

Are the large central cities of the Midwest reviving?

William A. Testa

Introduction and summary

Most central cities of the large metropolitan areas of the Midwest showed signs of improvement during the 1990s compared with the previous two decades, according to such broad measures as population, employment, unemployment, and income. If such gains can be sustained, it will be welcome news for households residing in central cities who experienced erosion of their income and tax base during the second half of the 20th century. Such gains might also provide important evidence of the results of the recent policies of big city mayors, who have been very active in both improving the quality of urban life—through transportation, crime, and school reform initiatives—and engaging in economic development initiatives—such as work force training and rebuilding city infrastructure. In this article, I analyze broad measures of 11 central city economies since 1970 to assess whether there has been any underlying structural improvement in big city performance beyond the effects of the general U.S. and regional economic expansion.

I relate each city's performance to that of its surrounding suburban areas. In this way, I can control for many factors that may be peculiar to a given metropolitan area—such as a change in the performance of an area's key industry and overall economy or its location on a particular interstate highway. Within this framework, I ask whether the city's share of metropolitan population and employment is growing over time, or at least whether its loss of share is abating, and whether other performance measures such as household income and unemployment rate are improving in the city relative to its suburbs. Such a standard for improvement may be stringent. Most of the 11 large central cities of the Midwest have fixed boundaries; they are unable to annex land to accommodate population growth in the metropolitan area, while the surrounding suburban areas are able to do so.

I find that, on average, the population of the 11 cities almost stabilized in the 1990s, a marked improvement compared with the 1970s. In part, however, it appears that central city population recovery largely reflects buoyant regionwide recovery rather than structural change; central cities continue to lose share of population to their suburbs. However, my analysis of total permits to construct residential housing units indicates that, although cities continued to lose ground to their suburbs in the 1990s relative to the 1980s, single-family construction showed the opposite trend, perhaps reflecting the much-touted recovery of central cities as a livable place for families. So too, the Midwest's economic recovery of the 1990s has lifted labor force participation and income in both city and suburb. Furthermore, tightening labor markets in the 1990s clearly narrowed the gap between suburban unemployment rates and those of the city, although the low ratios of household income in cities versus their suburbs have not improved.

It appears that city residents continue to look to the periphery of metropolitan areas to earn their income. At least through 1997, job sites continued to decentralize from the center of the metropolitan area. Overall, I conclude that, although there are several individual instances to the contrary, central cities in the Midwest continued to struggle to keep pace with their suburbs in the 1990s in terms of job growth and economic development. Nonetheless, there are some positive indications for the future, and it is quite evident that the large central cities of the Midwest have

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shared in the bounty of the general economic recovery.

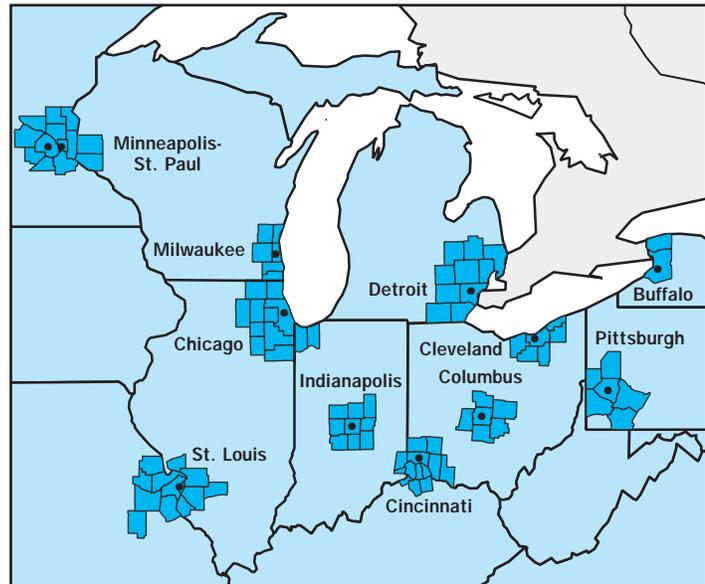
Are cities gaining population and housing?

In the U.S. and in most developed countries, households exercise choice in where to locate their residences. Accordingly, population growth is a frequently examined indicator of the health and attractiveness of a locale. In the 11 metropolitan areas chosen for this article, the central cities continue to comprise a major, though declining, share of the populations of their respective metropolitan areas (see figure 1 and table 1). According to recent data from the Bureau of the Census, these cities comprised 28 percent of their metropolitan statistical area (MSA) population in 2000. Combined, the cities represented a 50 percent share of the population of the metropolitan area at mid-century and a 55 percent share in 1900 (table 1).¹

How did these cities fare during the 1990s in comparison to the 1980s? Looking first at population growth in central cities, we see that six cities experienced an improvement in their average annual growth rate of population in the 1990s—Chicago, Cleveland, Detroit, Indianapolis, Minneapolis-St. Paul, and Pittsburgh (table 2). Of these, only Chicago, Indianapolis, and Minneapolis-St. Paul actually grew; the population of Cleveland, Detroit, and Pittsburgh declined more slowly than in the previous decade. The population changes in these six cities combined were sufficient to offset the deterioration in the other five central cities, so that the average growth of the total city population registered an improvement from the 1980s to the 1990s, wherein the annual growth rate climbed from -1.3 percent per year to stable population on average. An unweighted average, whereby each city is given equal weight, shows that average annual population growth improved slightly from a loss of $.5$ percent per year over 1980–90 in comparison to a loss of $.2$ percent per year over the 1990–2000 period.

