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Traditional Regional Economic Indicators

Robert Sadowski

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TRADITIONAL REGIONAL ECONOMIC INDICATORS

Prepared by:

The Center for Economic Development
Maxine Goodman Levin College of Urban Affairs
Cleveland State University

as part of

The CSU Presidential Initiative – Program for the Advancement of
Economic Development in Northeast Ohio

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INTRODUCTION

This report is the second in a series from the Center for Economic Development (Center) at Cleveland State University's Maxine Goodman Levin College of Urban Affairs as part of its regional economic indicators project.¹ The project's objective is to provide a comprehensive benchmarking of Greater Cleveland's economy against other metropolitan areas across the nation. To achieve this objective, the Center is planning to analyze a broad set of economic indicators in several themes to construct a broad-based economic profile of the region. This will allow for an objective determination of areas in which Cleveland and northeast Ohio lead or lag regions that are considered comparable.

This report focuses on what are considered traditional economic indicators. Other themes to be released during the next few months include quality of life, human capital, and social indicators. In August 2004, the Center released the first report, which focused on the business and innovation climate.

In each of these themes, the geographic unit examined is a metropolitan area. The research team chose not to compare northeast Ohio's metro areas to the largest areas in the country, but to develop a set of comparable areas based on several criteria. To be included, the area had to be similar in size to the Cleveland area in terms of population and/or labor force. The area also had to meet at least one of the following three criteria: similar industry structure, location in mid-western states, or being a high-growth region (in terms of labor force). Appendix A provides more details related to the selection criteria. Thirty-two metropolitan areas across the U.S. were identified as being comparable with the Cleveland metro area. In addition, the three smaller metro areas in northeast Ohio (Akron, Canton, and Youngstown) that did not meet these criteria were included because they are part of the northeast Ohio region. As a result, they were not expected to rank highly in the traditional economic indicator index or any of its associated sub-indices. In total, 36 metro areas are included in the description and ranking in this report.

The indicators that comprise the traditional economic indicator theme include per-capita personal income, average wages, change in gross metropolitan product, productivity per employee, change in total employment, and unemployment rate. These indicators serve as the primary measures of the economy in any metropolitan area and are sometimes referred to as macro-economic indicators. They tend to change slowly over time and their value is related to

¹ The regional economic indicators project is partially funded by Cleveland State University's President's Initiative Fund (PIF).

Traditional Indicators

the dynamic activity that is captured by variables that comprise the other themes—quality of life, human capital, and the business and innovation climate. The resulting series of reports should be viewed as a unit with the traditional indicators accounting for the economic outcomes in each of the 36 comparable metropolitan regions. Personal income and average wages are the most important of the traditional indicators because they serve as a proxy for wealth and productivity which drives the economic growth of regions.

This report includes four sections. Following the introduction, the second section describes the index of traditional economic indicators, which provides an aggregated measure to benchmark northeast Ohio's metropolitan areas against comparable regions. The third section provides observations on northeast Ohio's strengths and weaknesses based on the index and individual indicators presented throughout the report. The final section discusses each of the six economic indicators in detail.

TRADITIONAL INDICATORS INDEX

The traditional indicators index aggregates key economic variables for each of the 36 comparable metropolitan areas into a single operational measure. This provides a simple way to benchmark northeast Ohio metropolitan areas against other regions across the U.S. The index includes six indicators. Each indicator consists of one or more variables. The indicators are: per capita personal income, average wages, change in gross metropolitan product, productivity per employee, change in total employment, and unemployment rate. First, a sub-index was calculated for each of the indicators, and then the indicators were combined to create the traditional indicators index. Appendix B summarizes the steps used to construct the index. Table 1 provides a list of indicators and their variables.

Table 1. Sub-Indicator Variables

Sub-Indicator	Variables
Per Capita Personal Income	2002 Per Capita Income; Percent Change in Income 2000-2002
Average Wages	2003 Average Wages; Percent Change in Wages 2000-2003
Gross Metropolitan Product	Percent Change in GMP 2000-2002
Productivity Per Employee	2002 Productivity per Employee; Percent Change in Productivity 2000-2002
Total Employment	Percent Change in Employment 2000-2003
Unemployment Rate	2003 Unemployment Rate

The aggregated (overall) index and each of the sub-indices have a range from 1 (worst) to 10 (best). In calculating the index, we used the most current data available. However, due to collection time lags, data series refer to either 2002 or 2003 (see Table 1).

Table 2 presents the index and overall ranking for each of the 36 metropolitan areas. It also shows the rank for each of the six sub-indicators included in the index. Table B-1 in Appendix B shows the scores for every sub-indicator in each of the metro areas. The top five statistically comparable metro areas (in order of rank) are San Diego, Virginia Beach,

Minneapolis, Sacramento, and Nashville. Minneapolis, third overall, is the highest ranked area in the Midwest. In addition, San Diego and Minneapolis were also ranked among the top five (1st and 3rd, respectively) metro areas in the previously released *Business and Innovation Climate Indicators*.

The Cleveland metro area ranked 31st overall. Cleveland's ranking compares poorly with Columbus and Cincinnati, which ranked 8th and 12th, respectively. Indicators contributing significantly to Cleveland's low ranking are change in total employment, change in gross metropolitan product, and the unemployment rate. Between 2000 and 2003, the Cleveland metro area lost 5.7 percent of its total employment. Only two other metro areas (Greensboro and Youngstown) reported higher employment losses. Cleveland area gross metropolitan product (GMP) declined by more than six percent between 2000 and 2002. Only four other comparable metro areas experienced larger declines. Finally, the Cleveland metro area reported the 6th highest unemployment rate among the comparable regions in 2003.

However, the Cleveland area reported higher rankings in two indicators—productivity per employee and wages. The data show that Cleveland workers are more productive than workers in 18 other comparable regions, and productivity in the Cleveland area declined by less than one percent between 2000 and 2002, ranking this area 11th among its peer regions. In addition, Cleveland area workers, across all industries, were the 11th highest paid in 2003 among the 36 regions at \$37,500. The high wages are due in part to Cleveland's manufacturing base and the large number of workers in professional and technical services.

As expected, because of their smaller size, other northeast Ohio metro areas were also ranked low. In fact, Canton and Youngstown were at the bottom, ranking 34th and 36th, respectively (Grand Rapids was 35th). Akron reported the highest ranking (27th) of the northeast Ohio metro areas. Within the sub-indicators, Akron ranked 15th in wages, 17th in employment change, and 19th in unemployment rate.

Table 2. Traditional Economic Indicators Index

METROPOLITAN STATISTICAL AREA	AGGREGATED INDEX		SUB-INDICATOR RANKINGS					
	INDEX	RANK	INCOME	WAGES	GMP	PROD	EMP	UNEMP
Akron, OH MSA	4.61	27	24	15	28	27	17	19
Austin-Round Rock, TX MSA	4.74	25	36	35	6	2	27	20
Buffalo-Cheektowaga-Tonawanda, NY MSA	4.16	32	21	33	21	25	23	27
Canton-Massillon, OH MSA	2.64	34	29	36	29	32	33	32
Charlotte-Gastonia-Concord, NC-SC MSA	5.10	23	16	14	26	12	22	30
Cincinnati-Middletown, OH-KY-IN MSA	5.83	12	14	13	24	17	14	10
Cleveland-Lorain-Elyria, OH MSA	4.23	31	23	19	32	14	34	31
Columbus, OH MSA	6.20	8	13	6	16	16	16	9
Denver-Aurora, CO MSA	5.18	22	11	9	31	13	26	26
Grand Rapids-Wyoming, MI MSA	2.47	35	28	30	35	35	32	35
Greensboro-High Point, NC MSA	2.94	33	32	32	33	29	35	29
Indianapolis, IN MSA	5.51	19	15	26	23	19	20	5
Jacksonville, FL MSA	5.48	20	25	5	20	21	15	13
Kansas City, MO-KS MSA	5.36	21	18	24	14	7	24	24
Las Vegas-Paradise, NV MSA	5.68	15	35	22	3	24	2	14
Louisville, KY-IN MSA	4.45	28	17	18	34	28	30	17
Memphis, TN-MS-AR MSA	6.34	7	4	3	10	10	13	28
Milwaukee-Waukesha-West Allis, WI MSA	6.13	9	3	12	9	6	28	25
Minneapolis-St. Paul-Bloomington, MN-WI MSA	7.04	3	2	1	17	9	19	7
Nashville-Davidson-Murfreesboro, TN MSA	6.56	5	10	17	8	11	9	6
Oklahoma City, OK MSA	4.34	30	20	29	30	34	21	12
Orlando, FL MSA	4.83	24	31	21	25	31	7	8
Phoenix-Mesa-Scottsdale, AZ MSA	6.50	6	34	27	1	3	5	11
Pittsburgh, PA MSA	5.73	14	5	20	13	18	18	18
Portland-Vancouver-Beaverton, OR-WA MSA	4.37	29	26	31	19	1	29	36
Providence-New Bedford-Fall River, RI-MA	5.92	11	6	8	18	20	11	21
Richmond, VA MSA	5.97	10	8	10	22	30	12	2
Riverside-San Bernardino-Ontario, CA MSA	5.54	18	27	23	5	36	1	22
Sacramento-Arden-Arcade-Roseville, CA MSA	6.57	4	19	2	15	22	3	15
San Antonio, TX MSA	4.73	26	30	28	12	26	8	16
San Diego-Carlsbad-San Marcos, CA MSA	8.13	1	1	7	4	5	4	1
Seattle-Tacoma-Bellevue, WA MSA	5.59	17	9	4	27	4	31	34
St. Louis, MO-IL MSA	5.81	13	12	16	7	8	25	23
Tampa-St. Petersburg-Clearwater, FL MSA	5.68	16	22	25	11	23	10	3
Virginia Beach-Norfolk-Newport News, VA-NC	7.09	2	7	11	2	15	6	4
Youngstown, OH MSA	2.08	36	33	34	36	33	36	33

