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Regional Dashboard of Economic Indicators 2009: Comparative Performance of Leading, Midwest, and Northeast Ohio Metropolitan Areas

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Regional Dashboard of Economic Indicators 2009:

Comparative Performance of Leading, Midwest, and Northeast Ohio Metropolitan Areas

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July 2009

Council of Regional Economic Policy Advisors

REGIONAL DASHBOARD OF ECONOMIC INDICATORS 2009: COMPARATIVE PERFORMANCE OF LEADING, MIDWEST, AND NORTHEAST OHIO METROPOLITAN AREAS

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This report is the fourth update of the *Northeast Ohio Dashboard Indicators*.

The report was reviewed by the
Northeast Ohio Council of Regional Economic Policy Advisors

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EXECUTIVE SUMMARY

INTRODUCTION

The objective of this study is to continue monitoring the economic performance of Northeast Ohio's (NEO) metropolitan areas over time and in comparison to other metropolitan areas across the United States, particularly leading metropolitan areas and other large metro areas located in the Midwest. The study monitors economic conditions prior to the current recession. This fourth study of dashboard indicators describes the findings using the framework that was developed in previous studies. It uses the same four measures of economic growth and nine dashboard indicators and their underlying variables for 136 metropolitan areas with population between 300,000 and 3.5 million. The NEO region is represented by its four Metropolitan Statistical Areas, including Akron, Canton-Massillon, Cleveland-Elyria-Mentor, and Youngstown-Warren-Boardman.

The four measures of economic growth are:
- Percentage change in per capita income
- Percentage change in employment
- Percentage change in gross metropolitan product
- Percentage change in productivity

The nine indicators are:
- Skilled Workforce and Research & Development (R&D)
- Legacy of Place
- Urban Assimilation
- Racial Inclusion and Income Equality
- Locational Amenities
- Technology Commercialization
- Urban/Metro Structure
- Individual Entrepreneurship
- Business Dynamics

REGIONAL PERFORMANCE BY PER CAPITA INCOME AND ASSOCIATED INDICATORS

Per capita income approximates the regional standard of living and is used by many economists as a critical gauge in assessing a region's economic performance.[1]   Since 2000, the gap in per capita income between Northeast Ohio and the United States increased, and by 2007 per capita income in Northeast Ohio ($36,338) was 6.3% below

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[1] Per capita personal income is calculated as the total personal income of all the residents of an area divided by the population of that area. Per capita income gives no indication of the distribution of that income within the region.

the United States ($39,615) for a difference of $2,277. The deterioration in per capita income is due to steep declines during the recession of the early 2000s and slower growth during the recovery.

However, NEO's metropolitan areas and the region as a whole improved their ranks in 3-year growth rates. The four metropolitan areas in Northeast Ohio improved their ranking when comparing trends in the period from 2004 to 2007 with the previous 3-year period, 2003 to 2006. Three of the areas improved rankings when comparing trends in the period from 2004 to 2007 with the earlier period from 2002 to 2005 (Canton, Cleveland, and Youngstown). The Cleveland area's per capita income grew by 4.1% and ranked #80. If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #88 in comparison to a rank of #93 in the previous 3 years, 2003 to 2006. This could be viewed as the beginning of improved trends in Northeast Ohio, although the metro areas in Northeast Ohio still grew at a slower rate than the sample average of 5.3% and ranked in the 3rd quartile (Akron and Cleveland) and 4th quartile (Canton and Youngstown).

The leading metropolitan areas in per capita growth are Baltimore-Towson, MD; Bridgeport-Stamford-Norwalk, CT; Hartford-West Hartford-East Hartford, CT; Pittsburgh, PA; and Providence-New Bedford-Fall River, RI-MA.

According to the framework of regional change, there are four indicators that are positively associated with growth in per capita income: Skilled Workforce and R&D, Technology Commercialization, Racial Inclusion and Income Equality, and Locational Amenities. In the Skilled Workforce and R&D indicator four of the five leading metro areas improved and three were ranked in the 1st quartile. In the Midwest, Milwaukee was the only metro area that improved, while Columbus and Minneapolis ranked in the 1st quartile. In Northeast Ohio, all four metro areas improved due to improvement in most of the underlying variables that measure educational attainment, professional occupations, and research funding. In the Technology Commercialization indicator, three leaders improved and three were already ranked in the 1st quartile. In addition, three metro areas in the Midwest (Indianapolis, Milwaukee, and Minneapolis) and three metro areas in Northeast Ohio (Akron, Canton, and Cleveland) improved. The improvement in the Technology Commercialization indicator in Northeast Ohio is due to venture capital per employee and patents per employee. In Racial Inclusion & Income Equality, three leaders, two Midwest metro areas (Columbus and Kansas City), and two Northeast Ohio (Akron and Youngstown) improved.

REGIONAL PERFORMANCE BY EMPLOYMENT AND ASSOCIATED INDICATORS

Employment measures job opportunities available to people in the regional labor force. It does not, however, differentiate between low-skill, low-paying jobs and high-skill, high-paying jobs. The gap in employment growth between Northeast Ohio and the United States increased throughout the 10 years analyzed in this study. Employment in

Northeast Ohio fell by 1.7% between 1997 and 2007, while in the United States employment increased by 11.2%. The different growth patterns are a result of Northeast Ohio having a lower rate of growth in the late 1990s, a much higher rate of decline between 2000 and 2002, and a no-growth trend since then.

Analyzing 3-year growth trends shows a similar pattern. In contrast to improved performance in terms of per capita income, employment in Northeast Ohio is not growing. Three NEO metropolitan areas were ranked in the 4th quartile based on employment growth rates between 2004 and 2007; Akron was the only area that was ranked in the 3rd quartile. Comparison to previous 3-year trends (2002-2005) indicates that Akron and Youngstown lost rankings while Canton and Cleveland stayed about the same. If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #124 in growth of employment between 2004 and 2007, similarly to its rank of #123 in the previous 3 years, 2003-2006.

The leading metropolitan areas in employment growth are completely different from the leaders in per capita growth. This is consistent with the study's framework that shows that different indicators affect the two measures of economic growth. The leading metro areas in employment growth are Austin-Round Rock, TX; Charlotte-Gastonia-Concord, NC-SC; Raleigh-Cary, NC; and Salt Lake City, UT. It should be noted that all of the leaders in employment growth were regions with low legacy costs and are located in Western and Southern states.

According to the framework of regional change, there are six indicators that are associated with growth in employment: Racial Inclusion & Income Equality, Urban Assimilation, Legacy of Place, Business Dynamics, Individual Entrepreneurship, and Urban/Metro Structure. The leading metropolitan areas all improved in employment growth and were highly ranked. All leading areas improved their ranks in two of the associated indicators: Business Dynamics and Individual Entrepreneurship. In Business Dynamics, the Canton and Cleveland areas improved along with Cincinnati and Indianapolis; however, Canton and Cleveland still ranked in the bottom of the 4th quartile. In Individual Entrepreneurship, the Akron, Canton, and Cleveland areas improved due to an increased share of the self-employed. Four large Midwest areas (Cincinnati, Columbus, Minneapolis, and St. Louis) also improved in this indicator. Improvements in the Racial Inclusion & Income Equality indicators were experienced by two of the leading metropolitan areas, two NEO areas (Akron and Youngstown) and three Midwest metro areas (Columbus, Kansas City, and Pittsburgh). Improvements in the Legacy of Place indicator occurred only in the Canton area and in four Midwest areas.

Although some ranks are still very low, NEO's improvements in rank in some associated indicators suggest that employment patterns may improve slightly in the future. However, the current recession and the structural changes in the automotive industry may prevent employment from growing.

REGIONAL PERFORMANCE BY GROSS METROPOLITAN PRODUCT AND ASSOCIATED INDICATORS

Gross Metropolitan Product (GMP) measures value-added output produced in the region and is the regional counterpart to the national Gross Domestic Product. NEO's GMP grew at a much slower pace than the sample average and the United States between 1997 and 2007. Northeast Ohio followed a similar growth pattern to the United States and the sample average from 1997 to 1998 but it started to decline a year earlier. Although GMP for Northeast Ohio started to expand again in 2002, the growth rate was very modest and decreased further between 2005 and 2006; GMP remained flat in Northeast Ohio between 2006 and 2007. Calculating GMP trends between 1997 and 2007 shows that Northeast Ohio grew by only 4.9%, which is less than one-fifth of the growth rates of the nation (29.2%) and the sample average (28.5%).

Analyzing 3-year growth trends shows a similar pattern. Similar to employment patterns, GMP in Northeast Ohio is not growing. GMP was flat (an increase of only 0.2%) between 2004 and 2007 in contrast to the 136 metropolitan areas in the study which posted an average growth rate of 7.4%. All four of NEO metropolitan areas were ranked in the 4th quartile based on GMP growth rates between 2004 and 2007; Akron was the only area that experienced some growth in GMP (2.9%). Comparison to previous 3-year trends (2002-2005 and 2003-2006) indicates that all four areas lost rankings in GMP growth. If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #126 in GMP growth between 2004 and 2007, a lower rank than its rank of #113 in the previous 3 years, 2003-2006.

The leading metropolitan areas in GMP growth are Austin-Round Rock, TX; Charlotte-Gastonia-Concord, NC-SC; Oklahoma City, OK; Raleigh-Cary, NC; and San Antonio, TX. Austin, Charlotte, and Raleigh were also leading areas in terms of employment growth. Additionally, Oklahoma City and San Antonio were only identified as leaders in terms of GMP growth. The selection of the leading metro areas again shows that metropolitan areas with high legacy costs are not among the leaders.

Seven indicators are associated with growth in GMP: Technology Commercialization, Racial Inclusion & Income Equality, Urban Assimilation, Legacy of Place, Business Dynamics, Individual Entrepreneurship, and Urban/Metro Structure.

The leading areas were all ranked in the 1st quartile in GMP growth between 2004 and 2007 and the majority improved in at least three of the indicators. In Technology commercialization, three leading metro areas, two large Midwest (Minneapolis and Pittsburgh) and two in Northeast Ohio (Akron and Canton) improved ranks between 2005 and 2007. Both Akron and Cleveland ranked in the 2nd quartile in Technology Commercialization (#53 and #68, respectively). In Racial Inclusion & Income Equality,

four of the five leading areas improved between 2005 and 2007, along with Youngstown, Kansas City, and Pittsburgh. The Canton metropolitan area is ranked in the 2nd quartile, the Akron and Youngstown areas are ranked in the 3rd quartile, and the Cleveland area ranked in the 4th quartile. Improvements in Business Dynamics between 2005 and 2007 occurred in four leading metro areas, and the Cleveland, Cincinnati, and Indianapolis metropolitan areas. In Individual Entrepreneurship, four leading areas improved along with the Canton and Cleveland areas in Northeast Ohio and Columbus and Minneapolis. Three NEO areas ranked in the 3rd quartile and only Akron ranked in the 4th quartile.

NEO metro areas ranked very low in GMP growth between 2004 and 2007. Small improvements in the indicators associated with GMP growth may suggest that Northeast Ohio may begin to see some improvement in GMP once the nation and the region recover from the current recession.

REGIONAL PERFORMANCE BY PRODUCTIVITY AND ASSOCIATED INDICATORS

Productivity measures GMP per employee and provides a proxy for regional competitiveness. From 1997 to 1998, Northeast Ohio reflected the trends of the nation and sample average before experiencing a decline in 1999, during which time the sample average and the nation continued to grow. Productivity in Northeast Ohio continued to decline through 2001 before reversing the trend with a steady increase at the national rate until 2004. But between 2004 and 2007, Northeast Ohio's rate of growth was flat (0.2%) compared to a 2.4% growth for the sample average. The sample average and U.S. productivity have experienced high growth rates except for the decline in 2001. Productivity in the United States grew by 16.1% during the years from 1997 to 2007 and productivity in the sample average grew by 13.9%, twice as fast as productivity in Northeast Ohio (6.8%). By 2007, productivity in the United States was 10.5% higher than productivity in Northeast Ohio.

Three NEO metro areas—Akron, Cleveland, and Youngstown were ranked in the 3rd quartile in productivity growth between 2004 and 2007. Akron and Youngstown improved their ranks in comparison to growth trends between 2002 and 2005. The Youngstown area grew the fastest among NEO's areas (1.3%) and it ranked #80. If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #97 in productivity growth, a lower rank than #68 in the previous 3 years, 2003-2006.

Five metropolitan areas were selected as leaders: Bridgeport-Stamford-Norwalk, CT; Hartford-West Hartford-East Hartford, CT; Omaha-Council Bluffs, NE-IA; Pittsburgh, PA; and Rochester, NY. Three of these metro areas are also leaders in terms of growth in per capita income—Bridgeport, Hartford, and Pittsburgh. This is consistent with the study's regional economic growth framework that shows that both economic growth measures are associated with similar indicators. The Omaha and Rochester metropolitan areas are identified only as leaders in productivity growth.

According to the framework of regional change, there are five indicators that are positively associated with productivity growth: Skilled Workforce and R&D, Technology Commercialization, Racial Inclusion & Income Equality, Urban Assimilation, and Legacy of Place. The first three indicators are also associated with growth of per capita income.

Comparing the ranks of NEO metro areas in each of the associated indicators in 2005 and 2007 shows that some have improved. The Canton, Cleveland, and Youngstown areas improved their ranks in Skilled Workforce and R&D. Cleveland was ranked in the 2nd quartile by 2007 (#61) and Akron, although it did not improve, was ranked at #58. The Akron and Canton areas improved in Technology Commercialization, both ranking in the 2nd quartile by 2007. Only the Youngstown metro area improved in Racial Inclusion and Income Equality and the Canton area was the only NEO metro area to improve in Legacy of Place.

NORTHEAST OHIO'S IMPROVEMENT IN VARIABLES THAT UNDERLIE DASHBOARD INDICATORS

There are 36 variables that are included in the dashboard indicators. Northeast Ohio improved in a few of these. Northeast Ohio improved in all of the variables underlying the Skilled Workforce and R&D indicator. Between 2000 and 2007 Northeast Ohio increased its education attainment and professional occupations, including the percentage of population with a bachelor's degree and the percentage of population with a graduate or professional degree. All four NEO metropolitan areas experienced increases in both measures of educational attainments. The percentage of the population in professional occupations also increased in each of the four metropolitan areas and all improved their rank.

The NEO region improved in both industry and university R&D per employee over the period from 2000 to 2007 and the period from 2005-2007. In industry R&D, this increase results from growing R&D in the Akron, Cleveland, and Youngstown areas between 2000 and 2007; however, only Akron improved its rank. Growth in university R&D per employee between 2000 and 2007 occurred in the Akron, Cleveland, and Youngstown areas, but none improved relative to the other metropolitan areas in the study and their ranks declined.

Northeast Ohio also improved in research and commercialization conducted by small companies. Measured by Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR), the ranks of Akron, Canton, and Cleveland areas all improved.

The two measures of segregation show that Northeast Ohio is becoming slightly less segregated over time. The isolation index for Black population (part of the Racial

Inclusion & Income Equality indicator) and the dissimilarity index for Black population (a part of the Legacy of Place indicator) are both declining. Since higher index values indicate higher segregation, these variables point to a less segregated region. All of the region's metro areas improved in the isolation index.

Since 2000, the property crime rate in Northeast Ohio has declined. Property crime rate is a part of the Urban/Metro Structure indicator and the decline was due to improvements occurring in the Akron, Canton, and Youngstown metro areas.

Variables underlying the Urban Assimilation indicator showed improvements over time in Northeast Ohio. However, other regions had more significant improvements and as a result, the metro areas in Northeast Ohio lost ranks in the Urban Assimilation indicator. Northeast Ohio increased its percentage of Hispanic population, percentage of foreign born population, percentage of Asian population, and productivity in the information sector.

Northeast Ohio also improved in the percentage of self-employed, a variable in the Individual Entrepreneurship indicator. It advanced in each of the four metro areas. Between 2005 and 2007, ranking in the percentage of self-employed variable improved in the Akron, Canton, and Cleveland areas.

CONCLUDING COMMENTS

Overall, the performance of Northeast Ohio before the current recession continues to lag other regions across the country. The data suggests, however, that Northeast Ohio and its metropolitan areas improved their ranking in a few measures. A critical improvement is in the rank of 3-year growth trends in per capita income. The Canton, Cleveland, and Youngstown areas, and hence Northeast Ohio, improved their ranks when comparing income growth trends in 2004 to 2007 with 2002 to 2005. Ranks in productivity growth improved only in the Akron and Youngstown areas. These advancements, however, were not accompanied by improvements in the two other measures of economic growth: employment and gross metropolitan product.

All four NEO metropolitan areas improved their ranking between 2000 and 2007 in the important dashboard indicator of Skilled Workforce and R&D. The region improved in all of the variables underlying this indicator. All areas except Akron also improved between 2005 and 2007.

Between 2005 and 2007, both the Akron and Canton metropolitan areas improved their ranks in Technology Commercialization. Canton has continued to improve since 2000. The Cleveland metro area improved in Business Dynamics between 2005 and 2007, following declining ranks between 2000 and 2005. The Canton and Cleveland areas improved ranks continuously in Individual Entrepreneurship both between 2000 and 2005 and between 2005 and 2007.

Analyzing the 2007 ranks for NEO's metropolitan areas indicates that they ranked in the first two quartiles in one to four indicators.[2] The Akron metro area ranked in the 2nd quartile in four indicators—Skilled Workforce and R&D; Technology Commercialization; Locational Amenities; and Urban/Metro Structure. The Canton metro area ranked in the 2nd quartile in two indicators: Racial Inclusion and Income Equality, and Urban/Metro Structure. The Cleveland area ranked in the 1st quartile in two indicators—Locational Amenities and Urban/Metro Structure—and ranked in the 2nd quartile in additional two indicators—Skilled Workforce and R&D and Technology Commercialization. The Youngstown MSA ranked in the 1st quartile in Urban/Metro Structure.

Since the indicators are associated with regional economic growth, NEO's metropolitan areas may advance their performance in economic growth following their improvements in several of the indicators. It remains uncertain how Northeast Ohio will come out of the current recession. How does Northeast Ohio compare to other regions during the economic crisis of 2008 and 2009? How will Northeast Ohio perform relative to others during the recovery? Will the gap in growth trends between the United States or the sample average and Northeast Ohio continue to widen or begin to narrow? It may be possible that the improvements described above point to a beginning of the transformation of NEO's economy, and that the economic development initiatives in place for the past 5 years are beginning to have an impact. These are long-term issues and NEO's economy has been lagging the nation for several decades. However, the Fund for Our Economic Future along with other agencies, leaders, and decision makers are working on issues critical to economic growth such as workforce development, innovation, entrepreneurship, and inclusion. Although the NEO region has a long way to go to close the gap with other regions in the country, this study may be pointing to early signs of progress

While Northeast Ohio is showing some progress over time, other regions have also been engaged in accelerating their economic progress, so Northeast Ohio's future performance in comparison to other regions remains unknown. It is important, therefore, to continue monitoring the progress of Northeast Ohio over time and in comparison to other regions in the United States.

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[2] All NEO MSAs are ranked in the 1st quartile in Legacy of Place. However, as explained before, Legacy of Place is negatively associated with economic growth and high ranks suggest impediments to growth. As a result, these ranks are not being described as highly ranked.

INTRODUCTION

This report describes the findings from the fourth study of dashboard indicators.[3] Dashboard indicators are used to monitor regional economic performance and provide policy makers with a sound information base that can be used to design and track effective strategies and policy interventions. The framework developed in the previous studies resulted in a set of indicators that explain the dynamics of regional economic growth for large and mid-size metropolitan areas in the United States. This study utilizes the same set of dashboard indicators and includes the same sample of 136 metropolitan areas that were included in the previous two studies.

The study's objective is to provide an annual update of the performance of Northeast Ohio (NEO) metropolitan areas over time and in comparison to other metropolitan areas across the United States. This research brings the measures of economic growth up to date as well as the dashboard indicators and the variables that underlie each of them. The Fund for Our Economic Future continues to be the funder of the dashboard indicators studies.[4]

The NEO region is represented by its four Metropolitan Statistical Areas (MSA), including Akron, Canton-Massillon, Cleveland-Elyria-Mentor, and Youngstown-Warren-Boardman. It is expected that the dashboard indicators and the measures of economic growth will continue to be updated annually for policy makers, economic development planners, and political and civic leaders to enable them to track the progress of Northeast Ohio and adjust their strategies as needed.

This report contains eight sections including this introduction. The second section briefly discusses the methodology used in the previous studies, which also serves as the basis for the analysis presented in this report. It introduces the new tasks undertaken in this study, including the selection criteria utilized to identify leading metropolitan areas. The next four sections discuss regional performance in each of the four measures of economic growth—per capita income, employment, gross metropolitan product, and productivity. Each section of economic growth ranks all 136 metropolitan areas

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[3] The first report, *Dashboard Indicators for the Northeast Ohio Economy: Prepared for the Fund for Our Economic Future,* was authored by Randall Eberts, George Erickcek, and Jack Kleinhenz, April 2006. The report was published as Working Paper 06-05 by the Federal Reserve Bank of Cleveland. The second report, *An Update of the Regional Growth Model for Large and Mid-Size U.S. Metropolitan Areas: Dashboard Indicators for the Northeast Ohio Economy*, was prepared by Ziona Austrian, Iryna Lendel, and Afia Yamoah, August 2007. The third report, *Regional Dashboard of Economic Indicators 2008: Comparative Performance of Midwest and Northeast Ohio Metropolitan Areas*, was authored by Ziona Austrian, Afia Yamoah, and Iryna Lendel.

[4] The Fund for Our Economic Future is a collaboration of philanthropic organizations and individuals that have united to strengthen the economic competitiveness of Northeast Ohio through grantmaking, research, and civic engagement. http://www.futurefundneo.org/

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included in the study based on 10-year and 3-year trends and then compares the performance of NEO metropolitan areas to the leading metro areas, other areas in the Midwest, and the average of all metropolitan areas included in this study. It also shows the indicators associated with each measure and highlights where improvements occurred. The seventh section tracks the performance of Northeast Ohio as a region. It uses selected variables which underlie the indicators to monitor the performance of Northeast Ohio between 2000 and 2007. The report concludes with comments and plans for future updates.

METHODOLOGY

This report presents an analytical framework that has evolved over the course of the three previous studies. Initially developed by Upjohn Institute and Kleinhenz & Associates, the model of regional growth was then enhanced by the Center for Economic Development at Cleveland State University. The final framework establishes a statistical association between four measures of economic growth and nine indicators describing regional socioeconomic characteristics. It assumes that the structure of the economy did not change since 2000, the base year in which most variables included in the final framework were collected. The majority of the variables for this update measure socioeconomic characteristics of regions in 2007; however, for some variables the most recent data are from 2006. For a few variables, the data were not updated because they are not available annually (Table A-1 in Appendix A).

MODEL OF REGIONAL GROWTH AND REGIONAL INDICATORS

The relationships between the measures of economic growth and the regional indicators are based on data for 36 variables from 136 U.S. metropolitan areas with population between 300,000 and 3.5 million.[5] Four metropolitan areas in Northeast Ohio are included in the study: Akron, Canton-Massillon, Cleveland-Elyria-Mentor, and Youngstown-Warren-Boardman. Their 2007 population ranges from 407,600 in the Canton metropolitan area to 2.1 million in the Cleveland metropolitan area.

A factor analysis was used to reduce the initial number of 36 variables to a smaller set of statistically significant factors that explain more than 88% of the variation in the included variables. These factors, referred to as "dashboard indicators" or simply "indicators," are:

- Skilled Workforce and Research & Development (R&D)
- Legacy of Place
- Urban Assimilation
- Racial Inclusion and Income Equality
- Locational Amenities
- Technology Commercialization
- Urban/Metro Structure
- Individual Entrepreneurship
- Business Dynamics

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[5] Population data for 2005 were used in selecting the 136 MSAs, and are based on the 2003 definition of metropolitan areas provided by the U.S. Office of Management and Budget.

The factors and the variables that define each factor are detailed in Appendix A, Table A-2.[6] The descriptive characteristics of the 136 MSAs were mathematically grouped by factor analysis into eight statistically meaningful factors.[7] Highlighted variables associated with each factor have the highest loading scores that measure the correlation between a specific variable and a corresponding factor. The regional characteristics that these variables approximate collectively describe the unique dimension of each factor as an indicator that might play a role in regional growth (the association of each indicator with regional growth is explained in the next section). The ninth factor, Business Dynamics, was added to the group of dashboard indicators according to the theoretical framework of regional growth and the results of previous studies. The description of each factor and their variables can be found in the previous studies as well as in this study's Appendix A, Section 1.

REGIONAL INDICATORS AND MEASURES OF REGIONAL GROWTH

The model of regional growth describes relationships between four measures of regional growth and nine regional indicators. The four measures of economic growth are:

- Percentage change in per capita income
- Percentage change in employment
- Percentage change in gross metropolitan product
- Percentage change in productivity

Per capita income approximates the regional standard of living and is used by many economists as a critical gauge in assessing a region's economic performance.[8] Employment measures job opportunities available to people in the regional labor force but it does not differentiate between low-skill, low-paying jobs and high-skill, high-paying jobs. Gross metropolitan product measures value-added output produced in the

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[6] The factor loadings shown in Appendix A, Table A-2 describe the correlations between the variables (rows) and the factors (columns). The percentage of the variable's variance explained by the factor is calculated by the squared factor loading. For example, the Technology Commercialization factor explains 53% of the variance of venture capital ($0.7306^2=0.5338$).

[7] Even though a factor analysis is a very powerful statistical tool, it is based purely on mathematical reasoning and does not take into consideration theoretical linkages between variables. A researcher's expertise is responsible for selecting the right variables and correctly operationalizing regional characteristics that the variables approximate. Sometimes variables are loaded with unexpected signs for the relationship with a factor or are loaded together with theoretically unrelated variables. The communality of a variables' variation is the only decisive factor that places variables together within the same mathematical dimension or statistical factor.

[8] Per capita personal income is calculated as the personal income of the residents of an area divided by the population of that area. Per capita income gives no indication of the distribution of that income within the region.

region and is the regional counterpart to the national gross domestic product. Productivity measures gross metropolitan product per employee and approximates regional competitiveness.

To estimate the relationships between the nine factors and the four measures of economic growth, four regressions were conducted using the factor scores as independent variables and the percentage change in each economic growth measure as the dependent variables. Factors that were statistically significant are listed as the dashboard indicators that are associated with the economic performance measures.

The nine indicators vary in their relationship with the four measures of economic growth; furthermore, not all indicators are associated with every measure of economic growth. Based on a regression analysis, Table 1 shows the indicators that explain (but not necessarily cause) changes in each output measure. Appendix A, Table A-3 describes the statistical association between each of the indicators and the measures of economic growth. [9] For example, the table suggests a statistical association between Technology Commercialization and growth in per capita income, but it does not necessarily mean that an increase in Technology Commercialization will cause an increase in regional per capita income.

Table 1. Indicators' Impact on Regional Economic Growth

Per Capita Income	Employment	GMP	Productivity
Skilled Workforce and R&D			Skilled Workforce and R&D
Technology Commercialization		Technology Commercialization	Technology Commercialization
Racial Inclusion and Income Equality	Racial Inclusion and Income Equality	Racial Inclusion and Income Equality	Racial Inclusion and Income Equality
	Urban Assimilation	Urban Assimilation	Urban Assimilation
	Legacy of Place*	Legacy of Place*	Legacy of Place*
	Business Dynamics	Business Dynamics	
	Individual Entrepreneurship	Individual Entrepreneurship	
Locational Amenities			
	Urban/Metro Structure	Urban/Metro Structure	

* Denotes that the indicator is negatively related to the measure of economic growth.

The framework shows that there are two types of growth patterns in regional economies, although many regions follow both patterns. One reflects restructuring through research and technological innovation that result in growth of per capita income and productivity. The second pattern creates larger scale economies through

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[9] The indicators account for only a proportion of the variation in the measures of economic growth. Based on adjusted R^2 of the regression models, the indicators explain 47.1% of the variation in per capita income growth; 61.8% of the variation in employment growth, 67.6 % of the variation in gross metropolitan product growth, and 22.2% of the variation in productivity growth.

business dynamics and results in an increase of employment and gross metropolitan product.

The Skilled Workforce and R&D indicator affects only growth in per capita income and productivity. This type of growth exists in dynamic economies that are driven by the creativity of a skilled workforce paired with an abundance of research and development resources to result in the deployment of new technologies within a region. Technology Commercialization is associated with growth of not only per capita income and productivity but also of employment.

Three indicators affect growth in employment and Gross Metropolitan Product (GMP), showing the scale of the economy: Business Dynamics, Individual Entrepreneurship, and Urban/Metro Structure. The regions that experience primarily this type of growth may not be the fastest growing, but their size provides them with an opportunity for economic diversification, generating steady growth and compensating for declines during recessionary periods. Only one indicator, Racial Inclusion and Income Equality, is related to all four measures of economic performance. Not every metropolitan area fits into one of the two patterns, and many MSAs experience both types of growth.

STUDY UPDATE

Using the research framework describing relationships between variables and indicators and between dashboard indicators and output measures that was established in the three previous studies, this report presents updated measures for each of the nine dashboard indicators and four measures of regional economic growth.

The large majority of all updated variables used 2007 data. Some exceptions (with latest data availability in parenthesis) include National Science Foundation's industry R&D (2006), business openings and closings (2006), dissimilarity and isolation indices for Blacks (2006), share of minority business employment (2002), share of all students who attend schools with more than 70% free lunches (2006), and share of business establishments with less than 20 workers (2006).[10]

To calculate the dashboard indicators, the study used the same coefficients that relate each variable to an appropriate indicator developed with the 2000 data. The current study assumes that there were no significant structural changes in the economy since these coefficients were established. Even though it imposes certain reservations about the study results, this technique allows us to compare the changes in the indicators between years and analyze what variables might affect such changes.

All 136 MSAs were ranked by the newly calculated factor scores. This study compares ranking for 3 years: 2005, 2006, and 2007. As in the previous studies, ranks are divided

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[10] Information on the data sources is included in Appendix A, Table A-1.

into quartiles, where the 1st quartile includes ranks #1 to #34, the 2nd quartile includes ranks of #35 to #68, the 3rd quartile consists of ranks #69 to #102, and the 4th quartile includes ranks #103 to #136. Changes in ranks across the years are analyzed using changes in the underlying variables.

The report highlights three groups of metropolitan areas: leading, large Midwest, and Northeast Ohio. Leading metropolitan areas are identified for each of the four measures of economic growth using certain selection criteria that attempt to include areas that are growing with some areas that have legacy costs. Because similar indicators are associated with changes in both per capita income and productivity, the same selection criteria were used for both measures. Another set of criteria was used to identify the leaders in terms of growth in employment and GMP.