In comparing the 1980s to the 1990s, the improvements are more widespread. All 11 central cities experienced improvements in population change. This is not too surprising since overall population growth of the metropolitan areas that overlie the

FIGURE 1
Major midwestern cities and their metropolitan areas



Source: U.S. Department of Commerce, Bureau of the Census.

central cities accelerated in the 1990s, supported by the economic turnaround in the Midwest. Migration out of the Midwest has slowed to a trickle in recent years, and population growth in the 11 sample metropolitan areas accelerated from $.2$ percent per year in the 1980s to $.7$ percent per year in the 1990s. But was there a shift in residential preferences between city

TABLE 1					
Eleven Great Lakes cities					
	2000 population		City as share of MSA		
	City	MSA	1900	1950	2000
	<i>(thousands)</i>		<i>(percent)</i>		
Buffalo	293	1,170	69.3	53.3	25.0
Chicago	2,896	8,273	74.9	62.4	35.0
Cincinnati	331	1,646	44.0	41.3	20.1
Cleveland	478	2,251	54.2	41.0	21.3
Columbus	711	1,540	39.3	53.1	46.2
Detroit	951	4,442	40.8	49.8	21.4
Indianapolis	782	1,607	39.2	51.4	48.6
Milwaukee	597	1,501	63.3	56.7	39.8
Minneapolis-St. Paul	670	2,969	60.5	64.3	22.6
Pittsburgh	335	2,359	25.7	27.1	14.2
St. Louis	348	2,604	60.7	46.6	13.4
All 11 cities	8,392	30,361	54.7	50.4	27.6

Notes: MSA is metropolitan statistical area. MSA reflects 1998 definition for all years.
Source: U.S. Department of Commerce, Bureau of the Census, various years.

TABLE 2

Average annual change in population and share of MSA

	Population			Share of MSA		
	1970-80	1980-90	1990-2000	1970-80	1980-90	1990-2000
	<i>(percent)</i>			<i>(percentage points)</i>		
Buffalo	-2.3	-0.8	-1.1	-1.6	-0.4	-0.9
Chicago	-1.1	-0.7	0.4	-1.2	-0.9	-0.7
Cincinnati	-1.5	-0.6	-0.9	-1.8	-1.0	-1.6
Cleveland	-2.4	-1.2	-0.5	-1.9	-1.0	-0.7
Columbus	0.5	1.2	1.2	-0.3	0.1	-0.2
Detroit	-2.0	-1.5	-0.7	-2.0	-1.3	-1.2
Indianapolis	-0.6	0.5	0.7	-1.0	-0.1	-0.8
Milwaukee	-1.1	-0.1	-0.5	-1.1	-0.4	-0.9
Minneapolis-St. Paul	-1.4	0.0	0.5	-2.1	-1.3	-1.5
Pittsburgh	-1.8	-1.3	-1.0	-1.5	-0.6	-0.8
St. Louis	-2.7	-0.6	-1.2	-2.6	-1.6	-1.6
Weighted avg.	-1.4	-1.3	0.0	-1.4	-0.8	-0.7
Unweighted avg.	-1.5	-0.5	-0.2	-1.5	-0.8	-1.0
11 MSAs	0.0	0.2	0.7	n.a.	n.a.	n.a.
U.S.	1.4	1.2	1.0	n.a.	n.a.	n.a.

Notes: n.a. indicates not applicable. MSA is metropolitan statistical area.

Source: U.S. Department of Commerce, Bureau of the Census, various years.

and suburbs in the 1990s? Here again we see that most central cities are indeed moving in a positive direction in comparison to the 1970s (table 2). All appear to be either experiencing a deceleration in loss of share or an acceleration in gains. However, in the aggregate a modest deterioration occurred from the 1980s to 1990s as measured by the unweighted average. Buffalo, Cincinnati, Columbus, Indianapolis, Milwaukee, Minneapolis-St. Paul, and Pittsburgh saw an increased rate in the erosion of population share to their suburbs.

In assessing the importance of these population losses in central cities, it is important to note that the municipal boundaries of the cities have remained essentially fixed while those of their metropolitan areas have expanded to accommodate growth in households and rising demand for housing and land. The rising demand for space means, for example, that there will be a growing share of population in those parts of the metropolitan area where land area can expand. In point of fact, the boundaries of large midwestern cities have not grown much. Notable exceptions to stagnant city boundaries are Columbus, Ohio, which has used its strategic assets of water and sewerage treatment capacity to induce annexation of neighboring development; Indianapolis, which became roughly coincident with its surrounding county government all in one fell

swoop in the 1970s; and Milwaukee, which undertook an aggressive, but short-lived, annexation policy during the 1950s (table 3). The remaining eight cities taken together expanded their land area by only 3.7 percent from 1950 to 1990.

The overall population densities of metropolitan areas have been falling steeply since the early decades of the twentieth century, thereby spreading out existing population. Households tend to live today in a fashion that consumes more housing—both land and structure—than earlier in the century. Accordingly, even had no further population increase taken place in metropolitan areas, households would have jumped the fixed city boundary in achieving lower densities of living (and working), thereby reducing population of central cities. The trend toward declining densities in central cities can be seen between 1920 and 1990 (table 4). For all 11 cities taken together, and not adjusting for changing city boundaries and land area, average density declined by almost one-half over the period. Even if we exclude Indianapolis, Columbus, and Milwaukee—whose boundaries were highly expansionary—average city density declined by approximately one-half over this period. The second two columns of table 4 measure the rate at which population density in the entire metropolitan area falls for every mile of distance from the center of the city.