INCOME: 2002 Per Capita Personal Income; % Change in Income 2000-2002
WAGES: 2003 Average Wages; % Change in Wages 2000-2003
GMP: % Change in Gross Metropolitan Product 2000-2002
PROD: 2002 Productivity Per Employee; % Change in Productivity 2000-2002
EMP: % Change in Total Employment 2000-2003
UNEMP: 2003 Unemployment Rate

SUMMARY OBSERVATIONS

- A general downward trend in broad economic indicators was seen across all comparable metro areas between 2000 and 2003. The effects of the recession that began in 2001 and structural changes in the economy are evident even in metro areas that most observers would say are growth regions such as Austin, Denver, and Seattle. The issue is that the Cleveland metro area has fallen further than all but three of its peer regions—Buffalo, Greensboro, and Grand Rapids.²
- Although the Cleveland metro area is ranked 31st in this report, it ranked 11th in the previously released *Business and Innovation Climate Indicators* (BIC) report. Interestingly, Cleveland is not the only metro area to experience a reversal in ranking. Other regions include Austin, Denver, Portland, and Kansas City, which ranked 4th, 6th, 8th, and 9th, respectively in the BIC report. However, in traditional economic indicators these regions rank 25th, 22nd, 29th, and 21st, respectively. What makes this observation interesting is that the economic variables that comprise the traditional indicators are dependent variables, that is, they are influenced by other factors occurring in the respective regional economy. Variables found in the BIC report represent some of the influencing factors (otherwise referred to as explanatory variables). However, some of these variables such as R&D and venture capital investment do not show immediate benefits in an economy. The result being that the totality of their effects are not evident in the short-term trend analysis seen in this report. In addition, structural changes in the economy, especially in the manufacturing sector, may be partially responsible for the downward trend in traditional indicators.
- The Cleveland metro area did not rank among the top 10 in any of the nine variables that comprise the traditional economic indicator index. In fact, only five other comparable regions achieved this distinction—Grand Rapids, Greensboro, Akron, Canton, and Youngstown. Clearly, the latter three are small-size areas and would not be expected to rank highly. However, Cleveland did rank 11th in three of the variables—2002 per capita personal income (\$32,200), 2003 wage level (\$37,500), and percentage change in productivity between 2000 and 2002 (-0.9 percent). The first two, although correlated

² Akron, Canton, and Youngstown are not considered peer regions of Cleveland in this analysis due to the size of their economies relative to Cleveland's.

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with each other, are important because they are among the best indicators of wealth that exists in a region. The small change in productivity (compared to other metro areas) is no surprise because of the well-known relationship between earnings and productivity—a highly productive workforce is generally paid higher wages. The productivity ranking is important because it may provide evidence that companies in the region are utilizing technology to sustain and improve process innovation. Cleveland’s relatively high ranking may be partially attributed to the region’s heavy reliance on manufacturing as an economic driver.

TRADITIONAL ECONOMIC INDICATORS

This section provides detailed information on the six traditional economic indicators. It defines each indicator in economic terms and shows how northeast Ohio measures up against other metro areas across the U.S. Associated with each indicator is a comparative graph. Metro areas represented on these graphs include those located in the state of Ohio, the five highest ranking, the five lowest ranking, and the Great Lakes Region. Data sources for all indicators are found in Appendix C. In addition, detailed data tables for all 36 metro areas are included in Appendix D.

PER CAPITA PERSONAL INCOME³

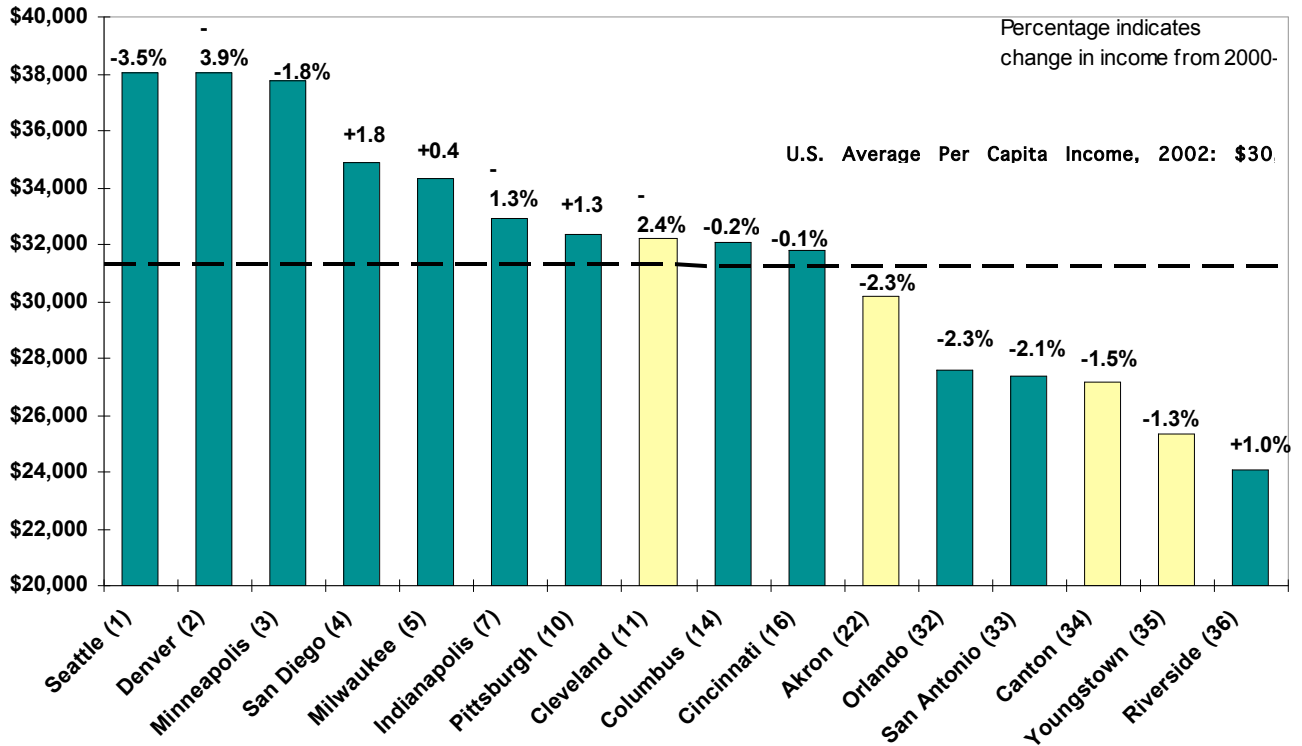
The top three comparable metro areas in per capita personal income were Seattle, Denver, and Minneapolis. Each reported personal income of about \$38,000 in 2002. In comparison, Cleveland ranked 11th with an income level of \$32,200. Akron was 22nd in personal income at \$30,200.

Personal income declined by 0.9 percent across the U.S. between 2000 and 2002 after adjusting for inflation. In 2002, the average income in the U.S. was \$30,900. Two-thirds of the comparable metropolitan regions reported a decline in income during this same time period. Most of these declines were greater than the U.S. average. Four regions that most people consider to be very strong economically reported some of the largest declines in personal income: Portland (-4.2 percent), Phoenix (-3.9 percent), Denver (-3.9 percent), and Seattle (-3.5 percent). In comparison, both Cleveland and Akron reported losses of about 2.3 percent.

Metro areas that experienced the highest increases are Virginia Beach (3 percent), Memphis (2.6 percent), and San Diego (1.8 percent). Figure 1 shows 2002 personal income levels and the change in income for selected metro areas. Table D-1 in Appendix D provides personal income data (2000 through 2002) for all comparable metro areas.

³ Per capita personal income is the average income that is received by all persons from all sources. It is estimated as the personal income of residents of a given metropolitan area divided by the resident population of the metropolitan area. It is calculated as the sum of wage and salary disbursements, supplements to wages and salaries, proprietors' income with inventory valuation and capital consumption adjustment, personal dividend income, personal interest income, and personal current transfer receipts, less contributions for government social insurance

Figure 1. Per Capita Personal Income, 2002⁴



AVERAGE WAGES⁵

Average wages showed a slight increase (0.1 percent gain) nationwide between 2000 and 2003 after adjusting for inflation. Looking at the comparable metro areas, over half reported modest increases of less than three percent during the three-year period. In northeast Ohio, Akron recorded the largest increase (2.8 percent), followed by Youngstown (1.9 percent) and Cleveland (0.3 percent). Wages paid to Canton area workers remained unchanged. Only five comparable regions reported a decline in wages. Within this group, Austin experienced the

⁴ Metro areas represented in this and other report graphs include those located in the state of Ohio, the five highest ranking, the five lowest ranking, and the Great Lakes Region. The number in parentheses adjacent to the metro area name indicates its ranking among the 36 comparable regions.

⁵ Average wages are calculated as the earnings by place of work divided by the number of employees. Earnings by place of work is the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income. Wage and salary disbursements consist of the monetary remuneration to employees including corporate officers salaries and bonuses, commissions, pay-in-kind, incentive payments, tips, and stock options. Disbursements are measured before deductions such as social security contributions and union dues and exclude overtime pay and shift differentials. Supplements to wages and salaries consist of employer contributions for employee pension and insurance funds and employer contributions for government social insurance.