Selection Criteria for Leading Metropolitan Areas in Terms of Growth in Per Capita Income and Productivity

The following criteria are used:

- Total employment of at least 400,000
- Rank in the first two quartiles (#1 - #68) in the Legacy of Place indicator
- Meet two of the following three criteria:
    - Rank in the 1st quartile (#1 - #34) in short-term growth (2004-2007).
    - Rank in the 1st quartile (#1 - #34) in long-term growth (1997-2007).
    - Improved ranking between the rank based on 2002-2005 trend and the rank based on the 2004-2007 period (3-year rolling average).

Selection Criteria for Leading Metropolitan Areas in Terms of Growth in Employment and Gross Metropolitan Product

When the above criteria were used to select leading metro areas in terms of employment and GMP, no leaders were found among areas with high legacy costs. Thus, metropolitan areas that have high legacy costs are not among the leaders in growth of employment and GMP. Selection criteria were changed by eliminating the Legacy of Place criterion, enforcing the three other criteria (not just 2 out of 3) and increased the minimum level of employment. Thus, the following criteria are used:

- Employment of at least 500,000.
- Meet all three criteria:
    - Rank in the 1st quartile (#1 - #34) in short-term growth (2004-2007).
    - Rank in the 1st quartile (#1 - #34) in long-term growth (1997-2007).
    - Improved ranking between the rank based on 2002-2005 trend and the rank based on the 2004-2007 period (3-year rolling average).

Table 2 shows the list of leading metropolitan areas for each measure of economic growth.

Table 2.   Leading MSAs by Measures of Economic Growth

MSA	Per Capita Income	Employment	Gross Metro Product	Productivity
Austin-Round Rock, TX		√	√	
Baltimore-Towson, MD	√			
Bridgeport-Stamford-Norwalk, CT	√			√
Charlotte-Gastonia-Concord, NC-SC		√	√	
Hartford-West Hartford-East Hartford, CT	√			√
Oklahoma City, OK			√	
Omaha-Council Bluffs, NE-IA				√
Pittsburgh, PA	√			√
Providence-New Bedford-Fall River, RI-MA	√			
Raleigh-Cary, NC		√	√	
Rochester, NY				√
Salt Lake City, UT		√		
San Antonio, TX			√	

Thirteen metro areas are identified as leaders in at least one measure of economic growth. Of these, six areas are identified as leaders in two measures. As shown in Table 1, similar indicators are associated in growth of both per capita income and productivity. Thus, it is not surprising that three metro areas are identified as leaders in both of these measures of economic growth—Bridgeport, CT; Hartford, CT; and Pittsburgh, PA. Baltimore, MD, and Providence, RI, are also leaders in income growth, while Omaha, NE, and Rochester, NY, are leaders in productivity growth.

Similarly, there are three other metropolitan areas that are leaders in growth according to both employment and GMP: Austin, TX; Charlotte, NC; and Raleigh, NC. Salt Lake City, UT, is also a leader in employment growth and Oklahoma City, OK, and San Antonio, TX, are leaders in growth of GMP. The study ranks all 136 metropolitan areas by the four measures of economic growth using 10-year and 3-year growth rates and by each of the nine indicators.[11] The following sections present regional performance according to each of the four economic growth measures and they examine the indicators that are associated with that economic growth measure.

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[11] The rankings of the four measure of economic growth and the nine indicators are provided for all 136 metropolitan areas in Appendices B and C. In the ranking tables in Appendices B and C, the apparent ties in percentage change in the measures of economic growth and the factor scores are only due to rounding of the numbers to two decimal places.

REGIONAL PERFORMANCE BASED ON PER CAPITA INCOME AND ASSOCIATED INDICATORS

This section of the report describes long-term (1997 to 2007) and short-term (2004 to 2007) trends in per capita income. It compares Northeast Ohio and its metropolitan areas to leading metropolitan areas,[12] large Midwest metro areas,[13] the average of all metro areas in the study (sample average), and the United States. The long-term and short-term changes are then compared to the previous studied periods (1995-2005 and 1996-2006 for long-term trends, and 2002-2005 and 2003-2006 for short-term trends). In addition, this section describes the performance of these metropolitan areas in the indicators that are associated with growth in per capita income. Detailed tables showing the long-term changes, short-term changes, and rankings in per capita income growth for all metro areas in the study are provided in Appendix B (Tables B-1 and B-2). Detailed tables showing the indicators' scores and ranks for 2005, 2006, and 2007 for all 136 MSAs are included in Appendix C (Tables C-1 to C-9). This section also includes an estimate of how the Cleveland metro area (the largest metro area in Northeast Ohio) would perform if it grew at the rate of the sample average.

Figure 1 shows per capita income for Northeast Ohio, the sample average, and the United States from 1997 to 2007. Per capita income in the sample average and the United States follow a similar pattern over this time period. Per capita income for Northeast Ohio also followed the same trend as the United States from 1996 to 1998 and was higher than both the sample average and the nation during that time. However, by 1999, per capita income in Northeast Ohio had fallen below the sample average and by 2000 it fell below national levels. After 2000, per capita income declined for all three groups; however, Northeast Ohio declined at a faster rate and also experienced a lower rate of increase during the recovery that started in 2004. Per capita income in Northeast Ohio grew by 3.6% between 2004 and 2007, slower rate of growth than in the United States (6.1%) and the sample average (5.3%). As a result, the gap in per capita income continued to increase and by 2007, Northeast Ohio per capita income of $36,338 was 6.3% lower than that of the United States ($38,615). In 2007, the difference in per capita income between Northeast Ohio and the nation amounted to $2,277.

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[12] Leading metropolitan areas were identified for each measure for economic growth using criteria described in the methodology section.

[13] Metropolitan areas in Northeast Ohio are compared to eight other Midwest metro areas that are comparable to the Cleveland metro area according to their 2007 population. Later in the report we refer to this subset of Midwest MSAs as large Midwest metro areas.

Figure 1. Per Capita Income, 1997-2007*

*Per Capita income is adjusted for inflation to 2007 dollars.
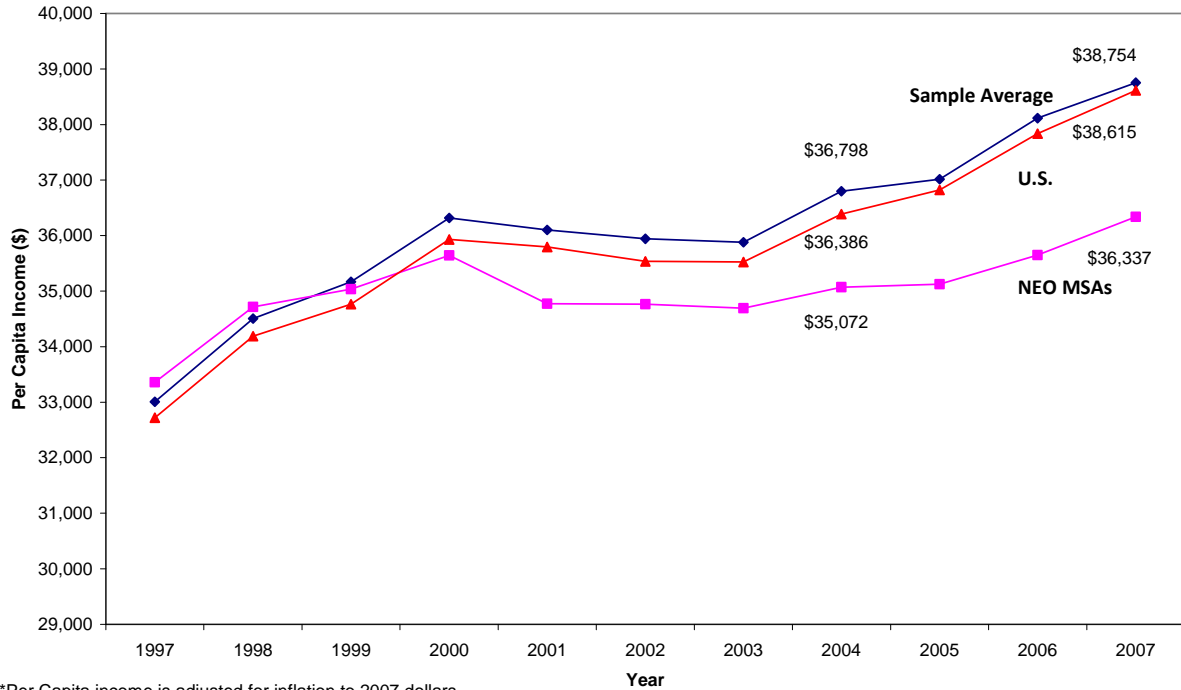
LEADING METROPOLITAN AREAS

The five leading metropolitan areas in per capita income growth according to the criteria specified earlier (and in alphabetical order) are Baltimore-Towson, MD; Bridgeport-Stamford-Norwalk, CT; Hartford-West Hartford-East Hartford, CT; Pittsburgh, PA; and Providence-New Bedford-Fall River, RI-MA.

One of the reasons **Baltimore, MD,** is a leader is the high educational attainment of its residents. For example, 33% of employees in Baltimore County have bachelor's degrees and above. Baltimore's high-tech talent stems from the region's 25 colleges and universities including John Hopkins. **Bridgeport-Stamford, CT,** is another leader with a diverse economy that has high concentration of Fortune 500 headquarters. The region benefited from the relocation of corporate headquarters from New York City citing lower costs of doing business and higher quality of life. Among the firms located in Stamford are General Electric, Capital Corporation, Pitney Bowes, Clairol, Xerox Corporation, Champion International, Gartner Group, Omega Engineering, and Hyperion Software. **Hartford, CT,** also benefits from its location being a 2-hour drive from both New York City and Boston. Both Bridgeport and Hartford are in a state where its students achieved top ranks in the nation in standardized tests in math, writing, and reading, and they lead the nation in high school completion rates. **Pittsburgh, PA,** was able to transform its economy from a heavy reliance on steel and traditional manufacturing into a more diversified economy.   The Pittsburgh region is home to more

than $100 billion-plus global corporations spanning advanced manufacturing, information and communications technology, and the life sciences. It benefits from a strong academic community led by Carnegie Mellon University and the University of Pittsburgh. The region also has initiatives to fund start-up companies and provide them with technical assistance, as well as programs to slow the brain drain and attract talented professionals. **Providence, RI,** is growing in business services, healthcare, and educational sectors. Its two main academic institutions are Brown University and the Rhode Island School of Design. Building initiatives in downtown Providence with a price tag of $2.8 billion came to a halt with the current recession and the inability to receive financing except for continued construction at Brown University.

LONG-TERM CHANGES IN PER CAPITA INCOME

Table 3 shows the five leading metro areas in per capita income growth. Among these, per capita income grew at the fastest rate between 1997 and 2007 in Bridgeport, CT, (33.8%), which ranked #6. It also ranked very high (#7 and #5) in the two previous 10-year trends.   Baltimore, MD, also ranked very high in terms of 10-year growth in per capita income, ranking #12 in growth between 1997 and 2007, #13 between 1996 and 2006 and #11 between 1995 and 2005. Providence, RI, ranked in the 1st quartile in all three 10-year trends. Hartford ranked in the 2nd quartile, but improved its rankings from #50 in growth between 1995 and 2005 to #35 in growth between 1997 and 2007.

Pittsburgh which is both a leading metropolitan area and a large Midwest area improved both in ranking and quartile. Ranking the highest among the large Midwest metropolitan areas (#29) with a per capita income growth rate of 22.2%, it was the only Midwest metro area ranked in the 1st quartile from 1997 to 2007. It improved from being in the 2nd quartile with a rank of #37 between 1995 and 2005. Among other large Midwest metro areas, Minneapolis, MN, was the only Midwest area that ranked in the 2nd quartile (#53) and it grew by 17.7%. However, Minneapolis fell from the 1st quartile in growth during the years from 1995 to 2005. In the previous two 10-year trends, all other large Midwest metro areas (except for Pittsburgh and Minneapolis) were ranked in the 3rd quartile, but in the most recent 10-year trends four metro areas ranked in the 3rd quartile in growth in per capita income, while two areas dropped to the 4th quartile—Cincinnati, OH, and Columbus, OH.

Table 3. Long-Term Growth in Per Capita Income, 1995-2005, 1996-2006, and 1997-2007

Metropolitan Areas	Long-Term Change (1995-2005)			Long-Term Change (1996-2006)			Long-Term Change (1997-2007)		
	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile
Leading MSAs*									
Baltimore-Towson, MD	26.7	11	1	27.6	13	1	27.4	12	1
Bridgeport-Stamford-Norwalk, CT	28.4	5	1	32.6	7	1	33.8	6	1
Hartford-West Hartford-East Hartford, CT	18.5	50	2	21.2	37	2	20.6	35	2
Pittsburgh, PA*	19.2	37	2	21.9	32	1	22.2	29	1
Providence-New Bedford-Fall River, RI-MA	20.4	30	1	22.4	29	1	22.1	31	1
NEO MSAs									
Akron, OH	12.0	99	3	12.8	102	3	10.9	105	4
Canton-Massillon, OH	6.3	121	4	5.6	127	4	5.1	126	4
Cleveland-Elyria-Mentor, OH	8.6	115	4	10.0	110	4	9.5	111	4
Youngstown-Warren-Boardman, OH-PA	3.6	131	4	7.5	119	4	6.1	121	4
Midwest MSAs									
Cincinnati-Middletown, OH-KY-IN	15.9	71	3	14.0	91	3	11.2	104	4
Columbus, OH	13.7	89	3	13.6	95	3	10.9	107	4
Indianapolis-Carmel, IN	13.7	88	3	13.7	92	3	12.0	99	3
Kansas City, MO-KS	14.3	84	3	15.2	83	3	14.5	85	3
Milwaukee-Waukesha-West Allis, WI	14.7	80	3	16.6	72	3	15.5	73	3
Minneapolis-St. Paul-Bloomington, MN-WI	19.8	32	1	18.5	54	2	17.7	53	2
St. Louis, MO-IL	13.1	92	3	13.5	96	3	12.4	97	3
Sample Average	**16.6**			**18.4**			**17.4**		

Notes: Leading MSAs were selected based on criteria described in the methodology section.
Pittsburgh is a leading MSA as well as a large Midwest MSA.

An analysis of Northeast Ohio shows that all NEO metro areas grew at a significantly slower rate than the sample average (17.4%) between 1997 and 2007 and they all ranked in the 4th quartile. Akron grew the fastest in Northeast Ohio (10.9%), followed by the Cleveland area (9.5%). Even though Akron's per capita income grew the fastest among NEO areas, its ranking dropped by 6 positions from #99 in the 1995 to 2005 period to #105 in the most recent 1997 to 2007 period. The Canton metro area also fell in rankings. In contrast, Cleveland and Youngstown metropolitan areas gained rankings. The Cleveland area improved by 4 positions, moving from #115 to #111 and the Youngstown area advanced 10 positions to #121.

If Northeast Ohio had been ranked within the 136 metro areas, it would be ranked #113 in 1997 to 2007 growth in comparison to #111 in the previous 10 years, 1996 to 2006.

<u>What if the Cleveland metro area would have grown at a faster rate?</u>
Cleveland's per capita income growth of 9.5% from $35,594 in 1997 to $38,963 in 2007 was at a slower rate than all other large Midwest metro areas.[14] If the Cleveland metro area had grown at the same rate as the sample average (17.4%), per capita incomes in 2007 would have been $41,790. That means that in 2007 every person in the Cleveland MSA would have had additional income of $2,827.

SHORT-TERM CHANGES IN PER CAPITA INCOME

Table 4 compares the short-term growth rate of per capita income, rank, and quartile for the 2004 to 2007 period with the previous 3-year periods, 2003 to 2006 and 2002 to 2005. It focuses on the five leading metropolitan areas, four metro areas in Northeast Ohio, large metro areas in the Midwest, and the sample average (the Pittsburgh area is both a leading metro area and part of the Midwest list, but is presented in the table among the leading metropolitan areas). Pittsburgh ranked by far the highest among large Midwest metro areas (#27) and was the only Midwest metro area in the 1st quartile; moreover, it ranked second among the leading MSAs. Pittsburgh improved its rank continuously from #70 in the 2002 to 2005 period, to #49 in the 2003 to 2006 period, and #27 in the latest period. It also improved in quartile during these years moving from the 3rd quartile to the 1st. In addition to Pittsburgh, two other leading metro areas were ranked in the 1st quartile—Bridgeport and Hartford, CT, and both areas improved their rankings and quartiles. Baltimore, MD, and Providence, RI, ranked in the 2nd quartile in 3-year growth in per capita income in both the 2002 to 2005 and 2004 to 2007 period.

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[14] Per capita income in 1997 is inflated to 2007 dollars.

Table 4. Short-Term Growth in Per Capita Income, 2002-2005, 2003-2006, and 2004-2007

Metropolitan Areas	Short-Term Change (2002-2005)			Short-Term Change (2003-2006)			Short-Term Change (2004-2007)		
	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile
Leading MSAs*									
Baltimore-Towson, MD	5.5	38	2	7.5	43	2	6.7	37	2
Bridgeport-Stamford-Norwalk, CT	6.0	35	2	15.9	7	1	14.2	5	1
Hartford-West Hartford-East Hartford, CT	3.7	56	2	8.0	42	2	7.5	30	1
Pittsburgh, PA*	3.0	70	3	6.9	49	2	7.9	27	1
Providence-New Bedford-Fall River, RI-MA	3.3	65	2	4.9	74	3	5.7	49	2
NEO MSAs									
Akron, OH	2.4	82	3	3.1	102	3	3.8	84	3
Canton-Massillon, OH	-1.1	125	4	-0.5	130	4	1.5	118	4
Cleveland-Elyria-Mentor, OH	1.1	103	4	3.6	96	3	4.1	80	3
Youngstown-Warren-Boardman, OH-PA	0.4	111	4	0.8	122	4	2.4	105	4
Midwest MSAs									
Cincinnati-Middletown, OH-KY-IN	1.5	97	3	2.6	109	4	1.5	119	4
Columbus, OH	-1.0	124	4	0.4	125	4	1.9	108	4
Indianapolis-Carmel, IN	-0.1	120	4	1.5	115	4	0.3	132	4
Kansas City, MO-KS	0.1	116	4	3.0	103	4	3.7	86	3
Milwaukee-Waukesha-West Allis, WI	0.1	115	4	4.5	80	3	6.1	43	2
Minneapolis-St. Paul-Bloomington, MN-WI	3.1	69	3	4.0	87	3	3.7	85	3
St. Louis, MO-IL	0.7	109	4	1.6	112	4	3.6	89	3
Sample Average	**3.0**			**6.2**			**5.3**		

Notes: Leading MSAs were selected based on criteria described in the methodology section.
Pittsburgh is a leading MSA as well as a large Midwest MSA.

Among other large Midwest metro areas only Milwaukee, WI, ranked in the 2nd quartile following a significant improvement from being ranked #115 in growth of per capita income between 2002 and 2005 to #43 in during the 2004 to 2007 years. Kansas City and St. Louis, MO, improved their rankings and moved to the 3rd quartile and Columbus, OH, improved its rankings within the 4th quartile. Cincinnati, OH; Indianapolis, IN; and Minneapolis, MN, lost rankings.

Northeast Ohio as a region improved its ranking in short-term trends. The four metropolitan areas in Northeast Ohio improved their ranking when comparing trends in 2004 to 2007 to the previous 3-year period, 2003 to 2006. Three of the areas improved rankings when comparing trends in 2004 to 2007 to the earlier period of 2002 to 2005 (Canton, Cleveland, and Youngstown). Over the latest 3-year period, 2004 to 2007, the Cleveland and Akron metropolitan areas ranked in the 3rd quartile in growth of per capita income. The Cleveland area's per capita income grew by 4.1% and ranked #80.

If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #88 in comparison to #93 in the previous 3 years, 2003 to 2006. However, the metro areas in Northeast Ohio still grew at a slower rate than the sample average of 5.3% and ranked in the 3rd quartile (Akron and Cleveland) and 4th quartile (Canton and Youngstown).

<u>What if the Cleveland metro area would have grown at a faster rate?</u>
Per capita income in the Cleveland metro area grew by 4.1% between 2004 and 2007, to a level of $38,963, making Cleveland the highest ranked among the metropolitan areas in Northeast Ohio. If the Cleveland metro area grew at the same rate as the sample average of 5.3%, its income would have increased by $443 per person to a level of $39,406. Per capita income in the Cleveland MSA would have reached $39,504, or an additional $541, if it would have grown at the average growth rate for metropolitan areas that ranked in the 2nd quartile.

ASSOCIATION BETWEEN GROWTH IN PER CAPITA INCOME AND RELATED INDICATORS

According to the framework of regional change, there are four indicators that are positively associated with growth in per capita income: Skilled Workforce and R&D, Technology Commercialization, Racial Inclusion and Income Equality, and Locational Amenities. The Locational Amenities indicator is excluded from the analysis because its variables are updated infrequently. Table 5 shows the five leading metro areas, the four NEO metro areas, and the seven metro areas in the Midwest, their growth in per capita income and their related indicators. In addition to showing the ranks in growth of per capita income between 2004 and 2007 (as in Table 3), it shows whether the ranks improved in comparison to the previous 3-year periods. More important, it shows the

ranks in 2007 in each of the three associated indicators and then indicates whether their ranks improved in comparison to previous years.[15]

Bridgeport, CT, is the top leading metropolitan area by our criteria ranking as #5 in terms of growth in per capita income between 2004 and 2007. It ranked #7 in the previous 3 years (2003-2006) and improved significantly from being ranked #35 between 2002 and 2005. What was Bridgeport's rank in the associated indicators? Bridgeport was ranked very high in two of the three associated indicators: it ranked #10 in Workforce and R&D and #5 in Technology Commercialization. It ranked in the 3rd quartile in Racial Inclusion and Income Equality. The four other leading metro areas were ranked relatively high in growth of their per capita income and all showed improvements over the previous 3-year periods. Pittsburgh, PA, and Hartford, CT, improved in rankings in all three indicators, while Baltimore, MD, and Providence, RI, improved their ranks in two of the indicators.

Pittsburgh's improvement in the Skilled Workforce and R&D indicator from #55 in 2005 to #47 in 2007 is due to improvements in 6 of the 7 underlying variables including the percentage of the population in professional occupations (#49 in 2005 to #43 in 2007), the percentage of the population with a graduate degree or professional degree (#51 in 2005 to #47 in 2007), industry R&D per employee (#35 in 2005 to #29 in 2007), SBIR/STTR awards[16] (#37 in 2005 to #30 in 2007), population dependency (#94 in 2005 to #91 in 2007), and university R&D per employee (#46 in 2005 to #20 in 2007). Pittsburgh also improved in Technology Commercialization primarily because of improvements in venture capital per employee (from #55 in 2005 to #28 in 2007). Pittsburgh's improvement in Racial Inclusion and Income Equality is a result of improvements in the share of students at schools with more than 70% free lunch (#48 in 2005 to #15 in 2007) and the violent crime rate (#43 in 2005 to #39 in 2007).

Hartford, CT, had a high rank and improved its ranking in Skilled Workforce and R&D from #25 in 2005 to #22 in 2007 because of an increase in the percentage of the population with a graduate degree (#12 in 2005 to #7 in 2007), population

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[15] Improved ranking is defined when ranks move down by three places. For example, the Cleveland metropolitan area improved by three places, from #64 in 2005 to #61 in 2007. We consider improvement in rankings to occur if the metro area experienced improvement between 2006 and 2007 or between 2005 and 2007.

[16] The U.S. Small Business Administration (SBA) Office of Technology administers the Small Business Innovation Research (SBIR) Program and the Small Business Technology Transfer (STTR) Program. Through these two competitive programs, SBA ensures that the nation's small, high-tech, innovative businesses are a significant part of the federal government's research and development efforts. Eleven federal departments participate in the SBIR program; five departments participate in the STTR program awarding $2 billion to small high-tech businesses. http://www.sbir.gov/about/index.htm

dependency[17] (#70 in 2005 to #47 in 2007), and in university R&D per employee (#73 in 2005 to #41 in 2007).   Hartford also improved in Racial Inclusion & Income Equality due to three variables: the percentage of Black population, share of all students who attend schools with more than 70% receiving free lunches, and the violent crime rate.

Among the other large Midwest areas (besides Pittsburgh that was also a leader), Milwaukee, WI, not only grew the fastest (6.1%, #43), but it also improved its ranking compared to the previous 3-year growth trends. It ranked in the 2nd quartile and showed improvement between 2006 and 2007 in two of the three indicators: Skilled Workforce and R&D and Technology Commercialization. The lower ranked Midwest areas experienced no improvements or improved in only one indicator.

Among the other large Midwest MSAs, 3 were ranked in the 3rd quartile in per capita income growth between 2004 and 2007 and 3 were ranked in the 4th quartile. The Minneapolis metropolitan area, ranked #85 in income growth, improved its ranking in Technology Commercialization where it had a high ranking (#27). Although Minneapolis did not improve its ranking in the other two indicators, it was already ranked relatively high. Kansas City metro area, ranked #86 in 2007, improved its rankings in income growth and in one indicator between 2005 and 2007 (Racial Inclusion and Income Equality). In contrast, St. Louis improved its ranking in income growth but showed no improvements in any of the associated indicators.

As discussed previously, *the NEO metropolitan areas improved their ranking in per capita growth. Although they are still ranked in the 3rd and 4th quartiles, they have improved.* How did NEO metro areas perform in the associated indicators? The NEO metropolitan areas improved rankings in the three associated indicators. All four metro areas improved in Skilled Workforce and R&D, advancing in each of the variables underlying this indicator including the measures of educational attainment, professional occupations, and R&D activity. Three NEO areas—Akron, Canton, and Cleveland— improved in Technology Commercialization due to increased venture capital, and two areas—Akron and Youngstown—improved in Racial Inclusion & Income Equality because of improvement in the isolation index and share of all students who attend schools with more than 70% receiving free lunches. Describing the improved performance by metro area shows that the Akron metro area improved rankings in all of the three associated indicators, the Canton and Cleveland areas improved rankings in Labor Force and R&D and in Technology Commercialization, and the Youngstown metropolitan area improved its ranking in Labor Force and R&D and in Racial Inclusion and Income Equality.

Akron, OH, improved in all three of the indicators associated with growth in per capita income—Skilled Workforce and Research & Development, Technology

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[17] Population dependency measures the share of the population that is typically not in the labor force, those younger than 18 and older than 65 years.

Commercialization, and Racial Inclusion & Income Equality. The Akron area improved in five variables associated with Skilled Workforce and Research & Development: the percentage of the population in professional occupations (#71 in 2006 to #57 in 2007), the percentage of the population with a graduate or professional degree (#68 in 2006 to #57 in 2007), industry research and development per employee (#74 in 2005 to #50 in 2007), SBIR/STTR awards (#62 in 2005 to #33 in 2007), and in population dependency (#59 in 2006 to #53 in 2007). Improvement in Technology Commercialization was due to a change in rank in venture capital per employee (#95 in 2005 to #59 in 2007). Akron's improvement in Racial Inclusion & Income Equality was due to a change in the share of share of all students who attend schools with more than 70% receiving free lunches (#78 in 2005 to #58 in 2007).

Cleveland, OH, improved in two of the three associated indicators. Improvement in Skilled Workforce and Research & Development is due to improved rankings in five underlying variables: the percentage of the population in professional occupations (#64 in 2005 to #52 in 2007), the percentage of the population with a graduate or professional degree (#55 in 2006 to #51 in 2007), SBIR/STTR awards (#23 in 2005 to #12 in 2007), population dependency (#113 in 2006 to #106 in 2007), and university research and development per employee (#50 in 2006 to #45 in 2007). In Technology Commercialization, it improved in venture capital per employee (#69 in 2006 to #31 in 2007) and in the number of patents per employee (#49 in 2006 to #44 in 2007).

Table 5. Short-Term Growth in Per Capita Income, 2004-2007, and Associated Indicators

Metropolitan Areas	Per Capita Income				Indicators Associated with Growth in Per Capita Income								
	2004-2007		Improved Ranking in PCI Growth		Improved Ranking in Skilled Workforce and R&D			Improved Ranking in Technology Commercialization			Improved Ranking in Racial Inclusion & Income Equality		
	Percent Change	Rank	Between 2003-06 and 2004-07	Between 2002-05 and 2004-07	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007
Leading MSAs*													
Baltimore-Towson, MD	6.7	37	x		11		x	26	x	x	124		
Bridgeport-Stamford-Norwalk, CT	14.2	5		x	10			5			73		
Hartford-West Hartford-East Hartford, CT	7.5	30	x	x	22	x	x	24	x		52	x	x
Pittsburgh, PA*	7.9	27	x	x	47		x	70		x	71	x	x
Providence-New Bedford-Fall River, RI-MA	5.7	49	x	x	41	x	x	43			43	x	x
NEO MSAs													
Akron, OH	3.8	84	x		58	x		53	x	x	74	x	
Canton-Massillon, OH	1.5	118	x	x	113	x	x	76	x	x	41		
Cleveland-Elyria-Mentor, OH	4.1	80	x	x	61	x	x	68	x		121		
Youngstown-Warren-Boardman, OH-PA	2.4	105	x	x	124	x	x	135			80	x	x
Midwest MSAs													
Cincinnati-Middletown, OH-KY-IN	1.5	119			57			83			100		
Columbus, OH	1.9	108	x	x	27			110			83	x	
Indianapolis-Carmel, IN	0.4	132			52			90	x		98		
Kansas City, MO-KS	3.7	86	x	x	43			78			85		x
Milwaukee-Waukesha-West Allis, WI	6.1	43	x	x	49	x		56	x		119		
Minneapolis-St. Paul-Bloomington, MN-WI	3.7	85			15			27		x	33		
St. Louis, MO-IL	3.6	89	x	x	55			101			117		
Sample Average	**5.3**												

Notes: Leading MSAs were selected based on criteria described in the methodology section.

Pittsburgh is a leading MSA as well as a large Midwest MSA.

Improved ranking is defined when ranks move up by three places. For example, the Cleveland MSA improved by 3 places, from #64 in 2005 to #61 in 2007.

REGIONAL PERFORMANCE BASED ON EMPLOYMENT AND ASSOCIATED INDICATORS

This section describes long-term (1997 to 2007) and short-term (2004 to 2007) trends in employment and compares Northeast Ohio to the average of all metro areas in the study (sample average) and the United States. The long-term and short-term changes are then compared to the previous studied periods (1995-2005 and 1996-2006 for long-term trends, and 2002-2005 and 2003-2006 for short-term trends). As in the previous section on per capita income, this section highlights the leading metro areas and discusses changes in large Midwest and the four NEO metropolitan areas. In addition, this section describes the performance of these metro areas in the indicators that are associated with employment growth. Detailed tables showing the long-term changes, short-term changes, and rankings by employment growth for all metro areas in the study are provided in Appendix B (Tables B-3 and B-4). This section also includes an estimate of how the Cleveland metro area would perform if it grew at the rate of the sample average.

