.0%	–3.9%	77,145
Rest of Kalamazoo County	132,656	14.8%	–6.8%	7.9%	143,134	17.4%	–5.0%	12.8%	161,458
City as % of county	37.5%				35.9%				32.3%
Battle Creek city	56,339	–1.1%	–4.3%	–5.0%	53,540	–0.5%	–0.8%	–0.3%	53,364
Rest of Calhoun County	85,218	3.0%	–6.0%	–3.3%	82,442	7.4%	–3.9%	2.6%	84,621
City as % of county	39.8%				39.4%				38.7%
Lansing–East Lansing MSA(3)									
Lansing and East Lansing	177,366	2.7%	–4.4%	–2.2%	173,377	–0.5%	–4.8%	–7.2%	160,812
Rest of Ingham County	98,154	15.5%	–5.2%	10.6%	108,535	15.1%	–5.7%	9.2%	118,508
City as % of county	64.4%				61.5%				57.6%
Saginaw–Bay City–Midland MSA (3)									
Bay City	41,593	0.2%	–6.4%	–6.4%	38,936	–2.3%	–4.0%	–5.4%	36,817
Rest of Bay County	78,288	3.0%	–10.0%	–7.0%	72,787	7.5%	–7.4%	0.8%	73,340
City as % of county	34.7%				34.9%				33.4%
Midland city	37,016	12.4%	–9.7%	2.2%	37,819	12.6%	–2.9%	9.6%	41,463
Rest of Midland County	36,562	12.7%	–9.1%	3.5%	37,832	15.1%	–5.9%	9.5%	41,411
City as % of county	50.3%				50.0%				50.0%
Saginaw city	77,508	–4.1%	–5.9%	–10.3%	69,512	–11.2%	–0.4%	–11.1%	61,799
Rest of Saginaw County	150,551	6.4%	–11.7%	–5.4%	142,434	9.5%	–7.1%	4.1%	148,240
City as % of county	34.0%				32.8%				29.4%

SOURCE: U.S. Bureau of Census and authors' calculations.

NOTES: Total % change for population includes changes in institutional population (mostly dormitories and prisons) in addition to changes in number of households and household size. Number in parentheses after MSA indicates number of counties in the MSA.

increase of 12.4% for Midland.

From 1990 to 2000, the trends of the 1980s continued, with a few exceptions. The general pattern of declining household size was repeated, except for Detroit/Highland Park and Jackson, where household size increased by 2.2% and 0.4%, respectively. These increases in household size might be caused by an increasing concentration of low-income families that often have larger families. Another possibility might be an increase in immigrant families that also may have larger families. In another change, the number of cities with an increased number of households fell from six in the 1980s to three in the 1990s, with Ann Arbor, Grand Rapids, and Midland still benefiting from between 5% and 13% increases in their housing supply. At the other extreme, Detroit/Highland Park, Flint, and Saginaw experienced declines of about 10% in their housing supply in the 1990s, and total declines in housing supply of about 15% to 25% over the two decades.

Another important aspect of metropolitan area dynamics is the high and increasing concentration of African Americans in central city areas of Michigan MSAs. African Americans comprise a higher percentage of the population in Michigan's core cities today than they did twenty years ago.[11] The many strong inner-city neighborhoods retain or attract African Americans into the cities, while the lack of low- to medium-cost housing opportunities and, unfortunately, housing discrimination continue to keep many African American households from moving into the suburbs. What is surprising is the variation in racial composition among the state's major core cities. For example, in 2000 Detroit's population was 82.6% African American, while African Americans represented only 2.1% of Midland's population (table 11.7a). In 2000, African Americans represented 93.7% of Benton Harbor's population, having increased from 86.3% in 1980, while Detroit's black population had increased nearly 20 percentage points to 82.6% in 2000 from 63.1% in 1980. At the other end of the spectrum, African Americans represented less than 10% of the population in Ann Arbor and less than 4% in the cities of Midland and Bay City in 2000. The largest share of the African American population living in the Saginaw–Bay City–Midland MSA resides in Saginaw.