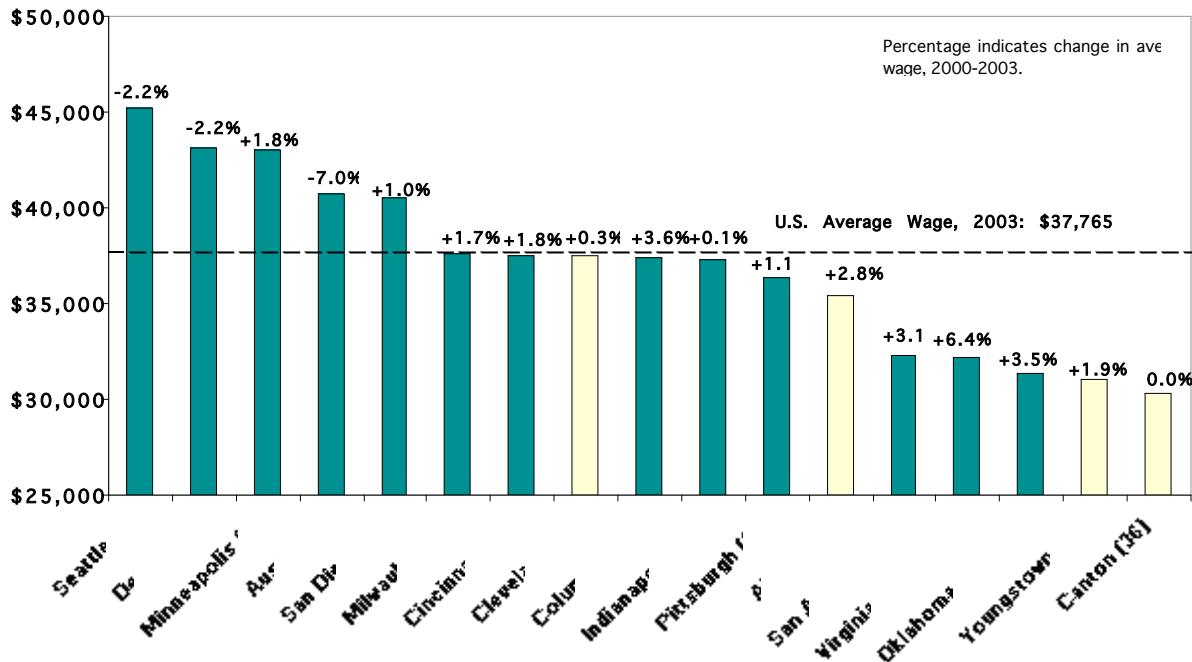
largest decline at seven percent followed by Portland (-2.7 percent). However, workers in Austin and Portland ranked 4th and 8th, respectively, in average wages paid in 2003 at \$40,700 and \$38,500.⁶

Metro areas reporting the highest average wages in 2003 were Seattle (\$45,200), Denver (\$43,100), and Minneapolis (\$43,000). Like Austin and Portland, Seattle and Denver are included in the small group of comparable metro areas that experienced declines in real wages between 2000 and 2003. Cleveland ranked 11th with average wages of \$37,500. In contrast, Canton and Youngstown were at the bottom of the wage scale. In these metro areas, worker salaries averaged \$30,300 and \$31,000, respectively. Average earnings in Akron were \$35,400. Figure 2 shows 2003 wage levels and wage change for selected metro areas. Table D-2 in Appendix D provides wage data (2000 through 2003) for all comparable metro areas.

When comparing wage and personal income tables, the reader may notice that average wages are significantly higher than per capita personal income for all metro areas. The reason for this is that wages are calculated by place of work and only the number of metro area employees is included in the denominator. Personal income is calculated by place of residence. Therefore, the denominator takes into account all residents of a metro area including children, retirees, and others who are not part of the labor force.

⁶ Austin and Portland ranked 36th and 35th, respectively, in percent change in average wages between 2000 and 2003 (36th is the lowest ranking). Because wages are a significant component of per capita personal income, these two metro areas also ranked very low (36th and 34th, respectively) in percent change in per capita personal income between 2000 and 2002. In calculating the traditional economic indicators index, all variables are given the same weight (see Appendix B). The result being that the magnitude of wage and income change was sufficient to lower Austin and Portland's overall metro area ranking to 25th and 29th, respectively.

Figure 2. Average Wages, 2003



GROSS METROPOLITAN PRODUCT⁷

According to the Bureau of Economic Analysis (BEA), gross product is a value-added output measure that takes into account industries' gross output less purchases of intermediate inputs. Gross product for a metropolitan area is the sum of value-added output of all the industries in that area.

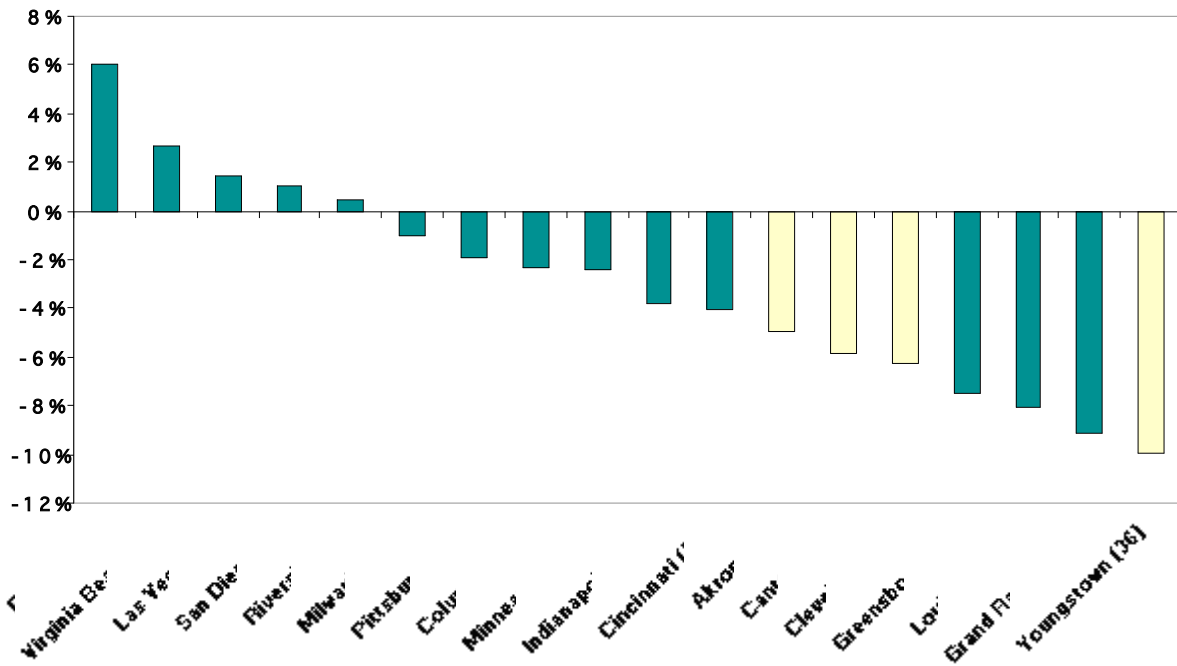
Between 2000 and 2002, a general decline in gross metropolitan product (GMP) was seen across the 36 comparable metropolitan areas after adjusting for inflation. In fact, 31 metro areas reported declines in GMP ranging from 0.5 percent (Austin) to 10 percent (Youngstown). Cleveland experienced a decrease of 6.3 percent, ranking it 32nd (a ranking of 36 is the lowest). In the Great Lakes region, Milwaukee ranked highest (9th) with an output decline of one percent.

Five of the comparable regions surpassed \$100 billion in GMP in 2002—Minneapolis (\$136 billion), Phoenix (\$131 billion), Seattle (\$125 billion), San Diego (\$110 billion), and

⁷ The BEA's definition of gross product by industry is an industry's gross output less its purchases of intermediate inputs. Gross output consists of sales or receipts and other operating income plus commodity taxes and changes in inventory. Intermediate inputs are goods and services that are used in the production process of other goods and services but are not sold in final demand markets. See <http://www.bea.gov> for further information.

Portland (\$100 billion). Each of these regions reported GMP exceeding \$100 billion not only in 2002, but also in the preceding two years. In comparison, the Cleveland metro area recorded a GMP of \$79 billion in 2002. Figure 3 shows the percent change in GMP for selected regions. Table D-3 in Appendix D provides detailed GMP data for all comparable metro areas between 2000 and 2002.

Figure 3. Percent Change in Gross Metropolitan Product, 2000- 2002



PRODUCTIVITY (VALUE-ADDED) PER EMPLOYEE⁸

Productivity per employee (productivity) is the ratio of gross metropolitan product (GMP) to the number of employees working in the metropolitan area. Since GMP was defined in the previous section as a value-added output measure, productivity is approximately value-added per employee.

Looking across all industries, productivity decreased in 26 of 36 comparable metro areas between 2000 and 2002 after adjusting for inflation. Nationally, a 0.7 percent decrease in productivity was reported during this same time period. These results are not surprising because, in 25 of the comparable metro areas, GMP decreased far more significantly than did employment between 2000 and 2002. In addition, the Federal Reserve Bank of Cleveland (Fed) noted a sharp drop in industrial production that began early in 2001.⁹ One reason cited by the Fed for this drop was a considerable decline in the rate of productivity growth over the previous few months.