Figure 2 shows employment trends for NEO metro areas, the sample average, and the United States from 1997 to 2007. Employment trends for the sample average and the United States were similar during this time period, even though the gap between the two increased slightly. Both experienced substantial growth from 1997 to 2000 followed by a decline through 2003, and then renewed growth through 2007. In contrast, employment growth in Northeast Ohio also peaked in 2000, before experiencing a much steeper decline. The employment recovery from the recession in Northeast Ohio has been almost nonexistent; the region had not reached the pre-recession level of 2000 and between 2003 and 2007 (the years of the national recovery) employment was flat. Between 2003 and 2007, the United States and the sample average experienced job gains of 5.6% and 6.2%, respectively; between 2006 and 2007, employment in the United States and the sample average continued to grow, while Northeast Ohio lost employment slightly.

Figure 2. Employment, 1997-2007
1997=100
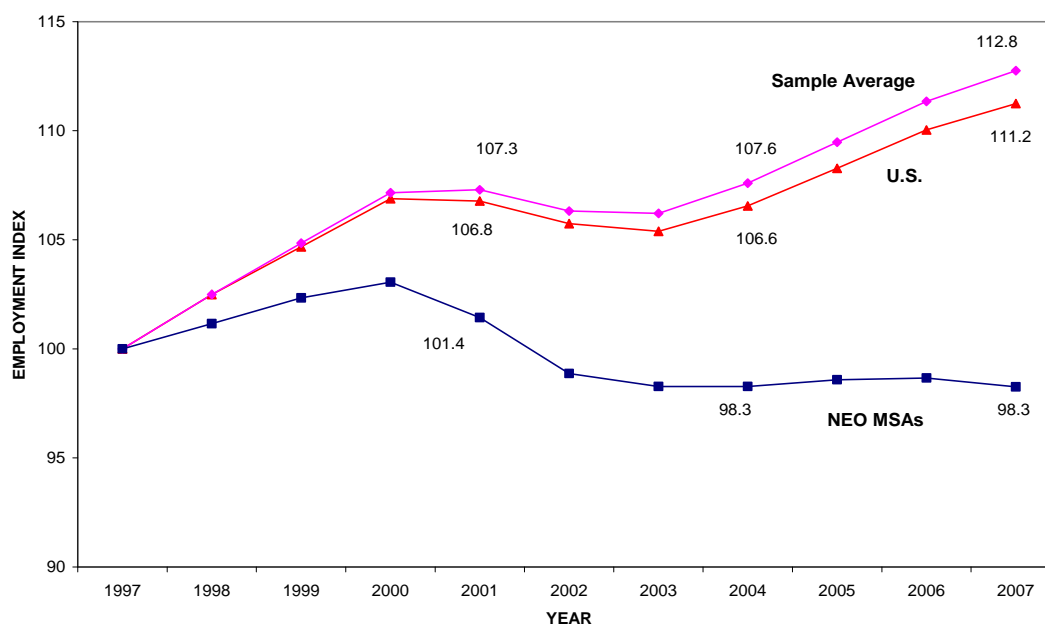
LEADING METROPOLITAN AREAS

Leading metropolitan areas in employment growth were identified for comparison with Northeast Ohio and the Midwest. When using the same selection criteria that were used for per capita income, no leaders were found among areas with high scores in Legacy of Place. When legacy costs were eliminated from the list of criteria, the other three criteria were kept, and employment was limited to at least 500,000, four leading metropolitan areas were identified—Austin-Round Rock, TX; Charlotte-Gastonia-Concord, NC-SC; Raleigh-Cary, NC; and Salt Lake City, UT. It should be noted that all of the leaders in employment growth were regions with low legacy costs and located in the Western and Southern states. The list of leaders in terms of employment growth is completely different from the leaders in per capita growth.

Austin, TX, is known for its high-tech industries and strong academic institutions, primarily the University of Texas at Austin. **Charlotte, NC**, is a growing urban region. It has emerged as a financial, distribution, and transportation center. The area is served by an expanded international airport terminal and it is the 18th most active air transportation center in the nation. The Charlotte region is also at the center of the country's largest consolidated rail system. Over 300 of the *Fortune* 500 companies have facilities in Charlotte, eight of which are headquartered there. **Raleigh, NC,** is part of the Research Triangle Region. It was ranked as #1 Best Place for Doing Business (*Inc.com* 2008). The Raleigh area has a well diversified economy with high employment concentration in the government (the city of Raleigh is the capital city of North

Carolina), education, and healthcare sectors. The region has great universities topped by Duke University as well as strong healthcare facilities. **Salt Lake City, UT,** is a fast growing region in the western market area of the United States. Salt Lake City is the economic, financial, healthcare, and distribution hub for Utah, Southeastern Idaho, Southwestern Wyoming, Eastern Nevada, and Western Colorado.

LONG-TERM CHANGES IN EMPLOYMENT

All four leading metropolitan areas ranked in the 1st quartile in employment growth between 1997 and 2007 and all were also in the 1st quartile in the previous two 10-year periods (Table 6). Two of the leading areas—Austin, TX, and Raleigh, NC—experienced employment growth of more than 30%, more than twice the growth rate of the sample average (13.8%). Charlotte, NC, and Salt Lake City, UT, improved their ranks within the 1st quartile.

Among large Midwest metro areas, Indianapolis ranked the highest with an employment growth rate of 16.6% (ranked #43 for 1997 to 2007 compared to #51 in the previous two 10-year trends); it was the only metro area ranked in the 2nd quartile from 1997 to 2007. All the other Midwest metro areas were in the 3rd or 4th quartiles and experienced a drop in rank, except Kansas City which improved from #106 in the years from 1996 to 2006 to #100 between 1997 and 2007 and Pittsburgh which improved from #116 to #112.

NEO metro areas performed considerably worse than the sample average in employment growth; all metro areas ranked in the 4th quartile. Akron performed the best among NEO metro areas and the only one to experience employment growth (5.8%), growing at less than half the rate of the sample average (13.8%). The other three metropolitan areas in Northeast Ohio lost employment, from the smallest decline in the Cleveland MSA (-2.6%) to the largest loss in the Youngstown MSA (-5.5%); Canton lost 4.4% of its employment base. Comparing the rankings with the two previous 10-year trends shows that there was very little movement in ranking.

If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #127 in growth of employment between 1997 to 2007, almost the same as its rank of #126 in the previous 10 years, 1996 to 2006.

Table 6. Long-Term Growth in Employment, 1995-2005, 1996-2006, and 1997-2007

Metropolitan Areas	Long-Term Change (1995-2005)			Long-Term Change (1996-2006)			Long-Term Change (1997-2007)		
	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile
Leading MSAs									
Austin-Round Rock, TX	33.3	11	1	33.1	12	1	33.1	11	1
Charlotte-Gastonia-Concord, NC-SC	24.0	25	1	25.0	24	1	25.5	17	1
Raleigh-Cary, NC	31.1	14	1	31.0	14	1	31.2	13	1
Salt Lake City, UT	23.5	28	1	22.8	30	1	23.6	22	1
NEO MSAs									
Akron, OH	8.3	102	3	6.8	108	4	5.8	106	4
Canton-Massillon, OH	-0.4	130	4	-3.0	131	4	-4.4	130	4
Cleveland-Elyria-Mentor, OH	0.9	127	4	-0.3	128	4	-2.6	127	4
Youngstown-Warren-Boardman, OH-PA	-2.2	131	4	-2.5	130	4	-5.5	131	4
Midwest MSAs									
Cincinnati-Middletown, OH-KY-IN	11.9	79	3	9.9	89	3	7.9	93	3
Columbus, OH	13.6	67	2	12.9	72	3	11.5	76	3
Indianapolis-Carmel, IN	16.4	51	2	16.3	51	2	16.6	43	2
Kansas City, MO-KS	8.2	103	4	7.5	106	4	6.8	100	3
Milwaukee-Waukesha-West Allis, WI	4.3	117	4	4.4	118	4	3.4	119	4
Minneapolis-St. Paul-Bloomington, MN-WI	13.8	66	2	12.7	75	3	10.9	80	3
Pittsburgh, PA	5.7	114	4	5.3	116	4	4.6	112	4
St. Louis, MO-IL	7.1	109	4	6.5	110	4	5.1	108	4
Sample Average	**15.7**			**15.4**			**13.8**		

Note: Leading MSAs were selected based on criteria described in the methodology section.

<u>What if the Cleveland metro area would have grown at a faster rate?</u>
In comparison to other large Midwest metro areas, Cleveland was ranked the lowest (#127). If Cleveland's employment had grown at the same rate as the sample average (13.8%), there would have been an additional 182,600 jobs in Cleveland by 2007. Instead, at its present rate of decline (-2.6%), Cleveland lost more than 29,000 jobs between 1997 and 2007.

SHORT-TERM CHANGES IN EMPLOYMENT

The four leading metropolitan areas selected by the criteria described earlier are among the top 15 areas measured in employment growth rates between 2004 and 2007. Among the leaders, Raleigh, NC, experienced the highest rate of growth (15.4%) growing 3 times faster than the sample average (4.9%); it ranked #3. All leaders improved in rank and three also moved up in quartiles.

 As shown in Table 7, all large Midwest metro areas, except for Kansas City, MO, were in the 3rd and 4th quartiles and grew slower than the sample average from 2004 to 2007. Kansas City ranked #67 and grew at the sample average rate of 4.9%. Indianapolis, IN, was the second highest ranked area in the Midwest, ranking #72 with a growth rate of 4.4%. Comparing rankings between the time periods of 2003 to 2006 and 2004 to 2007 shows that six of the large Midwest metropolitan areas improved their ranks (except for Indianapolis and Minneapolis). These improvements also contributed to five Midwestern areas improving in quartiles: Kansas City, MO, moved to the 2nd quartile, whereas Columbus, OH, Milwaukee, WI, and St. Louis, MO, moved up to the 3rd quartile.

Three of Northeast Ohio metropolitan areas were ranked in the 4th quartile based on employment growth rates between 2004 and 2007; Akron was the only area that was ranked in the 3rd quartile, although it fell from the 2nd quartile to the 3rd quartile, dropping 58 ranks. There were no improvements in the other metro areas in Northeast Ohio in comparison to the 2002 to 2005 period.

Table 7. Short-Term Growth in Employment, 2002-2005, 2003-2006, and 2004-2007

Metropolitan Areas	Short-Term Change (2002-2005)			Short-Term Change (2003-2006)			Short-Term Change (2004-2007)		
	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile
Leading MSAs									
Austin-Round Rock, TX	5.0	35	2	10.5	16	1	13.2	6	1
Charlotte-Gastonia-Concord, NC-SC	2.6	71	3	7.8	29	1	11.3	13	1
Raleigh-Cary, NC	7.1	18	1	12.1	14	1	15.4	3	1
Salt Lake City, UT	4.2	47	2	10.3	17	1	12.8	7	1
NEO MSAs									
Akron, OH	4.6	42	2	3.6	84	3	2.3	100	3
Canton-Massillon, OH	-4.0	131	4	-2.4	134	4	-1.8	131	4
Cleveland-Elyria-Mentor, OH	-1.0	123	4	0.0	124	4	-0.1	125	4
Youngstown-Warren-Boardman, OH-PA	-0.9	121	4	-0.2	127	4	-1.3	130	4
Midwest MSAs									
Cincinnati-Middletown, OH-KY-IN	2.4	75	3	2.0	109	4	1.9	105	4
Columbus, OH	0.9	96	3	2.3	104	4	3.0	90	3
Indianapolis-Carmel, IN	3.4	59	2	4.2	74	3	4.4	72	3
Kansas City, MO-KS	1.6	88	3	3.6	83	3	4.9	67	2
Milwaukee-Waukesha-West Allis, WI	0.1	108	4	2.4	103	4	3.0	89	3
Minneapolis-St. Paul-Bloomington, MN-WI	2.6	69	3	3.7	80	3	3.3	87	3
Pittsburgh, PA	-0.8	120	4	0.2	123	4	1.1	114	4
St. Louis, MO-IL	0.2	105	4	2.0	107	4	2.7	97	3
Sample Average	**3.4**			**5.2**			**4.9**		

Note: Leading MSAs were selected based on criteria described in the methodology section.

If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #124 in growth of employment between 2004 and 2007; a ranking similar to its ranking of #123 in the previous 3 years, 2003 to 2006.

<u>What if the Cleveland metro area would have grown at a faster rate?</u>
Employment in the Cleveland metropolitan area dropped 0.1% between 2004 and 2007. If Cleveland had grown at the same rate as the sample average (4.9%), it would have had approximately 54,000 more employees by 2007. Instead, Cleveland lost 1,400 jobs.

ASSOCIATION BETWEEN GROWTH IN EMPLOYMENT AND RELATED INDICATORS

Table 8 shows changes in ranks of 3-year trends in employment with the associated factors—Racial Inclusion & Income Equality, Urban Assimilation, Legacy of Place, Business Dynamics, Individual Entrepreneurship, and Urban/Metro Structure. It includes the 4 leading MSAs identified above, metropolitan areas in Northeast Ohio, and the large Midwest areas. The selection of the leading metro areas highlights the fact that metropolitan areas that have relatively high legacy costs are not among the leaders in employment growth. The table also shows the ranks based on the latest data

updates and then indicates whether rankings improved in comparison to previous years and in each of the associated indicators.

All of the leading metropolitan areas are not only highly ranked but they improved their employment growth rankings between the latest 2004 to 2007 years to the previous 3-year periods, 2003 to 2006 and 2002 to 2005. They also ranked low in Legacy of Place (in the 3rd and 4th quartiles), which helped their employment growth because Legacy of Place is negatively associated with growth. All four leading metropolitan areas improved in two indicators—Business Dynamics and Individual Entrepreneurship. In addition to these two indicators, Charlotte, NC, and Raleigh, NC, also improved in Racial Inclusion & Income Equality; and Raleigh, NC, and Salt Lake City, UT, improved in Urban/Metro Structure.

The improvements in indicators result from improvements in some of the underlying variables. For example, **Raleigh's** improvement in ranking in the Business Dynamics indicator from #50 in 2005 to #4 in 2007 is because there is a change in the rank of business openings over business closings variable (from #50 in 2005 to #4 in 2007). Raleigh's improvement in Individual Entrepreneurship from #106 in 2005 to #88 in 2007 is a result of an increase in the percentage and rank of people who are self-employed (from #61 in 2005 to #50 in 2007) and an increased share and rank of business establishments with at least 20 workers (from a rank of #69 in 2005 to #52 in 2007). Raleigh's improvement in Racial Inclusion & Income Equality (from #64 in 2005 to #45 in 2007) is due to three underlying variables: improved rank in income inequality (from #93 in 2005 to #58 in 2007), share of all students who attend schools with more than 70% receiving free lunches (#12 in 2005 to #5 in 2007) and the violent crime rate (#33 in 2005 to #30 in 2007).

Charlotte, NC, improved in the same three indicators as Raleigh. The improvement in Business Dynamics from #84 in 2005 to #24 in 2007 is because there is a change in the rank in business openings over business closings (from #84 in 2005 to #24 in 2007). The improvement in Individual Entrepreneurship from #106 in 2005 to #88 in 2007 is due to improvement in the percentage of people who are self-employed (from #76 in 2005 to #69 in 2007) and in the share of business establishments with at least 20 workers (#108 in 2005 to #104 in 2007). The improvement in Charlotte's ranking in Racial Inclusion & Income Equality from #107 in 2005 to #96 in 2007 is attributed to two underlying variables— share of all students who attend schools with more than 70% receiving free lunches (from #90 in 2005 to #41 in 2007) and the violent crime rate (from #121 in 2005 to #117 in 2007).

The Midwest metropolitan areas, except for Kansas City, KS, ranked primarily in the 3rd and 4th quartile. **Kansas City,** which ranked the highest, improved its ranking in employment growth and in three indicators—Racial Inclusion & Income Equality, Legacy of Place, and Urban/Metro Structure. The improvement in Kansas City's ranking in Racial Inclusion & Income Equality from #91 in 2005 to #85 in 2007 is because of

improvements in all five underlying variables: the percentage of Black population (#90 in 2005 to #86 in 2007), isolation index for the Black population (#117 in 2005 to #114 in 2007), share of all students who attend schools with more than 70% receiving free lunches (#83 in 2005 to #69 in 2007), and the violent crime rate (#100 in 2005 to #94 in 2007). The improvement in Legacy of Place is indicated by a move to a lower rank since this indicator is negatively related to economic growth. The improvement is due to changes in the dissimilarity index and the city/metro area poverty ratio.

In contrast to Kansas City, **Cincinnati, OH,** was ranked only in the 4th quartile, showing a low rank in many of the indicators. It improved in only the Business Dynamics indicator between 2005 and 2007 by advancing in rank in business openings over business closings from #106 in 2005 to #97 in 2007. **Indianapolis** was ranked the 2nd highest among the Midwest areas (#72), did not improve in employment growth, and improved only in Business Dynamics.

The metropolitan areas in Northeast Ohio ranked relatively low and did not show improvement in ranks, with the exception of Canton. Although it ranked very low in employment growth (#131), it improved its rank from the previous 3-year growth. It improved in three indicators, lowering its rank in Legacy of Place, and increasing its rank in Business Dynamics and Individual Entrepreneurship. The Cleveland metropolitan area was also ranked very low in employment growth (#125), and it did not show any improvement in its ranking. It did show, however, improved ranking in Business Dynamics (although it still ranks very low at #124) and in Individual Entrepreneurship where it ranked #91 by 2007.

The main improvement in Northeast Ohio can be seen in Individual Entrepreneurship, where three metropolitan areas—Akron, Canton, and Cleveland—and thus the whole region, improved their ranks. In addition, the Canton and Cleveland areas improved their rankings in Business Dynamics and the Akron and Youngstown areas improved in Racial Inclusion & Income Equality.

Table 8. Short-Term Growth in Employment, 2004-2007, and Associated Indicators

| Metropolitan Areas | Employment | | | | Indicators Associated with Growth in Employment | | | | | | | | | | | | | | | | | |
| | 2004-2007 | Improved Ranking in Employment Growth | | | Improved Ranking in Racial Inclusion & Income Equality | | | Improved Ranking in Urban Assimilation | | | Improved Ranking in Legacy of Place (higher ranking is better) | | | Improved Ranking in Business Dynamics | | | Improved Ranking in Individual Entrepreneurship | | | Improved Ranking in Urban/Metro Structure | | |
	Percent Change	Rank	Between 2003-06 and 2004-07	Between 2002-05 and 2004-07	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007
Leading MSAs*																						
Austin-Round Rock, TX	13.2	6	x	x	54			20			121			16	x	x	34	x	x	107		
Charlotte-Gastonia-Concord, NC-SC	11.3	13	x	x	96	x	x	47			95			24	x	x	88	x	x	121		
Raleigh-Cary, NC	15.4	3	x	x	45	x	x	36			120			4	x	x	44	x	x	55	x	
Salt Lake City, UT	12.8	7	x	x	26			54	x		85			11	x	x	52		x	78		x
NEO MSAs																						
Akron, OH	2.3	100			74	x		131			31			130			104	x		60	x	x
Canton-Massillon, OH	-1.8	131	x		41			136			19	x	x	121	x		73	x	x	42		
Cleveland-Elyria-Mentor, OH	-0.1	125			121			93			16			124		x	91	x	x	31		
Youngstown-Warren-Boardman, OH-PA	-1.3	130			80	x	x	134			5			135			95			17		
Midwest MSAs																						
Cincinnati-Middletown, OH-KY-IN	1.9	105	x		100			116			24	x		97	x	x	127	x		33	x	
Columbus, OH	3.0	90	x	x	83	x		90			49			103			122	x	x	111		x
Indianapolis-Carmel, IN	4.4	72			98			96			47			64		x	117			108		
Kansas City, MO-KS	4.9	67	x	x	85		x	58			53	x	x	113			81			63	x	
Milwaukee-Waukesha-West Allis, WI	3.0	89	x	x	119			64			17	x		122			134			90		
Minneapolis-St. Paul-Bloomington, MN-WI	3.3	87			33			66			43		x	57			70	x	x	30		
Pittsburgh, PA	1.1	114	x	x	71	x	x	112	x	x	10			128			105			6		
St. Louis, MO-IL	2.7	97	x	x	117			94			29			117			106	x		34	x	
Sample Average	**4.9**																					

Notes: Leading MSAs were selected based on criteria described in the methodology section.

Improved ranking is defined when ranks move up by three places. For example, the Columbus MSA improved by 6 places, from #96 in employment growth between 2002 and 2005 to #90 in employment growth between 2004 and 2007.

REGIONAL PERFORMANCE BASED ON GROSS METROPOLITAN PRODUCT AND ASSOCIATED INDICATORS

This section measures economic performance based on Gross Metropolitan Product (GMP). GMP measures value-added output produced in the region and is the regional counterpart to the national gross domestic product. Long-term (1997 to 2007) and short-term (2004 to 2007) trends in Gross Metropolitan Product (GMP) in Northeast Ohio are described and compared to the sample average and the United States.   The long-term and short-term changes are then compared to the previous studied periods (1995-2005 and 1996-2006 for long-term trends, and 2002-2005 and 2003-2006 for short-term trends). As with per capita income and employment, this section highlights the leading metropolitan areas and discusses changes in large Midwest and the four Northeast Ohio metro areas. In addition, this section describes the performance of these metropolitan areas in the seven indicators that are associated with GMP growth. Detailed tables showing the long-term changes, short-term changes, and rankings in GMP growth for all metro areas in the study are provided in Appendix B, Tables B-5 and B-6. This section also includes an estimate of how the Cleveland metro area would perform if it grew at the rate of the sample average.

Figure 3 shows Gross Metropolitan Product (GMP) of Northeast Ohio from 1997 to 2007 compared to the sample average of the 136 metro areas and the nation. Although GMP increased for all regions from 1997 to 2007, Northeast Ohio grew at a much slower pace than the sample average and the United States. Trends in GMP were similar for the sample average and the United States; both grew from 1997 to 2000, declined slightly in 2001, and then resumed growth from 2002 to 2007. Northeast Ohio followed a similar growth pattern from 1997 to 1998 but started to decline a year earlier than the sample average and the United States. Although GMP for Northeast Ohio started to expand again in 2002, the growth rate was very modest and decreased further between 2005 and 2006; GMP remained flat in Northeast Ohio between 2006 and 2007.

Calculating GMP trends between 1997 and 2007 shows that Northeast Ohio grew only by 4.9%, which is less than one-fifth of the growth rates of the nation (29.1%) and the sample average (28.5%).

Figure 3. Gross Metropolitan Product, 1997-2007
1997=100
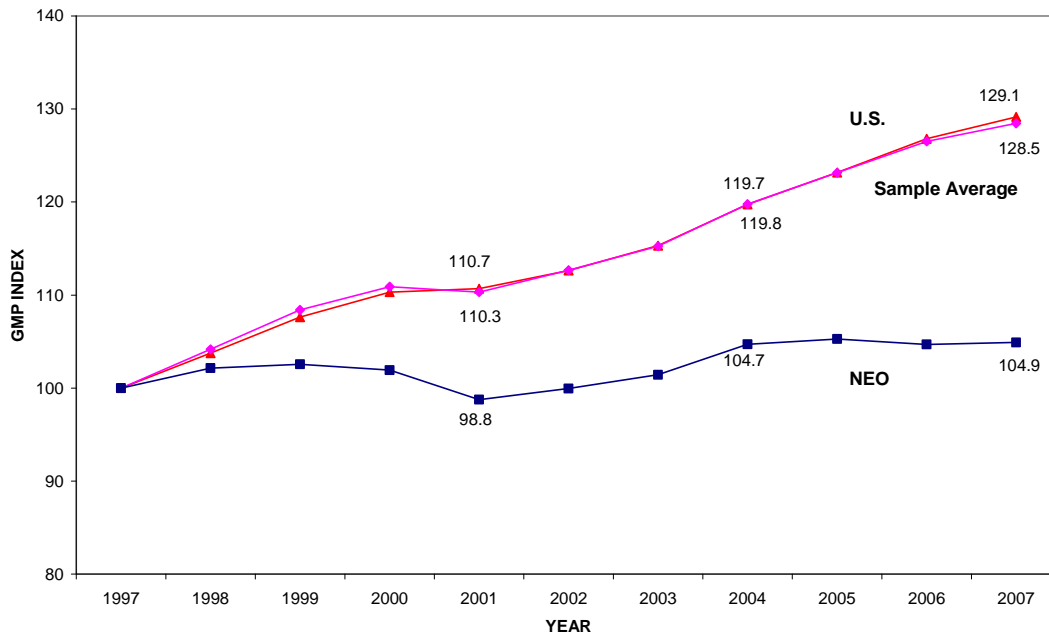
LEADING METROPOLITAN AREAS

We identified leading metropolitan areas in GMP growth for comparison with Northeast Ohio and the Midwest. Using the same criteria that were used for selecting leaders in employment growth, five metropolitan areas were selected as leaders in GMP growth. In alphabetical order they are Austin-Round Rock, TX; Charlotte-Gastonia-Concord, NC-SC; Oklahoma City, OK; Raleigh-Cary, NC; and San Antonio, TX.

Austin, Charlotte, and Raleigh were also leading areas in terms of employment growth. Oklahoma City and San Antonio were identified as leaders only in terms of GMP growth. Oklahoma City, OK, is undergoing a successful renaissance proclaiming to be "The Capital of The New Century - a Western Capital, Technology Capital, Medical Capital, Multicultural Capital and Jazz Capital."[18] It received high rankings in the biz-journal list of "Best Places to Start a Small Business" and some of it's headquarter companies were placed among the Fortune's list of "100 Best Companies to Work For."

San Antonio, TX, is among the fastest growing metropolitan areas and it is home to the city of San Antonio which is among the 10 largest cities in the United States. Over 120,000 students are enrolled in area colleges and universities and often choose to stay

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[18] http://www.greateroklahomacity.com/page.asp?atomid=482

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in San Antonio after graduation. San Antonio has numerous training programs including manufacturing, information technology, and aerospace preparation. Companies are attracted to San Antonio's low cost of doing business with competitive utility rates which are among the lowest in the nation; San Antonio's affordable cost of living is more than 5% percent below the U.S. average. San Antonio has a diverse economy with a mix of business services, (including a growing biomedical and biotechnology sector), and a diversified manufacturing sector which produces everything from aircraft and semiconductors to rolled aluminum sheet and Toyota trucks.

LONG-TERM CHANGES IN GROSS METROPOLITAN PRODUCT

All five leading metropolitan areas ranked in the 1st quartile in GMP growth between 1997 and 2007 (Table 9). The fastest growing was Austin, TX (62.0%), outpacing Charlotte, NC (58.8%) and Raleigh, NC (58.3%). These areas were also the fastest growing among the leading metro areas in the previous two 10-year trends. Oklahoma City, OK, not only improved its rank, but moved from the 2nd quartile to the 1st quartile.

Indianapolis, IN, and Minneapolis, MN, were the only two large Midwest metropolitan areas that were ranked in the 2nd quartile in GMP growth between 1997 and 2007. Four areas were ranked in the 3rd quartile and two in the 4th quartile. Pittsburgh, PA, is the only metropolitan area that improved ranks and quartiles, moving to rank #98 in the 3rd quartile.

Northeast Ohio metropolitan areas were all ranked in the 4th quartile in GMP growth between 1997 and 2007 as well as growth in the previous two 10-year trends. Northeast Ohio metro areas did not improve their ranks and the Canton and Youngstown metro areas experienced declines in GMP between 1997 and 2007.

If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #126 in GMP growth between 1997 and 2007; a ranking similar to its rank of #125 in the previous 10 years, 1996-2006.

Table 9. Long-Term Growth in Gross Metropolitan Product, 1995-2005, 1996-2006, and 1997-2007

Metropolitan Areas	Long-Term Change (1995-2005)			Long-Term Change (1996-2006)			Long-Term Change (1997-2007)		
	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile
Leading MSAs									
Austin-Round Rock, TX	75.1	6	1	71.0	6	1	62.0	7	1
Charlotte-Gastonia-Concord, NC-SC	61.3	11	1	69.0	7	1	58.8	8	1
Oklahoma City, OK	37.9	45	2	37.7	46	2	40.8	28	1
Raleigh-Cary, NC	67.0	8	1	67.9	9	1	58.3	9	1
San Antonio, TX	44.7	27	1	45.8	23	1	42.3	25	1
NEO MSAs									
Akron, OH	17.4	103	4	13.5	113	4	13.5	112	4
Canton-Massillon, OH	2.4	133	4	0.6	134	4	-1.3	134	4
Cleveland-Elyria-Mentor, OH	11.7	118	4	10.5	122	4	5.7	125	4
Youngstown-Warren-Boardman, OH-PA	-2.5	135	4	-5.9	135	4	-6.4	135	4
Midwest MSAs									
Cincinnati-Middletown, OH-KY-IN	27.0	81	3	23.0	92	3	16.9	99	3
Columbus, OH	30.7	67	2	29.2	71	3	23.4	84	3
Indianapolis-Carmel, IN	38.0	44	2	33.7	58	2	27.9	68	2
Kansas City, MO-KS	28.0	80	3	26.0	82	3	23.7	82	3
Milwaukee-Waukesha-West Allis, WI	12.6	116	4	11.6	121	4	9.5	121	4
Minneapolis-St. Paul-Bloomington, MN-WI	38.1	43	2	32.7	61	2	28.7	65	2
Pittsburgh, PA	16.0	109	4	18.7	103	4	17.8	98	3
St. Louis, MO-IL	16.6	107	4	13.4	114	4	9.6	119	4
Sample Average	**32.1**			**32.3**			**29.2**		

<u>What if the Cleveland metro area would have grown at a faster rate?</u>
The Cleveland area's GMP grew by 5.7% between 1997 and 2007, the lowest rate of growth among large Midwest metro areas, ranking #125. If Cleveland had grown at the same rate as the sample average between 1997 and 2007, it would have had an additional $22.9 billion in GMP in 2007.

SHORT-TERM CHANGES IN GROSS METROPOLITAN PRODUCT

All five leaders ranked in the first quartile in GMP growth between 2004 and 2007 (Table 10). The two highest ranked areas were Austin, TX (19.3%), and Charlotte, NC (18.5%). All of the leading areas were ranked in the 2nd quartile during 2002 to 2005; three areas improved and moved to the 1st quartile in the next 3-year trend, 2003 to 2006 and the other two areas—Oklahoma City, OK, and San Antonio, TX—moved from the 2nd quartile in 2002 to 2005 and 2003 to 2006 to the 1st quartile between 2004 and 2007.