While African Americans continue to account for a larger share of the core cities' population, the cities themselves house a smaller share of their metropolitan areas' African American population. For example, in 1990, 80% of all African Americans living in Genesee County resided in Flint, compared to 75% in 2000. Although many African American households moved to more suburban locations, their numbers are still small relative to the movement of white families. Most of the

TABLE 11.7

Minority Percentages of Cities and Segregation

a. African Americans as a % of total City Population

	1980	1990	2000
Ann Arbor	9.3%	9.0%	9.8%
Battle Creek	22.8%	16.5%	19.2%
Bay City	1.8%	2.4%	3.4%
Benton Harbor	86.3%	92.2%	93.7%
Detroit	63.1%	75.7%	82.6%
Flint	41.4%	47.9%	55.0%
Grand Rapids	15.7%	18.5%	21.8%
Jackson	15.4%	17.7%	21.8%
Kalamazoo	15.6%	18.8%	22.0%
Lansing	13.9%	18.6%	24.1%
Midland	1.4%	1.7%	2.1%
Muskegon	21.4%	27.1%	33.2%
Saginaw	35.6%	40.3%	44.7%

NOTE: Battle Creek city annexed Battle Creek Township in 1982.

b. Index of Segregation: Core Counties

	1980	1990	2000
Ann Arbor			
Washtenaw County	0.48	0.49	0.51
Benton Harbor			
Berrien County	0.73	0.74	0.75
Flint			
Genesee County	0.84	0.81	0.75
Grand Rapids–Muskegon			
Kent County	0.73	0.69	0.62
Muskegon County	0.73	0.77	0.78
Jackson			
Jackson County	0.74	0.70	0.53
Kalamazoo–Battle Creek			
Kalamazoo County	0.57	0.53	0.48
Calhoun County	0.55	0.63	0.61
Lansing			
Ingham County	0.47	0.49	0.51
Saginaw–Midland–Bay City			
Saginaw County	0.81	0.82	0.73
Bay County	0.50	0.49	0.46
Midland County	0.44	0.43	0.38
Detroit			
Wayne County	0.82	0.85	0.86

SOURCE: U.S. Bureau of the Census and authors' calculations.

African American households moving to suburban locations are taking away higher-than-average purchasing power from inner-city markets, leaving their former inner-city neighborhoods even more economically depressed.

Statistics on the overall percentage composition of the cities' African American population reveal little about neighborhood segregation. African Americans and whites could be residing in strongly segregated or highly integrated neighborhoods regardless of the overall African American percentage composition of an area's population. The most common racial segregation descriptor, the *index of dissimilarity,* compares the racial make-up of neighborhoods (typically measured at the census tract level) with the racial make-up of the reference area, in this case the county.[12] If, for example, the metropolitan county was 30% minority, then if each census tract was 30% minority, there would be no dissimilarity of neighborhoods, and the index of dissimilarity would take on a value of 0, indicating that (in theory) no residents would have to be "moved" to achieve full integration. If all census tracts were either entirely white or entirely minority, the index of dissimilarity would have a value of 1.0 (sometimes multiplied by 100 for a percentage factor). This would mean that all (100%) of either the minority or the white populations would (again, in theory) have to be moved to achieve full integration.

Segregation is a measure of separation, and may relate variously to preferences to live with one's own kind, separation by income, or racial discrimination. Racial segregation may impact families' abilities to purchase housing of the types they might wish, or to live close to jobs that they might wish to have. As noted in table 11.7b, all of the counties containing the state's major core cities have remained relatively unchanged in terms of neighborhood (census tracts) segregation. Neighborhoods in Wayne, Berrien, Muskegon, Calhoun, Washtenaw, and Ingham Counties have become more segregated during the past twenty years, but racial segregation has declined in the state's other core counties.

In summary, African American residents account for a larger share of the state's core cities' population, however the cities themselves are housing a declining share of the overall metropolitan areas' African American population. On the neighborhood level (Census Tracts), racial segregation between African Americans and whites remained fairly constant in the past twenty years, with perhaps a slight overall decrease in segregation.