TABLE 3

Land area (square miles) and density (population per square mile)

	1910	1920	1930	1940	1950	1960	1970	1980	1990
Buffalo									
Land area	38.7	38.9	38.9	39.4	39.4	39.4	41.3	41.8	40.6
Density	10,949	13,028	14,732	14,617	14,724	13,522	11,205	8,561	8,082
Chicago									
Land area	185.1	192.8	201.9	206.7	207.5	224.2	222.6	228.1	227.2
Density	11,806	14,013	16,723	16,434	17,450	15,836	15,126	13,174	12,252
Cincinnati									
Land area	49.8	71.1	71.4	72.4	75.1	77.3	78.1	78.1	77.2
Density	7,301	5,643	6,319	6,293	6,711	6,501	5,794	4,935	4,716
Cleveland									
Land area	45.6	56.4	70.8	73.1	75.0	81.2	75.9	79.0	77.0
Density	12,295	14,128	12,718	12,016	12,197	10,789	9,893	7,264	6,566
Columbus									
Land area	20.3	22.6	38.5	39.0	39.4	89.0	134.6	180.9	190.9
Density	8,941	10,488	7,547	7,848	9,541	5,296	4,009	3,123	3,315
Detroit									
Land area	40.8	77.9	137.9	137.9	139.6	139.6	138.0	135.6	138.7
Density	11,416	12,748	11,375	11,773	13,249	11,964	10,953	8,874	7,411
Indianapolis									
Land area	33.0	43.6	54.2	53.6	55.2	71.2	379.4	352.0	361.7
Density	7,080	7,206	6,719	7,220	7,739	6,689	1,963	1,991	2,022
Milwaukee									
Land area	22.8	25.3	41.1	43.4	50.0	91.1	95.0	95.8	96.1
Density	16,397	18,069	14,069	13,536	12,748	8,137	7,548	6,641	6,536
Minneapolis-St. Paul									
Land area	102.3	101.9	107.6	106.0	106.0	108.7	107.3	107.5	107.7
Density	5,045	6,038	6,840	7,359	7,859	7,326	6,937	5,964	5,948
Pittsburgh									
Land area	41.4	39.9	51.3	52.1	54.2	54.1	55.2	55.4	55.6
Density	12,896	14,745	13,057	12,892	12,487	11,171	9,422	7,652	6,653
St. Louis									
Land area	61.4	61.0	61.0	61.0	61.0	61.0	61.2	61.4	61.9
Density	11,189	12,670	13,475	13,378	14,046	12,296	10,167	7,379	6,408
All 11 cities									
Land area	641.2	731.4	874.6	884.6	902.4	1,036.8	1,388.6	1,415.6	1,434.6
Density	10,176	11,464	11,812	11,845	12,496	10,582	7,513	6,319	5,862

Source: U.S. Department of Commerce, Bureau of the Census, various years.

From this we see that population densities have been declining both within and outside of central cities. What are the underlying reasons for these falling densities?

Changing technologies and standards of living are generally thought to have given rise to decisions of city residents to decentralize. Significant technological forces spurring lower-density living and working are described as pervasive by urban analysts and are reflected in the trend of suburbanization around the world.² Rising household incomes pushed families to desire more housing and land, trading off longer working commutes to the central city for more (and distant) housing where land was cheaper. Falling automobile prices and better highways in the early

twentieth century lent a further impetus to suburban living. Meanwhile, on the production and employment side, there was also strong impetus to decentralization. Highways freed factories from their ties to water ports, railroads, and rail spurs. Intermediate goods could be shipped in from afar on trucks, and final goods sent out the same way. So too, workers at inner-city factories increasingly gave way to machinery, and those few workers no longer needed to walk or take a streetcar to the factory site. With assembly-line production assisted by electric tools and conveyor belts, multi-story factories converted or moved to sprawling land intensive one-story buildings. And why not build those low-slung modern factories where land was

TABLE 4				
Population density				
City	Density (population per square mile)		Percent falloff in density per mile from city center	
	1920	1990	1920	1990
Buffalo	13,028	8,082	0.15	0.13
Chicago	14,013	12,252	0.15	0.09
Cincinnati	5,643	4,716	0.23	0.13
Cleveland	14,128	6,566	0.22	0.11
Columbus	10,488	3,315	0.22	0.12
Detroit	12,748	7,411	0.19	0.11
Indianapolis	7,206	2,022	0.24	0.07
Milwaukee	18,069	6,536	0.31	0.16
Minneapolis- St. Paul	6,038	5,948	0.18	0.11
Pittsburgh	14,745	6,653	0.17	0.12
St. Louis	12,670	6,408	0.22	0.11
All 11 cities	11,707	6,355	0.21	0.11
Standard deviation			0.05	0.02

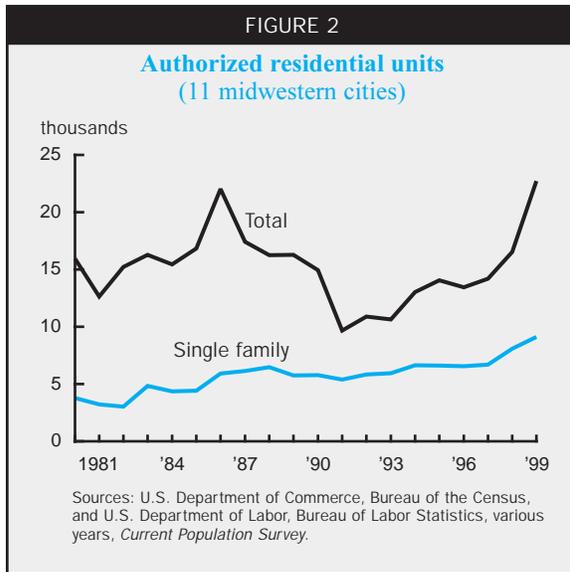
Source: Author's calculations based on decennial census data.

cheaper and transportation/warehousing more commodious, that is, far distant from the city center. In the latter part of the twentieth century, job location followed population in suburbanizing, so much so that metropolitan areas can often be characterized as containing several large employment centers dispersed throughout the metropolitan area.³

This portrayal implies that midwestern cities may now be in the process of lowering or equalizing their densities to match their surrounding suburbs. Adjustment to lower densities cannot take place instantaneously. Both residential and nonresidential capital in the form of housing, commercial buildings, and public infrastructure are far from perfectly malleable.⁴ Even as demand favors less dense residential and commercial space, rents will tend to fall below the costs of new construction, thereby forestalling de-concentration pending the depreciation of the stock of existing buildings. Thus, some observers propose that city decline is partly a transitory and delayed adjustment of density to new technology, which further implies that the cities' population decline will bottom out at some point when an equilibrium density is achieved. The fact that the technologies of overland transportation and industrial production are no longer making those significant technological leaps that have lowered preferred density gives rise to some optimism that city population decline may soon bottom out to an equilibrium state of land use density with the surrounding metropolitan area.