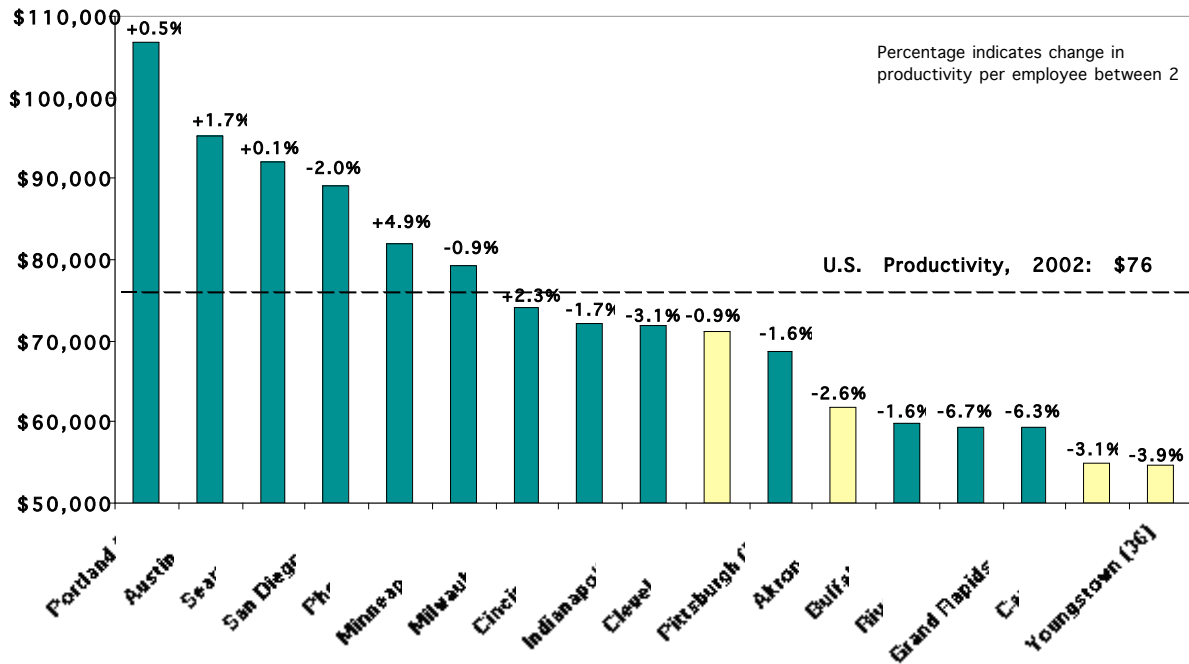
Only two metro areas showed productivity gains of greater than two percent—Phoenix (4.9 percent) and Milwaukee (2.3 percent). Productivity declines ranged from 0.9 percent in Cleveland to 6.7 percent in Sacramento. All other metro areas in northeast Ohio reported drops in productivity.

Topping the list in productivity levels (2002) were Portland (\$106,900), Austin (\$95,300), and Seattle (\$92,000). The Cleveland metro area ranked 18th at \$71,200. In contrast, Canton and Youngstown were at the bottom of the ranking, each reporting productivity levels of about \$55,000. Akron did somewhat better with a productivity ranking of 29th (\$61,700). Figure 4 shows productivity levels and the change in productivity for selected metro areas. Table D-4 in Appendix D provides productivity data for all comparable metro areas between 2000 and 2002.

⁸Readers may find that when dividing quantities in the GMP tables by the corresponding quantities in the employment tables, they will not derive the same productivity quantities found in tables associated with this section of the report. The reason behind this discrepancy is as follows: Employment data were taken from tables published by the Bureau of Labor Statistics (BLS). The BLS used metropolitan area definitions released in December 2003 by the Office of Management and Budget (OMB). GMP data were purchased from Economy.com, which used the 2000 OMB metropolitan area definitions. In many cases, the number of counties in a given metropolitan area either increased or decreased between the OMB 2000 definitions vs. the 2003 definitions. The result being that employment levels in the same metropolitan area may differ.

⁹Federal Reserve Bank of Cleveland (2001). *August 2001 Economic Trends*.
<http://www.clevelandfed.org/research>.

Figure 4. Productivity Per Employee, 2002



CHANGE IN TOTAL EMPLOYMENT¹⁰

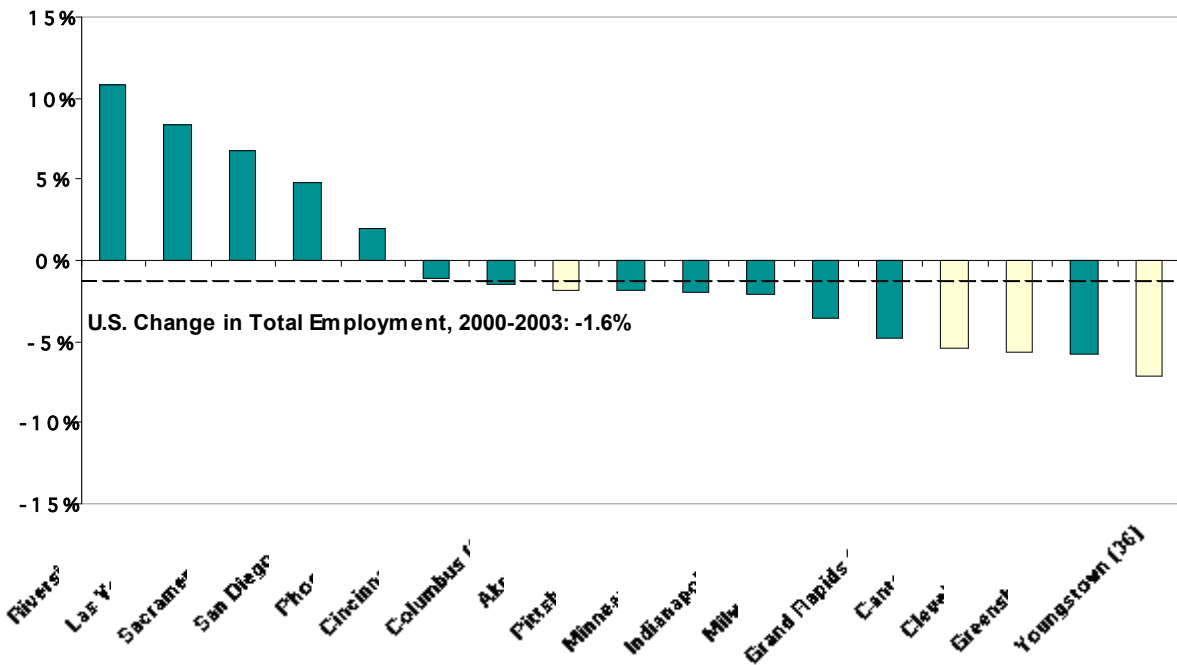
Across the U.S., total employment decreased by 1.6 percent between 2000 and 2003. Among the comparable metropolitan areas, 25 of the 36 reported employment losses during that same time period. However, a wide variation in employment change was observed in the comparable regions, ranging from a 10.8 percent increase in Riverside to a 7.1 percent decline in Youngstown. Cleveland ranked 34th with an employment loss of 5.7 percent. In contrast, Akron recorded a decline of just 1.8 percent, ranking the area 17th in 2003. Cincinnati reported the smallest employment drop in the Midwest (-1 percent), ranking it 14th. Minneapolis, the highest performing comparable region in the Midwest, ranked 19th with an employment decline of just under two percent.

The overall downward trend in employment is not unexpected for a couple reasons. First, the economy started a decline in February 2000 culminating in a recession that began in the first quarter of 2001. Second, structural changes to the economy, especially in the manufacturing sector, have resulted in what many consider to be a permanent loss of

¹⁰ Total employment refers to the number of jobs, full-time and part-time, by place of work. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included.

manufacturing jobs. The primary reason for these losses is technological advances that increase productivity but at the same time reduce the need for manpower. In addition, the effects of outsourcing come into play. Figure 5 shows the percent change in total employment for selected metro areas. Employment figures (2000 through 2003) for all comparable metro areas are given in Table D-5 Appendix D.