Table 11.8 examines changes in the Detroit metropolitan area, which represented about 45% of Michigan's 2000 population. The analysis looks at the central-city-core of Detroit/Highland Park/Hamtramck, and compares it to the inner ("inner suburbs") and outer ("outer suburbs") rings of Wayne, Oakland, and Macomb Counties, and to the outlying counties of Lapeer, Monroe, and St. Clair ("outer 3 counties"). Detroit MSA population grew by only 1.3% between 1980 and 2000. Growth in the outer suburbs of Wayne, Oakland, and Macomb, and the three outer counties slightly more than offset population losses in the central city core and the inner ring suburbs in Wayne, Oakland and Macomb Counties. During the 1980s, MSA population declined by 2.8% as a 4% housing increase was more than offset by a 6.8% decrease in family size. In the 1990s, population increased by 4.1%; with a 7.1% housing supply increase more than offsetting a 3.3% decrease in family size.

From 1980 to 1990 the Detroit/Highland Park/Hamtramck central city lost nearly 15% of its population, due to a 13.6% decline in housing supply and a 1% decrease in household size. During the 1980s, the inner ring suburbs for each of the three inner counties lost population also, but the population loss was due to reduced household size, rather than reduced housing supply. Housing supply increased by about 3% in the inner suburbs of Wayne and Oakland Counties and over 6% in the inner suburbs of Macomb County, but declining family size produced population declines of about 4 to 6% in these areas. Except for Monroe County, the outer ring suburbs of the three inner counties and the three outer counties each had double-digit housing supply increases that more than offset declining household size. Population growth ranged from about 4% for the outer suburbs of Wayne County to 22% for the outer suburbs of Macomb County. Monroe County's 7.5% housing supply increase was more than offset by declining family size for a net population decline of 0.8%.

From 1990 to 2000, an improved local economy slowed the population losses in the central city and inner suburbs to about 7% and 2%, respectively, or to less than half the declines for the 1980s. Nonetheless, the population patterns of the 1980s continued, with continued losses in the central city and in the inner suburban ring, and with even larger population gains in the outer suburban ring and in the outer counties than in the 1980s. For the MSA as a whole, population increased by 4.1% in the 1990s, as a 7.1% increase

TABLE 11.8

Impact of Changes in Number of Housing Units and Household Size on Population of Inner City, Inner Suburb, Outer Suburb, and Outer County Regions of the Detroit PMSA

County	Area	Population 1980	% Population Change Due to			Population 1990	% Population Change Due to			Population 2000	Shares of MSA Population		
			# HHs	HH Size	Total*		# HHs	HH Size	Total*		1980	1990	2000
Total Detroit PMSA		4,387,783	4.0%	–6.8%	–2.8%	4,266,326	7.1%	–3.3%	4.1%	4,441,225	100%	100%	100%
Analysis by Regions of Counties													
Wayne	Detroit/Ham./HP	1,252,548	–13.6%	–1.0%	–14.9%	1,066,467	–10.1%	2.5%	–7.1%	990,992	28.5%	25.0%	22.3%
	Inner Suburbs	820,115	2.8%	–8.9%	–6.1%	769,938	2.2%	–4.2%	–2.0%	754,716	18.7%	18.0%	17.0%
	Outer Suburbs	265,228	11.8%	–7.9%	3.8%	275,282	20.2%	–5.8%	14.6%	315,454	6.0%	6.5%	7.1%
Macomb	Inner Suburbs	486,875	6.3%	–11.3%	–4.7%	463,887	2.7%	–4.7%	–1.7%	455,800	11.1%	10.9%	10.3%
	Outer Suburbs	207,725	34.2%	–12.1%	22.0%	253,513	41.0%	–10.7%	31.1%	332,349	4.7%	5.9%	7.5%
Oakland	Inner Suburbs	499,353	2.7%	–6.3%	–3.7%	480,889	3.5%	–5.3%	–1.9%	471,967	11.4%	11.3%	10.6%
	Outer Suburbs	512,440	27.5%	–10.2%	17.6%	602,375	23.5%	–4.1%	19.8%	721,863	11.7%	14.1%	16.3%
Lapeer County Total		70,038	15.3%	–8.4%	6.8%	74,768	23.4%	–6.4%	17.6%	87,904	1.6%	1.8%	2.0%
Monroe County Total		134,659	7.5%	–8.3%	–0.8%	133,600	15.0%	–5.9%	9.2%	145,945	3.1%	3.1%	3.3%
St. Clair County Total		138,802	11.3%	–6.7%	4.9%	145,607	16.9%	–4.4%	12.8%	164,235	3.2%	3.4%	3.7%
Analysis by Regions of PMSA													
Wayne	Detroit/Ham./HP	1,252,548	–13.6%	–1.0%	–14.9%	1,066,467	–10.1%	2.5%	–7.1%	990,992	28.5%	25.0%	22.3%
	Inner Suburbs	1,806,343	3.7%	–8.8%	–5.1%	1,714,714	2.7%	–4.6%	–1.9%	1,682,483	41.2%	40.2%	37.9%
	Outer Suburbs	985,393	24.7%	–10.0%	14.8%	1,131,170	26.6%	–6.0%	21.1%	1,369,666	22.5%	26.5%	30.8%
	3 Outer Counties	343,499	10.6%	–7.7%	3.0%	353,975	17.6%	–5.4%	12.5%	398,084	7.8%	8.3%	9.0%