Large Midwest metropolitan areas ranked in the 3rd and 4th quartile based on GMP growth between 2004 and 2007, thus all growing at a slower pace than the sample average. The fastest growing and the highest ranked among the Midwest metropolitan

areas was Pittsburgh, PA (#73, 6.2%), followed by Kansas City, MO (#88, 4.9%), and Minneapolis, MN (#97, 4.3%).   Pittsburgh, PA, and Milwaukee, WI, improved in both ranks and quartiles, moving from the 4th quartile between 2002 and 2005 to the 3rd quartile between 2004 and 2007. Kansas City, MO, improved its rank within the 3rd quartile.

Table 10. Short-Term Growth in Gross Metropolitan Product, 2002-2005, 2003-2006, and 2004-2007

Metropolitan Areas	Short-Term Change (2002-2005)			Short-Term Change (2003-2006)			Short-Term Change (2004-2007)		
	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile
Leading MSAs									
Austin-Round Rock, TX	15.1	35	2	19.7	15	1	19.3	7	1
Charlotte-Gastonia-Concord, NC-SC	12.4	43	2	24.2	10	1	18.5	8	1
Oklahoma City, OK	14.8	37	2	14.1	38	2	12.7	24	1
Raleigh-Cary, NC	9.7	62	2	15.6	30	1	16.3	14	1
San Antonio, TX	10.7	55	2	12.2	48	2	12.0	28	1
NEO MSAs									
Akron, OH	7.4	82	3	4.3	103	4	2.9	108	4
Canton-Massillon, OH	1.0	123	4	-2.0	130	4	-2.3	132	4
Cleveland-Elyria-Mentor, OH	5.9	94	3	3.6	110	4	-0.2	127	4
Youngstown-Warren-Boardman, OH-PA	2.5	114	4	3.5	111	4	0.0	126	4
Midwest MSAs									
Cincinnati-Middletown, OH-KY-IN	4.9	100	3	2.7	116	4	1.2	118	4
Columbus, OH	4.5	104	4	4.1	105	4	2.6	110	4
Indianapolis-Carmel, IN	8.5	72	3	6.4	91	3	1.2	119	4
Kansas City, MO-KS	4.7	101	3	5.3	99	3	4.9	88	3
Milwaukee-Waukesha-West Allis, WI	2.9	112	4	3.8	106	4	4.1	101	3
Minneapolis-St. Paul-Bloomington, MN-WI	8.5	71	3	6.5	90	3	4.3	97	3
Pittsburgh, PA	4.1	105	4	5.7	95	3	6.2	73	3
St. Louis, MO-IL	4.5	103	4	1.3	123	4	0.5	123	4
Sample Average	**10.2**			**10.2**			**7.4**		

All metropolitan areas in Northeast Ohio ranked in the 4th quartile in GMP growth between 2004 and 2007 (the same quartile they ranked in 10-year growth). Moreover, the Akron and Cleveland metro areas lost ranks and quartiles falling from the 3rd quartile between 2002 and 2005. The Canton and Youngstown areas lost ranks within the 4th quartile. The Akron metro area was the only one within Northeast Ohio to experience an increase in GMP (2.9%) and it ranked the highest (#108) in growth from 2004 to 2007. The Canton area lost 2.3%, while Cleveland and Youngstown metro areas remained relatively flat (-0.2% and 0.0%, respectively).

If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #126 in GMO growth between 2004 and 2007; a lower ranking than its rank of #113 in the previous 3 years, 2003-2006.

<u>What if the Cleveland metro area would have grown at a faster rate?</u>
The Cleveland area's GMP remained flat (-0.2%) between 2004 and 2007, the lowest rate of growth among large Midwest metro areas; it ranked #127. If Cleveland had grown at the same rate as the sample average (7.4%) between 2004 and 2007, it would have had an additional GMP of $7.7 billion in 2007 instead of a small loss.

ASSOCIATION BETWEEN GROWTH IN GROSS METROPOLITAN PRODUCT AND RELATED INDICATORS

Table 11 shows changes in ranks of 3-year GMP trends with the seven associated indicators—Technology Commercialization, Racial Inclusion & Income Equality, Urban Assimilation, Legacy of Place, Business Dynamics, Individual Entrepreneurship, and Urban/Metro Structure. It includes the five leading metropolitan areas identified above, NEO metropolitan areas, and the large Midwest areas. The selection of the leading metro areas highlights the fact that metropolitan areas that have relatively high legacy costs are not among the leaders in GMP growth. It shows the ranks based on the latest data updates and then indicates whether rankings improved in comparison to previous years in GMP growth and in each of the associated indicators.

All of the leading metropolitan areas are not only highly ranked, but they improved their growth rankings between the latest 2004 to 2007 years to the previous 3-year periods, 2003 to 2006 and 2002 to 2005. Many of the leading indicators improved in several associated indicators. Oklahoma City, OK, and Raleigh, NC, each improved in five indicators, while Austin, TX, and Charlotte, NC, improved in three indicators each. Four of the leading metro areas improved in Racial Inclusion & Income Equality (Charlotte, Oklahoma City, Raleigh, and San Antonio), Business Dynamics (Austin, Charlotte, Raleigh, and San Antonio), and Individual Entrepreneurship (Austin, Charlotte, Oklahoma City, and Raleigh).

As shown earlier **Oklahoma City, OK,** was ranked highly in the percentage change in GMP from 2004 to 2007; they also saw improvement in ranking in five of the seven

associated indicators. In Technology Commercialization, Oklahoma City improved in venture capital per employee (#124 in 2005 to #78 in 2007), the number of patents per employee (#110 in 2005 to #95 in 2006 and 2007), and in cost of living (#104 in 2006 to #101 in 2007). Oklahoma City improved in Racial Inclusion & Income Equality due to three underlying variables: isolation index for the Black population (#98 in 2005 to #93 in 2007), the share of students share of all students who attend schools with more than 70% receiving free lunches (#121 in 2005 and 2006 to #116 in 2007), and the violent crime rate (#87 in 2005 to #80 in 2007). Oklahoma City also saw improvement in Urban Assimilation because of an increase in ranking in productivity in the information sector (from #104 in 2005 to #84 in 2007) and Individual Entrepreneurship due to an increase in ranking in the percentage of people who are self-employed (from #32 in 2005 to #24 in 2007).

Raleigh, NC, is also one of the leading MSAs in short-term growth in GMP and also improved in five of the seven associated indicators. In Technology Commercialization, Raleigh saw an increase in rank in venture capital per employee (#29 in 2005 to #20 in 2007) and the number of patents per employee (#11 in 2005 and #8 in 2006). It saw improved rankings in three of the indicators under Racial Inclusion & Income Equality: income inequality (#93 in 2005 to #58 in 2007), share of all students who attend schools with more than 70% receiving free lunches (#12 in 2005 to #5 in 2007), and the violent crime rate (#33 in 2005 to #30 in 2007). Raleigh also improved in Business Dynamics due to improved rank in business openings over business closings (from #50 in 2005 to #4 in 2007) and in Individual Entrepreneurship due to increased rank of the percentage of people who are self-employed (from #61 in 2005 to #50 in 2007) and the percentage of businesses with under 20 workers (from #69 in 2005 to #52 in 2007).

Of the eight large Midwest metropolitan areas, half ranked in the 3rd quartile and half ranked in the 4th quartile. Only three of the Midwest metro areas improved their rankings in GMP growth—Kansas City, MO; Milwaukee, WI; and Pittsburgh, PA. Pittsburgh, which ranked the highest (#73), improved its ranking in GMP growth and in three indicators between 2005 and 2007—Technology Commercialization, Racial Inclusion & Income Equality, and Urban Assimilation. In contrast, St. Louis, which was the lowest ranked among the large Midwest areas (#123), did not improve in GMP growth, did not improve in any indicator between 2005 and 2007, and improved only in two indicators between 2006 and 2007.

Pittsburgh, PA, improved in Technology Commercialization due to a change in rank in venture capital per employee (#55 in 2005 to #28 in 2007) and the cost of living (#115 in 2005 to #107 in 2007). In Racial Inclusion & Income Equality, Pittsburgh improved in the share of all students who attend schools with more than 70% receiving free lunches (#48 in 2005 to #15 in 2007) and the violent crime rate (#43 in 2005 to #39 in 2007). Finally, Pittsburgh improved in Urban Assimilation due to three underlying variables: the percentage of the population that is foreign born (#123 in 2005 to #120 in 2006),

productivity in the information sector (#43 in 2006 to #26 in 2007), and the percentage of Asian population (#104 in 2005 to #97 in 2006).

The metropolitan areas in Northeast Ohio ranked in the 4th quartile in both 10-year and 3-year GMP trends. None improved in comparison to the previous periods. The main improvement among the indicators in Northeast Ohio between 2005 and 2007 and 2006 and 2007 can be seen in Technology Commercialization and Individual Entrepreneurship in Akron, Canton, and Cleveland. The Cleveland and Canton metro areas improved in Business Dynamics, while the Akron and Canton Youngstown improved their rankings in Racial Inclusion & Income Equality.

Analysis by metro area shows that the **Akron, OH,** metropolitan area improved in four indicators associated with growth in GMP: Technology Commercialization, Racial Inclusion & Income Equality, Individual Entrepreneurship and Urban/Metro Structure. Improvement in Technology Commercialization was due to improved rank in venture capital per employee (#95 in 2005 to #59 in 2007). Akron's improvement in Racial Inclusion & Income Equality was due to a change in the share of all students who attend schools with more than 70% receiving free lunches (#78 in 2005 to #58 in 2007). Akron also improved in Individual Entrepreneurship due to an increased rank in the percentage of people who are self-employed (#93 in 2005 to #88 in 2007).

The **Canton, OH,** area also improved in four indicators—Technology Commercialization, Legacy of Place, Business Dynamics, and Individual Entrepreneurship. In Technology Commercialization, Canton improved in the number of patents per employee (#27 in 2005 to #22 in 2007). In Legacy of Place, it improved in five of the underlying variables: business churning (#130 in 2005 to #127 in 2007), the percentage of houses built before 1940 (#120 in 2006 to #116 in 2007), the dissimilarity index for the Black population (#107 in 2006 to #101 in 2007), the city poverty ratio (#115 in 2005 to #107 in 2007), and the number of government units per capita (#96 in 2006 to #91 in 2007). Canton also improved in ranking in Business Dynamics which was due to a change in rank in business openings over business closings (from #128 in 2006 to #121 in 2007) and in Individual Entrepreneurship advancing rank in the percentage of people who are self-employed (#90 in 2005 to #67 in 2007) and in the share of business establishments with under 20 workers (#88 in 2006 to #80 in 2007).

The **Cleveland, OH,** metro area improved in three indicators—Technology Commercialization, Business Dynamics, and Individual Entrepreneurship. In Technology Commercialization, it improved in venture capital per employee (#69 in 2006 to #31 in 2007) and in the number of patents per employee (#49 in 2006 to #44 in 2007). In Business Dynamics, Cleveland improved in ranking in business openings over business closings (#127 in 2005 to #124 in 2007). Finally, it improved in Individual Entrepreneurship due to a change in ranking in the percentage of people who are self-employed (#110 in 2005 to #92 in 2007).

The main improvements in Northeast Ohio over the 1-year period between 2006 and 2007 are in both Technology Commercialization and Individual Entrepreneurship, where three NEO areas (Akron, Canton, and Cleveland), improved ranking. Analysis of NEO's metro area on improved ranking in the indicators over 1 or 2 years shows that the Akron and Canton areas improved in the highest number of indicators (4) followed by Cleveland (3), and Youngstown (1). Since Ohio metro areas have shown improvement in some of the indicators associated with GMP growth, it is possible that Northeast Ohio will experience some growth in future years.

Table 11. Short-Term Growth in Gross Metropolitan Product, 2004-2007 and Associated Indicators

Metropolitan Areas	GMP 2004-2007 Percent Change	GMP 2004-2007 Rank	Improved Ranking in GMP Growth Between 2003-06 and 2004-07	Improved Ranking in GMP Growth Between 2002-05 and 2004-07	Technology Commercialization 2007 Rank	Tech Between 2006 & 2007	Tech Between 2005 & 2007	Racial Inclusion & Income Equality 2007 Rank	Racial Between 2006 & 2007	Racial Between 2005 & 2007	Urban Assimilation 2007 Rank	Urban Between 2006 & 2007	Urban Between 2005 & 2007	Legacy of Place 2007 Rank	Legacy Between 2006 & 2007	Legacy Between 2005 & 2007	Business Dynamics 2007 Rank	Business Between 2006 & 2007	Business Between 2005 & 2007	Individual Entrepreneurship 2007 Rank	Individual Between 2006 & 2007	Individual Between 2005 & 2007	Urban/Metro Structure 2007 Rank	Urban/Metro Between 2006 & 2007	Urban/Metro Between 2005 & 2007
Leading MSAs*																									
Austin-Round Rock, TX	19.3	7	x	x	6		x	54			20			121			16	x	x	34	x	x	107		
Charlotte-Gastonia-Concord, NC-SC	18.5	8		x	72			96	x	x	47			95			24	x	x	88	x	x	121		
Oklahoma City, OK	12.7	24	x	x	115		x	93		x	67	x	x	83			66			27		x	110	x	x
Raleigh-Cary, NC	16.3	14	x	x	22		x	45	x	x	36			120			4	x	x	44	x	x	55	x	
San Antonio, TX	12.0	28	x	x	98			69		x	9			104			60	x	x	68			134		
NEO MSAs																									
Akron, OH	2.9	108			53	x	x	74	x		131			31			130			104	x		60	x	x
Canton-Massillon, OH	-2.3	132			76	x	x	41			136			19	x	x	121	x		73	x	x	42		
Cleveland-Elyria-Mentor, OH	-0.2	127			68	x		121			93			16			124		x	91	x	x	31		
Youngstown-Warren-Boardman, OH-PA	0.0	126			135			80	x	x	134			5			135			95			17		
Midwest MSAs																									
Cincinnati-Middletown, OH-KY-IN	1.2	118			83			100			116			24	x		97	x	x	127	x		33	x	
Columbus, OH	2.6	110			110			83	x		90			49			103			122	x	x	111		x
Indianapolis-Carmel, IN	1.2	119			90	x		98			96			47			64		x	117			108		
Kansas City, MO-KS	4.9	88	x	x	78			85		x	58			53	x	x	113			81			63	x	
Milwaukee-Waukesha-West Allis, WI	4.1	101	x	x	56	x		119			64			17	x		122			134			90		
Minneapolis-St. Paul-Bloomington, MN-WI	4.3	97			27		x	33			66			43		x	57			70	x	x	30		
Pittsburgh, PA	6.2	73	x	x	70		x	71	x	x	112	x	x	10			128			105			6		
St. Louis, MO-IL	0.5	123			101			117			94			29			117			106	x		34	x	
Sample Average	7.4																								

Notes: Leading MSAs were selected based on criteria described in the methodology section.

Improved ranking is defined when ranks move up by three places. For example, the Oklahoma City, OK MSA improved by 13 places, from #37 in GMP growth between 2002 and 2005 to #24 in GMP growth between 2004 and 2007.

REGIONAL PERFORMANCE BASED ON PRODUCTIVITY AND ASSOCIATED INDICATORS

This section measures economic performance based on growth in productivity. Productivity measures gross metropolitan product (GMP) per employee and provides a proxy for regional competitiveness. This section describes long-term (1997 to 2007) and short-term (2004 to 2007) trends in productivity in Northeast Ohio in comparison to the sample average and the United States. The long-term and short-term changes are then compared to the previous studied periods (1995 to 2005 and 1996 to 2006 for long-term trends, and 2002 to 2005 and 2003 to 2006 for short-term trends). As for the other three measures of economic growth (per capita income, employment, and GMP), it highlights the leading metro areas and discusses changes in large Midwest and the four NEO metro areas. In addition, this section describes the performance of these metropolitan areas in the five indicators that are associated with productivity growth. Detailed tables showing the long-term changes, short-term changes, and rankings in productivity growth for all metro areas in the study are provided in Appendix B, Tables B-7 and B-8. This section also includes an estimate of how the Cleveland metro area would perform if it grew at the rate of the sample average.

Figure 4 shows productivity trends for Northeast Ohio, the sample average, and the United States between 1997 and 2007. Productivity is defined as GMP per employee. The general trend in productivity throughout this period was similar for the sample average and the nation. From 1997 to 1998, Northeast Ohio reflected the trends of the nation and sample before experiencing a decline in 1999, whereas the sample average and the nation continued to grow. Productivity in Northeast Ohio continued to decline through 2001 before reversing the trend with a steady increase at the national rate until 2004. In the last 3 years, Northeast Ohio's rate of growth began to taper off and was basically flat between 2004 and 2007. With the exception of the decline in 2001, the sample average and U.S. productivity have experienced high growth rates. Starting at similar levels of productivity in 1997 ($81,459 in Northeast Ohio and $82,806 in the nation), the productivity in the United States grew by 16.1% reaching $96,135 in 2007, while Northeast Ohio's productivity grew by only 6.8% to $86,971. By 2007, productivity in the United States was 10.5% higher than productivity in Northeast Ohio. Productivity in the sample average grew twice as fast as productivity in Northeast Ohio, growing by 13.9% to $93,870.

Figure 4. Productivity, 1997-2007
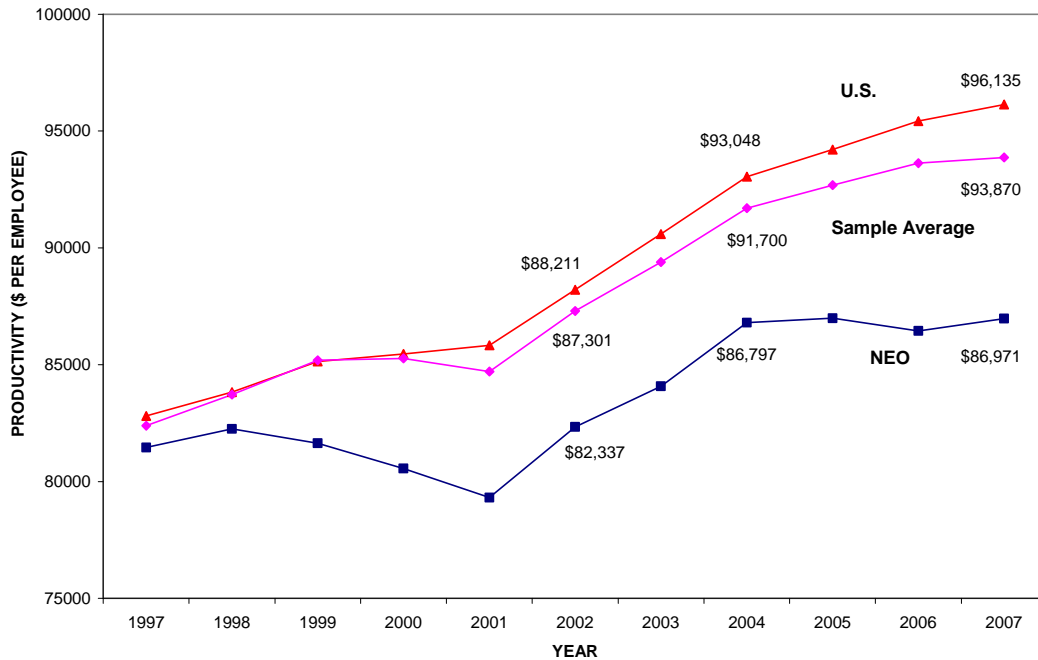
LEADING METROPOLITAN AREAS

The criteria used to identify the leaders in productivity growth are the same as the criteria used in determining leaders in growth of per capita income. Five metropolitan areas were selected as leaders: Bridgeport-Stamford-Norwalk, CT; Hartford-West Hartford-East Hartford, CT; Omaha-Council Bluff, NE-IA; Pittsburgh, PA; and Rochester, NY. Three of these metro areas are also leaders in terms of growth in per capita income—Bridgeport, Hartford, and Pittsburgh. This is consistent with the study's regional economic growth framework that shows that both economic growth measures are associated with similar indicators. Omaha and Rochester are identified as leaders only in productivity growth.

Highlights regarding Bridgeport, Hartford, and Pittsburgh are described in the section on per capita income. This section will highlight the other two leaders. The **Omaha, NE,** metropolitan area is home to several Fortune 500 headquarters including Berkshire Hathaway, Union Pacific, ConAgra Foods, Inc., and Peter Kiewit & Sons, Inc. In addition, over 50 Fortune 500 companies have major manufacturing plants or service operations there. In October 2008, Governor Dave Heineman and corporate officials announced that Yahoo! has selected Nebraska as the home of two new developments: a Yahoo! Data Center in LaVista and a Yahoo! Customer Care Center in Omaha. Yahoo! cited the Nebraska Advantage, which allows Internet web portal companies to qualify for business incentives, as a major factor in selecting Nebraska. Other factors include the availability of job training assistance, abundant fiber optic providers, low-cost utility

rates, and a growing information technology-oriented workforce. In addition, the city of Omaha has been engaged in the Riverfront Development project with over $2 billion invested.

Rochester, NY, has a reputation as an innovative region. In 2001 it ranked 5th by the Progressive Policy Institute for Overall Innovative Capacity.[19] The high ranking is based on the number of jobs in high-tech industries, degrees granted in science and engineering, number of patents, academic research and development funding, and venture capital invested. The Rochester area has a large higher education sector which provides a technically sophisticated and reliable labor force. Institutions of higher education include the University of Rochester, Cornell University's School of Industrial and Labor Relations*,* and other colleges and universities.

LONG-TERM CHANGES IN PRODUCTIVITY

Table 12 illustrates changes in productivity between 1997 and 2007 for the leading metropolitan areas as well as for large Midwest and NEO metro areas. Pittsburgh, PA, is listed as a leader and is also among the large Midwest metro areas.

Among the leading metro areas Hartford, CT, was the only one that ranked in the 1st quartile in productivity growth between 1997 and 2007. Its productivity grew by 18.8% in comparison to the sample average which grew by 13.4%. Moreover, Hartford ranked #31 and it improved both its rank and quartile in comparison to the two previous 10-year periods, 1995 to 2005 and 1996 to 2006. Bridgeport, CT; Omaha, NE; and Pittsburgh, PA ranked in the 2nd quartile in productivity growth between 1997 and 2007. While Bridgeport lost rank and position in a quartile from the previous 10-year trends, Pittsburgh improved from #88 in the 3rd quartile in 1995 to 2005 to #65 in the 2nd quartile during 1997 to 2007. Rochester was ranked at the bottom of the 3rd quartile, improving from the 4th quartile in earlier years.

Among large Midwest metro areas, three ranked in the 2nd quartile in productivity growth. Minneapolis was ranked the highest (#43), followed by Kansas City (#45), and Pittsburgh (#65). While Pittsburgh improved its ranks compared to previous 10-year periods, Minneapolis and Kansas City lost ranks. Three other Midwest areas ranked in the 3rd quartile between 1997 and 2007—Columbus, OH (#83); Indianapolis, IN (#88); and Cincinnati, OH (#96). All three dropped in rank and quartile; they ranked in the 2nd quartile between 1995 and 2005. Comparing the rankings between the two time periods, 1995 to 2005 and 1997 to 2007, all the large Midwest metro areas dropped in ranking except Pittsburgh.

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[19] Metropolitan New Economy Index: Benchmarking Economic Transformation in the Nation's Metropolitan Areas, 2001

Table 12. Long-Term Growth in Productivity, 1995-2005, 1996-2006, and 1997-2007

Metropolitan Areas	Long-Term Change (1995-2005)			Long-Term Change (1996-2006)			Long-Term Change (1997-2007)		
	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile
Leading MSAs									
Bridgeport-Stamford-Norwalk, CT	26.2	11	1	25.8	16	1	17.6	35	2
Hartford-West Hartford-East Hartford, CT	17.4	43	2	19.2	36	2	18.8	31	1
Omaha-Council Bluffs, NE-IA	14.7	55	2	10.9	87	3	13.8	57	2
Pittsburgh, PA *	9.8	88	3	12.8	75	3	12.7	65	2
Rochester, NY	3.8	122	4	5.1	122	4	7.6	102	3
NEO MSAs									
Akron, OH	8.3	100	3	6.3	113	4	7.3	105	4
Canton-Massillon, OH	2.9	125	4	3.8	126	4	3.3	125	4
Cleveland-Elyria-Mentor, OH	10.7	83	3	10.8	88	3	8.6	94	3
Youngstown-Warren-Boardman, OH-PA	-0.3	134	4	-3.5	134	4	-0.9	133	4
Midwest MSAs									
Cincinnati-Middletown, OH-KY-IN	13.4	68	2	11.9	80	3	8.3	96	3
Columbus, OH	15.1	52	2	14.4	63	2	10.6	83	3
Indianapolis-Carmel, IN	18.6	38	2	14.9	62	2	9.7	88	3
Kansas City, MO-KS	18.3	40	2	17.3	43	2	15.8	45	2
Milwaukee-Waukesha-West Allis, WI	8.0	104	4	6.9	108	4	6.0	114	4
Minneapolis-St. Paul-Bloomington, MN-WI	21.4	25	1	17.7	41	2	16.0	43	2
St. Louis, MO-IL	8.8	96	3	6.5	111	4	4.2	121	4
Sample Average	**13.9**			**14.5**			**13.4**		

Notes: Leading MSAs were selected based on criteria described in the methodology section.

Pittsburgh is a leading MSA as well as a large Midwest MSA.

The Cleveland area grew the fastest and ranked the highest among NEO metro areas. Productivity in the Cleveland metro area grew by 8.6% between 1997 and 2007. It ranked in the 3rd quartile (#94), while the other NEO metro areas ranked in the 4th quartile.   However, Cleveland's growth rate was lower than five of the large Midwest metro areas. All NEO metro areas grew, except for Youngstown which experienced a 0.9% decline in productivity between 1997 and 2007.

If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #109 in productivity growth between 1997 and 2007, lower than its rank of #97 in the previous 10 years, 1996 to 2006.

<u>What if the Cleveland metro area would have grown at a faster rate?</u>
Cleveland area's productivity grew by 8.6% between 1997 and 2007 to a level of $94,960. If Cleveland grew at the same rate as the sample average (13.4%), productivity of each employee in 2007 would have been higher by $4,235.

SHORT-TERM CHANGES IN PRODUCTIVITY

Table 13 highlights productivity growth between 2004 and 2007 in comparison to earlier 3-year periods of 2002 to 2005 and 2003 to 2006. It highlights growth rates and rankings for the leading metropolitan areas, large Midwest areas, and the four metro areas in Northeast Ohio.

All five leading metro areas were ranked in the 1st quartile in productivity growth between 2004 and 2007. Only Bridgeport, CT, and Hartford, CT, were ranked in the 1st quartile between 2003 and 2006, and only Bridgeport ranked in the 1st quartile between 2002 and 2005. All five leading metro areas improved their rank in comparison to the earlier period of 2002 to 2005, and four of them also improved in quartiles.

Table 13. Short-Term Growth in Productivity, 2002-2005, 2003-2006, and 2004-2007

Metropolitan Areas	Short-Term Change (2002-2005)			Short-Term Change (2003-2006)			Short-Term Change (2004-2007)		
	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile	Percent Change	Rank	Quartile
Leading MSAs									
Bridgeport-Stamford-Norwalk, CT	9.9	26	1	10.7	13	1	5.5	19	1
Hartford-West Hartford-East Hartford, CT	8.2	41	2	7.9	26	1	6.6	13	1
Omaha-Council Bluffs, NE-IA	8.0	45	2	5.5	46	2	4.7	27	1
Pittsburgh, PA *	5.0	71	3	5.5	47	2	5.0	23	1
Rochester, NY	2.0	118	4	4.0	65	2	6.3	18	1
NEO MSAs									
Akron, OH	2.7	109	4	0.7	113	4	0.6	92	3
Canton-Massillon, OH	5.3	67	2	0.4	115	4	-0.5	112	4
Cleveland-Elyria-Mentor, OH	6.9	49	2	3.5	74	3	0.0	101	3
Youngstown-Warren-Boardman, OH-PA	3.5	96	3	3.8	70	3	1.3	80	3
Midwest MSAs									
Cincinnati-Middletown, OH-KY-IN	2.4	113	4	0.7	114	4	-0.7	113	4
Columbus, OH	3.5	95	3	1.8	102	3	-0.4	109	4
Indianapolis-Carmel, IN	4.9	76	3	2.2	99	3	-3.1	131	4
Kansas City, MO-KS	3.1	102	3	1.7	105	4	0.1	98	3
Milwaukee-Waukesha-West Allis, WI	2.8	108	4	1.4	109	4	1.1	83	3
Minneapolis-St. Paul-Bloomington, MN-WI	5.7	61	2	2.7	91	3	1.0	84	3
St. Louis, MO-IL	4.3	86	3	-0.7	126	4	-2.1	124	4
Sample Average	**6.6**			**4.8**			**2.4**		

Notes: Leading MSAs were selected based on criteria described in the methodology section.
Pittsburgh is a leading MSA as well as a large Midwest MSA.

Pittsburgh, PA which is both a leading metro area and a large Midwest area grew the fastest among the large Midwest metro areas. Its productivity grew by 5% between 2004 and 2007, more than twice the growth rate of the sample average (2.4%). Among

the others, three areas ranked in the 3rd quartile—Kansas City, MO; Milwaukee, WI; and Minneapolis, MN. Kansas City and Milwaukee improved from previous years. The two Ohio metro areas—Cincinnati and Columbus—ranked in the 4th quartile between 2004 and 2007, both showing slight declines in productivity growth (-0.7% and -0.4%, respectively). Indianapolis, IN, and St. Louis, MO, experienced more significant declines in productivity, falling by 3.1% and 2.1%, respectively.

The majority of NEO's metro areas ranked in the 3rd quartile in the growth of productivity between 2004 and 2007; only the Canton area ranked in the 4th quartile. The Akron and Youngstown areas improved their ranks in comparison to the 2002 to 2005 years, while the Canton and Cleveland areas lost ranks. Productivity was flat in the Cleveland area between 2004 and 2007, declined slightly in the Canton area (-0.5%), but increased in the Akron and Youngstown areas.

If Northeast Ohio would have been ranked within the 136 metro areas, it would be ranked #97 in productivity growth between 2004 and 2007, lower than its rank of #68 in the previous 3 years, 2003 to 2006.

<u>What if the Cleveland metro area would have grown at a faster rate?</u>
If productivity in the Cleveland metro area would have grown by 2.4%, the rate of the sample average, productivity in 2007 would have been $97,265, ($2,300 higher than the actual productivity).

ASSOCIATION BETWEEN GROWTH IN PRODUCTIVITY AND RELATED INDICATORS

Table 14 shows changes in ranks of 3-year trends in productivity growth with the associated indicators: Skilled Workforce and R&D, Technology Commercialization, Racial Inclusion & Income Equality, Urban Assimilation, and Legacy of Place. The first three indicators are also associated with growth of per capita income. The table includes the five leading metropolitan areas identified above, NEO metropolitan areas, and the large Midwest areas. The table shows the ranks of productivity growth based on the latest data updates and then indicates whether rankings improved in comparison to previous years in productivity growth and in each of the associated indicators.