On the other hand, some observers suggest that tastes may change back toward a preference for residential living in a more compact form. One school of thought called "new urbanism" is now promoting higher density residential lifestyles within walking distance to shopping, entertainment, and public transportation. In fact, observers have reported on the pickup in the pace of residential building in some central cities in the late 1990s. This phenomenon has been attributed to a revived interest in city living by both young and old, but mostly childless, households. An expected demographic movement toward larger numbers of childless households as baby-boomers pass their child-rearing years may presage a continued revival of interest in city living. Meanwhile, in attempting to retain and attract families, central cities such as Milwaukee, Cleveland, Detroit, and Chicago have launched ambitious and innovative initiatives to improve their public school systems.

As to hard evidence of growth in housing activity, municipal governments typically report permits that are filed in advance of construction (and conversion) of new housing units. An unknown portion of these permits are not acted on, and there is no timely data source available on abandonment or tear-downs with which to assess changes to the overall net stock of housing. Nonetheless, these data do indicate the expected and planned level of new residential construction activity. Figure 2 shows the pace of building permits of residential units back to 1980, and there is clearly steady growth in the 1990s, with a marked acceleration in the past two to three years. Single-family home building growth is especially steady in its upward climb, with both total (and multi-unit) housing being much more volatile. However, in the context of business cycle movements, the recent rise in building is somewhat less impressive; most midwestern cities are only now reaching the levels of residential building activity that were previously attained in the mid to late 1980s. For all 11 cities combined, the number of residential permits issues for the last five years of the 1990s reached only 90.6 percent of the levels for the late 1980s (table 5, column 2). However, the data are more sanguine for single-family housing permits. In the last five years of the 1990s, single-family permits were taken out at a much more rapid clip in central cities compared with the last five years of the 1980s (table 5, column 5). In fact, the improvement in the pace of



permits for single-family housing in cities even compares favorably with the suburban areas of MSAs.

Are city residents doing better?

We have seen that population and housing growth, or a slowing in the pace of decline, may be a sign of city revival as households increasingly come to view the city favorably and choose to live there.

However, because technologies have universally changed living and working for the better, those who choose to remain in the city may also be better off. Apart from geographic growth measures, then, what are the more direct measures of the well-being of city residents that we can compare with suburban counterparts? Both average household income and the unemployment rate are powerful and widely accepted measures of well-being. Household income estimates for cities and their surrounding metropolitan areas can be constructed from sample data collected annually by the Bureau of the Census and the Bureau of Labor Statistics in their *Current Population Survey*. A second measure reflects the degree to which city residents have access to opportunities to participate in the work force. Local unemployment rates are constructed through sampling of the members of working age households by the Bureau of Labor Statistics in cooperation with state employment agencies.

These indicators show absolute improvements for city residents in the 1990s (figure 3). Unemployment rates averaged over the central cities peaked at over 15 percent in the early 1980s, and have since declined to a recent level of approximately 6 percent for workers aged 16 years and older. Similarly for real average household income (deflated by the Consumer Price Index calculated for all urban areas), the

TABLE 5

Residential permits (ratios x 100)

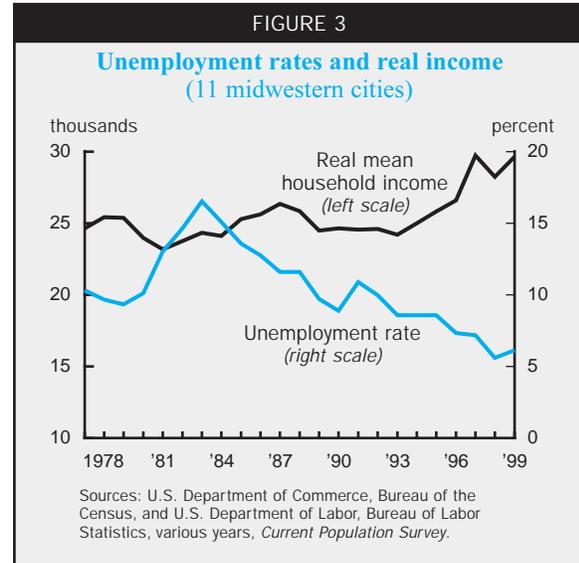
	Total residential units			Single family units		
	<u>1990-94</u> <u>1980-84</u>	<u>1995-99</u> <u>1985-89</u>	<u>1990s</u> <u>1980s</u>	<u>1990-94</u> <u>1980-84</u>	<u>1995-99</u> <u>1985-89</u>	<u>1990s</u> <u>1980s</u>
Buffalo	239.4	202.1	216.2	234.0	76.8	118.3
Chicago	70.0	129.2	98.4	196.9	167.3	178.7
Cincinnati	101.6	83.7	94.9	530.5	133.2	244.9
Cleveland	90.5	143.7	120.3	738.6	803.3	785.4
Columbus	108.7	77.1	88.5	133.2	95.0	110.3
Detroit	47.3	96.0	62.1	51.7	479.8	125.3
Indianapolis	93.4	86.4	89.2	200.1	140.8	161.4
Milwaukee	59.8	58.6	59.2	41.9	75.1	52.1
Minneapolis-St. Paul	24.1	94.9	45.2	51.2	227.4	102.6
Pittsburgh	30.4	76.7	49.6	59.4	122.5	86.9
St. Louis	12.6	71.6	35.3	143.4	129.7	132.9
All 11 cities	78.3	90.6	85.0	154.0	129.3	139.2
U.S.	88.6	95.4	92.3	123.8	111.6	116.8