SOURCE: U.S. Bureau of Census and authors' calculations.

NOTE: Total percentage change for population includes changes in institutional population (mostly dormitories and prisons) in addition to changes in number of households and household size.

in housing supply more than offset a 3.3% decrease in household size.

The decline in household size in the 1990s was only about half of that in the 1980s, and as in table 11.6, the central city area even had a 2.5% increase in family size. The increase in household size for the central city area was more than offset by a 10% decline in housing supply, however, for a net population loss of 7%. The combined inner ring suburbs increased their housing supply by about 3% in the 1990s as undeveloped land remained scarce, and declining family size produced a net population decline in these areas of about 2%. Numbers of households in the outer suburban ring and in the outer counties increased by double-digit percentages, and ranged as high as 41% for Macomb County during the 1990s. In both decades, housing supply and population have increased faster for the outer suburbs of Macomb County than for the outer suburbs of Oakland County, which suggests that Oakland County had less and therefore more expensive undeveloped land available than did Macomb.

The final three columns of table 11.8 look at the impact of declining population in the inner areas and increasing population in the outer areas in terms of regional shares of total Detroit MSA population. Between 1980 and 2000, the central city's share of MSA population fell from 28.5% to 22.3%, with a smaller decline from 41.2 to 37.9% for the inner suburbs. The combined share for these two groups fell from about 70% to 60%, with a corresponding increase for the outer areas. There was about an eight-percentage point increase in the population share for the outer suburbs and about a one-percentage point increase for the three outer counties combined.

The data for table 11.8 represent measures of the occupied housing stock. Small increases in number of households can result from reduced vacancy rates for existing housing stock, but sustained increases come primarily from new construction. Table 11.9 examines housing permit data for the Detroit MSA. Housing permits constitute a set of key "leading" indicators of development. Although not all permitted housing is constructed in the permit year, permits indicate planned activities. In 1990, 66% more permits were issued for the

TABLE 11.9

Distribution of Housing Permits within the Detroit MSA

	Number of Permits			Percentage Distribution		
Region within MSA	**1980**	**1990**	**2000**	**1980**	**1990**	**2000**
Central cities (Detroit/Ham./HP)	928	633	371	10.4%	4.3%	2.0%
% change		–32%	–41%			
Inner suburbs, inner 3 counties	2,601	2,919	3,067	29.3%	19.8%	16.6%
% change		12%	5%			
Outer suburbs, inner 3 counties	4,140	9,105	12,146	46.6%	61.9%	65.9%
% change		120%	33%			
Outer 3 Counties	1,214	2,063	2,846	13.7%	14.0%	15.4%
% change		70%	38%			
Total	8,883	14,720	18,430	100.0%	100.0%	100.0%
% change		66%	25%			

SOURCE: U.S. Bureau of the Census and authors' calculations.

Detroit MSA than had been issued in 1980, and in 2000, 25% more permits were issued than in 1990. Part of this increase was probably related to the timing of these years in terms of cyclical activity in the national economy. The economy was in recession in 1980, in a less severe recession in 1990, and in the latter part of an expansion in 2000. The increase is also consistent with the shift from population losses in the 1980s and population growth in the 1990s, however.