The leading metropolitan areas were all ranked high in short-term productivity growth between 2004 and 2007. Moreover, they all improved when compared to their ranks in productivity growth between 2002 and 2005. Except for Bridgeport, CT, they all improved in at least one associated indicator. **Pittsburgh** improved in the most, showing higher ranks in four of the five associated indicators—Skilled Workforce and R&D, Technology Commercialization, Racial Inclusion & Income Equality, and Urban Assimilation. In Skilled Workforce and R&D, Pittsburgh improved its rank within the 2nd quartile from #55 in 2005 to #47 in 2007. Pittsburgh's improvement in Skilled Workforce and Research & Development is due to six underlying variables: the percentage of the population in professional occupations (#49 in 2005 to #43 in 2007),

the percentage of the population with a graduate or professional degree (#51 in 2005 to #47 in 2007), industry research and development per employee (#35 in 2005 to #29 in 2007), SBIR/STTR awards[20] (#37 in 2005 to #30 in 2007), population dependency (#100 in 2006 to #91 in 2007), and university research and development per employee (#46 in 2005 to #20 in 2007).

Pittsburgh improved In Technology Commercialization within the 3rd quartile from #91 in 2005 to #70 in 2007. As noted in the GMP section, Pittsburgh grew in two underlying variables in Technology Commercialization. In Racial Inclusion & Income Equality Pittsburgh also improved within the 3rd quartile from #75 in 2005 to #71 in 2007 and this improvement was due to 2 underlying variables. And last, Pittsburgh improved within the 4th quartile in Urban Assimilation from #121 to #112 due to improvements in three underlying variables (details about the underlying variables are discussed in the GMP section).

Hartford, CT, improved in three associated indicators—Skilled Workforce and R&D, Technology Commercialization, and Racial Inclusion & Income Equality. Hartford was already ranked in the 1st quartile in the first two indicators. Hartford's improvement in Skilled Workforce and Research & Development is due to six underlying variables: the percentage of the population in professional occupations (#20 in 2006 to #15 in 2007), the percentage of the population with a graduate or professional degree (#12 in 2005 to #7 in 2007), the percentage of the population with a bachelor's degree (#48 in 2006 to #39 in 2007), SBIR/STTR awards (#65 in 2006 to #49 in 2007), population dependency (#70 in 2005 to #47 in 2007), and university research and development per employee (#73 in 2005 to #41 in 2007). Hartford improved in two variables under Technology Commercialization: venture capital per employee (#50 in 2006 to #27 in 2007) and cost of living (#25 in 2005 to #20 in 2007). Finally, it improved in Racial Inclusion & Income Equality with improved rankings in two variables: the share of all students who attend schools with more than 70% receiving free lunches (#54 in 2005 to #25 in 2007), and the violent crime rate (#26 in 2005 to #18 in 2007).

Among the other large Midwest metropolitan areas, **Milwaukee, WI,** improved its rank in productivity growth and in three associated indicators—Skilled Workforce and R&D, Technology Commercialization, and Legacy of Place; the improvement in the first two indicators occurred within the 2nd quartile between 2006 and 2007. Milwaukee's improvement in Skilled Workforce and Research & Development is due to four underlying variables: the percentage of the population in professional occupations (#49 in 2006 to #40 in 2007), the percentage of the population with a graduate or

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[20] The U.S. Small Business Administration (SBA) Office of Technology administers the Small Business Innovation Research (SBIR) Program and the Small Business Technology Transfer (STTR) Program. Through these two competitive programs, SBA ensures that the nation's small, high-tech, innovative businesses are a significant part of the federal government's research and development efforts. Eleven federal departments participate in the SBIR program; five departments participate in the STTR program awarding $2 billion to small high-tech businesses. http://www.sbir.gov/about/index.htm

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

professional degree (#62 in 2005 to #43 in 2007), SBIR/STTR awards (#76 in 2005 to #62 in 2007), and in population dependency (#93 in 2006 to #82 in 2007). Milwaukee improved in Technology Commercialization due to an improved ranking in the number of patents per employee (#46 in 2005 to #35 in 2007). Finally, it improved in Legacy of Place due to three underlying variables: business churning (#118 in 2006 to #109 in 2007), the city poverty ratio (#110 in 2006 to #106 in 2007), and the number of government units per capita (#52 in 2006 to #48 in 2007). Although the Milwaukee metro area improved Legacy of Place, it still has high legacy costs ranking #17 in 2007.

All NEO metropolitan areas improved in Skilled Workforce and R&D with Akron and Cleveland improving within the 2nd quartile; the Akron area improved between 2006 and 2007 and the Cleveland area showed improvements between 2005 and 2007 as well as between 2006 and 2007. The Canton and Youngstown areas improved within the 4th quartile.

The **Akron** metro area grew in five variables associated with Skilled Workforce and Research & Development: the percentage of the population in professional occupations (#71 in 2006 to #57 in 2007), the percentage of the population with a graduate or professional degree (#68 in 2006 to #57 in 2007), industry research and development per employee (#74 in 2005 to #50 in 2007), SBIR/STTR awards (#62 in 2005 to #33 in 2007), and in population dependency (#59 in 2006 to #53 in 2007).

The **Cleveland** metro area improved rankings in five underlying variables: the percentage of the population in professional occupations (#64 in 2005 to #52 in 2007), the percentage of the population with a graduate or professional degree (#55 in 2006 to #51 in 2007), SBIR/STTR awards (#23 in 2005 to #12 in 2007), population dependency (#113 in 2006 to #106 in 2007), and university research and development per employee (#50 in 2006 to #45 in 2007).

Three of NEO's metro areas improved in Technology Commercialization (except for the Youngstown area). Akron and Cleveland improved their ranks within the 2nd quartile, while Canton improved its rank within the 3rd quartile; Youngstown remained in the bottom of the 4th quartile.

Analyzing across the indicators associated with growth in productivity shows that the Akron and Canton areas improved in three associated indicators, while the Cleveland and Youngstown areas advanced in two of the indicators.

Table 14. Short-Term Growth in Productivity, 2004-2007 and Associated Indicators

Metropolitan Areas	Productivity				Indicators Associated with Growth in Productivity														
	2004-2007		Improved Ranking in Productivity Growth		Improved Ranking in Skilled Workforce and R&D			Improved Ranking in Technology Commercialization			Improved Ranking in Racial Inclusion & Income Equality			Improved Ranking in Urban Assimilation			Improved Ranking in Legacy of Place (higher ranking is better)		
	Percent Change	Rank	Between 2003-06 and 2004-07	Between 2002-05 and 2004-07	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007	2007 Rank	Between 2006 & 2007	Between 2005 & 2007
Leading MSAs*																			
Bridgeport-Stamford-Norwalk, CT	5.5	19		x	10			5			73			23			40		
Hartford-West Hartford-East Hartford, CT	6.6	13	x	x	22	x	x	24	x		52	x	x	35			11		
Omaha-Council Bluffs, NE-IA	4.7	27	x	x	48			119			44		x	100			21		
Pittsburgh, PA	5.0	23	x	x	47		x	70		x	71	x	x	112	x	x	10		
Rochester, NY	6.3	18	x	x	30			39			81			52	x	x	12	x	x
NEO MSAs																			
Akron, OH	0.7	92	x	x	58	x		53	x	x	74	x		131			31		
Canton-Massillon, OH	-0.5	112	x		113	x	x	76	x	x	41			136			19	x	x
Cleveland-Elyria-Mentor, OH	0.0	101			61	x	x	68	x		121			93			16		
Youngstown-Warren-Boardman, OH-PA	1.3	80		x	124	x	x	135			80	x	x	134			5		
Midwest MSAs																			
Cincinnati-Middletown, OH-KY-IN	-0.7	113			57			83			100			116			24	x	
Columbus, OH	-0.4	109			27			110			83	x		90			49		
Indianapolis-Carmel, IN	-3.1	131			52			90	x		98			96			47		
Kansas City, MO-KS	0.1	98	x	x	43			78			85		x	58			53	x	x
Milwaukee-Waukesha-West Allis, WI	1.1	83	x	x	49	x		56	x		119			64			17	x	
Minneapolis-St. Paul-Bloomington, MN-WI	1.0	84	x		15			27		x	33			66			43		x
St. Louis, MO-IL	-2.1	124			55			101			117			94			29		
Sample Average	6.6																		

Notes: Leading MSAs were selected based on criteria described in the methodology section.

Pittsburgh is a leading MSA as well as a large Midwest MSA.

Improved ranking is defined when ranks move up by three places.

DETAILED MONITORING OF NORTHEAST OHIO PERFORMANCE

This section describes in detail the performance of the NEO region as a whole in selected socioeconomic variables and highlights the individual NEO metro areas driving the changes occurring in the region. For the individual metro areas, both values and ranks are analyzed to differentiate between improvements in NEO's metro areas that lead to improvements in ranks and those that do not lead to advancement in ranks if other metro areas improved more. This section examines changes since 2000 and between 2005 and 2007.

Table 15 shows all variables used in the dashboard study by indicator and it compares average values in Northeast Ohio for 4 years: 2000, 2005, 2006, and 2007. The Northeast Ohio average is calculated as the mean of the values for the four metro areas: Akron, Canton-Massillon, Cleveland-Elyria-Mentor, and Youngstown-Warren-Boardman. For each of the four metro areas, the list of values and rankings for all variables underlying the dashboard indicators are provided in Appendix D, Table D-1. Variables that improved in the NEO region are discussed first, followed by variables that declined.

VARIABLES THAT IMPROVED IN NORTHEAST OHIO OVER TIME

Northeast Ohio improved in all of the variables underlying the Skilled Workforce and R&D indicator. Between 2000 and 2007 Northeast Ohio increased its education attainment and professional occupations. For example, the percentage of population with a bachelor's degree increased from 14.3% in 2000 to 15.7% in 2005 and 15.8% in 2007. The percentage of population with a graduate or professional degree rose from 7.7% in 2000 to 8.9% in 2005 and 9.4% in 2007. All four NEO metropolitan areas experienced increases in both measures of educational attainments. Moreover, the Akron and Cleveland areas also improved their rank in the percentage of graduate and professional degrees, showing that the improvement is not only in comparison to themselves, but also relative to all the areas included in the study. The Canton and Youngstown areas also improved their ranks in the percentage of population with a bachelor's degree. The percentage of the population in professional occupations also increased in each of the four metropolitan areas and all improved their rank.

The NEO region improved in both industry and university R&D per employee over the 2000 to 2007 and 2005 to 2007 years. In industry R&D, this increase results from growing R&D in the Akron, Cleveland, and Youngstown areas between 2000 and 2007; however, only Akron improved its rank. Growth in university R&D per employee between 2000 and 2007 occurred in the Akron, Cleveland, and Youngstown areas, but none improved relative to the other metropolitan areas in the study and their ranks actually declined.

Northeast Ohio also improved in research and commercialization conducted by small companies. Measured by SBIR/STTR, the ranks of Akron, Canton, and Cleveland areas all improved.

The two measures of segregation show that Northeast Ohio is becoming slightly less segregated over time. The isolation index for Black population (part of the Racial Inclusion & Income Equality indicator) and the dissimilarity index for Black population (a part of the Legacy of Place indicator) are both declining. Since higher index value indicate higher segregation, these variables point to a less segregated region. All of the region's metro areas improved in the isolation index.

Since 2000, property crime in Northeast Ohio declined from 3,240 to 3,157 per 100,000 people. Property crime is a part of the Urban/Metro Structure indicator. It increased between 2000 and 2005 and then began declining. Between 2005 and 2007, property crime rates in the region declined by 214 crimes per 100,000 people. This decline in property crime was due to improvements occurring in the Akron, Canton, and Youngstown metro areas.

Variables underlying the Urban Assimilation indicator showed improvements over time in Northeast Ohio, but other areas had more significant improvements and as a result, the metro areas in Northeast Ohio lost in ranks in the Urban Assimilation indicator. Northeast Ohio increased it values in the following variables: percentage of Hispanic population, percentage of foreign born population, percentage of Asian population, and productivity in the information sector. As is well known from other studies and popular media venues, other regions in the country are experiencing a much more significant growth in foreign-born, Hispanic, and Asian populations.

Northeast Ohio also improved in the percentage of self-employed, a variable in the Individual Entrepreneurship indicator. It increased from 8.2% in 2000 to 9.0% in 2005 and 9.2% in 2007, and advanced in each of the four metro areas. Between 2005 and 2007, ranking in the percentage of self-employed variable improved in the Akron, Canton, and Cleveland areas.

VARIABLES THAT DECLINED IN NORTHEAST OHIO OVER TIME

Declines in values between 2000 and 2007 occurred in the number of patents per employee both between 2000 and 2005 and between 2005 and 2007 (the number of patents is a part of the Technology Commercialization indicator). However, the number of patents is a volatile variable throughout the country and needs to be measured relative to others. The Akron area was highly ranked in number of patents (1st quartile) but it lost rank from #18 in 2000 to #24 in 2007. The Cleveland area lost rank between 2000 and 2006, but regained part of the loss between 2006 and 2007, when it ranked #44. The Canton area improved its rank to #22 in 2007, while the Youngstown area lost rank to #100 in 2007.

Violent crime per 100,000 people increased in Northeast Ohio between 2000 and 2006, but declined slightly during the last year. It showed a significant increase in the Akron area, small declines in the Canton and Youngstown areas and no change in the Cleveland metro. The rank of violent crime between 2000 and 2007 improved only in the Youngstown area.

The last variable discussed as declining over time in Northeast Ohio is the birth over death ratio. This variable underlies the Business Dynamics indicator and it describes the number of single establishment firms that started operations relative to the number of single establishment firms that ceased operations. The ratio in Northeast Ohio rose from 0.995 in 2000 to 1.014 in 2005, falling back to 0.990 by 2007. Over the period from 2000 to 2007, the ratio of births over deaths declined in each of the four metro areas. Moreover, all lost rank and were in the bottom of the 4th quartile by 2007.

Table 15. Northeast Ohio Average by Variable

Factors and Variables	NEO Average			
	2000 value	2005 value	2006 value	2007 value
Skilled Workforce & R&D				
Pct. of population in professional occupation	31.6	32.3	32.2	33.4
Pct. of population with graduate or professional degree	7.7	8.9	8.7	9.4
Pct. of population with bachelor's degree	14.3	15.7	15.2	15.8
Industry R&D	397.2	410.1	380.4	891.4
SBIR & STTR awards	6.51	16.75	5.65	7.62
Population dependency	0.40	0.38	0.38	0.38
University R&D	76.2	95.3	112.0	124.2
Technology Commercialization				
Venture capital	550.4	141.5	24.3	104.0
Number of patents	0.889	0.881	0.857	0.787
Cost of living	93.9	86.8	85.4	86.4
Racial Inclusion & Income Equality				
Pct. of Black population	15.0	15.2	15.4	15.5
Isolation index for Black population	0.62	0.49	0.49	0.47
Income inequality	5.7	5.7	5.7	5.7
Share of Students at schools with 70%+ free lunches	0.199	0.105	0.106	0.102
Violent crime rate	345.0	346.7	370.3	365.7
Urban Assimilation				
Pct. of Hispanic population	2.4	2.7	2.7	2.9
Share of minority business employment (in total employment	0.014	0.014	0.014	0.014
Pct. of foreign born population	4.0	4.1	4.4	4.3
Productivity in information sector	97.5	147.3	138.2	151.6
Pct. of Asian population	1.1	1.4	1.5	1.5
Legacy of Place				
Business churning	0.168	0.167	0.167	0.178
Climate	14	14	14	14
Pct. of houses built before 1940	23.5	24.3	25.0	26.6
Dissimilarity index for Black population	0.721	0.695	0.693	0.678
City poverty ratio	2.21	2.17	2.00	2.05
No. of government units per population	1.355	1.355	1.369	1.378
Share of manufacturing employment	0.18	0.15	0.14	0.14
Business Dynamics				
Birth over death ratio	0.995	1.014	1.001	0.990
Individual Entrepreneurship				
Share of self employed (all industries except agriculture & mining)	0.082	0.090	0.089	0.092
Share of business establishments with under 20 workers	0.840	0.846	0.847	0.843
Locational Amenities				
Transportation index	70.1	n/c	67.0	67.0
Arts index	52.3	n/c	66.3	66.3
Recreation index	79.7	n/c	64.5	64.5
Health index	40.9	n/c	46.5	46.5
Urban/ Metro Structure				
Share of city population in MSA population	0.22	0.20	0.20	0.19
Property crime rate	3240.4	3370.5	3313.8	3156.8

* n/c means the data from 2005 source are not comparable to data from 2000 and 2006.

SUMMARY AND CONCLUDING COMMENTS

Overall, the performance of Northeast Ohio before the current recession is lagging other regions across the country. The summary tables (Tables 16-18) review the performance of Northeast Ohio's metropolitan areas in the 10-year and 3-year growth patterns in each of the measures of economic growth in comparison to previous years. It also shows the rank of Northeast Ohio metro areas in each of the nine indicators since 2000.

The data suggests that although overall performance continues to lag, Northeast Ohio and its metropolitan areas improved their ranking in a few measures. A critical improvement occurred in the rank of 3-year growth in per capita income. The Canton, Cleveland, and Youngstown areas, and hence Northeast Ohio, improved their ranks when comparing growth trends in 2004 to 2007 with 2002 to 2005. Ranks in productivity growth improved only in the Akron and Youngstown areas. These advancements, however, were not accompanied by improvements in the two other measures of economic growth: employment and gross metropolitan product.

All four NEO metropolitan areas improved their ranking between 2000 and 2007 in the important dashboard indicator of Skilled Workforce and R&D. The region improved in all of the variables underlying this indicator. All areas except Akron also improved between 2005 and 2007.

Between 2005 and 2007, both the Akron and Canton metropolitan areas improved their ranks in Technology Commercialization. Canton has continued to improve since 2000. The Cleveland metro area improved in Business Dynamics between 2005 and 2007, following declining ranks between 2000 and 2005. The Canton and Cleveland areas improved ranks continuously in Individual Entrepreneurship both between 2000 and 2005 and between 2005 and 2007.

Analyzing the 2007 ranks for NEO's metropolitan areas indicates that they ranked in the first two quartiles in one to four indicators.[21] The Akron metro area ranked in the second quartile in four indicators—Skilled Workforce and R&D; Technology Commercialization; Locational Amenities; and Urban/Metro Structure. The Canton metro area ranked in the 2nd quartile in two indicators: Racial Inclusion and Income Equality, and Urban/Metro Structure. The Cleveland area ranked in the 1st quartile in two indicators—Locational Amenities and Urban/Metro Structure—and it ranked in the 2nd quartile in additional two indicators—Skilled Workforce and R&D and Technology Commercialization. The Youngstown MSA ranked in the 1st quartile in Urban/Metro Structure.

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[21] All NEO MSAs are ranked in the 1st quartile in Legacy of Place. However, as explained before, Legacy of Place is negatively associated with economic growth and high ranks suggest impediments to growth. As a result, these ranks are not being described as highly ranked.

Since the indicators are associated with regional economic growth, NEO's metropolitan areas may advance their performance in economic growth following their improvements in several of the indicators. It remains uncertain how Northeast Ohio will come out of the current recession. How does Northeast Ohio compare to other regions during the economic crisis of 2008 and 2009? How will Northeast Ohio perform relative to others during the recovery? Will the gap in growth trends between the United States, or the sample average, and Northeast Ohio continue to widen, or begin to narrow? It may be possible that the improvements described above point to a beginning of the transformation of NEO economy, and that the economic development initiatives in place for the past five years are beginning to have an impact. These are long term issues and the NEO's economy has been lagging for several decades. However, the Fund for Our Economic Future along with other agencies, leaders and decision makers are working on issues critical to economic growth such as workforce development, innovation, entrepreneurship, and inclusion. Although the NEO region has a long way to go to close the gap with other regions in the country, this study may be pointing to the early signs of progress.

While Northeast Ohio is showing some progress over time, other regions have also been engaged in accelerating their economic progress, so Northeast Ohio's future performance in comparison to other regions remains unknown. It is important, therefore, to continue monitoring the progress of Northeast Ohio over time and in comparison to other regions in the United States.

Table 16. 10-Year Rankings by Measures of Economic Growth

NEO MSAs	Per Capita Income			Employment			Gross Metro Product			Productivity		
	1995-2005 Rank	1996-2006 Rank	1997-2007 Rank	1995-2005 Rank	1996-2006 Rank	1997-2007 Rank	1995-2005 Rank	1996-2006 Rank	1997-2007 Rank	1995-2005 Rank	1996-2006 Rank	1997-2007 Rank
Akron, OH	99	102	105	102	108	106	103	113	112	100	113	105
Canton-Massillon, OH	121	127	126	130	131	130	133	134	134	125	126	125
Cleveland-Elyria-Mentor, OH	115	110	111	127	128	127	118	122	125	83	88	94
Youngstown-Warren-Boardman, OH-PA	131	119	121	131	130	131	135	135	135	134	134	133

Table 17. 3-Year Rankings by Measures of Economic Growth

NEO MSAs	Per Capita Income			Employment			Gross Metro Product			Productivity		
	2002-2005 Rank	2003-2006 Rank	2004-2007 Rank	2002-2005 Rank	2003-2006 Rank	2004-2007 Rank	2002-2005 Rank	2003-2006 Rank	2004-2007 Rank	2002-2005 Rank	2003-2006 Rank	2004-2007 Rank
Akron, OH	82	102	84	42	84	100	82	103	108	109	113	92
Canton-Massillon, OH	125	130	118	131	134	131	123	130	132	67	115	112
Cleveland-Elyria-Mentor, OH	103	96	80	123	124	125	94	110	127	49	74	101
Youngstown-Warren-Boardman, OH-PA	111	122	105	121	127	130	114	111	126	96	70	80

Table 18. Comparison of Indicator Rankings of Northeast Ohio's Metropolitan Areas

Indicator	Akron				Canton				Cleveland				Youngstown			
	2000	2005	2006	2007	2000	2005	2006	2007	2000	2005	2006	2007	2000	2005	2006	2007
Skilled Workforce and R&D	74	58	68	58	119	117	123	113	66	64	65	61	128	129	127	124
Technology Commercialization	36	60	58	53	91	97	83	76	35	57	98	68	125	134	133	135
Racial Inclusion and Income Equality	69	76	79	74	40	37	41	41	119	119	121	121	81	83	84	80
Urban Assimilation	126	125	125	131	136	135	135	136	77	87	89	93	133	134	136	134
Legacy of Place	30	30	32	31	17	15	16	19	16	17	17	16	6	8	4	5
Business Dynamics	89	93	129	130	81	112	128	121	100	127	122	124	104	123	107	135
Individual Entrepreneurship	104	101	114	104	100	81	82	73	102	94	95	91	87	74	72	95
Locational Amenities	71	49	66	66	110	62	112	112	3	16	1	1	114	74	113	113
Urban/Metro Structure	38	66	65	60	32	42	42	42	35	23	33	31	18	16	17	17

APPENDICES

APPENDIX A: DATA SOURCES, ELEMENTS OF FACTOR ANALYSIS, INDICATORS AND THEIR VARIABLES, AND FACTORS' ASSOCIATION WITH REGIONAL GROWTH

Table A-1.   Variables and Data Sources

Table A-2.   Elements of the Regional Framework (2007 Factor Analysis Results Based on 2000 Data)

Table A-3.   Factors' Impact on Regional Economic Growth

Section A-1.   The Indicators, Their Variables, and General Meaning

Table A-1. Variables and Data Sources

Variable	Data Source	Year
Economic Growth Variables		
Per capita income	U.S. Bureau of Economic Analysis (BEA)	1997-2007
Employment	Moody's Economy.com	1997-2007
Gross metropolitan product	Moody's Economy.com	1997-2007
Productivity	Moody's Economy.com	1997-2007
Factor 1: Skilled Workforce and R&D		
Pct. of population in professional and managerial occupations	U.S. Census, American Community Survey (ACS)	2007
Pct. of population with graduate or professional degree	U.S. Census, American Community Survey (ACS)	2007
Pct. of population with bachelor's degree	U.S. Census, American Community Survey (ACS)	2007
Industry R&D 3 year average per employee	National Science Foundation	2004-2006
Total SBIR & STTR awards per employee	U.S. Small Business Administration/Moody's Economy.com	2007
Population dependency	U.S. Census, American Community Survey (ACS)	2007
University R&D 3 year average per employee	National Science Foundation	2005-2007
Factor 2: Legacy of Place		
Business churning in all establishments	U.S. Census Longitudinal Establishment and Enterprise Microdata (LEEM)	2005-2006
Climate	Places Rated Almanac (Savageau, D.)	2000
Pct. of houses built before 1940	U.S. Census, American Community Survey (ACS)	2007
Dissimilarity index for black population	National Center for Educational Statistics-CCD	2006
City poverty ratio	U.S. Census, American Community Survey (ACS)	2007
No. of government units per capita (10,000 2007 population)	U.S. Census of Governments	2007
Share of manufacturing employment	Moody's Economy.com	2007
Factor 3: Urban Assimilation		
Pct. of Hispanic population	U.S. Census, American Community Survey (ACS)	2007
Share of minority business employment (in total emp)	Survey of Business Owners	2002
Pct. of foreign-born population	U.S. Census, American Community Survey (ACS)	2007
Productivity in information sector	Moody's Economy.com	2007
Pct. of Asian population	U.S. Census, American Community Survey (ACS)	2007
Factor 4: Racial Inclusion and Income Equality		
Pct. of black or African American population alone	U.S. Census, American Community Survey (ACS)	2007
Isolation index for black population	National Center for Educational Statistics-CCD	2006
Income inequality	Housing and Urban Development	2007
Share of students at schools with more than 70% free lunches	National Center for Educational Statistics-CCD	2006
Violent crime rate (per 100,000 population)	FBI Uniform Crime Report	2007
Factor 5: Locational Amenities		
Transportation Index	Places Rated Almanac (Savageau, D.)	2007
Arts Index (Ambiance)	Places Rated Almanac (Savageau, D.)	2007
Recreation Index	Places Rated Almanac (Savageau, D.)	2007
Health Index	Places Rated Almanac (Savageau, D.)	2007
Factor 6: Technology Commercialization		
Venture capital per employee, total investment	Thomson Financial	2007
Number of patents per thousand employees	U.S. Patent and Trademark Office	2007
Cost of living index	Moody's Economy.com	2007
Factor 7: Urban/Metro Structure		
Share of city population in MSA population	U.S. Census, American Community Survey (ACS)	2007
Property crime rate (per 100,000 population)	FBI Uniform Crime Report	2007
Factor 8: Individual Entrepreneurship		
Pct. of self employed (all industries except ag & mining)	U.S. Census, American Community Survey (ACS)	2007
Share of business establishments with under 20 workers	US Census, County Business Patterns	2006
Variable: Business Dynamics		
Business openings over business closings in single establishments (Bus Dynamics)	U.S. Census Longitudinal Establishment and Enterprise Microdata (LEEM)	2005-2006

Table A-2. Elements of the Regional Framework (2007 Factor Analysis Results Based on 2000 Data)

Variable	Factor										
	Skilled Workforce & R&D	Legacy of Place	Urban Assimilation	Racial Inclusion & Income Equality	Locational Amenities	Technology Commercialization	Urban/Metro Structure	Individual Entrepreneurship			Business Dynamics
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9	Column 10	Column 11	Column 12
Pct. of population in professional occupations	0.9434	0.0448	-0.0111	-0.0197	0.1877	0.1021	0.0084	0.0010	0.0531	-0.0283	0.0715
Pct. of population with graduate or professional degree	0.9344	0.0604	-0.0556	-0.0048	0.1000	0.0613	0.0591	0.0981	0.0304	-0.0502	0.0253
Pct. of population with bachelor's degree	0.8194	-0.1672	-0.2006	0.1266	0.2983	0.0816	0.0023	0.0297	0.0928	-0.0177	0.0715
Industry R&D per employee	0.7223	0.0095	0.1621	0.0612	-0.0405	0.3785	0.0315	-0.0401	0.0852	-0.0274	-0.1250
SBIR & STTR awards	0.5242	-0.0692	0.1143	0.0738	-0.0619	-0.0156	0.0415	0.0243	-0.0095	-0.0890	-0.1793
Population dependency	-0.5942	0.0878	0.3368	0.0745	-0.1053	-0.0406	0.1132	0.3179	-0.0846	0.3817	0.0275
University R&D per employee	0.4867	-0.0284	0.0043	-0.0525	0.1281	-0.0444	-0.0722	-0.0990	-0.0795	-0.1924	0.0000
Business churning	0.1342	-0.8479	0.1313	0.0464	0.0526	-0.0041	0.0009	0.1355	-0.0707	0.0865	0.2656
Climate	-0.0781	-0.5485	0.4416	-0.0588	-0.1411	0.1226	-0.0767	0.2889	0.2223	-0.1203	-0.0752
Pct. of houses built before 1940	0.0435	0.8579	-0.1738	0.2114	0.1457	0.0311	0.1474	-0.0581	-0.1004	0.0108	0.0583
Dissimilarity index for Black population	0.0874	0.6879	-0.1595	-0.3824	0.2106	-0.1075	0.1585	-0.0513	-0.0566	0.1626	0.0785
City poverty ratio	0.1674	0.5727	-0.1571	0.0093	0.1505	0.0115	0.4095	-0.1117	-0.0755	0.1977	0.0333
No. of government units per capita	-0.1360	0.5401	-0.1885	0.2867	-0.1070	-0.0217	-0.2580	0.0145	-0.1142	0.1277	0.1978
Share of manufacturing employment	-0.1053	0.3918	-0.2592	0.2329	-0.0631	0.3852	0.0090	-0.3076	-0.1237	0.1219	-0.3124
Pct. of Hispanic population	-0.1329	-0.1702	0.9184	0.1435	-0.1354	0.0198	-0.0966	0.0581	-0.0891	-0.0629	0.0139
Share of minority business employment (in total emp)	-0.0459	-0.2056	0.7908	-0.0489	-0.0406	-0.0615	-0.1095	-0.1330	0.4109	0.0648	-0.0866
Pct. of foreign-born population	0.0791	-0.2380	0.7640	0.1891	-0.0843	0.2732	0.1075	0.1711	0.2606	-0.1512	0.1168
Productivity in information sector	0.0530	0.1061	0.4006	0.0394	-0.0481	0.0755	0.1406	0.1931	0.0878	-0.2675	0.0324
Pct. of Asian population	0.1775	-0.0619	0.2161	0.0907	0.0309	0.1625	-0.0040	-0.0276	0.8779	-0.1224	0.0259
Pct. of Black population	0.0365	-0.1537	-0.2567	-0.8754	0.0201	-0.0499	-0.0301	-0.1882	-0.0243	-0.0287	-0.0801
Isolation index for Black population	0.0605	0.1996	-0.3380	-0.8216	0.1686	-0.0902	0.0414	-0.1557	-0.0351	0.1581	-0.0241
Income inequality	-0.1273	-0.1582	0.4501	-0.6672	-0.0311	0.0192	-0.1280	0.1729	-0.0528	-0.1776	-0.0056
Share of students at schools with more than 70% free lunches	-0.2470	0.0744	0.3827	-0.6596	-0.1375	-0.0686	-0.1830	0.1139	-0.0677	-0.1388	-0.0200
Violent crime rate	-0.1685	-0.2594	0.0722	-0.5020	0.1805	-0.0416	-0.3598	0.0524	-0.0233	0.0552	0.1988
Transportation index	0.2537	0.1571	-0.0937	-0.0599	0.7792	-0.0226	-0.0851	-0.0922	-0.0495	-0.0992	0.1073
Arts index	0.4485	0.1683	-0.1245	-0.0009	0.6887	0.1056	0.0027	-0.0669	0.0950	-0.0054	-0.0545
Recreation index	0.1962	-0.0651	-0.1686	-0.1084	0.6323	-0.0323	0.2323	0.0738	0.0826	0.2259	0.0053
Health index	0.3866	0.1429	-0.2261	-0.1703	0.5429	0.0542	-0.0940	0.0855	-0.0426	-0.0871	-0.1832
Venture capital per employee	0.4382	-0.0427	0.1530	0.0499	0.0756	0.7306	0.0262	-0.0064	0.1882	0.0147	0.0157
Number of patents per employee	0.5072	0.0891	0.0382	0.2027	-0.0592	0.5913	0.0530	-0.0421	0.0465	0.0960	0.1016
Cost of living index	0.3916	-0.2393	0.1380	0.1008	0.1072	0.5281	0.1956	0.3200	0.3314	-0.1188	0.0187
Share of city population in MSA population	0.0986	-0.2455	0.2145	-0.0812	-0.0276	-0.0285	-0.6519	-0.1581	0.0347	-0.2763	-0.1115
Property crime rate	-0.1294	-0.2794	0.0467	-0.3794	0.0920	-0.2156	-0.5789	-0.0610	-0.0235	0.1338	-0.0022
Pct. self employed (all industries except ag & mining)	0.0775	-0.4358	0.1020	0.2370	-0.0278	0.0392	0.0841	0.7343	-0.0777	0.0971	-0.0420
Share of business establishments with under 20 workers	-0.0177	-0.2343	0.0751	0.2045	-0.1931	-0.0684	0.0444	0.4556	0.0149	0.0518	0.2246
Pct. of homeownership	-0.3118	0.1029	-0.3117	-0.0053	-0.0276	0.0484	0.1216	0.0848	-0.2722	0.6871	-0.1023
Business openings over business closings	0.2402	-0.1557	0.0186	0.3103	0.0372	0.1336	0.1531	-0.0322	0.0770	-0.2027	0.5486
University enrollment per capita	0.2114	0.0142	-0.0677	-0.2042	-0.2144	-0.0679	-0.1826	-0.0201	-0.0183	-0.0734	-0.0459

Note: Highlighted variables associated with each factor have the highest leading scores that measure the correlation between a specific variable and a corresponding factor.