Note: Ratios of earlier versus later five-year period or decade.
Source: U.S. Department of Commerce, Bureau of the Census, various years.

trend was for sideways movement from the late 1970s up until the early 1990s, from which point the current expansion has lifted mean incomes by 15 percent to 20 percent. There is no question, then, that the 1990s have on average lifted the fortunes of city residents.

How have city residents fared versus suburban residents? Average household incomes in comparison to suburban counterparts have not changed appreciably from the 1980s (table 6). Again, we can look at these over comparable periods of the 1980s and 1990s. Interestingly, it appears that city incomes are somewhat countercyclical—really less procyclical—compared with the suburbs; the income ratio of city to suburb tends to climb during contractions and fall during expansions (figure 4). Perhaps one explanation is that a greater proportion of city residents depend on fixed income streams from pensions and government income support programs than their suburban counterparts. Such income streams are less likely to evaporate during a downturn. In any event, the relative income of city residents versus suburbs has not improved from the latter 1980s, which was a similar business cycle period to the latter 1990s.⁵ More formal trend analysis (not reported) using ordinary least squares (OLS) multiple regression does not suggest that the procyclicality of the suburb to city ratio is statistically significant. Moreover, a binary variable for 1990–95 and one for 1996–99 suggest that the suburb to city ratio of mean household income widened during the booming 1990s. Real household income has risen in both city and suburb alike, but more so for suburban households.

What do unemployment rates say about the economic well being of city residents? Currently, there is little doubt that the Midwest's tight labor markets



are lifting the employment rates of city populations. Though these are an imperfect measure of employment participation, unemployment rates in both city and suburb alike are the lowest seen in 30 years. To assess whether cities are coming back within the context of their surrounding regions, I focus on explaining the difference between each city's unemployment rate minus the adjacent suburban area's unemployment rate (in March of each year) for adults aged 16 years and over. Over a combined sample of each of the years from 1977 to 1999, I regressed this unemployment rate gap against each city's overarching MSA unemployment rate (see box 1). This MSA unemployment rate—an independent variable in the regression—accounts

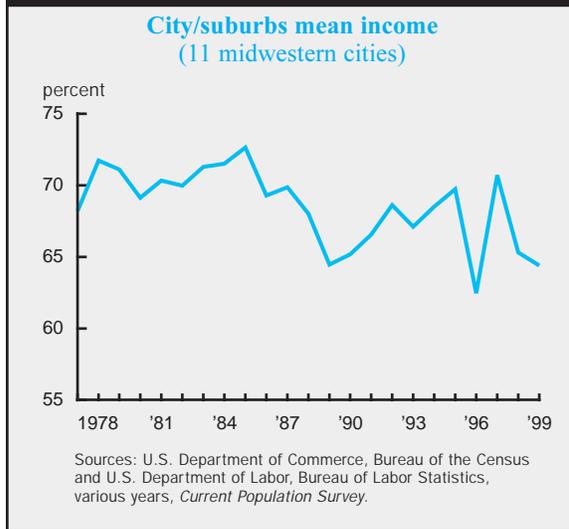
TABLE 6

Average city to suburb ratios of mean income

	1960	1970	1980–85	1986–89	1990–95	1996–99
Buffalo	0.81	0.69	0.61	0.63	0.60	0.67
Chicago	0.80	0.71	0.67	0.66	0.65	0.63
Cincinnati	0.83	0.76	0.70	0.74	0.84	1.09
Cleveland	0.74	0.64	0.72	0.56	0.51	0.50
Columbus	0.77	0.78	0.75	0.74	0.75	0.70
Detroit	0.81	0.69	0.62	0.58	0.55	0.50
Indianapolis	0.79	1.01	1.00	0.88	0.81	0.63
Milwaukee	0.86	0.71	0.64	0.69	0.67	0.61
Minneapolis-St. Paul	0.87	0.70	0.73	0.66	0.78	0.69
Pittsburgh	0.88	0.82	0.82	0.81	0.79	0.92
St. Louis	0.76	0.67	0.58	0.57	0.50	0.64
All 11 cities	n.a.	0.74	0.71	0.68	0.67	0.66

Note: n.a. indicates not available. 1960 data represent median family income for central cities and urban fringes of urbanized areas.
Sources: 1960 and 1970 data are from the decennial census. All other data are from the March CPS.

FIGURE 4



for the specific point of the business cycle for each particular metropolitan area, as well as accounting for the overall MSA-specific labor market condition. As an estimation strategy, I include so-called fixed effects—that is, a binary or “shift” variable for each metropolitan area—in the regression equation to account for differences in each individual region’s industry and work force composition.

In reviewing the regression results, I find clear evidence that unemployment rates in the city gained on the suburbs during the very strong labor markets of the 1990s (table 7). The estimated effects of the shift variables for the 1990s and for the 1995–99 period indicate that the gap has narrowed in unemployment rate between suburb and city. Lower metropolitan unemployment rates during the 1990s have tended to dampen city unemployment rates even more. In the event that the current tight labor markets persist, as the ongoing trend toward slower growth of the U.S. work force suggests, the city’s working age residents may continue to enjoy abundant employment opportunities.