The growth rates in permit activity differed considerably across the four different parts of the Detroit PMSA. The Central City area showed sharp declines from the prior period in both 1990 and 2000, while the Inner Suburb area showed weak growth of 12% and 5%, or about one-fifth the growth rates for the total PMSA. Permit activity more than doubled between 1980 and 1990 for the Outer Suburb area, and increased by 70% for the Outer three county area in these years, while it increased by about one-third between 1990 and 2000 for the two outer areas.

Given these differences in growth rates, there were dramatic changes in the distribution of total permit activity among the four areas between 1980 and 2000. The share of total permits issued by the Central City area fell from over 10% in 1980 to 2% in 2000, while that for the Inner Suburb area fell from about 29% to about 17%. Together these two areas saw their share of regional building permits fall by over one-half from about 40% to 19%. The Outer Suburb area picked up most of the share lost by the inner areas, with its share rising from about 47% to 66%, and the three outer counties saw their share increase from 13.7% to 15.4%. Although housing permits can vary significantly from year to year, and while using different reference years would provide slightly different results, it is apparent that housing construction and development has shifted dramatically from the inner areas into the outer suburbs of Wayne, Oakland, and Macomb Counties, and to a lesser extent, to the outer three counties of the Detroit PMSA.

In short, the housing stock deteriorated steadily in the central cities, held its own in the inner suburbs, and exploded in the outer ring in all three central counties and to a lesser extent in the outlying counties. The massive deterioration in housing stock in the central city apparently represents a continuation from the previous twenty years, based on Fisher and Kohlhase (1982). What has become more apparent in the last twenty years is that the population decline does not stop at the city line. This detailed analysis of the Detroit metropolitan area indicates that the inner suburbs have *also* lost population, but at a slower rate. The distinction is that central city population losses are largely, although not entirely, due to reduction in housing stock (supply), while inner suburban population losses are thus far due to reduction in household size. In the outer suburbs of the cities, new stock and new households are increasing the population.[13]

One can point to a combination of economic factors in this continuing decentralization. Large amounts of undeveloped land surround all of Michigan's cities, within easy commuting range. It

is easier to build where nothing else has been built than to tear down existing housing, and greater availability of undeveloped land, in proximity to decentralizing jobs, explains decentralization into the outer reaches of Wayne, Oakland, and Macomb Counties and beyond. Counteracting the trend toward decentralization, one also sees selected "tear downs" in suburbs such as Huntington Woods and Birmingham, where economically viable residences are purchased and razed so that owners can build newer and larger homes on the land, presumably to take advantage of the surrounding community. One also sees structural "add-ons" in many suburban neighborhoods that essentially replace an older house with a functionally newer one, sometimes with double the inside space on the same lot. Simply speaking, attractive neighborhood attributes and high-quality public services such as quality schools, effective crime control, and concerts in the park are essential features in the development of viable neighborhoods, whether located in central cities or in the suburbs.

Policy Options for Michigan and Its Cities and Suburbs

As far back as data are available, analysts have noted a general decentralization of urban areas. Urban sprawl is often blamed for (1) increased traffic congestion, (2) high costs of providing public services, and (3) increased concentration of poverty in central cities of metropolitan areas. The push toward decentralization comes from growing population and the need for more housing, declining family size, rising incomes, and declines in intra-urban transportation costs related to improved road and highway systems. This so-called traditional model of decentralization has been supplemented in the past thirty years by a variant called "flight from blight." A third explanation relates to political boundaries, where a move to the suburbs may only slightly reduce access to positive aspects of cities while avoiding the generally higher taxes paid by city residents for public services. Combining these factors, Glaeser (1998); Mills and Lubuele (1997); Mieszkowski and Mills (1993); and Staley (1998) all suggest that out-migrants are (a) seeking more land and open space; (b) fleeing perceived or real problems in central cities related to crime, poverty, race-related issues, or poor public services; and (c) avoiding higher taxes.

In analyzing urban dynamics and the problems of central cities, the optimal level of local government boundaries becomes a major issue. Mills and Lubuele (1997, 727) note, "What we now call inner cities once constituted entire MSAs, and city boundaries tended to move outward as MSAs grew and decentralize." However, outward expansion of city boundaries stopped quite a while ago, yet outward expansion of economic activity and MSAs has proceeded rapidly. As documented previously, central cities have been plagued in recent decades by declining population and housing stock, and have increasingly become concentrated centers of poverty, as higher-income individuals have increasingly moved to the suburbs. A Public Sector Consultants (2002) report, "Status of Michigan Cities," documents many of the challenges for cities in Michigan. The fiscal difficulties created by these challenges have culminated in the state government taking over temporary financial management of the cities of Hamtramck, Highland Park, and Flint.