Table A-3. Factors' Association with Regional Economic Growth

Factor	Per Capita Income	Employment	GMP	Productivity
Skilled Workforce and R&D	0.00333			0.00134
Technology Commercialization	0.00374		0.00211	0.00232
Racial Inclusion & Income Equality	0.00104	0.00208	0.00357	0.00138
Urban Assimilation		0.00143	0.00276	0.00126
Legacy of Place		-0.00748	-0.00917	-0.00136
Business Dynamics		0.00237	0.00281	
Individual Entrepreneurship		0.00200	0.00180	
Locational Amenities	0.00222			
Urban/Metro Structure		0.00129	0.00218	

SECTION A-1. DESCRIPTION OF EACH OF THE INDICATORS, THEIR VARIABLES, AND IMPORTANCE

The **Skilled Workforce and Research & Development (R&D)** factor groups together seven variables (column 2 in Appendix A, Table A-2). These variables describe the quality of the regional labor force by its educational level (percentage of population with graduate or professional degrees and percentage of population with bachelor's degrees) and occupational level (percentage of population in professional and managerial occupations). This factor also includes three variables that describe the level of innovative activity in a region that closely correlates with advanced education and occupations. These variables are: the amount of industry R&D per employee; the amount of university R&D expenditures per employee; and Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards per employee. The industry R&D expenditures are approximated using state-level data. Due to volatility of university R&D expenditures, 2006 data measure the 3-year average of these expenditures from 2004 to 2006. These three variables are normalized by employment to eliminate the influence of MSA size on the variables. The last variable in this factor, population dependency, measures the structure of the regional labor force by capturing the share of the population that is typically not in the labor force – those younger than 18 and older than 65 years. A high ratio for this variable indicates a bigger burden on the economy to support nonworking dependents.

All variables except population density are directly correlated with the factor; the higher an individual variable's value, the stronger the corresponding indicator becomes in a corresponding region. For example, an increase in the percentage of population with graduate or professional degrees in an MSA will strengthen the Skilled Workforce and R&D indicator in that region. An increase in the dependent population in an MSA, which is inversely correlated with the indicator, will weaken this factor for the MSA.

The three variables with the highest loading scores in this factor include: percentage of the adult population with professional and managerial occupations (0.9434), graduate degrees (0.9344), and bachelor's degrees (0.8194). The higher the loading score of a variable with a corresponding factor, the stronger the association of this variable with that indicator. The three variables that describe the R&D component of this factor (industry R&D expenditures per employee, university R&D funding per employee, and SBIR and STTR awards per employee) also have relatively high factor loading scores ranging from 0.7223 to 0.4867. A seventh variable (population dependency), which is negatively related to the factor, has a loading score of 0.5942.

The Skilled Workforce and R&D factor captures the human capital input in the production function for goods and services. The academic and popular literature generally views human capital as one of the critical components of economic growth and postulates that regions with more educated workers experience faster growing economies.

The **Legacy of Place** factor (column 3 in Appendix A, Table A-2) mathematically clusters together seven variables that describe different aspects of a region with a common underlying factor – its history. It is expressed by dynamics of business openings and closings (business churning), climate, segregation (dissimilarity index[22]), poverty (city poverty ratio estimated by the core city's share of poverty in the metropolitan area relative to the core city's share of the metropolitan population), old physical infrastructure (percentage of houses built before 1940), structure of government (number of governmental units per 10,000 population), and industrial heritage (share of manufacturing employment in total employment).   These individual variables approximate regional history, industry mix, and are often presented in literature as associated with old industrial regions, poverty in the core city and segregation.

All of these variables have positive signs and can be interpreted as contributing to an increase in legacy cost. In contrast, business churning has an inverse relationship with the factor. Business churning is calculated by the summation of the number of businesses that opened and closed divided by total number of establishments. The combination of variables in the Legacy of Place factor suggests that metropolitan areas with high historical economic and social legacy costs have low business churning and places with low legacy costs experience high levels of business churning. Even though most of the individual variables in this factor increase the burden of legacy cost on a region, business churning has the second-highest loading with the factor (0.8479), indicating its significant influence on legacy cost. The variable with the highest loading – percentage of houses built before 1940 – can be improved by increasing the number of newly built houses and demolishing infrastructure built before 1940.

The Legacy of Place factor is interpreted as an indication of the historical social and economic burdens on regional economies. Consisting primarily of legacy costs, this factor is inversely affiliated with changes in measures of regional economic outcomes— employment, gross metropolitan product, and productivity.

Urban Assimilation constitutes the third strong group of variables distinguished by the factor analysis (column 4 in Appendix A, Table A-2). This factor describes regional diversity in terms of different ethnic and minority groups; and it shows a common variation of the presence of such populations in places that also have a strong share of minority-owned businesses and advanced information sector. Four of the five variables included in this factor describe ethnic diversity: percentage of Hispanic population, percentage employed in minority-owned businesses, percentage foreign-born population, and the percentage of Asian population. The variation of the Urban

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[22] Dissimilarity Index measures the percentage of the black population that would have to change residence for each neighborhood to have the same share of black population in the neighborhood as in the metropolitan area. The index ranges from 0 to 100, where 0 indicates complete integration and 100 shows complete segregation.

Assimilation indicator is clearly driven by the presence of the Hispanic population variable with the highest loading of 0.9184. Two other variables, share of minority business employment in total employment and percentage of foreign-born population in total population have the next highest loadings with the factor at 0.7908 and 0.7640, respectively, suggesting direct relationships between all variables and the indicator of Urban Assimilation.

Variables grouped in the **Racial Inclusion and Income Equality** factor have a distinctly different pattern of variation across the metropolitan areas from the variables that measure assimilation of different ethnicities and immigrants in society's social and economic life. Areas with a large Black population have a different set of economic and social challenges and, therefore, a different path of development.

This factor (column 5 in Appendix A, Table A-2) accounts for five variables but is mainly driven by the two with the highest loadings: percentage of Black population in the total population (0.8754) and isolation index[23] for Black population (0.8216). Two other variables, percentage of children living in high-poverty neighborhoods (approximated by the share of students in schools where more than 70% of students receive free lunch) and income inequality, reflect income distribution and poverty in a region. They also show comparably high loadings with the factor at 0.6672 and 0.6596, respectively. A fifth variable – violent crime rate – suggests that areas of high racial isolation and high poverty and income inequality are likely to have high rates of violent crime. All variables in this factor are negatively correlated with racial inclusion and income equality, suggesting that an increase in each individual variable is associated with a decrease in the indicator and a decline in inclusion and equality.

Locational amenities reflect the quality of life in a region and cluster together four variables describing transportation, arts, recreation, and healthcare indices (column 6 in Appendix A, Table A-2). These measures were developed by *Places Rated Almanac*, a publication that provides publicly available rankings of metropolitan areas based on multiple measures of quality of life. Each index is calculated based on several variables.[24] All variables are positively correlated with the indicator and the transportation index has the highest loading of 0.7792. The direct correlation of individual variables with the factor and their high loadings suggests that an increase of any index increases the regions' locational attractiveness for people and businesses.

Three variables loaded highly with the **Technology Commercialization** factor (column 7 in Appendix A, Table A-2)—venture capital per employee (0.7306), number of patents per employee (0.5913), and cost of living (0.5281). Research and development funding,

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[23] The Isolation Index estimates the degree to which a minority group is exposed to a majority group in its neighborhood. Higher values of isolation indicate higher segregation.

[24] *Places Rated Almanac* by David Savageau and Ralph D'Agostino, 2000 and *Places Rated Almanac* by David Savageau, 2007. See previous reports for details on these variables.

patent awards, pre-seed funding, venture capital, and initial public offerings are all on a continuum from exploratory research to the introduction of new products and processes to the market. The patents and venture capital variables in this factor represent the process of innovation commercialization, reflecting the higher end of the continuum. The number of patents indicates successful research and the potential for commercialization, whereas venture capital shows that investors believe in the possible transformation of these potential innovations into marketable products.

The cost of living variable also loads highly with this factor, suggesting that many research facilities producing patents and many start-up companies that are funded by venture capital are located in metropolitan areas with a high cost of living, primarily along the Eastern and Western coasts of the United States.

Two variables in the framework model have their highest loadings in the **Urban/Metro Structure** factor (column 8 in Appendix A, Table A-2): central city population as a percentage of metro population (0.6519) and the rate of property crime (0.5789). The clustering of these variables together suggests that the share of city population in MSA population has a similar distribution across the sample of metropolitan areas with the MSA's property crime rate. The inverse correlation of both variables with the factor suggests that they have a negative effect on urban/metro structure.

Individual Entrepreneurship (column 9 in Appendix A, Table A-2) groups together two variables: percentage of self-employed and the share of business establishments with less than 20 employees. It is driven by the first variable's higher loading with the factor (0.7343) and suggests that an increase in the percentage of self-employed constitutes higher levels of regional individual entrepreneurship. The second variable's loading (0.4556) shows that it also drives this factor.

Business Dynamics (column 12 in Appendix A, Table A-2) consists of a single variable that measures the ratio of openings over closings of businesses with a single establishment. It did not load within any of the other eight factors identified as statistically meaningful by the factor analysis. Nonetheless, business dynamics is part of the theoretical framework of regional growth and was a critical variable in the description of business dynamics in the first dashboard indicator study.

APPENDIX B: ECONOMIC GROWTH MEASURES AND RANKS BY MSA
(10-YEAR AND 3-YEAR TRENDS)

Table B-1. Rank of Metropolitan Areas by Percentage Change in Per Capita Income, 10-Year Trends

Table B-2. Rank of Metropolitan Areas by Percentage Change in Per Capita Income, 3-Year Trends

Table B-3. Rank of Metropolitan Areas by Percentage Change in Employment, 10-Year Trends

Table B-4. Rank of Metropolitan Areas by Percentage Change in Employment, 3-Year Trends

Table B-5. Rank of Metropolitan Areas by Percentage Change in Gross Metropolitan Product, 10-Year Trends

Table B-6. Rank of Metropolitan Areas by Percentage Change in Gross Metropolitan Product, 3-Year Trends

Table B-7. Rank of Metropolitan Areas by Percentage Change in Productivity, 10-Year Trends

Table B-8. Rank of Metropolitan Areas by Percentage Change in Productivity, 3-Year Trends

Note: In Tables B-1 to B-8, the apparent ties in percentage change values in the measures of economic growth are due to rounding of the numbers to two decimal places.

Table B-1. Rank of Metropolitan Areas by Percentage Change in Per Capita Income, 10-Year Trends

Metro Area	1995 - 2005 Percent Change	Rank	1996 - 2006 Percent Change	Rank	1997 - 2007 Percent Change	Rank
New Orleans-Metairie-Kenner, LA	-31.42	136	48.34	1	46.84	1
Naples-Marco Island, FL	30.23	2	39.90	2	38.82	2
Oklahoma City, OK	28.89	4	34.38	4	38.79	3
Santa Barbara-Santa Maria-Goleta, CA	26.98	10	33.57	6	38.10	4
Killeen-Temple-Fort Hood, TX	27.79	7	32.00	8	35.26	5
Bridgeport-Stamford-Norwalk, CT	28.43	5	32.62	7	33.84	6
Fayetteville, NC	27.26	9	26.65	14	31.39	7
San Diego-Carlsbad-San Marcos, CA	33.98	1	33.82	5	31.32	8
Cape Coral-Fort Myers, FL	29.85	3	34.87	3	31.00	9
Tulsa, OK	25.11	13	29.30	10	30.04	10
Charleston-North Charleston-Summerville, SC	28.19	6	27.96	12	27.78	11
Baltimore-Towson, MD	26.69	11	27.65	13	27.42	12
Shreveport-Bossier City, LA	18.15	53	24.71	22	27.28	13
El Paso, TX	25.94	12	28.36	11	27.04	14
San Jose-Sunnyvale-Santa Clara, CA	27.46	8	30.03	9	26.61	15
Corpus Christi, TX	24.03	16	23.68	26	26.01	16
Seattle-Tacoma-Bellevue, WA	23.68	19	24.88	19	25.52	17
Virginia Beach-Norfolk-Newport News, VA-NC	23.95	17	25.27	18	24.88	18
Birmingham-Hoover, AL	24.07	15	23.94	25	24.79	19
Salinas, CA	14.54	83	21.66	34	24.76	20
Vallejo-Fairfield, CA	23.50	20	25.99	16	24.72	21
Oxnard-Thousand Oaks-Ventura, CA	21.06	26	25.92	17	24.32	22
Little Rock-North Little Rock-Conway, AR	19.52	34	19.60	46	23.83	23
Trenton-Ewing, NJ	18.80	40	22.24	30	23.46	24
Baton Rouge, LA	16.24	67	19.30	50	23.20	25
Santa Rosa-Petaluma, CA	23.76	18	26.52	15	23.04	26
Jacksonville, FL	21.39	24	24.85	21	23.01	27
Bradenton-Sarasota-Venice, FL	21.55	23	24.64	23	22.89	28
Pittsburgh, PA	19.21	37	21.91	32	22.16	29
Fayetteville-Springdale-Rogers, AR-MO	18.41	51	20.54	38	22.14	30
Providence-New Bedford-Fall River, RI-MA	20.40	30	22.44	29	22.09	31
Denver-Aurora-Broomfield, CO	22.35	21	22.58	28	20.85	32
Charleston, WV	16.06	69	18.69	52	20.77	33
Portland-South Portland-Biddeford, ME	19.34	36	20.25	42	20.66	34
Hartford-West Hartford-East Hartford, CT	18.48	50	21.18	37	20.55	35
Savannah, GA	18.64	46	18.24	57	20.42	36
Beaumont-Port Arthur, TX	17.25	61	24.85	20	20.36	37
Madison, WI	19.97	31	21.52	35	20.35	38
Worcester, MA	20.74	28	21.50	36	20.17	39
Omaha-Council Bluffs, NE-IA	22.04	22	19.62	45	20.13	40
Palm Bay-Melbourne-Titusville, FL	21.17	25	24.52	24	19.76	41
Peoria, IL	18.54	49	19.40	48	19.16	42
Jackson, MS	18.75	42	21.97	31	19.12	43
Pensacola-Ferry Pass-Brent, FL	18.74	45	18.65	53	18.82	44
Honolulu, HI	8.54	116	15.02	86	18.39	45
Salt Lake City, UT	24.50	14	23.08	27	18.27	46
Richmond, VA	19.42	35	20.41	40	18.16	47
Wichita, KS	17.62	59	21.80	33	18.15	48
Port St. Lucie, FL	17.07	63	19.37	49	18.15	49
Tucson, AZ	18.84	39	19.80	43	18.13	50
Lakeland-Winter Haven, FL	18.61	48	18.38	56	17.86	51
Sacramento-Arden-Arcade-Roseville, CA	17.92	57	20.50	39	17.86	52
Minneapolis-St. Paul-Bloomington, MN-WI	19.79	32	18.48	54	17.68	53
McAllen-Edinburg-Mission, TX	18.77	41	17.27	64	17.63	54
Montgomery, AL	17.32	60	17.89	59	17.60	55
South Bend-Mishawaka, IN-MI	16.90	64	18.42	55	17.56	56
San Antonio, TX	19.67	33	19.48	47	17.44	57
Tallahassee, FL	17.75	58	17.64	63	17.00	58
Louisville-Jefferson County, KY-IN	15.72	73	17.17	67	16.94	59
Huntsville, AL	16.55	66	18.14	58	16.87	60
Manchester-Nashua, NH	18.74	44	15.27	80	16.87	61
New Haven-Milford, CT	13.94	87	17.00	68	16.82	62
Orlando-Kissimmee, FL	17.95	56	18.94	51	16.49	63
Des Moines-West Des Moines, IA	18.01	54	17.20	66	16.33	64
Albany-Schenectady-Troy, NY	18.75	43	19.68	44	16.31	65
Durham-Chapel Hill, NC	16.15	68	15.90	75	16.18	66
Brownsville-Harlingen, TX	14.70	81	15.73	78	16.02	67
Nashville-Davidson-Murfreesboro-Franklin, TN	14.00	86	16.66	71	15.93	68
Evansville, IN-KY	18.63	47	17.66	62	15.87	69
Mobile, AL	10.30	106	16.76	70	15.85	70
Boise City-Nampa, ID	9.83	110	15.24	82	15.66	71
Anchorage, AK	12.22	98	15.68	79	15.65	72
Milwaukee-Waukesha-West Allis, WI	14.72	80	16.60	72	15.47	73
Las Vegas-Paradise, NV	18.95	38	16.82	69	15.44	74
Deltona-Daytona Beach-Ormond Beach, FL	18.21	52	17.88	60	15.35	75
Tampa-St. Petersburg-Clearwater, FL	17.16	62	17.87	61	15.33	76
Colorado Springs, CO	20.53	29	17.25	65	15.32	77
Reno-Sparks, NV	17.98	55	16.04	74	15.18	78
Poughkeepsie-Newburgh-Middletown, NY	14.94	79	15.80	76	15.05	79
Davenport-Moline-Rock Island, IA-IL	16.88	65	14.71	89	15.00	80
Memphis, TN-MS-AR	15.58	74	15.02	87	14.98	81
Scranton-Wilkes-Barre, PA	15.41	75	15.27	81	14.82	82
Springfield, MA	15.09	78	15.20	85	14.71	83
Visalia-Porterville, CA	12.70	93	9.78	114	14.58	84
Kansas City, MO-KS	14.26	84	15.22	83	14.45	85
Syracuse, NY	13.29	90	14.82	88	14.29	86
Columbia, SC	15.21	77	15.77	77	14.27	87
Buffalo-Niagara Falls, NY	13.29	91	15.20	84	14.09	88
Fresno, CA	9.46	111	11.56	105	13.89	89
Austin-Round Rock, TX	20.95	27	20.32	41	13.65	90
Eugene-Springfield, OR	9.31	113	13.07	98	13.16	91
Augusta-Richmond County, GA-SC	14.62	82	13.61	93	13.07	92
Wilmington, NC	15.35	76	13.39	97	12.55	93
Ogden-Clearfield, UT	15.98	70	16.10	73	12.50	94
Albuquerque, NM	12.60	94	13.60	94	12.45	95
Lexington-Fayette, KY	12.42	95	13.00	99	12.44	96
St. Louis, MO-IL	13.13	92	13.48	96	12.44	97
Knoxville, TN	10.91	104	12.77	101	12.32	98
Indianapolis-Carmel, IN	13.73	88	13.71	92	11.97	99
Spokane, WA	11.32	102	12.81	100	11.90	100
Chattanooga, TN-GA	10.98	103	11.19	106	11.77	101
Allentown-Bethlehem-Easton, PA-NJ	11.36	101	12.11	103	11.63	102
Charlotte-Gastonia-Concord, NC-SC	15.84	72	14.57	90	11.48	103
Cincinnati-Middletown, OH-KY-IN	15.92	71	13.97	91	11.23	104
Akron, OH	12.00	99	12.76	102	10.93	105
Bakersfield, CA	9.36	112	8.93	118	10.92	106
Columbus, OH	13.71	89	13.57	95	10.88	107
Harrisburg-Carlisle, PA	12.29	96	11.11	107	10.31	108
Modesto, CA	14.13	85	12.03	104	9.99	109
Rochester, NY	10.11	108	10.78	109	9.66	110
Cleveland-Elyria-Mentor, OH	8.59	115	10.00	110	9.47	111
Springfield, MO	12.23	97	10.86	108	9.23	112
Portland-Vancouver-Beaverton, OR-WA	9.94	109	9.95	112	8.68	113
Greenville-Mauldin-Easley, SC	7.38	119	9.48	115	8.56	114
Salem, OR	4.87	126	7.26	121	8.41	115
Lancaster, PA	11.55	100	9.39	116	8.31	116
Asheville, NC	9.06	114	9.86	113	8.03	117
Grand Rapids-Wyoming, MI	10.21	107	9.21	117	7.50	118
Raleigh-Cary, NC	10.63	105	9.96	111	7.00	119
Lansing-East Lansing, MI	4.56	128	7.17	122	6.77	120
Youngstown-Warren-Boardman, OH-PA	3.60	131	7.50	119	6.10	121
Reading, PA	3.33	132	5.83	126	5.98	122
Stockton, CA	6.25	122	7.49	120	5.60	123
Ann Arbor, MI	4.16	130	3.98	132	5.57	124
Kalamazoo-Portage, MI	5.23	124	4.16	130	5.51	125
Canton-Massillon, OH	6.32	121	5.64	127	5.07	126
Winston-Salem, NC	5.88	123	4.93	129	4.99	127
York-Hanover, PA	7.97	117	6.05	125	4.85	128
Greensboro-High Point, NC	7.64	118	6.66	123	4.35	129
Toledo, OH	4.68	127	5.50	128	4.16	130
Dayton, OH	4.88	125	6.58	124	4.11	131
Fort Wayne, IN	0.78	133	2.33	134	2.03	132
Hickory-Lenoir-Morganton, NC	4.52	129	3.76	133	1.93	133
Provo-Orem, UT	6.51	120	4.13	131	0.60	134
Rockford, IL	-3.63	134	-1.66	135	-1.50	135
Flint, MI	-12.50	135	-8.39	136	-6.94	136
Sample Average	16.64		18.44		17.41	

Source: Bureau of Economic Analysis

PCI has been updated using revised BEA data released on 04/23/09

Table B-2. Rank of Metropolitan Areas by Percentage Change in Per Capita Income, 3-Year Trends

Metro Area	2002-2005 Percent Change	Rank	2003-2006 Percent Change	Rank	2004-2007 Percent Change	Rank
New Orleans-Metairie-Kenner, LA	-38.90	136	32.27	1	30.41	1
Killeen-Temple-Fort Hood, TX	12.64	6	16.07	5	15.26	2
Fayetteville, NC	13.98	3	12.95	11	14.54	3
Naples-Marco Island, FL	17.57	1	26.49	2	14.45	4
Bridgeport-Stamford-Norwalk, CT	5.96	35	15.90	7	14.21	5
Tulsa, OK	7.57	15	16.01	6	13.73	6
Oklahoma City, OK	9.18	9	14.83	8	12.83	7
Santa Barbara-Santa Maria-Goleta, CA	15.30	2	19.65	3	12.69	8
Beaumont-Port Arthur, TX	5.58	37	11.14	18	12.13	9
San Jose-Sunnyvale-Santa Clara, CA	3.58	60	10.12	22	11.79	10
Baton Rouge, LA	7.03	23	11.20	17	11.45	11
Corpus Christi, TX	8.17	13	9.17	30	10.55	12
Shreveport-Bossier City, LA	7.45	18	9.87	23	10.43	13
Honolulu, HI	8.64	11	10.94	19	9.53	14
Little Rock-North Little Rock-Conway, AR	4.94	43	7.19	45	9.44	15
Salinas, CA	7.25	21	9.58	24	9.41	16
Wichita, KS	3.82	55	12.00	13	9.04	17
Peoria, IL	6.64	25	9.24	27	9.01	18
El Paso, TX	6.74	24	8.93	32	8.91	19
Mobile, AL	3.58	64	10.44	21	8.71	20
Santa Rosa-Petaluma, CA	2.72	76	8.59	35	8.55	21
Charleston-North Charleston-Summerville, SC	6.30	29	8.93	33	8.46	22
Trenton-Ewing, NJ	0.60	110	5.82	65	8.31	23
Charleston, WV	-0.01	119	4.43	84	8.10	24
Bradenton-Sarasota-Venice, FL	6.52	27	14.35	9	8.03	25
Oxnard-Thousand Oaks-Ventura, CA	9.48	7	11.39	16	8.02	26
Pittsburgh, PA	3.04	70	6.91	49	7.87	27
Savannah, GA	7.36	20	9.17	29	7.79	28
Jacksonville, FL	8.65	10	11.56	15	7.74	29
Hartford-West Hartford-East Hartford, CT	3.73	56	7.96	42	7.50	30
Pensacola-Ferry Pass-Brent, FL	6.07	30	9.35	25	7.13	31
Eugene-Springfield, OR	1.11	101	6.94	47	7.08	32
Worcester, MA	2.28	86	5.85	64	6.97	33
Seattle-Tacoma-Bellevue, WA	3.11	67	8.41	37	6.85	34
Salt Lake City, UT	4.92	44	10.63	20	6.74	35
Las Vegas-Paradise, NV	13.76	4	12.97	10	6.71	36
Baltimore-Towson, MD	5.52	38	7.52	43	6.69	37
Anchorage, AK	2.17	89	6.40	59	6.52	38
Virginia Beach-Norfolk-Newport News, VA-NC	6.03	33	6.92	48	6.42	39
Huntsville, AL	5.40	41	5.36	68	6.27	40
Poughkeepsie-Newburgh-Middletown, NY	4.56	49	6.46	57	6.19	41
Tucson, AZ	9.24	8	11.92	14	6.15	42
Milwaukee-Waukesha-West Allis, WI	0.07	115	4.52	80	6.14	43
Cape Coral-Fort Myers, FL	13.55	5	17.67	4	6.13	44
New Haven-Milford, CT	1.82	94	5.94	63	6.06	45
San Antonio, TX	6.03	32	6.98	46	6.00	46
Birmingham-Hoover, AL	7.92	14	8.63	34	5.91	47
McAllen-Edinburg-Mission, TX	5.15	41	5.09	71	5.90	48
Providence-New Bedford-Fall River, RI-MA	3.30	65	4.88	74	5.73	49
Jackson, MS	5.59	36	8.41	38	5.71	50
Asheville, NC	3.03	71	6.82	51	5.67	51
Vallejo-Fairfield, CA	4.37	50	6.01	62	5.45	52
Madison, WI	2.11	90	4.46	82	5.31	53
Denver-Aurora-Broomfield, CO	1.09	102	6.44	58	5.24	54
Port St. Lucie, FL	7.50	16	12.05	12	5.23	55
Lexington-Fayette, KY	0.82	106	4.54	79	5.15	56
Durham-Chapel Hill, NC	3.94	53	6.82	52	5.00	57
San Diego-Carlsbad-San Marcos, CA	7.44	19	9.09	31	4.98	58
Fayetteville-Springdale-Rogers, AR-MO	7.16	22	8.46	36	4.97	59
Portland-Vancouver-Beaverton, OR-WA	0.24	112	3.68	94	4.91	60
Davenport-Moline-Rock Island, IA-IL	4.68	48	5.20	70	4.89	61
Palm Bay-Melbourne-Titusville, FL	6.04	31	8.15	41	4.87	62
Brownsville-Harlingen, TX	1.59	96	1.78	111	4.84	63
Ogden-Clearfield, UT	1.92	93	5.42	67	4.83	64
Springfield, MA	2.30	84	3.75	91	4.78	65
Orlando-Kissimmee, FL	6.49	28	8.25	39	4.68	66
Columbia, SC	2.55	81	6.35	60	4.67	67
Omaha-Council Bluffs, NE-IA	3.96	52	4.95	73	4.65	68
Wilmington, NC	5.99	34	6.66	56	4.52	69
Syracuse, NY	3.47	62	3.84	88	4.43	70
Tallahassee, FL	6.59	26	8.21	40	4.38	71
Austin-Round Rock, TX	3.69	55	6.67	55	4.38	72
Richmond, VA	4.76	47	6.73	54	4.33	73
Portland-South Portland-Biddeford, ME	3.39	64	4.72	77	4.31	74
Chattanooga, TN-GA	1.49	98	3.47	99	4.30	75
Raleigh-Cary, NC	0.04	117	3.75	92	4.29	76
Spokane, WA	0.15	113	3.16	101	4.23	77
Greenville-Mauldin-Easley, SC	0.79	107	4.81	75	4.18	78
Louisville-Jefferson County, KY-IN	0.14	114	4.19	86	4.14	79
Cleveland-Elyria-Mentor, OH	1.07	103	3.59	96	4.13	80
Boise City-Nampa, ID	2.88	74	9.19	28	4.06	81
Tampa-St. Petersburg-Clearwater, FL	3.67	58	6.78	53	4.03	82
Reading, PA	-2.68	130	1.53	114	3.92	83
Akron, OH	2.39	82	3.05	102	3.84	84
Minneapolis-St. Paul-Bloomington, MN-WI	3.07	69	4.00	87	3.73	85
Kansas City, MO-KS	0.06	116	3.04	103	3.68	86
Allentown-Bethlehem-Easton, PA-NJ	-0.80	123	1.29	120	3.68	87
Colorado Springs, CO	2.18	88	4.33	85	3.61	88
St. Louis, MO-IL	0.71	109	1.63	112	3.59	89
Scranton-Wilkes-Barre, PA	2.74	75	3.82	89	3.44	90
Sacramento-Arden-Arcade-Roseville, CA	4.89	45	6.02	61	3.43	91
Rochester, NY	3.14	66	5.21	69	3.32	92
Albany-Schenectady-Troy, NY	5.18	40	5.59	66	3.30	93
Nashville-Davidson-Murfreesboro-Franklin, TN	3.03	72	4.77	76	3.20	94
Memphis, TN-MS-AR	2.64	79	3.75	90	3.17	95
Buffalo-Niagara Falls, NY	3.09	68	3.74	93	3.14	96
Montgomery, AL	4.89	46	4.46	83	3.07	97
Lakeland-Winter Haven, FL	8.50	12	9.29	26	2.93	98
Albuquerque, NM	2.10	91	4.47	81	2.92	99
South Bend-Mishawaka, IN-MI	2.58	80	3.39	100	2.66	100
Rockford, IL	-3.56	132	-1.46	133	2.65	101
Knoxville, TN	1.41	99	2.85	106	2.63	102
Augusta-Richmond County, GA-SC	2.29	85	2.96	105	2.61	103
Manchester-Nashua, NH	0.95	105	3.66	95	2.50	104
Youngstown-Warren-Boardman, OH-PA	0.36	111	0.83	122	2.36	105
Bakersfield, CA	1.19	100	1.31	118	2.07	106
Greensboro-High Point, NC	2.06	92	3.50	98	1.99	107
Columbus, OH	-1.02	124	0.35	125	1.86	108
Charlotte-Gastonia-Concord, NC-SC	2.25	87	5.00	72	1.82	109
Visalia-Porterville, CA	2.96	73	1.57	113	1.76	110
Des Moines-West Des Moines, IA	3.51	61	4.71	78	1.75	111
Dayton, OH	-2.79	131	-0.47	129	1.74	112
Deltona-Daytona Beach-Ormond Beach, FL	5.07	42	6.84	50	1.73	113
Lansing-East Lansing, MI	-1.65	126	-1.39	132	1.68	114
Stockton, CA	-0.61	122	1.29	119	1.56	115
Hickory-Lenoir-Morganton, NC	-0.01	118	0.62	124	1.54	116
Fresno, CA	0.72	108	1.41	117	1.53	117
Canton-Massillon, OH	-1.12	125	-0.49	130	1.48	118
Cincinnati-Middletown, OH-KY-IN	1.52	97	2.56	109	1.46	119
Toledo, OH	-2.21	128	-2.03	134	1.44	120
Evansville, IN-KY	2.34	83	2.98	104	1.43	121
Reno-Sparks, NV	7.46	17	7.34	44	1.39	122
Lancaster, PA	3.92	54	2.66	108	1.26	123
Harrisburg-Carlisle, PA	1.63	95	1.13	121	1.16	124
Modesto, CA	3.45	63	3.58	97	1.07	125
Salem, OR	-1.89	127	-0.12	126	0.90	126
Springfield, MO	2.69	77	1.43	116	0.90	127
Winston-Salem, NC	2.67	78	2.79	107	0.88	128
Kalamazoo-Portage, MI	-0.42	121	-1.21	131	0.67	129
York-Hanover, PA	4.18	51	2.47	110	0.51	130
Provo-Orem, UT	-2.32	129	-0.37	128	0.36	131
Indianapolis-Carmel, IN	-0.14	120	1.50	115	0.35	132
Grand Rapids-Wyoming, MI	1.04	104	0.65	123	0.21	133
Fort Wayne, IN	-3.90	133	-0.13	127	0.04	134
Ann Arbor, MI	-4.57	134	-6.00	135	-2.74	135
Flint, MI	-7.38	135	-9.03	136	-3.98	136
Sample Average	2.98		6.23		5.31	