Are cities a better workplace?

The location of employment is an important indicator of a city’s economic base. For one reason, such employment usually reflects the richness of the taxable base from which municipal and school district governments can raise revenues to provide services to city residents. Secondly, such jobs importantly reflect employment opportunities to residents that are accessible and proximate—jobs from which city households can generate their own wealth and income. How, then, are the large midwestern cities faring as sites for employment, especially in relation to their suburbs?

Jobs have been suburbanizing at a phenomenal pace in recent decades, so much so that the “reverse commute” from city to suburbs now rivals that of suburb to city. As of the 1960 *Census of Population*, the net flow of workers to central city job sites (on a population-adjusted basis) clearly favored the city; 36.6 percent of employed suburban residents worked in the 11 major central cities, while only 9.4 percent of city residents worked in their suburbs. This has changed dramatically. By the 1990 census, 26.2 percent of city residents commuted outward, while 28.4 percent of suburbanites headed for city job sites.⁶

Data covering jobs located in central cities is sparser than that for population, income, and employment. Indeed, the decennial census provides our only intermittent glimpse of the evolution of jobs in central cities. On a timely and consistent historical basis,

BOX 1

Analyzing MSA growth trends by analyzing employment rates

To formally test for a changing trend in the unemployment rate of central cities versus their own suburbs, I use an ordinary least squares regression equation, with the difference in city minus suburban unemployment rate as the dependent variable to be explained. I use annual observations for each of the 11 cities for each year from 1977 to 1999 as the dependent variable. The regression equation becomes

$$URDIF_{it} = \beta_1 P_i + \beta_2 UR_{it} + \beta_3 Y_t + \epsilon_t$$

where $URDIF_{it}$ represents the difference of the city’s unemployment rate in metropolitan area i from the suburban area’s unemployment rate in the same region at time t . Coefficients β_i ($i = 1, 2, 3, \dots, 11$) are estimated for each metropolitan region i observed as P_i . Since these observations are loaded as zero or one (indicating place), the coefficients β_i act as shifters to pick up region-specific differences in suburban minus city labor markets. The effect on $URDIF$ of each metropolitan area’s overall labor market condition is estimated by the coefficient, β_2 , acting through UR_{it} , the overall metropolitan area unemployment rate, which is observed to vary across time t and place i . The coefficient β_3 is the estimated effect of the particular year acting on the observations Y_t observed as period 1990–99 or 1995–99, respectively. Since these observations are loaded as zero or one (for the specified period), the coefficient reflects another shifter, testing whether $URDIF$ has shifted during these periods relative to previous years 1977–89.

TABLE 7

Effect of place and time on city versus suburban unemployment

Independent variable	Dependent variable: $(UR_{city} - UR_{sube})$, 1977-99						
Buffalo	2.54 (2.1)*	1.89 (1.6)	5.52 (7.5)*	5.12 (7.0)*	2.54 (2.0)*	1.86 (1.6)	
Chicago	3.89 (3.6)*	3.29 (3.1)*	6.41 (8.7)*	6.02 (8.2)*	3.88 (3.4)*	3.26 (3.1)*	
Cincinnati	2.33 (2.1)*	1.73 (1.6)	4.89 (6.6)*	4.50 (6.1)*	2.31 (2.0)*	1.66 (1.5)	
Cleveland	6.27 (6.0)*	5.70 (5.6)*	8.62 (11.6)*	8.23 (11.2)*	6.26 (5.6)*	5.65 (5.5)*	
Columbus	2.19 (2.2)*	1.67 (1.8)*	4.22 (5.7)*	3.83 (5.2)*	2.18 (2.1)*	1.63 (1.7)*	
Detroit	8.39 (6.9)*	7.73 (6.6)*	11.45 (15.5)*	11.05 (15.0)*	8.39 (6.6)*	7.69 (6.4)*	
Indianapolis	0.94 (0.9)	0.39 (0.4)	3.15 (4.1)*	2.74 (3.6)*	0.94 (0.9)	0.35 (0.4)	
Milwaukee	3.40 (3.4)*	2.85 (2.9)*	5.58 (7.5)*	5.19 (7.0)*	3.39 (3.1)*	2.82 (2.8)*	
Minneapolis-St. Paul	1.03 (1.1)	0.54 (0.6)	2.82 (3.8)*	2.42 (3.3)*	1.02 (1.0)	0.50 (0.5)	
Pittsburgh	1.42 (1.3)	0.81 (0.7)	4.09 (5.5)*	3.70 (5.0)*	1.41 (1.2)	0.78 (0.7)	
St. Louis	4.08 (3.9)*	3.52 (3.5)*	6.38 (8.6)*	5.99 (8.1)*	4.07 (3.8)*	3.49 (3.5)*	
Unemployment rate in metro area	0.29 (3.1)*	0.33 (3.6)*	—	—	0.29 (2.8)*	0.34 (3.5)*	
Year shifter							
1990-99	-1.35(-2.6)*	—	-2.22 (-5.0)*	—	-1.32(-1.0)	—	
1995-99	—	-1.15(-1.9)*	—	-2.26 (-4.3)*	—	-0.82(-0.5)	
Interaction of place and time							
1990-99	—	—	—	—	-0.01 (0)	—	
1995-99	—	—	—	—	—	-0.07(-0.2)	
R ²	0.73	0.73	0.72	0.72	0.73	0.73	
Durbin-Watson	1.91	1.92	1.85	1.85	1.91	1.92	

* Denotes significance at 90 percent level.

Notes: T-stats in parentheses; data not available for 1994 (all cities) and Indianapolis for 1989.