Olson (1969) and Oates (1972) argued for fiscal federalism, in which several levels of government, including cities, townships, counties, and school districts, offer different bundles of public goods. In this model, having city political boundaries overlap with economic or MSA boundaries offers no advantages and may be a disadvantage. More recently, however, Hochman, Pines, and Thisse (1995) argued that, when space and transportation costs are considered, the optimal level of local government should occur at the MSA level. They indicate that such consolidations have occurred to some extent in the United States and more extensively in Belgium and France. Recent voter initiatives from areas wanting to separate from the City of Los Angeles represent movement in the opposite direction, however. Part of the problem is that local government spending and taxes tend to be much higher in cities than in townships. For example, cities and townships each account for about half of Michigan's population, but city governments account for nearly 85% of the combined spending of these two classes of municipalities, as noted by Fisher and Guilfoyle in chapter 31 of this volume.

The argument for more unified regional government builds on the assumption of economies-of-scale in providing local government services. For example, a regional public transit system will more likely provide effective service than several disconnected local systems. There has been extensive political struggle on the public transit

issue in the Detroit MSA, with the city and the suburbs often finding cooperation difficult. A similar argument can be made for more unified regional planning. Townships and cities are granted substantial land use and public service authority ("home rule") in Michigan. The Citizens Research Council of Michigan (1999, 22) reported, "[Townships] have full planning and zoning powers, they can provide police and fire protection, and they can construct, maintain and operate libraries, parks and water and sewage systems." Hence, coordination of land use planning between neighboring townships and cities is strictly voluntary. Since increased development is associated with increased property tax revenues, many outlying townships have incentives to promote and encourage residential growth at the expense of the core city and older neighborhoods, even when this might not produce the most efficient allocation of resources from a county or MSA perspective. Rusk (1999) indicates that while vertical intergovernmental revenue agreements (revenue sharing) are commonplace, horizontal revenue agreements are very rare. This leaves the fate of metropolitan growth in the hands of competing local governments, an arena where the central city is apt to be at a strong disadvantage. Braid (1996) discusses this type of tax competition between jurisdictions within metropolitan areas.

Local governments should more carefully examine possible benefits of greater regional cooperation in development planning, revenue sharing, and the joint provision of government services. For example, Oakland County's ability to attract high-tech businesses and highly skilled workers from outside of Michigan is probably hindered by its proximity to Detroit, if Detroit is viewed as a city in decline. Also, the ability of suburban residents to enjoy cultural and sporting events in Detroit or another central city is reduced if the crime rate is high in the city. A Citizens Research Council of Michigan (2001a) publication, "Regional Issues from a Statewide Perspective," provides an excellent discussion of problems and successes in regional cooperation within Michigan as viewed by four city and county executives.

State government can help provide greater balance between the fiscal position of cities and suburbs through revenue sharing. Michigan has a general revenue sharing program for its local governments. Expansion of this program could be considered, and policy makers may wish to reevaluate whether it is better to allocate these funds on a needs-based versus a per capita formula. A variant on the revenue sharing approach was Michigan's school finance reform of the 1990s, in which a state property tax largely replaced local property taxes for funding public schools. Murray, Evans, and Schwab (1998) evaluated similar programs in other states and found they typically increased per-pupil funding in the poorest districts while largely maintaining per-pupil funding in richer districts. By improving educational funding in the fiscally pressed cities, this finance reform may help mitigate flight from cities in pursuit of better schools in the suburbs. Along these lines, Glaeser (1998) and Mieszkowski and Mills (1993), among others, suggest that income support programs such as welfare and Medicaid are most appropriately funded at the state or federal level, rather than the local level.