Figure 5. Change In Total Employment, 2000 – 2003



UNEMPLOYMENT RATE¹¹

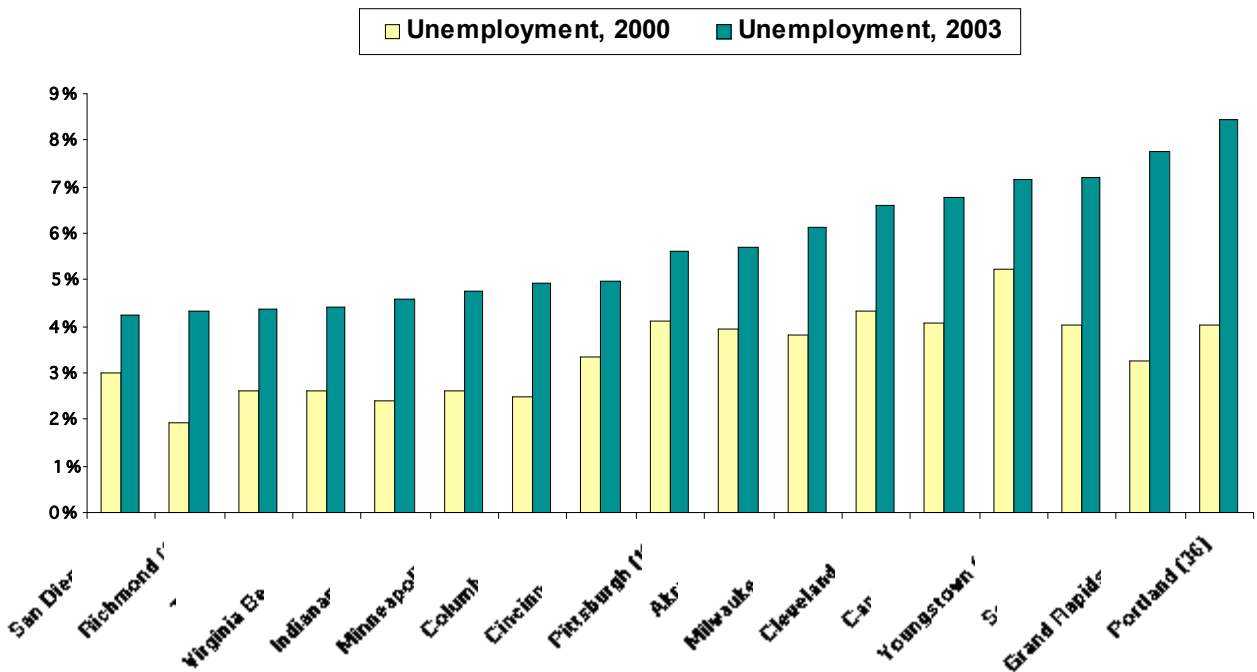
The unemployment rate increased each year from 2000 through 2003 in all comparable metropolitan areas. In 2000, the average unemployment rate was 3.4 percent, increasing to 5.7 percent by 2003. In 2000, only two of the 36 metro areas (Riverside and Youngstown) reported an unemployment rate greater than five percent. The U.S. average unemployment rate for 2000 was four percent. By 2003, 26 of the metro areas had unemployment rates of five percent or more. This compares to a U.S. average of six percent in 2003.

Regions with the lowest unemployment rates in 2003 included San Diego, Richmond, and Tampa, where unemployment averaged 4.3 percent. In comparison, four comparable

¹¹ The unemployment rate represents the number of unemployed persons as a percentage of the labor force. See the Bureau of Labor Statistics' glossary (<http://www.bls.gov>) for a detailed definition of labor force.

metro areas had unemployment rates that topped seven percent in 2003—Grand Rapids, Portland, Seattle, and Youngstown. Interestingly, Portland and Seattle are generally thought of as having very strong economies. Cleveland reported a high unemployment rate relative to the other comparable regions in all four years. It ranked 33rd in 2002 and 31st in 2003 when unemployment reached 6.6 percent. In contrast, Akron ranked 19th in 2003. Figure 6 shows a comparison of unemployment rates (2000 vs. 2003) for selected metro areas. Table D-6 in Appendix D shows unemployment rates for all comparable metro areas for the years 2000 through 2003.

Figure 6. Unemployment Rates in Selected Metropolitan Areas, 2000 vs. 2003



Appendix A: COMPARABLE METRO AREA IDENTIFICATION CRITERIA

The comparable metropolitan areas included in this report are similar in size to the Cleveland metropolitan statistical area (MSA) and meet at least one additional criterion: structure, location, or growth.

- *Size:* Metropolitan areas must be within one standard deviation of the Cleveland MSA in population or labor force.
- *Structure:* Metropolitan areas whose percentage of the labor force are within one standard deviation of the Cleveland PMSA in each of the following categories: occupations that are related to sales and office support functions; managerial and professional occupations; and employment in industries that comprise the manufacturing sector.¹²
- *Location:* Metropolitan areas that are located in the Midwestern states including North Dakota (ND), South Dakota (SD), Nebraska (NE), Kansas (KS), Minnesota (MN), Iowa (IA), Missouri (MO), Wisconsin (WI), Illinois (IL), Michigan (MI), Indiana (IN), and Ohio (OH).
- *Growth:* Fastest growing metropolitan areas in the United States by actual growth in the labor force or percentage growth in the labor force between June 1997 and June 2002. Data source – Bureau of Labor Statistics

¹²Professional occupations include those in such areas as law, engineering, accounting, and information technology.

APPENDIX B – TRADITIONAL INDICATORS INDEX

CREATING THE INDEX

The traditional indicators index is simply a summary measure calculated from a group of nine variables. The methodology used to create the index is based on models found in the *Metro Area and State Competitiveness Report* and a paper entitled *Have Central Cities Come Back?*¹³ The most difficult and often controversial part in creating an index is choosing a weighting scheme. The approach taken here is the simplest and most transparent—within each sub-indicator, each variable carries equal weight. To support this approach, a correlation analysis of the six indicators was performed. The result showed that no significant correlation exists among the indicators.

The aggregated (overall) index is constructed using six sub-indicators, which were created from nine economic variables (see Table 1 for details). Given the raw data series for each metro area, several steps were needed to construct the index:

- Each variable was standardized using a median score. The median score is analogous to the familiar z-score, but it uses a set of measures that are less susceptible to the influence of outliers than z-scores. In addition, median scores are an alternative to z-scores for index creation when the variables used have highly skewed distributions.
- The six sub-indicators were formed as the simple averages of the standardized component variables (if more than one variable is associated with a sub-indicator).
- Each sub-indicator was then scaled to give it a range from one (worst) to 10 (best).
- The aggregated (overall) index was formed as the simple average of the seven sub-indicators.

¹³ Tuerck, David G. (2003). *Metro Area and State Competitiveness Report 2002*. The Beacon Hill Institute at Suffolk University, Boston, MA. <http://www.beaconhill.org>.
Furdell, K., Wolman, H.L., Hill, E.W. (2004). *Have Central Cities Come Back?* Paper presented at the 2004 annual meeting of the Urban Affairs Association in Washington, DC.

Table B-1. Traditional Economic Indicators Index by Sub-Indicator Indices

METROPOLITAN STATISTICAL AREA	AGGREGATED INDEX		SUB-INDICATOR INDICES					
	INDEX	RANK	INCOME	WAGES	GMP	PROD	EMP	UNEMP
Akron, OH MSA	4.61	27	4.02	6.15	3.81	3.05	3.67	6.95
Austin-Round Rock, TX MSA	4.74	25	1.00	2.15	6.32	9.05	3.04	6.87
Buffalo-Cheektowaga-Tonawanda, NY MSA	4.16	32	5.20	3.01	4.67	3.23	3.36	5.49
Canton-Massillon, OH MSA	2.64	34	3.05	1.00	3.29	2.01	1.88	4.59
Charlotte-Gastonia-Concord, NC-SC MSA	5.10	23	6.17	6.60	4.12	5.25	3.42	5.08
Cincinnati-Middletown, OH-KY-IN MSA	5.83	12	6.73	6.72	4.34	4.73	4.05	8.44
Cleveland-Lorain-Elyria, OH MSA	4.23	31	5.04	5.58	3.08	4.97	1.73	4.96
Columbus, OH MSA	6.20	8	6.77	7.94	5.30	4.77	3.85	8.55
Denver-Aurora, CO MSA	5.18	22	6.95	7.15	3.12	5.00	3.10	5.76
Grand Rapids-Wyoming, MI MSA	2.47	35	3.32	4.21	1.47	1.15	2.17	2.51
Greensboro-High Point, NC MSA	2.94	33	2.56	3.29	2.41	2.67	1.65	5.09
Indianapolis, IN MSA	5.51	19	6.35	5.32	4.47	4.10	3.51	9.30
Jacksonville, FL MSA	5.48	20	3.89	8.24	4.92	3.75	4.05	8.03
Kansas City, MO-KS MSA	5.36	21	5.76	5.44	5.41	6.18	3.16	6.20
Las Vegas-Paradise, NV MSA	5.68	15	1.35	5.46	7.41	3.31	8.76	7.79
Louisville, KY-IN MSA	4.45	28	6.08	5.99	2.08	2.82	2.38	7.36
Memphis, TN-MS-AR MSA	6.34	7	8.30	8.44	5.92	5.79	4.13	5.46
Milwaukee-Waukesha-West Allis, WI MSA	6.13	9	8.50	6.74	6.03	6.71	2.79	6.02
Minneapolis-St. Paul-Bloomington, MN-WI MSA	7.04	3	8.57	10.00	5.24	5.94	3.60	8.90
Nashville-Davidson-Murfreesboro, TN MSA	6.56	5	7.09	6.06	6.18	5.78	5.00	9.28
Oklahoma City, OK MSA	4.34	30	5.25	4.23	3.22	1.47	3.47	8.38
Orlando, FL MSA	4.83	24	2.61	5.51	4.26	2.62	5.35	8.62
Phoenix-Mesa-Scottsdale, AZ MSA	6.50	6	1.73	4.51	10.00	8.78	5.56	8.42
Pittsburgh, PA MSA	5.73	14	8.20	5.55	5.51	4.35	3.62	7.15
Portland-Vancouver-Beaverton, OR-WA MSA	4.37	29	3.52	3.96	5.16	10.00	2.58	1.00
Providence-New Bedford-Fall River, RI-MA	5.92	11	7.73	7.33	5.17	4.07	4.59	6.66
Richmond, VA MSA	5.97	10	7.37	7.06	4.54	2.63	4.32	9.89
Riverside-San Bernardino-Ontario, CA MSA	5.54	18	3.45	5.45	6.84	1.00	10.00	6.49
Sacramento-Arden-Arcade-Roseville, CA MSA	6.57	4	5.71	9.40	5.32	3.41	7.99	7.55
San Antonio, TX MSA	4.73	26	2.65	4.50	5.56	3.07	5.23	7.38
San Diego-Carlsbad-San Marcos, CA MSA	8.13	1	10.00	7.88	7.18	6.71	7.01	10.00
Seattle-Tacoma-Bellevue, WA MSA	5.59	17	7.25	8.41	4.09	7.95	2.20	3.67
St. Louis, MO-IL MSA	5.81	13	6.91	6.12	6.25	6.10	3.11	6.34
Tampa-St. Petersburg-Clearwater, FL MSA	5.68	16	5.10	5.37	5.76	3.38	4.71	9.77
Virginia Beach-Norfolk-Newport News, VA-NC	7.09	2	7.49	6.90	8.11	4.88	5.52	9.66
Youngstown, OH MSA	2.08	36	2.22	2.82	1.00	1.63	1.00	3.79