Source: U.S. Department of Commerce, Bureau of the Census, various years, CPS supplement, March.

there has been no data series collected to reflect city boundaries. For this reason, it is difficult to measure the decentralization of job sites into the 1990s and to analyze it in the context of previous decades. As a substitute, I use the comprehensive annual estimates of employment by location at the *county* level of geography from the Bureau of Economic Analysis, which are reported back to 1969.⁷ I can use these data to compare central county data trends with those of surrounding suburbs to assess the progress of central areas as job sites in the 1990s. To corroborate my findings, I piece together job data covering many (but not all) individual industries in the city versus the suburbs, as reported in various census reports of industry sectors from the U.S. Census Bureau. These, admittedly incomplete, data tend to corroborate the assertion that, while conditions have definitely improved, there is little in the way of structural or comparative improvement of cities in relation to suburban growth.

Beginning with the county data, the pattern that emerges is much like that of population trends. As shown in table 8, the average annual employment growth rate in central counties improved modestly from .7 percent per year from the 1969-79 period to

.9 percent during the 1979-89 period. Perhaps that improvement is not too surprising given the propensity for there to be a mutual attraction between job location and residential location. However, job growth showed no improvement from the decade of the 1980s to the decade of the 1990s (up through 1998). Taken together, employment growth remained constant at .9 percent per year; taken as a group with each observation given equal weight, growth deteriorated from 1.2 percent per year to 1.0 annual growth in the 1990s.

Has there been any underlying structural improvement in the trends for central counties? When I compare the performance of central counties to their surrounding counties, I find that little if any overall improvement has taken place. The 1980s display an easing of the rate of loss in comparison to the 1970s (table 8, columns 4, 5, and 6). Yet, on average, the 1990s appear to have experienced acceleration in share loss from the 1980s, and in fact to have performed no better and perhaps worse than the 1970s rate of decline. If anything, employment decentralization has fared somewhat worse than population decentralization using this measure (table 2). Population loss of share has improved over time; the pace of

employment share loss has deteriorated or, at least, remained about the same. Perhaps the inner suburbs of midwestern metropolitan areas are also faring poorly as job locales in relation to the periphery. At least it appears that they are not doing well enough to pull up measured central county employment in relation to the peripheral counties of the metropolitan regions. Employment share erosion of the suburban portion of the central county is consistent with the findings of Myron Orfield, who documents that the problems once thought to characterize large inner cities—loss of tax base, population, and jobs—are now typical of the inner ring suburbs of older “inelastic” cities as well.⁸

Can we corroborate the finding of city job site decline any further? Comprehensive data on jobs by location over time are extremely spotty at the city level of geography—at least with regard to data sets that are consistently constructed so as to be comparable from state to state. However, I can use data from the censuses of business to shed some light on city-specific employment trends in the 1990s versus earlier decades. The business censuses do report accurately payroll employment by city geography. The downside is that coverage of industries is incomplete. Several service sectors are not covered for years before 1987, along with finance, insurance, real estate, transportation, communication, and public utilities. These are admittedly

some sizable industries, and some of those that we know from other data sources to be most prominent (and central city durable) in central city locales. Nonetheless, a sizable amalgam of total employment remains that can be used to construct a “total employment” measure, comprising manufacturing, retail trade, wholesale trade, services (part), and government (part). The Census Bureau estimates that the business census data cover 75 percent of total payroll employment for 1987.⁹

We can see that the data trends displayed for central counties tend to be confirmed—even magnified—according to the business census data. On the whole for the 11 cities, the decline in the average annual employment trend accelerated from 1977–87 to 1987–97 (table 9). In measuring each city as an observation with equal weight, employment growth from 1977 to 1987 turned from slightly positive on an average annual basis to a negative annual decline of 1.4 percent per year during the 1987–97 period. This pattern was repeated for the city performance taken in aggregate—the so-called weighted average. Here, Chicago’s large size and somewhat superior performance pulls up the average for all 11 cities. It is also notable that these city job losses were a stark contrast to the pace of job growth in the overall MSAs, which experienced gains of over 1 percent per year over the latter period. The consequences of

TABLE 8

Average annual change in central county employment

	County employment growth			Share of MSA employment		
	1969–79	1979–89	1989–98	1969–79	1979–89	1989–98
	<i>(percent)</i>			<i>(percentage points)</i>		
Buffalo	0.4	0.8	0.5	0.0	0.1	0.1
Chicago	0.3	0.6	0.7	-0.8	-0.6	-0.9
Cincinnati	1.1	1.3	1.1	-0.7	-0.6	-1.1
Cleveland	0.0	0.2	0.8	-0.7	-0.3	-0.6
Columbus	2.6	3.1	2.4	-0.1	0.3	-0.2
Detroit	-0.8	-1.0	-0.3	-1.9	-2.1	-1.7
Indianapolis	1.2	1.8	2.1	-0.5	-0.3	-0.5
Milwaukee	1.1	0.3	0.2	-0.9	-0.7	-1.3
Minneapolis-St. Paul	2.2	2.1	1.6	-0.8	-0.6	-0.7
Pittsburgh	0.5	0.4	0.8	-0.3	0.3	-0.4
St. Louis	3.2	3.7	1.3	1.8	2.1	0.1
All 11 central counties (weighted avg.)	0.7	0.9	0.9	-0.6	-0.4	-0.7
All 11 central counties (unweighted avg.)	1.1	1.2	1.0	-0.5	-0.2	-0.6
All 11 MSAs	1.4	1.3	1.6	n.a.	n.a.	n.a.
U.S.	2.3	2.1	1.8	n.a.	n.a.	n.a.