Another way that the state and federal governments have attempted to revitalize cities is through enterprise zones, in which business formation and employment are subsidized, taxes are reduced, and public infrastructure is provided. Another Citizens Research Council of Michigan report, "Survey of Economic Development Programs in Michigan" (2001b), provides extensive information on these programs in Michigan. The performance of these programs must be reevaluated to see if they should be expanded or abandoned. Related to this type of redevelopment activity, problems of past industrial pollution deter reinvestment in many central cities. State-funded cleanup of these "brown field" areas could help promote central city redevelopment, but of course the state must evaluate whether the benefits of doing so justify the costs.

A final question, of course, is what cities can do to help themselves. Many analysts have suggested that cities should focus their limited resources on providing quality public services and deemphasize attempts to redistribute income at the local level. Glaeser (1998, 156) specifically identified 1960s and 1970s attempts to achieve income redistribution at the city level, under Lindsay in New York and Young in Detroit, as contributing to economic decline in those cities, and identified a focus on providing quality public services for the relative success of New York and Chicago in the 1990s. Staley (1998) identified reducing city taxes and improving public service delivery as the most promising means to make cities in Michigan more attractive as places to live and work.

Different political philosophies come into play

in seeking public policy to provide efficient and balanced growth for cities and their suburbs. For example, the Southeast Michigan Council of Governments (SEMCOG, 1999) called for a fairly wide-ranging set of state policies to promote more balanced growth between cities and suburbs. On the other hand, Staley (1998), in a study published by the Mackinac Center for Public Policy, called for less intrusive government policies and a greater reliance on private markets and property rights as the best way to provide efficient regional development.

Conclusion

Cities have historically been concentrated centers of commerce, transportation, industry, finance, and technology that provided above-average per capita income for their residents. Boundaries of cities and metropolitan areas originally expanded together, but this stopped several decades ago. Since then, central cities have typically declined in population, housing stock, and relative income levels, as population, housing, jobs, and higher-income residents have pushed into the suburbs of the metropolitan areas.

Economic success of a metropolitan area and its component cities and counties depends heavily upon the industrial specialization of the region, such as motor vehicles in most of Michigan, and furniture in Grand Rapids, for example, and upon the competitiveness of the region's businesses in these industries. Manufacturing has not generally been a favorable area for specialization in recent decades, and this has retarded the ability of Michigan and its MSAs to grow. Nevertheless, the 1990s was a good decade in which to specialize in motor vehicles, since employment grew rapidly in this industry in the United States. However, Michigan vehicle producers lost share to competitors and therefore the state saw relatively little job growth in its vehicle industry, and most Michigan MSAs specializing in vehicles saw jobs and population grow more slowly and incomes fall relative to those of the rest of the United States.

The relatively poor job and income performance for most Michigan MSAs was particularly devastating for Michigan's cities, for it reinforced a national trend of economic activity and population moving out of the cities and into the surrounding suburbs. In the case of Grand Rapids–Muskegon–Holland, for example, it took strong employment growth in the furniture industry and expansion into industries supplying the furniture industry in the MSA to keep population from declining in Grand Rapids city over the past twenty years. All other central cities in Michigan lost population through a general decline in family size, and in the more serious cases, through abandonment of existing housing stock.

As a result of these trends, cities in Michigan and to a lesser extent throughout the country have become concentrated centers of poverty surrounded by a suburban population of considerably higher income levels. This growing economic and social imbalance between cities and suburbs could curtail future growth in the MSAs where the imbalance is most severe. An MSA is more likely to be successful over time if it has both a healthy central city and a healthy suburban ring. The distress of a central city is likely to tarnish the image of its suburbs, at least in the eyes of the outside world. Also, quality-of-life in an MSA is better if suburban residents can benefit from quality entertainment and cultural events that a thriving central city can provide, and better conditions in the city mean fewer negative spillover effects, such as crime, from the central city.

We have discussed public policy options with respect to cities and their suburban neighbors. These include possible cooperation on planning, provision of government services, and revenue sharing across various levels of local government in a metropolitan area. Enhanced revenue sharing by the state is also a possibility, with Michigan's education finance reform being an example of a policy that helped equalize government spending across districts within MSAs and throughout the state. The difficult economic and fiscal situation of Michigan's cities also demands that they focus heavily on efficient provision of local government services, and perhaps less on local attempts to redistribute income within their jurisdictions. All of these policies involve choices, however, and while economists can provide guidance on how to achieve a particular goal efficiently, setting the goals is a political and moral decision that must be made by citizens and their elected representatives. Selecting appropriate goals and efficient urban development and fiscal policies to achieve these are major challenges for Michigan at the millennium.