INCOME: 2002 Per Capita Personal Income; % Change in Income 2000-2002

WAGES: 2003 Average Wages; % Change in Wages 2000-2003

GMP: % Change in Gross Metropolitan Product 2000-2002

PROD: 2002 Productivity Per Employee; % Change in Productivity 2000-2002

EMP: % Change in Total Employment 2000-2003

UNEMP: 2003 Unemployment Rate

APPENDIX C – DATA SOURCE INFORMATION

Per Capita Personal Income

U.S. Department of Commerce
Bureau of Economic Analysis
Regional Economic Accounts
<http://www.bea.gov>

Average Wages

U.S. Department of Labor
Bureau of Labor Statistics
Quarterly Census of Employment and Wages
<http://www.bls.gov/cew>

Gross Metropolitan Product

Economy.com, Inc.
121 North Walnut Street, Suite 500
West Chester, PA 19380
610-235-5000
<http://www.economy.com>

Productivity

Economy.com, Inc.
121 North Walnut Street, Suite 500
West Chester, PA 19380
610-235-5000
<http://www.economy.com>

Total Employment

U.S. Department of Labor
Bureau of Labor Statistics
Quarterly Census of Employment and Wages
<http://www.bls.gov/cew>

Unemployment Rate

U.S. Department of Labor
Bureau of Labor Statistics
Daniel Conti, Economist
202-691-6481

APPENDIX D – DATA TABLES

Table D-1. Per Capita Personal Income, 2000 – 2002

Table D-2. Average Wages, 2000 – 2003

Table D-3. Gross Metropolitan Product, 2000 – 2002

Table D-4. Productivity Per Employee, 2000 - 2002

Table D-5. Total Employment, 2000 – 2003

Table D-6. Unemployment Rate, 2000 – 2003

Table D-1. Per Capita Personal Income, 2000 – 2002

METROPOLITAN STATISTICAL AREA	PER CAPITA PERSONAL INCOME					
	2000	2001	2002	2002 Rank	% Change 2000-2002	% Change Rank
Akron, OH MSA	\$30,914	\$29,959	\$30,205	22	-2.3%	27
Austin-Round Rock, TX MSA	\$34,001	\$33,194	\$31,677	17	-6.8%	36
Buffalo-Cheektowaga-Tonawanda, NY MSA	\$28,425	\$28,054	\$28,489	28	0.2%	10
Canton-Massillon, OH MSA	\$27,593	\$26,962	\$27,185	34	-1.5%	20
Charlotte-Gastonia-Concord, NC-SC MSA	\$33,626	\$33,233	\$33,083	6	-1.6%	21
Cincinnati-Middletown, OH-KY-IN MSA	\$31,839	\$31,571	\$31,804	16	-0.1%	12
Cleveland-Lorain-Elyria, OH MSA	\$33,040	\$32,389	\$32,244	11	-2.4%	29
Columbus, OH MSA	\$32,114	\$31,854	\$32,043	14	-0.2%	14
Denver-Aurora, CO MSA	\$39,544	\$39,262	\$38,008	2	-3.9%	32
Grand Rapids-Wyoming, MI MSA	\$29,279	\$28,781	\$28,659	26	-2.1%	25
Greensboro-High Point, NC MSA	\$29,365	\$28,656	\$28,508	27	-2.9%	30
Indianapolis, IN MSA	\$33,347	\$33,188	\$32,916	7	-1.3%	19
Jacksonville, FL MSA	\$30,755	\$30,016	\$30,037	23	-2.3%	28
Kansas City, MO-KS MSA	\$33,025	\$32,561	\$32,467	8	-1.7%	22
Las Vegas-Paradise, NV MSA	\$30,924	\$29,613	\$29,396	25	-4.9%	35
Louisville, KY-IN MSA	\$30,712	\$30,729	\$30,666	20	-0.2%	13
Memphis, TN-MS-AR MSA	\$29,795	\$30,310	\$30,557	21	2.6%	2
Milwaukee-Waukesha-West Allis, WI MSA	\$34,185	\$34,205	\$34,308	5	0.4%	9
Minneapolis-St. Paul-Bloomington, MN-WI MSA	\$38,487	\$37,998	\$37,787	3	-1.8%	23
Nashville-Davidson-Murfreesboro, TN MSA	\$31,973	\$31,944	\$32,026	15	0.2%	11
Oklahoma City, OK MSA	\$27,688	\$27,926	\$27,877	31	0.7%	7
Orlando, FL MSA	\$28,226	\$27,575	\$27,587	32	-2.3%	26
Phoenix-Mesa-Scottsdale, AZ MSA	\$29,633	\$28,967	\$28,481	29	-3.9%	33
Pittsburgh, PA MSA	\$31,978	\$32,037	\$32,381	10	1.3%	5
Portland-Vancouver-Beaverton, OR-WA MSA	\$33,563	\$32,837	\$32,167	12	-4.2%	34
Providence-New Bedford-Fall River, RI-MA	\$30,271	\$30,564	\$30,796	19	1.7%	4
Richmond, VA MSA	\$31,913	\$32,177	\$32,067	13	0.5%	8
Riverside-San Bernardino-Ontario, CA MSA	\$23,830	\$24,042	\$24,073	36	1.0%	6
Sacramento-Arden-Arcade-Roseville, CA MSA	\$31,334	\$31,280	\$31,069	18	-0.8%	17
San Antonio, TX MSA	\$27,948	\$27,485	\$27,368	33	-2.1%	24
San Diego-Carlsbad-San Marcos, CA MSA	\$34,263	\$34,462	\$34,872	4	1.8%	3
Seattle-Tacoma-Bellevue, WA MSA	\$39,433	\$38,430	\$38,037	1	-3.5%	31
St. Louis, MO-IL MSA	\$32,567	\$32,250	\$32,462	9	-0.3%	15
Tampa-St. Petersburg-Clearwater, FL MSA	\$29,936	\$29,725	\$29,728	24	-0.7%	16
Virginia Beach-Norfolk-Newport News, VA-NC	\$27,533	\$27,992	\$28,365	30	3.0%	1
Youngstown, OH MSA	\$25,687	\$24,999	\$25,358	35	-1.3%	18
United States	\$31,181	\$31,009	\$30,906	-	-0.9%	-

Table D-2. Average Wages, 2000 – 2003

METROPOLITAN STATISTICAL AREA	AVERAGE WAGES						
	2000	2001	2002	2003	2003 Rank	% Change 2000-2003	% Change Rank
Akron, OH MSA	\$34,415	\$34,211	\$34,813	\$35,379	24	2.8%	13
Austin-Round Rock, TX MSA	\$43,822	\$42,419	\$40,442	\$40,741	4	-7.0%	36
Buffalo-Cheektowaga-Tonawanda, NY MSA	\$33,588	\$33,301	\$33,525	\$33,587	28	0.0%	29
Canton-Massillon, OH MSA	\$30,301	\$30,148	\$30,366	\$30,294	36	0.0%	30
Charlotte-Gastonia-Concord, NC-SC MSA	\$39,215	\$39,319	\$39,904	\$39,291	7	0.2%	27
Cincinnati-Middletown, OH-KY-IN MSA	\$36,888	\$36,876	\$37,385	\$37,547	10	1.8%	18
Cleveland-Lorain-Elyria, OH MSA	\$37,398	\$37,212	\$37,250	\$37,504	11	0.3%	26
Columbus, OH MSA	\$36,074	\$36,593	\$37,183	\$37,370	14	3.6%	6
Denver-Aurora, CO MSA	\$44,081	\$43,838	\$42,938	\$43,112	2	-2.2%	34
Grand Rapids-Wyoming, MI MSA	\$35,650	\$35,281	\$35,450	\$35,632	21	0.0%	31
Greensboro-High Point, NC MSA	\$32,828	\$32,958	\$32,982	\$33,087	30	0.8%	24
Indianapolis, IN MSA	\$37,297	\$37,493	\$37,523	\$37,326	15	0.1%	28
Jacksonville, FL MSA	\$33,514	\$33,538	\$34,379	\$35,398	23	5.6%	2
Kansas City, MO-KS MSA	\$37,160	\$36,978	\$37,341	\$37,267	16	0.3%	25
Las Vegas-Paradise, NV MSA	\$34,332	\$33,918	\$34,458	\$35,061	25	2.1%	16
Louisville, KY-IN MSA	\$33,583	\$33,972	\$34,303	\$34,651	26	3.2%	10
Memphis, TN-MS-AR MSA	\$34,932	\$35,335	\$36,109	\$36,634	18	4.9%	3
Milwaukee-Waukesha-West Allis, WI MSA	\$36,979	\$37,003	\$37,355	\$37,626	9	1.7%	20
Minneapolis-St. Paul-Bloomington, MN-WI MSA	\$42,252	\$42,457	\$42,673	\$43,000	3	1.8%	19
Nashville-Davidson-Murfreesboro, TN MSA	\$35,272	\$35,234	\$35,567	\$36,027	20	2.1%	15
Oklahoma City, OK MSA	\$30,241	\$30,049	\$30,542	\$31,307	34	3.5%	8
Orlando, FL MSA	\$32,267	\$32,492	\$33,201	\$33,411	29	3.5%	7
Phoenix-Mesa-Scottsdale, AZ MSA	\$37,318	\$36,896	\$36,866	\$37,026	17	-0.8%	32
Pittsburgh, PA MSA	\$35,983	\$36,227	\$36,286	\$36,394	19	1.1%	21
Portland-Vancouver-Beaverton, OR-WA MSA	\$39,577	\$38,710	\$38,483	\$38,494	8	-2.7%	35
Providence-New Bedford-Fall River, RI-MA MSA	\$34,134	\$34,264	\$34,966	\$35,578	22	4.2%	4
Richmond, VA MSA	\$36,519	\$36,941	\$37,256	\$37,390	13	2.4%	14
Riverside-San Bernardino-Ontario, CA MSA	\$31,565	\$31,697	\$32,311	\$32,813	31	4.0%	5
Sacramento-Arden-Arcade-Roseville, CA MSA	\$38,746	\$39,204	\$39,854	\$40,054	6	3.4%	9
San Antonio, TX MSA	\$31,321	\$31,597	\$31,797	\$32,290	32	3.1%	11
San Diego-Carlsbad-San Marcos, CA MSA	\$40,106	\$39,912	\$40,202	\$40,487	5	1.0%	23
Seattle-Tacoma-Bellevue, WA MSA	\$46,177	\$45,071	\$45,199	\$45,172	1	-2.2%	33
St. Louis, MO-IL MSA	\$37,031	\$37,044	\$37,325	\$37,429	12	1.1%	22
Tampa-St. Petersburg-Clearwater, FL MSA	\$32,937	\$32,910	\$33,198	\$33,907	27	2.9%	12
Virginia Beach-Norfolk-Newport News, VA-NC	\$30,278	\$31,093	\$31,578	\$32,218	33	6.4%	1
Youngstown, OH MSA	\$30,446	\$29,972	\$30,606	\$31,012	35	1.9%	17
United States	\$37,743	\$37,627	\$37,602	\$37,765	-	0.1%	-