Notes: n.a. indicates not applicable. MSA is metropolitan statistical area.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, various years, *Regional Economic Information System*.

this city–suburban disparity are that the central city lost share to the suburbs in the second period, and did so at an accelerated rate of 2 percent to 2.5 percent loss of share per year in 1987–97 versus the pace of 1 percent to 1.5 percent per year in the 1977–87 period. The generally buoyant Midwest economy has not lifted the central city as job domicile over the recent period in relation to the suburbs, though some central cities, such as Chicago, have bucked the trend. There has not been any slowing in the pace of erosion of job share for the central city. In observing this subset of payroll jobs, the evaporation of the city’s importance in the wide metropolitan area seems to be accelerating.

Conclusion

The central cities of the Midwest’s large metropolitan areas are riding the favorable growth trends of the overlying Midwest economy. The 1970s were a terrible decade for central cities that followed upon the tumultuous times of the 1960s. Despite a profound Midwest recession that unfolded during the first three years of the 1980s, subsequent economic recovery was strong enough to make the 1980s look like an improvement over the 1970s. The late 1980s and 1990s solidified and magnified overall gains in the Midwest economy. As a consequence, central cities are now enjoying very strong rates of work force participation, a slowing of population loss, and rising real household incomes. Nonetheless, when we look beneath these statistics for signs of a structural change that would indicate that cities may regain their former prominence, there is less to cheer about. Relative to their suburbs, and accounting for the national business cycle, cities are faring little better than the 1980s (though better than the 1970s along some dimensions). Average household income in central cities relative to their suburbs continues to erode. Central city residents are finding employment, but increasingly in the suburbs. As the domicile of job location, central cities appear less attractive in

TABLE 9
Annual average change in city employment
(percent)

	City employment		City share of MSA employment	
	1977–87	1987–97	1977–87	1987–97
Buffalo	–0.4	–2.9	–0.7	–3.4
Chicago	–1.3	0.5	–2.3	–0.4
Cincinnati	1.3	–2.0	–1.0	–3.3
Cleveland	–1.9	–1.9	–2.5	–2.6
Columbus	3.5	1.7	0.0	–0.4
Detroit	–2.1	–3.6	–3.0	–4.1
Indianapolis	2.5	1.3	0.2	–0.8
Milwaukee	–0.6	–0.8	–1.5	–2.2
Minneapolis-St. Paul	2.3	–2.8	–1.4	–4.2
Pittsburgh	0.4	–1.9	0.6	–2.8
St. Louis	–0.1	–3.2	–1.7	–3.8
Weighted avg.	–0.2	–1.0	–1.5	–2.0
Unweighted average	0.3	–1.4	–1.2	–2.5
Weighted average of 11 MSAs	1.5	1.3	n.a.	n.a.
U.S.	3.0	3.8	n.a.	n.a.

Notes: n.a. indicates not applicable. MSA is metropolitan statistical area. Total employment as calculated from business census data for manufacturing, wholesale, retail, services, and government for 1977, 1987, and 1997. Government employment reflects only local government employment for the MSAs and the U.S. and only municipal employment for the city.

Source: Business census data for manufacturing, wholesale, retail, services, and government for 1977, 1987, and 1997.

the 1990s in relation to their suburbs, at least in terms of the pace of loss of share.

Of course, there may be evidence of revival that underlies these broad and aggregate statistics. So too, there are exceptional cities that are flashing recovery statistics, such as Chicago, that may be studied for clues to success and redevelopment. And the bright side should not be discounted. The improved absolute conditions brought about by U.S. economic expansion and Midwest revival in the 1990s may provide the foundation and resources on which to fashion an urban revival. However, this look at the current trends for improvement in the structural growth of central cities does not justify any complacency on the part of urban leaders and policymakers.

NOTES

¹The circumstances of annexation differ greatly from city to city. The state legislature mandated a merger between the old city of Indianapolis and most of its surrounding county area. Indianapolis then merged many of its services with the remainder of Marion County as of 1970 into what is called Unigov. However, schools remain part of independent local governments, and townships remain, which include fire and relief responsibilities. So too, police services remain part of the former city of Indianapolis, while four former suburbs were allowed to retain their independence. In Columbus, Ohio, a forward-looking mayor named Jack Sensenbrenner adopted an aggressive policy of trading municipal services for annexation in the 1950s, allowing that city to gather up prime land around the emerging interstate highways and beltways in the 1960s and beyond. Milwaukee used its monopoly over Lake Michigan water to encourage annexation in the post WWII era. Milwaukee mayors were mostly annexation-minded throughout the first half of the century, though the city met resistance from industrial intensive fringe areas that feared higher property tax rates. A state legislative statute largely greatly impeded city annexation in 1956 by greatly easing the ability of mostly rural areas surrounding Milwaukee to incorporate.

The reasons some cities vigorously annexed and others chose not to remain cloudy. Surely, some city leaders pursued a self-interested fiscal calculus in pursuing annexation. For example, see Saffran (1952). Dye's (1964) study of U.S. urbanized areas for 1960 concluded that age of central city, social inequity between city and suburb, and form of government were partially explanatory factors. For a review of related studies, see Klaff and Fuguitt (1978).

²For a discussion see Mieszkowski and Mills (1993) and Brueckner (2000).

³See White (1999).

⁴Models have been explored in which capital stock, once built, is either abandoned or remains forever, or is durable but replaceable. So too, initial investment may take place myopically, or with degrees of foresight. See Wheaton (1983).

⁵Regression analysis confirms this finding; Indianapolis may be an exception in that average city household incomes appear to have strengthened in the 1990s.

⁶See U.S. Department of Commerce, Bureau of the Census, (various years), *Journey to Work* statistics.

⁷These data gather county level statistics from a number of sources so as to achieve complete industry coverage; estimates of self-employed workers along with payroll workers are included in the data.

⁸Orfield and Rusk (1998).

⁹Economic census data covered 75 percent of "economic activity" in 1987. In 1992, it covered 98 percent. See Micarelli (1998), p. 372.

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