■

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NOTES

1. The U.S. Department of Commerce generally defines a metropolitan statistical area (MSA) as a group of one or more counties within which economic activity is highly integrated around a central city. An MSA includes at least the county that contains the central city, and in many cases multiple counties. Very large metropolitan areas are called Consolidated Metropolitan Statistical Areas (CMSA) and contain two or more Primary Metropolitan Statistical Areas(PMSA). The Detroit CMSA contains the Ann Arbor, Detroit, and Flint PMSAs.
2. This probably occurred because much of the auto industry employment growth came from companies outside the Big Three (General Motors, Ford, and Daimler/Chrysler). Except for the Mazda plant (joint with Ford) in Flat Rock, no European or Far Eastern producers have assembly plants in Michigan.
3. In 1969, the state's nine metropolitan areas held 85.5% of the state's population, 90.8% of its earned

income, and 87.2% of its employment. Nationwide, metropolitan areas accounted for 80.4% of the nation's population, 88.0% of its earned income, and 82.7% of its employment in 2000.

4. Estimates prepared by the W. E. Upjohn Institute using its Regional Economic Models, Incorporated (REMI) model for the Grand Rapids-Muskegon-Holland Area.
5. If all areas had LQs of 1.0, then they would all be the "same." Since the LQ is expressed relative to the U.S. average, if some areas have LQs that exceed 1.0, others must fall short. Focusing on LQs that exceed 1.5 concentrates on those areas with considerable specialization.
6. Pharmaceuticals have a very strong presence in the Kalamazoo–Battle Creek area, as well, however, confidentiality constraints on published employment data did not allow us to include it in the table.
7. General Motors closed its metal stamping plant in Kalamazoo in 1997, however, eliminating approximately three thousand jobs.
8. Data for 1969 are used in this analysis, since it is the first year for which data are available for MSAs on a consistent basis, and because 1969 was a cyclical peak, as was the year 2000. The Detroit–Ann Arbor–Flint Consolidated MSA consists of a contiguous ten-county area in southeast Michigan that includes the six-county Primary Metropolitan Statistical Area (PMSA) of Detroit, the three-county PMSA of Ann Arbor, and the one-county Genesee County PMSA of Flint. The Detroit PMSA includes Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties. The Ann Arbor PMSA includes Lenawee, Livingston, and Washtenaw Counties. A table with all thirty-two areas is available from the authors on request.
9. For Detroit PMSA the previously presented IRS data on intercounty moves (table 11.4) support the finding here regarding out-migration in the Detroit MSA. However, since Flint is a one-county PMSA, the population shifts were intracounty in scope and, thus, not detected by the IRS data.
10. The 1980 population for Battle Creek included Battle Creek Township, which was actually annexed into the city in the early 1980s, to allow for later comparisons.
11. The decline in the percentage of African American residents in the City of Battle Creek from 1980 to 1990 was due to the city's annexation of neighboring Battle Creek Township in 1982.
12. The formula for the index of dissimilarity D is:

$$D = \left[\sum_i t_i \, |p_i - p^*|\right] \div [2Tp^*(1 - p^*)],$$

where: $p_{i,}$ is the mean percentage minority in neighborhood i, p^* is the mean percentage minority in the metropolitan area, t_i is the population of neighborhood i, T is the population of the metropolitan area, and $|p_i - p^*|$ is the absolute value of the percentage minority in neighborhood i less the mean percentage minority in the metropolitan area.

If all $p_i = p^*$, there is no segregation, the numerator equals 0, and $D = 0$.

If there is total segregation, then p_i equals 0 in some neighborhoods and 1 in the others, Recognizing that the sum of all of the minority population equals p^*T, mathematical substitution establishes that the maximum value for the numerator is $2Tp^*(1 - p^*)$. If this occurs (full segregation) then $D = 1$.

13. These features are not unique to Michigan. Goodman and Talalay (1981) and Goodman (1982) found this to be the case in Baltimore, and Goodman's ongoing work suggests similar trends in cities such as Cleveland and Milwaukee.