Source: Bureau of Economic Analysis

PCI has been updated using revised BEA data released on 04/23/09

Table B-3. Rank of Metropolitan Areas by Percentage Change in Employment, 10-Year Trends

Metro Area	1995 - 2005		1996 - 2006		1997 - 2007		Metro Area	1995 - 2005		1996 - 2006		1997 - 2007	
	Percent Change	Rank	Percent Change	Rank	Percent Change	Rank		Percent Change	Rank	Percent Change	Rank	Percent Change	Rank
Las Vegas-Paradise, NV	72.99	1	67.02	1	58.14	1	Columbia, SC	12.69	73	11.74	80	12.38	69
McAllen-Edinburg-Mission, TX	50.94	4	53.10	4	52.44	2	Greenville-Mauldin-Easley, SC	12.23	77	12.17	78	12.23	70
Naples-Marco Island, FL	64.92	2	65.95	2	50.44	3	Baltimore-Towson, MD	12.78	72	13.72	69	12.23	71
Cape Coral-Fort Myers, FL	50.11	5	55.84	3	50.15	4	Portland-Vancouver-Beaverton, OR-WA	15.97	55	14.35	61	12.11	72
Boise City-Nampa, ID	38.52	9	41.87	7	38.60	5	York-Hanover, PA	10.43	88	11.27	81	11.90	73
Port St. Lucie, FL	41.42	7	43.67	5	38.50	6	Santa Barbara-Santa Maria-Goleta, CA	16.60	49	14.45	60	11.84	74
Fayetteville-Springdale-Rogers, AR-MO	39.50	8	40.34	9	38.22	7	Virginia Beach-Norfolk-Newport News, VA-NC	12.82	71	12.35	77	11.83	75
Provo-Orem, UT	33.30	12	34.18	11	37.66	8	Columbus, OH	13.60	67	12.90	72	11.50	76
Orlando-Kissimmee, FL	43.37	6	41.48	8	36.49	9	Omaha-Council Bluffs, NE-IA	12.58	75	12.39	76	11.46	77
Wilmington, NC	34.75	10	35.38	10	33.56	10	Little Rock-North Little Rock-Conway, AR	11.90	80	11.93	79	11.45	78
Austin-Round Rock, TX	33.35	11	33.06	12	33.13	11	Chattanooga, TN-GA	8.40	101	9.46	91	10.97	79
Bradenton-Sarasota-Venice, FL	52.89	3	43.17	6	32.17	12	Minneapolis-St. Paul-Bloomington, MN-WI	13.83	66	12.74	75	10.91	80
Raleigh-Cary, NC	31.09	14	31.01	14	31.24	13	Lancaster, PA	14.62	62	13.86	67	10.90	81
Charleston-North Charleston-Summerville, SC	26.60	18	29.51	15	29.49	14	Manchester-Nashua, NH	16.57	50	13.81	68	10.87	82
Sacramento-Arden-Arcade-Roseville, CA	32.14	13	31.27	13	28.41	15	Honolulu, HI	6.08	112	9.45	92	10.85	83
Brownsville-Harlingen, TX	26.41	20	28.93	16	26.59	16	Montgomery, AL	11.58	82	10.84	82	10.49	84
Charlotte-Gastonia-Concord, NC-SC	23.99	25	25.01	24	25.47	17	Fayetteville, NC	10.13	90	10.28	85	10.28	85
Reno-Sparks, NV	29.41	15	28.80	17	25.41	18	Winston-Salem, NC	10.37	89	10.26	86	9.08	86
Anchorage, AK	23.94	26	26.48	20	25.07	19	Lexington-Fayette, KY	11.56	83	10.39	83	8.83	87
Savannah, GA	19.47	39	22.42	31	24.30	20	Shreveport-Bossier City, LA	9.93	91	8.79	98	8.65	88
Bakersfield, CA	23.75	27	23.45	29	24.06	21	Memphis, TN-MS-AR	10.81	86	10.32	84	8.55	89
Salt Lake City, UT	23.49	28	22.76	30	23.60	22	Albany-Schenectady-Troy, NY	8.57	100	9.80	90	8.29	90
Stockton, CA	25.52	22	23.96	26	22.68	23	Corpus Christi, TX	12.18	78	10.02	88	8.27	91
Deltona-Daytona Beach-Ormond Beach, FL	24.35	24	25.77	22	22.60	24	Greensboro-High Point, NC	9.29	95	9.26	94	8.00	92
San Diego-Carlsbad-San Marcos, CA	26.95	17	25.79	21	22.42	25	Cincinnati-Middletown, OH-KY-IN	11.93	79	9.94	89	7.94	93
Vallejo-Fairfield, CA	26.59	19	26.99	19	22.42	26	Providence-New Bedford-Fall River, RI-MA	10.46	87	10.13	87	7.93	94
Tucson, AZ	21.68	34	24.04	25	22.08	27	Augusta-Richmond County, GA-SC	8.05	104	8.04	102	7.92	95
Lakeland-Winter Haven, FL	25.80	21	25.15	23	22.05	28	Birmingham-Hoover, AL	8.70	99	8.81	97	7.39	96
Tampa-St. Petersburg-Clearwater, FL	27.66	16	27.19	18	21.91	29	Charleston, WV	9.53	93	8.58	99	7.10	97
Ogden-Clearfield, UT	23.34	29	20.97	35	21.32	30	Mobile, AL	7.81	106	7.78	104	6.96	98
Oxnard-Thousand Oaks-Ventura, CA	22.09	33	23.86	27	21.24	31	Wichita, KS	9.78	92	8.94	96	6.81	99
Jacksonville, FL	21.47	35	21.61	33	20.53	32	Kansas City, MO-KS	8.22	103	7.46	106	6.77	100
Trenton-Ewing, NJ	21.02	37	22.07	32	20.32	33	Worcester, MA	9.03	97	8.94	95	6.67	101
Huntsville, AL	17.89	45	19.39	36	20.23	34	Harrisburg-Carlisle, PA	9.00	98	8.15	101	6.52	102
San Antonio, TX	19.42	40	21.05	34	20.10	35	Louisville-Jefferson County, KY-IN	6.998539	110	7.085669	107	6.34685	103
Springfield, MO	19.08	42	19.34	38	19.55	36	Springfield, MA	9.50	94	9.35	93	6.29	104
Killeen-Temple-Fort Hood, TX	12.46	76	15.28	58	17.81	37	Ann Arbor, MI	11.36	84	8.42	100	5.87	105
Palm Bay-Melbourne-Titusville, FL	22.52	31	23.48	28	17.54	38	Akron, OH	8.34	102	6.84	108	5.78	106
Nashville-Davidson-Murfreesboro-Franklin, TN	18.94	43	19.10	39	16.80	39	Reading, PA	6.35	111	7.59	105	5.46	107
Knoxville, TN	14.24	63	15.99	56	16.73	40	St. Louis, MO-IL	7.13	109	6.46	110	5.13	108
Spokane, WA	14.85	60	16.39	50	16.71	41	Bridgeport-Stamford-Norwalk, CT	5.75	113	5.68	113	5.06	109
Albuquerque, NM	16.21	54	18.21	43	16.59	42	Evansville, IN-KY	7.86	105	6.53	109	4.79	110
Indianapolis-Carmel, IN	16.42	51	16.35	51	16.55	43	Hartford-West Hartford-East Hartford, CT	4.85	116	5.16	117	4.60	111
Salinas, CA	22.43	32	16.62	48	16.47	44	Pittsburgh, PA	5.70	114	5.27	116	4.57	112
Baton Rouge, LA	12.87	70	12.93	71	16.15	45	Scranton-Wilkes-Barre, PA	5.42	115	5.34	115	4.54	113
Seattle-Tacoma-Bellevue, WA	19.28	41	19.09	40	15.91	46	New Haven-Milford, CT	7.26	107	6.38	111	4.44	114
Modesto, CA	24.76	23	19.37	37	15.90	47	Beaumont-Port Arthur, TX	2.49	123	6.02	112	4.06	115
Madison, WI	20.13	38	18.16	44	15.90	48	Grand Rapids-Wyoming, MI	10.92	85	7.80	103	3.93	116
Tallahassee, FL	14.76	61	16.96	47	15.74	49	Syracuse, NY	3.85	118	3.43	120	3.50	117
Salem, OR	16.29	53	15.68	57	15.61	50	Davenport-Moline-Rock Island, IA-IL	7.23	108	5.46	114	3.48	118
Des Moines-West Des Moines, IA	13.48	68	14.05	65	15.34	51	Milwaukee-Waukesha-West Allis, WI	4.26	117	4.39	118	3.38	119
Denver-Aurora-Broomfield, CO	18.66	44	17.44	45	14.98	52	Kalamazoo-Portage, MI	3.52	119	2.65	121	2.49	120
Durham-Chapel Hill, NC	11.76	81	13.20	70	14.80	53	Fort Wayne, IN	3.24	121	4.23	119	2.39	121
Richmond, VA	16.39	52	16.10	54	14.63	54	Rockford, IL	-0.35	129	0.56	126	1.53	122
Allentown-Bethlehem-Easton, PA-NJ	14.99	59	16.29	53	14.59	55	Rochester, NY	2.32	124	1.34	123	0.83	123
Santa Rosa-Petaluma, CA	23.02	30	18.73	41	14.55	56	Buffalo-Niagara Falls, NY	1.12	126	0.99	125	0.20	124
Poughkeepsie-Newburgh-Middletown, NY	17.22	46	16.30	52	14.40	57	South Bend-Mishawaka, IN-MI	2.29	125	1.62	122	-0.78	125
Visalia-Porterville, CA	15.68	57	16.98	46	14.29	58	Toledo, OH	2.58	122	1.03	124	-1.55	126
Fresno, CA	13.22	69	12.82	74	14.04	59	Cleveland-Elyria-Mentor, OH	0.90	127	-0.28	128	-2.62	127
Asheville, NC	12.63	74	14.18	63	13.56	60	San Jose-Sunnyvale-Santa Clara, CA	3.45	120	0.01	127	-2.87	128
Portland-South Portland-Biddeford, ME	16.86	48	16.07	55	13.50	61	Lansing-East Lansing, MI	0.32	128	-1.13	129	-2.90	129
Colorado Springs, CO	21.36	36	18.27	42	13.48	62	Canton-Massillon, OH	-0.42	130	-3.02	131	-4.39	130
Oklahoma City, OK	15.74	56	14.12	64	13.18	63	Youngstown-Warren-Boardman, OH-PA	-2.15	131	-2.49	130	-5.48	131
Pensacola-Ferry Pass-Brent, FL	16.90	47	16.48	49	12.91	64	Dayton, OH	-2.96	132	-3.55	132	-6.13	132
El Paso, TX	9.26	96	12.82	73	12.78	65	Hickory-Lenoir-Morganton, NC	-7.42	134	-7.60	133	-8.73	133
Jackson, MS	15.33	58	14.85	59	12.59	66	Peoria, IL	-13.24	136	-14.14	135	-14.10	134
Tulsa, OK	13.84	65	14.32	62	12.49	67	New Orleans-Metairie-Kenner, LA	-5.10	133	-19.40	136	-15.78	135
Eugene-Springfield, OR	14.14	64	13.96	66	12.39	68	Flint, MI	-11.54	135	-13.69	134	-16.10	136
Source: Moody's Economy.com							Sample Average	15.70		15.37		13.78	

Table B-4. Rank of Metropolitan Areas by Percentage Change in Employment, 3-Year Trends

Metro Area	2002-2005 Percent Change	Rank	2003-2006 Percent Change	Rank	2004-2007 Percent Change	Rank
Wilmington, NC	10.66	11	15.27	7	16.17	1
Provo-Orem, UT	10.50	12	15.71	5	15.75	2
Raleigh-Cary, NC	7.07	18	12.09	14	15.36	3
Las Vegas-Paradise, NV	19.10	2	20.44	2	13.96	4
Boise City-Nampa, ID	8.43	17	14.99	8	13.74	5
Austin-Round Rock, TX	4.99	35	10.53	16	13.23	6
Salt Lake City, UT	4.24	47	10.30	17	12.82	7
McAllen-Edinburg-Mission, TX	14.40	4	13.77	10	12.16	8
Savannah, GA	8.89	15	13.35	11	12.16	9
Orlando-Kissimmee, FL	13.67	5	15.39	6	12.13	10
Cape Coral-Fort Myers, FL	21.14	1	21.99	1	11.99	11
Port St. Lucie, FL	16.97	3	17.64	3	11.74	12
Charlotte-Gastonia-Concord, NC-SC	2.60	71	7.76	29	11.26	13
Killeen-Temple-Fort Hood, TX	4.55	43	8.06	26	10.20	14
Bakersfield, CA	6.18	28	9.07	23	10.17	15
Fayetteville-Springdale-Rogers, AR-MO	11.55	8	12.36	12	9.84	16
San Antonio, TX	2.61	70	7.18	36	9.28	17
Springfield, MO	5.33	33	7.48	32	9.13	18
Charleston-North Charleston-Summerville, SC	6.67	22	7.82	28	8.90	19
Seattle-Tacoma-Bellevue, WA	2.86	65	6.92	39	8.87	20
Durham-Chapel Hill, NC	0.64	101	7.12	37	8.82	21
Ogden-Clearfield, UT	5.56	31	8.13	25	8.70	22
Huntsville, AL	6.75	21	7.63	30	8.61	23
Portland-Vancouver-Beaverton, OR-WA	4.08	51	8.40	24	8.46	24
Baton Rouge, LA	4.67	40	6.24	46	8.31	25
Jacksonville, FL	7.04	19	9.51	22	8.25	26
Tulsa, OK	0.68	100	6.88	40	8.08	27
Asheville, NC	2.57	72	5.04	60	7.98	28
Spokane, WA	4.76	39	6.38	45	7.60	29
Reno-Sparks, NV	9.45	14	11.56	15	7.52	30
Mobile, AL	0.19	106	4.94	61	7.42	31
Des Moines-West Des Moines, IA	4.21	48	7.28	34	7.29	32
Salem, OR	5.32	34	7.19	35	7.24	33
Greenville-Mauldin-Easley, SC	1.54	89	4.92	62	7.21	34
Eugene-Springfield, OR	4.33	45	7.88	27	7.15	35
Tucson, AZ	6.79	20	9.65	20	7.07	36
El Paso, TX	1.68	86	4.53	67	7.03	37
Lakeland-Winter Haven, FL	11.49	9	12.13	13	6.95	38
Columbia, SC	3.72	54	6.11	49	6.95	39
Peoria, IL	-6.34	135	5.06	59	6.90	40
Naples-Marco Island, FL	13.63	6	15.86	4	6.86	41
Beaumont-Port Arthur, TX	-1.86	127	2.70	96	6.71	42
Albuquerque, NM	4.27	46	7.53	31	6.65	43
Wichita, KS	-1.89	128	4.36	72	6.53	44
Pensacola-Ferry Pass-Brent, FL	5.89	30	6.84	41	6.36	45
Tallahassee, FL	4.84	38	6.48	44	6.34	46
Brownsville-Harlingen, TX	1.40	92	5.16	58	6.31	47
Anchorage, AK	6.19	27	6.78	42	6.27	48
Denver-Aurora-Broomfield, CO	1.41	91	4.77	65	6.27	49
Winston-Salem, NC	0.70	99	4.79	63	6.15	50
Nashville-Davidson-Murfreesboro-Franklin, TN	6.23	25	7.32	33	6.14	51
Montgomery, AL	3.69	55	5.38	54	6.09	52
Honolulu, HI	6.35	23	6.99	38	5.56	53
York-Hanover, PA	4.88	37	6.56	43	5.51	54
Bradenton-Sarasota-Venice, FL	13.39	7	13.91	9	5.34	55
San Jose-Sunnyvale-Santa Clara, CA	-4.90	134	2.39	102	5.30	56
Sacramento-Arden-Arcade-Roseville, CA	5.98	29	6.24	47	5.25	57
Little Rock-North Little Rock-Conway, AR	3.68	56	5.26	57	5.23	58
Richmond, VA	4.51	44	6.20	48	5.20	59
Shreveport-Bossier City, LA	4.09	50	5.38	55	5.17	60
Lexington-Fayette, KY	2.14	79	3.91	78	5.12	61
Tampa-St. Petersburg-Clearwater, FL	8.58	16	9.82	18	5.06	62
Oklahoma City, OK	2.09	80	5.56	51	5.03	63
Fayetteville, NC	6.34	24	5.48	52	4.98	64
Reading, PA	0.94	95	5.61	50	4.94	65
Fresno, CA	2.50	73	4.44	68	4.88	66
Kansas City, MO-KS	1.56	88	3.59	83	4.87	67
Rockford, IL	-1.28	125	2.94	93	4.61	68

Source: Moody's Economy.com

Metro Area	2002-2005 Percent Change	Rank	2003-2006 Percent Change	Rank	2004-2007 Percent Change	Rank
Visalia-Porterville, CA	0.64	102	4.03	76	4.50	69
Corpus Christi, TX	2.19	77	3.69	81	4.47	70
Greensboro-High Point, NC	0.71	98	3.96	77	4.46	71
Indianapolis-Carmel, IN	3.44	59	4.16	74	4.39	72
Birmingham-Hoover, AL	1.91	84	4.42	71	4.38	73
Louisville-Jefferson County, KY-IN	1.45	90	3.25	89	4.37	74
Knoxville, TN	3.93	52	4.78	64	4.32	75
Baltimore-Towson, MD	2.48	74	4.44	69	4.29	76
Omaha-Council Bluffs, NE-IA	1.63	87	3.14	92	4.21	77
Allentown-Bethlehem-Easton, PA-NJ	3.43	60	4.70	66	4.17	78
Memphis, TN-MS-AR	2.02	81	3.16	91	4.14	79
Deltona-Daytona Beach-Ormond Beach, FL	11.19	10	9.70	19	4.03	80
Chattanooga, TN-GA	2.16	78	4.04	75	4.00	81
Stockton, CA	4.62	41	3.47	85	3.72	82
Colorado Springs, CO	2.88	64	5.46	53	3.63	83
Bridgeport-Stamford-Norwalk, CT	-0.68	117	1.54	114	3.61	84
Palm Bay-Melbourne-Titusville, FL	9.97	13	9.57	21	3.32	85
San Diego-Carlsbad-San Marcos, CA	3.56	57	3.85	79	3.29	86
Minneapolis-St. Paul-Bloomington, MN-WI	2.62	69	3.70	80	3.29	87
Madison, WI	4.94	36	5.29	56	3.16	88
Milwaukee-Waukesha-West Allis, WI	0.11	108	2.37	103	3.03	89
Columbus, OH	0.92	96	2.27	104	3.00	90
Fort Wayne, IN	1.09	94	2.60	98	2.88	91
Hartford-West Hartford-East Hartford, CT	-0.29	115	2.61	97	2.86	92
Harrisburg-Carlisle, PA	0.38	103	2.55	99	2.85	93
Virginia Beach-Norfolk-Newport News, VA-NC	2.69	68	2.84	94	2.75	94
Manchester-Nashua, NH	3.41	61	3.66	82	2.74	95
Davenport-Moline-Rock Island, IA-IL	2.29	76	3.45	86	2.74	96
St. Louis, MO-IL	0.19	105	2.02	107	2.67	97
Santa Rosa-Petaluma, CA	-0.81	119	2.43	101	2.61	98
Trenton-Ewing, NJ	6.21	26	4.43	70	2.58	99
Akron, OH	4.59	42	3.59	84	2.27	100
Oxnard-Thousand Oaks-Ventura, CA	2.79	66	3.39	87	2.26	101
Lancaster, PA	2.71	67	3.21	90	2.26	102
Jackson, MS	3.92	53	4.18	73	2.17	103
Scranton-Wilkes-Barre, PA	1.94	83	2.14	106	2.11	104
Cincinnati-Middletown, OH-KY-IN	2.41	75	1.98	109	1.89	105
Worcester, MA	0.09	109	1.62	111	1.75	106
Modesto, CA	4.15	49	2.51	100	1.67	107
Augusta-Richmond County, GA-SC	3.07	63	2.00	108	1.32	108
Vallejo-Fairfield, CA	5.38	32	3.38	88	1.24	109
Charleston, WV	-0.01	110	1.60	113	1.19	110
Poughkeepsie-Newburgh-Middletown, NY	3.53	58	2.81	95	1.15	111
Syracuse, NY	0.24	104	0.62	120	1.14	112
Portland-South Portland-Biddeford, ME	1.99	82	1.75	110	1.12	113
Pittsburgh, PA	-0.85	120	0.23	123	1.07	114
Albany-Schenectady-Troy, NY	1.12	93	1.62	112	0.94	115
New Haven-Milford, CT	-0.09	112	2.23	105	0.87	116
Springfield, MA	-0.18	113	1.32	118	0.85	117
Santa Barbara-Santa Maria-Goleta, CA	3.12	62	1.21	119	0.80	118
Providence-New Bedford-Fall River, RI-MA	1.78	85	1.47	116	0.67	119
Evansville, IN-KY	-0.91	122	-0.06	126	0.66	120
Grand Rapids-Wyoming, MI	-0.63	116	1.51	115	0.64	121
Kalamazoo-Portage, MI	-1.17	124	-0.27	128	0.58	122
Rochester, NY	0.18	107	0.38	122	0.55	123
Salinas, CA	0.73	97	-1.87	132	-0.10	124
Cleveland-Elyria-Mentor, OH	-0.98	123	0.03	124	-0.13	125
South Bend-Mishawaka, IN-MI	-0.06	111	1.34	117	-0.17	126
Buffalo-Niagara Falls, NY	-0.28	114	-0.05	125	-0.35	127
Toledo, OH	-0.81	118	0.59	121	-0.72	128
Hickory-Lenoir-Morganton, NC	-4.08	132	-0.30	129	-0.76	129
Youngstown-Warren-Boardman, OH-PA	-0.90	121	-0.21	127	-1.30	130
Canton-Massillon, OH	-4.00	131	-2.40	134	-1.80	131
Ann Arbor, MI	-1.51	126	-0.38	130	-1.98	132
Dayton, OH	-2.47	129	-1.80	131	-2.04	133
Lansing-East Lansing, MI	-4.15	133	-2.74	135	-2.14	134
Flint, MI	-3.33	130	-2.31	133	-4.82	135
New Orleans-Metairie-Kenner, LA	-8.83	136	-21.41	136	-16.38	136
Sample Average	3.36		5.16		4.85	

Table B-5. Rank of Metropolitan Areas by Percentage Change in Gross Metropolitan Product, 10-Year Trends

Metro Area	1995 - 2005 Percent Change	Rank	1996 - 2006 Percent Change	Rank	1997 - 2007 Percent Change	Rank
Cape Coral-Fort Myers, FL	101.48	2	101.28	2	89.34	1
Naples-Marco Island, FL	121.59	1	111.25	1	81.49	2
Fayetteville-Springdale-Rogers, AR-MO	84.74	4	82.41	4	77.87	3
Las Vegas-Paradise, NV	93.58	3	88.57	3	76.72	4
Port St. Lucie, FL	76.14	5	76.30	5	72.53	5
McAllen-Edinburg-Mission, TX	67.61	7	68.94	8	68.52	6
Austin-Round Rock, TX	75.11	6	71.02	6	61.95	7
Charlotte-Gastonia-Concord, NC-SC	61.27	11	69.03	7	58.76	8
Raleigh-Cary, NC	66.96	8	67.94	9	58.26	9
Vallejo-Fairfield, CA	55.17	15	60.18	13	57.40	10
Bradenton-Sarasota-Venice, FL	55.37	14	65.34	10	55.04	11
Sacramento-Arden-Arcade-Roseville, CA	62.98	10	63.98	11	54.63	12
Orlando-Kissimmee, FL	66.56	9	63.17	12	53.43	13
Oxnard-Thousand Oaks-Ventura, CA	56.41	13	56.56	15	53.14	14
Provo-Orem, UT	49.91	19	47.96	21	51.93	15
Killeen-Temple-Fort Hood, TX	38.41	40	40.33	39	51.74	16
Bakersfield, CA	41.03	34	51.43	18	51.19	17
Boise City-Nampa, ID	53.99	16	51.10	19	49.55	18
Shreveport-Bossier City, LA	32.85	59	40.21	40	49.09	19
San Diego-Carlsbad-San Marcos, CA	60.74	12	58.19	14	48.51	20
Charleston-North Charleston-Summerville, SC	49.96	18	56.50	16	48.07	21
Baton Rouge, LA	38.26	41	43.99	32	46.80	22
Wilmington, NC	49.08	20	53.06	17	45.97	23
Modesto, CA	53.89	17	48.94	20	42.40	24
San Antonio, TX	44.68	27	45.80	23	42.27	25
Madison, WI	46.41	24	44.71	30	41.99	26
Deltona-Daytona Beach-Ormond Beach, FL	42.44	31	44.92	29	41.41	27
Oklahoma City, OK	37.94	45	37.67	46	40.77	28
Tucson, AZ	38.78	39	44.09	31	40.71	29
Visalia-Porterville, CA	37.58	46	43.48	33	40.56	30
Reno-Sparks, NV	48.05	21	45.58	24	40.51	31
Anchorage, AK	39.45	38	40.37	48	40.20	32
Tampa-St. Petersburg-Clearwater, FL	46.42	23	46.74	22	39.51	33
Stockton, CA	43.73	30	45.29	26	39.50	34
Jacksonville, FL	44.72	26	45.15	28	39.27	35
Ogden-Clearfield, UT	39.90	37	36.37	50	39.21	36
Durham-Chapel Hill, NC	36.67	49	45.55	25	39.15	37
Salt Lake City, UT	41.28	33	38.29	45	38.85	38
Corpus Christi, TX	36.39	51	38.52	44	38.20	39
Fresno, CA	31.82	62	34.64	55	37.85	40
Seattle-Tacoma-Bellevue, WA	44.29	28	42.12	34	37.25	41
Virginia Beach-Norfolk-Newport News, VA-NC	36.56	50	36.86	49	37.19	42
Salinas, CA	42.17	32	35.63	52	37.12	43
Denver-Aurora-Broomfield, CO	47.52	22	45.16	27	36.63	44
Fayetteville, NC	30.70	68	32.56	62	36.43	45
Palm Bay-Melbourne-Titusville, FL	38.17	42	40.84	37	35.81	46
Beaumont-Port Arthur, TX	28.80	78	41.75	35	35.73	47
Huntsville, AL	28.97	77	36.33	51	35.72	48
Brownsville-Harlingen, TX	34.48	54	37.55	47	35.28	49
Tulsa, OK	37.25	47	37.43	48	34.12	50
Santa Rosa-Petaluma, CA	44.00	29	39.79	41	34.06	51
Savannah, GA	22.27	94	27.91	73	33.37	52
Poughkeepsie-Newburgh-Middletown, NY	31.52	65	31.37	65	33.14	53
Knoxville, TN	31.79	63	34.91	54	32.96	54
Trenton-Ewing, NJ	36.89	48	41.17	36	32.86	55
Lakeland-Winter Haven, FL	35.52	53	33.68	59	32.33	56
Baltimore-Towson, MD	32.80	60	33.90	58	31.61	57
Colorado Springs, CO	46.33	25	38.55	42	31.49	58
Nashville-Davidson-Murfreesboro-Franklin, TN	35.70	52	38.53	43	31.07	59
Des Moines-West Des Moines, IA	40.01	36	35.54	53	29.68	60
Peoria, IL	25.87	83	30.80	68	29.68	61
Portland-Vancouver-Beaverton, OR-WA	40.34	35	34.51	56	29.67	62
Santa Barbara-Santa Maria-Goleta, CA	33.16	57	31.79	64	29.45	63
Richmond, VA	33.65	55	32.29	63	28.97	64
Minneapolis-St. Paul-Bloomington, MN-WI	38.14	43	32.72	61	28.65	65
Tallahassee, FL	31.68	64	30.02	70	28.49	66
Pensacola-Ferry Pass-Brent, FL	29.11	75	27.33	76	28.01	67
Indianapolis-Carmel, IN	38.03	44	33.73	58	27.91	68