Table D-3. Gross Metropolitan Product, 2000 – 2002

METROPOLITAN STATISTICAL AREA	GROSS METROPOLITAN PRODUCT (\$ BILLIONS)				
	2000	2001	2002	% Change 2000-2002	% Change Rank
Akron OH MSA	\$21.09	\$20.09	\$20.04	-4.98%	28
Austin-Round Rock TX MSA	\$63.08	\$64.44	\$62.77	-0.50%	6
Buffalo-Cheektowaga-Tonawanda NY MSA	\$33.94	\$32.24	\$32.77	-3.43%	21
Canton-Massillon OH MSA	\$10.62	\$10.09	\$10.00	-5.89%	29
Charlotte-Gastonia-Concord NC-SC MSA	\$68.26	\$65.22	\$65.24	-4.43%	26
Cincinnati-Middletown OH-KY-IN MSA	\$65.02	\$62.75	\$62.40	-4.03%	24
Cleveland-Lorain-Elyria OH MSA	\$84.38	\$79.48	\$79.10	-6.26%	32
Columbus OH MSA	\$64.69	\$62.65	\$63.19	-2.32%	16
Denver-Aurora CO MSA	\$99.69	\$95.88	\$93.51	-6.19%	31
Grand Rapids-Wyoming MI MSA	\$37.40	\$34.04	\$33.98	-9.14%	35
Greensboro-High Point NC MSA	\$44.75	\$41.89	\$41.41	-7.47%	33
Indianapolis IN MSA	\$66.16	\$63.35	\$63.65	-3.79%	23
Jacksonville FL MSA	\$37.69	\$36.66	\$36.56	-2.99%	20
Kansas City MO-KS MSA	\$72.46	\$70.46	\$70.92	-2.12%	14
Las Vegas-Paradise NV MSA	\$51.69	\$51.75	\$52.43	1.43%	3
Louisville KY-IN MSA	\$40.03	\$37.33	\$36.81	-8.05%	34
Memphis TN-AR-MS MSA	\$43.29	\$41.70	\$42.76	-1.22%	10
Milwaukee-Waukesha-West Allis WI MSA	\$62.80	\$61.66	\$62.16	-1.02%	9
Minneapolis-St. Paul-Bloomington MN-WI MSA	\$139.61	\$136.61	\$136.22	-2.43%	17
Nashville-Davidson-Murfreesboro TN MSA	\$49.56	\$48.15	\$49.19	-0.76%	8
Oklahoma City OK MSA	\$34.93	\$33.46	\$32.82	-6.02%	30
Orlando FL MSA	\$59.08	\$57.27	\$56.62	-4.18%	25
Phoenix-Mesa-Scottsdale AZ MSA	\$123.44	\$126.70	\$130.89	6.04%	1
Pittsburgh PA MSA	\$78.58	\$75.71	\$77.06	-1.94%	13
Portland-Vancouver-Beaverton OR-WA MSA	\$102.83	\$100.53	\$100.20	-2.56%	19
Providence-New Bedford-Fall River RI MSA	\$31.27	\$29.84	\$30.47	-2.56%	18
Richmond VA MSA	\$40.35	\$39.58	\$38.87	-3.67%	22
Riverside-San Bernardino-Ontario CA MSA	\$62.87	\$60.61	\$63.14	0.42%	5
Sacramento-Arden-Arcade-Roseville CA MSA	\$60.06	\$58.85	\$58.70	-2.28%	15
San Antonio TX MSA	\$46.68	\$44.90	\$45.82	-1.85%	12
San Diego-Carlsbad-San Marcos CA MSA	\$108.69	\$105.39	\$109.80	1.02%	4
Seattle-Tacoma-Bellevue WA MSA	\$130.35	\$126.18	\$124.52	-4.47%	27
St. Louis MO-IL MSA	\$94.96	\$94.24	\$94.36	-0.63%	7
Tampa-St. Petersburg-Clearwater FL MSA	\$75.45	\$74.09	\$74.32	-1.50%	11
Virginia Beach-Norfolk-Newport News VA-NC	\$47.47	\$47.49	\$48.74	2.69%	2
Youngstown OH MSA	\$14.05	\$13.05	\$12.65	-9.97%	36

Table D-4. Productivity Per Employee, 2000 – 2002

METROPOLITAN STATISTICAL AREA	PRODUCTIVITY PER EMPLOYEE					
	2000	2001	2002	2002 Rank	% Change 2000-2002	% Change Rank
Akron OH MSA	\$63,338	\$60,908	\$61,693	29	-2.6%	22
Austin-Round Rock TX MSA	\$93,782	\$95,594	\$95,331	2	1.7%	3
Buffalo-Cheektowaga-Tonawanda NY MSA	\$60,786	\$58,623	\$59,795	32	-1.6%	15
Canton-Massillon OH MSA	\$56,648	\$54,094	\$54,914	35	-3.1%	24
Charlotte-Gastonia-Concord NC-SC MSA	\$81,021	\$78,399	\$79,014	8	-2.5%	21
Cincinnati-Middletown OH-KY-IN MSA	\$73,313	\$71,219	\$72,071	15	-1.7%	16
Cleveland-Lorain-Elyria OH MSA	\$71,792	\$68,986	\$71,166	18	-0.9%	11
Columbus OH MSA	\$72,790	\$70,152	\$71,712	17	-1.5%	13
Denver-Aurora CO MSA	\$82,754	\$79,702	\$79,998	6	-3.3%	26
Grand Rapids-Wyoming MI MSA	\$63,208	\$58,225	\$59,227	34	-6.3%	34
Greensboro-High Point NC MSA	\$66,915	\$63,681	\$64,117	26	-4.2%	31
Indianapolis IN MSA	\$74,143	\$70,897	\$71,854	16	-3.1%	25
Jacksonville FL MSA	\$67,313	\$65,280	\$65,848	24	-2.2%	19
Kansas City MO-KS MSA	\$73,812	\$72,849	\$74,527	10	1.0%	5
Las Vegas-Paradise NV MSA	\$68,713	\$66,059	\$66,410	23	-3.4%	27
Louisville KY-IN MSA	\$67,720	\$64,255	\$64,966	25	-4.1%	30
Memphis TN-AR-MS MSA	\$72,710	\$70,599	\$73,063	13	0.5%	7
Milwaukee-Waukesha-West Allis WI MSA	\$72,343	\$71,954	\$74,039	11	2.3%	2
Minneapolis-St. Paul-Bloomington MN-WI MSA	\$79,878	\$78,113	\$79,151	7	-0.9%	12
Nashville-Davidson-Murfreesboro TN MSA	\$72,841	\$71,187	\$73,157	12	0.4%	8
Oklahoma City OK MSA	\$64,655	\$61,116	\$60,774	31	-6.0%	33
Orlando FL MSA	\$64,951	\$62,651	\$62,468	28	-3.8%	28
Phoenix-Mesa-Scottsdale AZ MSA	\$78,207	\$79,300	\$82,006	5	4.9%	1
Pittsburgh PA MSA	\$69,673	\$66,707	\$68,590	20	-1.6%	14
Portland-Vancouver-Beaverton OR-WA MSA	\$106,329	\$104,786	\$106,900	1	0.5%	6
Providence-New Bedford-Fall River RI MSA	\$70,989	\$67,917	\$69,273	19	-2.4%	20
Richmond VA MSA	\$72,289	\$69,121	\$68,319	21	-5.5%	32
Riverside-San Bernardino-Ontario CA MSA	\$63,610	\$58,857	\$59,354	33	-6.7%	35
Sacramento-Arden-Arcade-Roseville CA MSA	\$84,630	\$80,476	\$78,944	9	-6.7%	36
San Antonio TX MSA	\$64,885	\$61,748	\$62,986	27	-2.9%	23
San Diego-Carlsbad-San Marcos CA MSA	\$91,048	\$86,499	\$89,219	4	-2.0%	18
Seattle-Tacoma-Bellevue WA MSA	\$92,001	\$90,141	\$92,050	3	0.1%	9
St. Louis MO-IL MSA	\$71,182	\$71,287	\$72,218	14	1.5%	4
Tampa-St. Petersburg-Clearwater FL MSA	\$62,396	\$61,119	\$61,312	30	-1.7%	17
Virginia Beach-Norfolk-Newport News VA-NC	\$67,569	\$66,214	\$67,548	22	0.0%	10
Youngstown OH MSA	\$56,753	\$54,400	\$54,563	36	-3.9%	29
United States	\$76,838	\$74,978	\$76,277	-	-0.7%	-

Traditional Indicators

Table D-5. Total Employment, 2000 – 2003

METROPOLITAN STATISTICAL AREA	TOTAL EMPLOYMENT					
	2000	2001	2002	2003	%Change 2000-2003	%Change Rank
Akron, OH MSA	318,704	313,452	313,634	312,969	-1.8%	17
Austin-Round Rock, TX MSA	665,694	665,928	651,095	645,292	-3.1%	27
Buffalo-Cheektowaga-Tonawanda, NY MSA	538,013	529,960	525,950	524,947	-2.4%	23
Canton-Massillon, OH MSA	182,173	180,430	177,879	172,403	-5.4%	33
Charlotte-Gastonia-Concord, NC-SC MSA	762,753	756,980	750,523	745,238	-2.3%	22
Cincinnati-Middletown, OH-KY-IN MSA	994,828	986,693	979,577	984,407	-1.0%	14
Cleveland-Lorain-Elyria, OH MSA	1,112,303	1,085,225	1,053,949	1,049,308	-5.7%	34
Columbus, OH MSA	894,545	888,366	885,140	881,609	-1.4%	16
Denver-Aurora, CO MSA	1,178,795	1,181,208	1,168,767	1,144,025	-2.9%	26
Grand Rapids-Wyoming, MI MSA	387,587	378,911	373,534	369,019	-4.8%	32
Greensboro-High Point, NC MSA	364,537	355,098	348,107	343,272	-5.8%	35
Indianapolis, IN MSA	830,378	818,424	810,353	812,708	-2.1%	20
Jacksonville, FL MSA	535,604	537,445	529,675	529,940	-1.1%	15
Kansas City, MO-KS MSA	960,536	958,440	943,881	933,456	-2.8%	24
Las Vegas-Paradise, NV MSA	697,575	720,184	724,691	755,745	8.3%	2
Louisville, KY-IN MSA	592,251	581,143	569,788	566,301	-4.4%	30
Memphis, TN-MS-AR MSA	596,816	591,639	588,148	591,493	-0.9%	13
Milwaukee-Waukesha-West Allis, WI MSA	839,064	833,725	816,092	809,138	-3.6%	28
Minneapolis-St. Paul-Bloomington, MN-WI MSA	1,705,376	1,705,177	1,676,784	1,672,339	-1.9%	19
Nashville-Davidson-Murfreesboro, TN MSA	688,137	662,454	682,253	693,880	0.8%	9
Oklahoma City, OK MSA	527,805	530,833	523,972	516,171	-2.2%	21
Orlando, FL MSA	864,805	864,098	861,520	878,064	1.5%	7
Phoenix-Mesa-Scottsdale, AZ MSA	1,580,155	1,597,404	1,587,945	1,611,028	2.0%	5
Pittsburgh, PA MSA	1,100,266	1,102,400	1,091,564	1,079,411	-1.9%	18
Portland-Vancouver-Beaverton, OR-WA MSA	965,078	961,476	938,509	926,691	-4.0%	29
Providence-New Bedford-Fall River, RI-MA MSA	680,727	677,884	676,658	680,891	0.0%	11
Richmond, VA MSA	570,820	573,857	570,204	567,847	-0.5%	12
Riverside-San Bernardino-Ontario, CA MSA	997,904	1,036,648	1,071,811	1,105,682	10.8%	1
Sacramento-Arden-Arcade-Roseville, CA MSA	809,122	837,507	845,279	864,112	6.8%	3
San Antonio, TX MSA	732,654	741,411	741,068	742,251	1.3%	8
San Diego-Carlsbad-San Marcos, CA MSA	1,195,116	1,218,982	1,237,169	1,253,034	4.8%	4
Seattle-Tacoma-Bellevue, WA MSA	1,613,501	1,594,448	1,546,450	1,537,084	-4.7%	31
St. Louis, MO-IL MSA	1,321,683	1,314,705	1,294,280	1,283,194	-2.9%	25
Tampa-St. Petersburg-Clearwater, FL MSA	1,129,497	1,150,520	1,136,146	1,132,566	0.3%	10
Virginia Beach-Norfolk-Newport News, VA-NC	693,377	698,333	701,846	706,387	1.9%	6
Youngstown, OH MSA	256,412	247,324	241,736	238,148	-7.1%	36
United States	129,877,063	129,635,800	128,233,920	127,795,826	-1.6%	-

Table D-6. Unemployment Rate, 2000 – 2003

METROPOLITAN STATISTICAL AREA	UNEMPLOYMENT RATE				
	2000	2001	2002	2003	2003 Rank
Akron, OH MSA	3.95%	4.16%	5.42%	5.69%	19
Austin-Round Rock, TX MSA	1.99%	3.85%	5.69%	5.72%	20
Buffalo-Cheektowaga-Tonawanda, NY MSA	4.95%	5.33%	6.01%	6.36%	27
Canton-Massillon, OH MSA	4.09%	4.01%	5.59%	6.79%	32
Charlotte-Gastonia-Concord, NC-SC MSA	3.19%	4.86%	6.38%	6.56%	30
Cincinnati-Middletown, OH-KY-IN MSA	3.35%	3.83%	4.80%	4.99%	10
Cleveland, OH MSA	4.33%	4.51%	6.48%	6.61%	31
Columbus, OH MSA	2.50%	2.82%	4.42%	4.94%	9
Denver-Aurora, CO MSA	2.32%	3.50%	5.85%	6.24%	26
Grand Rapids-Wyoming, MI MSA	3.27%	5.10%	6.34%	7.76%	35
Greensboro-High Point, NC MSA	3.21%	5.16%	6.63%	6.55%	29
Indianapolis, IN MSA	2.38%	3.21%	4.47%	4.59%	5
Jacksonville, FL MSA	3.11%	4.25%	5.29%	5.18%	13
Kansas City, MO-KS MSA	3.30%	4.47%	5.73%	6.03%	24
Las Vegas-Paradise, NV MSA	4.10%	5.50%	5.68%	5.29%	14
Louisville, KY-IN MSA	3.42%	4.46%	5.22%	5.49%	17
Memphis, TN-MS-AR MSA	3.93%	4.25%	5.37%	6.38%	28
Milwaukee-Waukesha-West Allis, WI MSA	3.79%	4.67%	5.96%	6.12%	25
Minneapolis-St. Paul-Bloomington, MN-WI MSA	2.62%	3.24%	4.26%	4.77%	7
Nashville-Davidson-Murfreesboro, TN MSA	2.89%	3.42%	4.13%	4.60%	6
Oklahoma City, OK MSA	2.44%	3.78%	4.14%	5.01%	12
Orlando, FL MSA	2.56%	4.00%	5.30%	4.91%	8
Phoenix-Mesa-Scottsdale, AZ MSA	2.74%	3.96%	5.67%	5.00%	11
Pittsburg, PA MSA	4.12%	4.40%	5.42%	5.59%	18
Portland-Vancouver-Beaverton, OR-WA MSA	4.01%	5.93%	7.84%	8.46%	36
Providence-New Bedford-Fall River, RI-MA MSA	4.02%	4.76%	5.45%	5.82%	21
Richmond, VA MSA	1.93%	3.34%	4.01%	4.31%	2
Riverside-San Bernardino-Ontario, CA MSA	5.12%	5.01%	5.87%	5.90%	22
Sacramento-Arden-Arcade-Roseville, CA MSA	4.08%	4.10%	5.22%	5.40%	15
San Antonio, TX MSA	3.39%	3.93%	5.13%	5.48%	16
San Diego-Carlsbad-San Marcos, CA MSA	3.00%	3.24%	4.28%	4.26%	1
Seattle-Tacoma-Bellevue, WA MSA	4.02%	5.40%	6.95%	7.22%	34
St. Louis, MO-IL MSA	3.77%	4.86%	5.77%	5.97%	23
Tampa-St. Petersburg-Clearwater, FL MSA	2.62%	3.78%	4.60%	4.37%	3
Virginia Beach-Norfolk-Newport News, VA-NC	2.62%	3.51%	4.18%	4.42%	4
Youngstown, OH MSA	5.25%	5.80%	6.44%	7.16%	33
United States	4.0%	4.7%	5.8%	6.0%	-