Source: Moody's Economy.com

Metro Area	1995 - 2005 Percent Change	Rank	1996 - 2006 Percent Change	Rank	1997 - 2007 Percent Change	Rank
New Orleans-Metairie-Kenner, LA	31.18	66	30.10	69	27.43	69
Albany-Schenectady-Troy, NY	24.25	87	26.43	79	27.28	70
Portland-South Portland-Biddeford, ME	32.07	61	31.00	67	27.08	71
Omaha-Council Bluffs, NE-IA	29.16	74	24.68	87	26.82	72
Spokane, WA	22.35	93	25.47	85	25.90	73
Jackson, MS	22.71	92	26.30	80	25.83	74
Springfield, MO	29.29	71	25.82	83	25.36	75
Birmingham-Hoover, AL	29.05	76	27.53	75	25.35	76
Providence-New Bedford-Fall River, RI-MA	29.68	69	31.22	66	25.21	77
Montgomery, AL	24.82	85	26.19	81	24.94	78
Eugene-Springfield, OR	33.05	58	26.83	78	24.67	79
Hartford-West Hartford-East Hartford, CT	23.08	90	25.39	86	24.23	80
Asheville, NC	22.80	91	28.00	72	23.90	81
Kansas City, MO-KS	28.05	80	26.05	82	23.67	82
Bridgeport-Stamford-Norwalk, CT	33.41	56	33.00	60	23.60	83
Columbus, OH	30.71	67	29.18	71	23.35	84
Columbia, SC	24.32	86	25.78	84	22.31	85
Salem, OR	28.68	79	22.14	94	22.13	86
El Paso, TX	17.88	101	21.26	95	21.79	87
Winston-Salem, NC	23.28	89	27.14	77	21.37	88
Allentown-Bethlehem-Easton, PA-NJ	19.60	98	22.70	93	21.18	89
Memphis, TN-MS-AR	29.27	73	27.84	74	20.96	90
Chattanooga, TN-GA	23.69	88	24.04	89	20.89	91
York-Hanover, PA	19.98	97	20.46	98	20.62	92
Wichita, KS	18.48	99	23.28	91	20.49	93
Little Rock-North Little Rock-Conway, AR	21.91	95	20.87	96	19.76	94
Evansville, IN-KY	25.76	84	23.72	90	19.40	95
Mobile, AL	17.52	102	20.54	97	18.38	96
New Haven-Milford, CT	17.06	106	18.13	105	18.20	97
Pittsburgh, PA	16.01	109	18.72	103	17.83	98
Cincinnati-Middletown, OH-KY-IN	26.95	81	22.99	92	16.90	99
San Jose-Sunnyvale-Santa Clara, CA	29.51	70	24.59	88	16.36	100
Greensboro-High Point, NC	17.29	105	19.41	101	15.58	101
Worcester, MA	18.00	100	16.57	106	15.43	102
Manchester-Nashua, NH	29.2887	72	20.30825	99	15.26888	103
Augusta-Richmond County, GA-SC	13.81	113	14.37	112	14.98	104
Reading, PA	9.31	124	16.26	107	14.94	105
Davenport-Moline-Rock Island, IA-IL	14.36	112	14.85	111	14.68	106
Greenville-Mauldin-Easley, SC	16.02	108	15.04	110	14.19	107
Lexington-Fayette, KY	21.68	96	18.58	104	14.05	108
Lancaster, PA	15.90	110	16.05	108	13.69	109
Harrisburg-Carlisle, PA	17.33	104	15.80	109	13.62	110
Honolulu, HI	12.82	115	18.93	102	13.58	111
Akron, OH	17.37	103	13.54	113	13.48	112
Buffalo-Niagara Falls, NY	10.34	123	12.14	117	12.80	113
Ann Arbor, MI	26.05	82	19.42	100	12.22	114
Springfield, MA	13.36	114	12.42	116	12.17	115
Scranton-Wilkes-Barre, PA	10.58	121	11.70	120	11.19	116
Syracuse, NY	6.73	128	8.66	126	10.84	117
Louisville-Jefferson County, KY-IN	12.47	117	12.84	115	10.00	118
St. Louis, MO-IL	16.60	107	13.40	114	9.59	119
Charleston, WV	11.44	119	11.90	119	9.59	120
Milwaukee-Waukesha-West Allis, WI	12.62	116	11.57	121	9.54	121
Rochester, NY	6.16	129	6.51	128	8.54	122
Lansing-East Lansing, MI	9.00	125	8.85	125	7.04	123
Grand Rapids-Wyoming, MI	15.20	111	12.05	118	5.93	124
Cleveland-Elyria-Mentor, OH	11.66	118	10.53	122	5.74	125
Kalamazoo-Portage, MI	8.21	126	3.78	132	4.58	126
South Bend-Mishawaka, IN-MI	10.61	120	9.69	123	4.55	127
Rockford, IL	0.87	134	3.96	130	4.04	128
Hickory-Lenoir-Morganton, NC	3.41	132	6.41	129	3.41	129
Albuquerque, NM	10.43	122	9.00	124	3.20	130
Toledo, OH	7.91	127	6.77	127	2.56	131
Dayton, OH	4.85	130	3.93	131	-0.14	132
Fort Wayne, IN	4.19	131	3.09	133	-0.84	133
Canton-Massillon, OH	2.42	133	0.64	134	-1.26	134
Youngstown-Warren-Boardman, OH-PA	-2.48	135	-5.94	135	-6.36	135
Flint, MI	-21.79	136	-22.41	136	-21.71	136
Sample Average	32.09		32.26		29.21	

Table B-6. Rank of Metropolitan Areas by Percentage Change in Gross Metropolitan Product, 3-Year Trends

Metro Area	2002-2005 Percent Change	Rank	2003-2006 Percent Change	Rank	2004-2007 Percent Change	Rank
Bakersfield, CA	26.02	7	26.33	6	22.61	1
Baton Rouge, LA	22.00	9	27.72	5	22.44	2
Killeen-Temple-Fort Hood, TX	19.55	19	17.74	22	22.14	3
Shreveport-Bossier City, LA	21.88	10	22.65	12	21.28	4
Port St. Lucie, FL	37.47	2	36.12	1	20.38	5
Provo-Orem, UT	15.45	34	20.28	13	20.03	6
Austin-Round Rock, TX	15.12	35	19.68	15	19.30	7
Charlotte-Gastonia-Concord, NC-SC	12.40	43	24.22	10	18.50	8
Las Vegas-Paradise, NV	31.40	4	31.38	3	17.75	9
Durham-Chapel Hill, NC	5.95	93	11.39	51	17.72	10
Salt Lake City, UT	9.38	65	16.18	29	17.66	11
Wilmington, NC	20.34	17	23.21	11	17.56	12
Tulsa, OK	10.17	58	17.06	25	16.34	13
Raleigh-Cary, NC	9.67	62	15.64	30	16.32	14
Savannah, GA	12.20	45	18.08	19	16.06	15
McAllen-Edinburg-Mission, TX	19.14	21	17.96	20	15.27	16
Wichita, KS	-0.19	129	12.68	45	15.18	17
Cape Coral-Fort Myers, FL	38.41	1	33.37	2	14.91	18
Fayetteville, NC	19.44	20	18.64	17	14.49	19
Peoria, IL	16.04	29	18.21	18	13.81	20
Bradenton-Sarasota-Venice, FL	20.65	14	25.58	7	13.27	21
Anchorage, AK	30.44	5	24.64	9	13.08	22
Ogden-Clearfield, UT	10.83	53	13.25	43	12.73	23
Oklahoma City, OK	14.76	37	14.06	38	12.70	24
Seattle-Tacoma-Bellevue, WA	7.05	83	9.97	62	12.43	25
Mobile, AL	10.81	54	14.79	36	12.10	26
Orlando-Kissimmee, FL	20.61	15	17.65	23	12.04	27
San Antonio, TX	10.67	55	12.20	48	12.03	28
Beaumont-Port Arthur, TX	26.80	6	28.48	4	11.82	29
Tucson, AZ	13.54	38	15.17	32	11.51	30
Spokane, WA	9.65	63	12.88	44	11.40	31
Visalia-Porterville, CA	16.53	26	16.31	28	11.22	32
Asheville, NC	8.44	73	11.65	49	11.01	33
San Jose-Sunnyvale-Santa Clara, CA	3.65	108	11.56	50	10.86	34
Portland-Vancouver-Beaverton, OR-WA	9.83	60	16.34	27	10.32	35
El Paso, TX	6.25	89	8.34	80	10.19	36
Lakeland-Winter Haven, FL	16.64	25	15.28	31	9.96	37
Naples-Marco Island, FL	31.40	3	24.79	8	9.85	38
Brownsville-Harlingen, TX	6.48	87	9.68	64	9.71	39
Charleston-North Charleston-Summerville, SC	16.34	28	14.40	37	9.68	40
Hartford-West Hartford-East Hartford, CT	7.91	80	10.75	54	9.64	41
Boise City-Nampa, ID	20.54	16	18.84	16	9.57	42
Fayetteville-Springdale-Rogers, AR-MO	23.09	8	19.99	14	9.48	43
Pensacola-Ferry Pass-Brent, FL	15.50	32	15.02	34	9.34	44
Bridgeport-Stamford-Norwalk, CT	9.16	66	12.40	46	9.33	45
Jacksonville, FL	16.42	27	14.82	35	9.07	46
Omaha-Council Bluffs, NE-IA	9.76	61	8.84	73	9.06	47
Corpus Christi, TX	17.71	24	17.81	21	9.02	48
Reading, PA	5.15	99	9.96	63	8.74	49
Huntsville, AL	12.87	41	11.22	52	8.60	50
Nashville-Davidson-Murfreesboro-Franklin, TN	11.34	51	12.38	47	8.56	51
Fresno, CA	11.63	50	10.70	56	8.50	52
Tampa-St. Petersburg-Clearwater, FL	12.04	47	13.98	39	8.46	53
Denver-Aurora-Broomfield, CO	6.88	85	8.42	78	8.19	54
Reno-Sparks, NV	15.89	30	15.09	33	7.88	55
Sacramento-Arden-Arcade-Roseville, CA	18.04	23	13.61	41	7.35	56
Davenport-Moline-Rock Island, IA-IL	9.47	64	9.00	71	7.24	57
York-Hanover, PA	13.42	39	9.23	68	7.20	58
Virginia Beach-Norfolk-Newport News, VA-NC	12.12	46	10.09	61	7.17	59
Lexington-Fayette, KY	6.11	90	8.48	76	7.06	60
Deltona-Daytona Beach-Ormond Beach, FL	21.14	12	17.57	24	6.97	61
Rochester, NY	2.23	115	4.36	102	6.87	62
Palm Bay-Melbourne-Titusville, FL	19.77	18	16.82	26	6.84	63
Eugene-Springfield, OR	8.00	77	9.54	66	6.82	64
Richmond, VA	8.20	75	9.25	67	6.73	65
Colorado Springs, CO	7.93	78	9.60	65	6.64	66
Montgomery, AL	5.17	97	6.88	88	6.47	67
Salem, OR	5.17	98	5.56	96	6.39	68

Source: Moody's Economy.com

Metro Area	2002-2005 Percent Change	Rank	2003-2006 Percent Change	Rank	2004-2007 Percent Change	Rank
Des Moines-West Des Moines, IA	12.22	44	10.45	58	6.33	69
Springfield, MO	11.83	49	7.88	82	6.27	70
Santa Rosa-Petaluma, CA	3.75	107	5.35	98	6.17	71
Trenton-Ewing, NJ	9.88	59	10.73	55	6.17	72
Pittsburgh, PA	4.13	105	5.71	95	6.16	73
Vallejo-Fairfield, CA	18.69	22	10.42	60	6.01	74
Baltimore-Towson, MD	8.91	67	9.00	72	5.98	75
Little Rock-North Little Rock-Conway, AR	6.96	84	8.44	77	5.96	76
Oxnard-Thousand Oaks-Ventura, CA	20.69	13	13.35	42	5.84	77
Santa Barbara-Santa Maria-Goleta, CA	12.41	42	9.14	69	5.75	78
Columbia, SC	7.93	79	8.39	79	5.52	79
Tallahassee, FL	8.29	74	8.23	81	5.50	80
Greensboro-High Point, NC	0.54	124	3.83	107	5.45	81
Birmingham-Hoover, AL	10.18	57	10.42	59	5.42	82
Poughkeepsie-Newburgh-Middletown, NY	8.79	68	5.50	97	5.30	83
Syracuse, NY	1.95	118	3.36	113	5.26	84
Jackson, MS	6.00	92	7.65	84	5.25	85
Salinas, CA	11.88	48	6.25	93	5.20	86
New Haven-Milford, CT	2.77	113	6.27	92	5.15	87
Kansas City, MO-KS	4.72	101	5.33	99	4.94	88
Rockford, IL	1.61	120	2.96	114	4.94	89
San Diego-Carlsbad-San Marcos, CA	13.27	40	10.57	57	4.90	90
Knoxville, TN	10.58	56	8.68	74	4.72	91
Albany-Schenectady-Troy, NY	6.01	91	4.21	104	4.60	92
Greenville-Mauldin-Easley, SC	-2.36	134	-4.30	134	4.59	93
Madison, WI	8.75	69	7.07	85	4.58	94
New Orleans-Metairie-Kenner, LA	21.31	11	11.18	53	4.49	95
Albuquerque, NM	15.47	33	8.60	75	4.46	96
Minneapolis-St. Paul-Bloomington, MN-WI	8.49	71	6.53	90	4.32	97
Stockton, CA	11.32	52	9.10	70	4.26	98
Allentown-Bethlehem-Easton, PA-NJ	0.25	127	0.86	124	4.13	99
Louisville-Jefferson County, KY-IN	3.53	110	5.02	100	4.12	100
Milwaukee-Waukesha-West Allis, WI	2.94	112	3.83	106	4.11	101
Modesto, CA	15.51	31	7.83	83	3.55	102
Worcester, MA	1.49	121	1.43	122	3.20	103
Chattanooga, TN-GA	7.64	81	7.06	86	3.08	104
Honolulu, HI	14.96	36	13.75	40	3.06	105
Buffalo-Niagara Falls, NY	1.97	117	2.77	115	2.97	106
Charleston, WV	5.67	95	6.95	87	2.96	107
Akron, OH	7.39	82	4.32	103	2.93	108
Winston-Salem, NC	3.60	109	3.64	109	2.92	109
Columbus, OH	4.45	104	4.06	105	2.61	110
Springfield, MA	1.99	116	0.84	125	2.34	111
Lansing-East Lansing, MI	-1.64	133	-0.19	128	2.08	112
Providence-New Bedford-Fall River, RI-MA	6.29	88	4.60	101	1.92	113
Lancaster, PA	0.08	128	2.65	118	1.78	114
Harrisburg-Carlisle, PA	5.46	96	3.40	112	1.44	115
Hickory-Lenoir-Morganton, NC	-4.02	135	1.91	120	1.40	116
Augusta-Richmond County, GA-SC	6.51	86	1.66	121	1.36	117
Cincinnati-Middletown, OH-KY-IN	4.87	100	2.69	116	1.18	118
Indianapolis-Carmel, IN	8.46	72	6.40	91	1.17	119
Memphis, TN-MS-AR	4.53	102	5.97	94	1.10	120
Scranton-Wilkes-Barre, PA	3.90	106	2.50	119	0.97	121
Portland-South Portland-Biddeford, ME	8.19	76	6.53	89	0.71	122
St. Louis, MO-IL	4.47	103	1.32	123	0.47	123
Grand Rapids-Wyoming, MI	0.43	125	0.47	126	0.31	124
Manchester-Nashua, NH	8.65	70	3.73	108	0.30	125
Youngstown-Warren-Boardman, OH-PA	2.53	114	3.53	111	-0.03	126
Cleveland-Elyria-Mentor, OH	5.86	94	3.56	110	-0.15	127
Evansville, IN-KY	3.48	111	2.69	117	-0.24	128
Toledo, OH	1.40	122	0.16	127	-0.85	129
Dayton, OH	0.40	126	-0.32	129	-1.33	130
Fort Wayne, IN	-1.62	132	-2.05	131	-1.47	131
Canton-Massillon, OH	1.04	123	-2.01	130	-2.28	132
Kalamazoo-Portage, MI	-0.76	130	-4.78	135	-2.89	133
Ann Arbor, MI	-0.84	131	-3.76	133	-3.22	134
South Bend-Mishawaka, IN-MI	1.88	119	-2.23	132	-5.53	135
Flint, MI	-9.50	136	-11.48	136	-9.40	136
Sample Average	10.18		10.19		7.36	

Table B-7. Rank of Metropolitan Areas by Percentage Change in Productivity, 10-Year Trends

Metro Area	1995 - 2005 Percent Change	Rank	1996 - 2006 Percent Change	Rank	1997 - 2007 Percent Change	Rank
New Orleans-Metairie-Kenner, LA	38.23	2	61.41	1	51.30	1
Peoria, IL	45.07	1	52.33	2	50.96	2
Shreveport-Bossier City, LA	20.85	30	28.89	7	37.22	3
Beaumont-Port Arthur, TX	25.67	12	33.71	4	30.43	4
Killeen-Temple-Fort Hood, TX	23.07	19	21.73	27	28.80	5
Fayetteville-Springdale-Rogers, AR-MO	32.43	5	29.97	5	28.69	6
Vallejo-Fairfield, CA	22.58	20	26.13	14	28.57	7
Corpus Christi, TX	21.58	24	25.91	15	27.64	8
Charlotte-Gastonia-Concord, NC-SC	30.07	7	35.21	3	26.54	9
Baton Rouge, LA	22.49	21	27.51	11	26.38	10
Oxnard-Thousand Oaks-Ventura, CA	28.12	8	26.40	13	26.31	11
Cape Coral-Fort Myers, FL	34.22	4	29.16	6	26.11	12
Port St. Lucie, FL	24.55	14	22.71	22	24.57	13
Oklahoma City, OK	19.18	33	20.64	29	24.38	14
Fayetteville, NC	18.67	37	20.20	32	23.71	15
Visalia-Porterville, CA	18.93	35	22.65	24	22.99	16
Modesto, CA	23.36	17	24.77	19	22.86	17
Virginia Beach-Norfolk-Newport News, VA-NC	21.04	27	21.82	26	22.68	18
Madison, WI	21.87	23	22.47	25	22.52	19
Bakersfield, CA	13.97	66	22.66	23	21.87	20
Austin-Round Rock, TX	31.32	6	28.53	9	21.65	21
San Diego-Carlsbad-San Marcos, CA	26.61	10	25.75	17	21.31	22
Durham-Chapel Hill, NC	22.29	22	28.58	8	21.21	23
Fresno, CA	16.43	48	19.34	35	20.88	24
Naples-Marco Island, FL	34.37	3	27.30	12	20.64	25
Raleigh-Cary, NC	27.36	9	28.19	10	20.58	26
Sacramento-Arden-Arcade-Roseville, CA	23.34	18	24.92	18	20.42	27
San Jose-Sunnyvale-Santa Clara, CA	25.19	13	24.58	20	19.80	28
Tulsa, OK	20.56	32	20.21	31	19.23	29
Denver-Aurora-Broomfield, CO	24.32	15	23.60	21	18.83	30
Hartford-West Hartford-East Hartford, CT	17.39	43	19.24	36	18.76	31
San Antonio, TX	21.15	26	20.44	30	18.46	32
Seattle-Tacoma-Bellevue, WA	20.97	29	19.34	34	18.42	33
Salinas, CA	16.13	50	16.29	49	17.73	34
Bridgeport-Stamford-Norwalk, CT	26.15	11	25.85	16	17.64	35
Albany-Schenectady-Troy, NY	14.44	59	15.15	61	17.54	36
Bradenton-Sarasota-Venice, FL	1.62	130	15.49	54	17.30	37
Baltimore-Towson, MD	17.74	41	17.74	39	17.27	38
Santa Rosa-Petaluma, CA	17.06	44	17.74	40	17.03	39
Birmingham-Hoover, AL	18.72	36	17.21	44	16.72	40
Poughkeepsie-Newburgh-Middletown, NY	12.20	75	12.96	72	16.38	41
Providence-New Bedford-Fall River, RI-MA	17.40	42	19.15	37	16.01	42
Minneapolis-St. Paul-Bloomington, MN-WI	21.36	25	17.72	41	16.00	43
Colorado Springs, CO	20.58	31	17.15	46	15.87	44
Kansas City, MO-KS	18.32	40	17.30	43	15.83	45
Santa Barbara-Santa Maria-Goleta, CA	14.21	62	15.15	60	15.75	46
Portland-Vancouver-Beaverton, OR-WA	21.02	28	17.63	42	15.66	47
Jacksonville, FL	19.14	34	19.35	33	15.55	48
Palm Bay-Melbourne-Titusville, FL	12.77	72	14.07	65	15.54	49
Deltona-Daytona Beach-Ormond Beach, FL	14.55	57	15.23	58	15.34	50
Tucson, AZ	14.05	65	16.17	50	15.26	51
Ogden-Clearfield, UT	13.42	67	12.73	76	14.75	52
Tampa-St. Petersburg-Clearwater, FL	14.70	56	15.37	55	14.44	53
Charleston-North Charleston-Summerville, SC	18.45	39	20.84	28	14.35	54
Evansville, IN-KY	16.60	46	16.13	51	13.95	55
Knoxville, TN	15.37	51	16.32	47	13.91	56
Omaha-Council Bluffs, NE-IA	14.72	55	10.93	87	13.78	57
Stockton, CA	14.51	58	17.20	45	13.71	58
Pensacola-Ferry Pass-Brent, FL	10.44	86	9.31	94	13.37	59
Hickory-Lenoir-Morganton, NC	11.71	78	15.16	59	13.30	60
New Haven-Milford, CT	9.14	90	11.05	84	13.17	61
Montgomery, AL	11.86	77	13.84	67	13.08	62
Huntsville, AL	9.40	89	14.19	64	12.89	63
Wichita, KS	7.92	105	13.16	69	12.81	64
Pittsburgh, PA	9.76	88	12.78	75	12.68	65
Buffalo-Niagara Falls, NY	9.11	91	11.05	85	12.58	66
Richmond, VA	14.82	53	13.95	66	12.51	67
Des Moines-West Des Moines, IA	23.38	16	18.84	38	12.44	68
Orlando-Kissimmee, FL	16.17	49	15.33	56	12.41	69
Salt Lake City, UT	14.40	60	12.66	77	12.33	70
Nashville-Davidson-Murfreesboro-Franklin, TN	14.09	64	16.31	48	12.22	71
Anchorage, AK	12.51	73	10.98	86	12.09	72
Reno-Sparks, NV	14.40	61	13.03	71	12.04	73
Portland-South Portland-Biddeford, ME	13.02	71	12.86	74	11.96	74
Jackson, MS	6.40	112	9.97	93	11.76	75
Las Vegas-Paradise, NV	11.90	76	12.90	73	11.75	76
Memphis, TN-MS-AR	16.66	45	15.89	52	11.43	77
Winston-Salem, NC	11.70	79	15.31	57	11.26	78
Tallahassee, FL	14.74	54	11.17	83	11.02	79
Eugene-Springfield, OR	16.57	47	11.29	82	10.92	80
Davenport-Moline-Rock Island, IA-IL	6.65	110	8.90	96	10.82	81
Mobile, AL	9.00	94	11.85	81	10.68	82
Columbus, OH	15.07	52	14.43	63	10.63	83
McAllen-Edinburg-Mission, TX	11.05	81	10.35	89	10.55	84
Trenton-Ewing, NJ	13.11	70	15.65	53	10.42	85
Provo-Orem, UT	12.45	74	10.27	90	10.37	86
Lansing-East Lansing, MI	8.65	98	10.10	92	10.24	87
Indianapolis-Carmel, IN	18.56	38	14.94	62	9.74	88
Wilmington, NC	10.64	85	13.06	70	9.30	89
Asheville, NC	9.03	93	12.11	79	9.11	90
Reading, PA	2.78	126	8.06	99	8.99	91
Chattanooga, TN-GA	14.10	63	13.32	68	8.94	92
Columbia, SC	10.32	87	12.57	78	8.83	93
Cleveland-Elyria-Mentor, OH	10.66	83	10.84	88	8.58	94
Lakeland-Winter Haven, FL	7.72	107	6.82	109	8.42	95
Cincinnati-Middletown, OH-KY-IN	13.42	68	11.87	80	8.30	96
Worcester, MA	8.22	101	7.00	107	8.21	97
El Paso, TX	7.88	106	7.47	104	7.99	98
Boise City-Nampa, ID	11.16	80	6.51	112	7.90	99
Spokane, WA	6.53	111	7.80	102	7.87	100
York-Hanover, PA	8.65	97	8.25	98	7.80	101
Rochester, NY	3.76	122	5.10	122	7.64	102
Little Rock-North Little Rock-Conway, AR	8.942622	95	7.986818	100	7.457104	103
Savannah, GA	2.34	128	4.48	124	7.30	104
Akron, OH	8.34	100	6.27	113	7.28	105
Syracuse, NY	2.77	127	5.06	123	7.09	106
Greensboro-High Point, NC	7.32	109	9.29	95	7.01	107
Brownsville-Harlingen, TX	6.39	113	6.69	110	6.86	108
Harrisburg-Carlisle, PA	7.65	108	7.07	106	6.67	109
Augusta-Richmond County, GA-SC	5.33	115	5.87	115	6.54	110
Dayton, OH	8.05	103	7.76	103	6.39	111
Scranton-Wilkes-Barre, PA	4.89	118	6.04	114	6.37	112
Ann Arbor, MI	13.19	69	10.14	91	6.00	113
Milwaukee-Waukesha-West Allis, WI	8.02	104	6.88	108	5.97	114
Allentown-Bethlehem-Easton, PA-NJ	4.00	120	5.51	119	5.75	115
Salem, OR	10.66	84	5.58	118	5.65	116
Springfield, MA	3.53	123	2.81	129	5.53	117
South Bend-Mishawaka, IN-MI	8.13	102	7.94	101	5.37	118
Springfield, MO	8.57	99	5.43	120	4.86	119
Lexington-Fayette, KY	9.07	92	7.42	105	4.80	120
St. Louis, MO-IL	8.84	96	6.51	111	4.25	121
Toledo, OH	5.20	116	5.68	117	4.18	122
Manchester-Nashua, NH	10.91	82	5.71	116	3.97	123
Louisville-Jefferson County, KY-IN	5.11	117	5.37	121	3.43	124
Canton-Massillon, OH	2.85	125	3.78	126	3.27	125
Lancaster, PA	1.11	132	1.92	131	2.51	126
Rockford, IL	1.22	131	3.39	127	2.48	127
Honolulu, HI	6.35	114	8.66	97	2.46	128
Charleston, WV	1.75	129	3.06	128	2.32	129
Kalamazoo-Portage, MI	4.53	119	1.10	132	2.04	130
Grand Rapids-Wyoming, MI	3.86	121	3.94	125	1.93	131
Greenville-Mauldin-Easley, SC	3.38	124	2.56	130	1.75	132
Youngstown-Warren-Boardman, OH-PA	-0.33	134	-3.54	134	-0.93	133
Fort Wayne, IN	0.92	133	-1.10	133	-3.15	134
Flint, MI	-11.59	136	-10.11	136	-6.69	135
Albuquerque, NM	-4.97	135	-7.79	135	-11.49	136
Sample Average	13.89		14.48		13.42	

Source: Moody's Economy.com

Table B-8. Rank of Metropolitan Areas by Percentage Change in Productivity, 3-Year Trends

Metro Area	2002-2005		2003-2006		2004-2007		Metro Area	2002-2005		2003-2006		2004-2007	
	Percent Change	Rank	Percent Change	Rank	Percent Change	Rank		Percent Change	Rank	Percent Change	Rank	Percent Change	Rank
New Orleans-Metairie-Kenner, LA	33.06	1	41.46	1	24.96	1	Lexington-Fayette, KY	3.89	91	4.40	59	1.84	69
Shreveport-Bossier City, LA	17.09	8	16.39	5	15.32	2	Denver-Aurora-Broomfield, CO	5.40	64	3.48	75	1.81	70
Baton Rouge, LA	16.55	9	20.21	3	13.05	3	Charleston, WV	5.68	62	5.27	51	1.75	71
Bakersfield, CA	18.69	5	15.82	6	11.30	4	Portland-Vancouver-Beaverton, OR-WA	5.52	63	7.32	30	1.72	72
Killeen-Temple-Fort Hood, TX	14.35	13	8.96	20	10.83	5	Baltimore-Towson, MD	6.27	54	4.36	60	1.62	73
Fayetteville, NC	12.32	17	12.47	11	9.07	6	York-Hanover, PA	8.14	42	2.51	97	1.61	74
Durham-Chapel Hill, NC	5.28	66	3.99	64	8.17	7	San Diego-Carlsbad-San Marcos, CA	9.38	30	6.47	38	1.56	75
Wichita, KS	1.73	122	7.97	25	8.12	8	Springfield, MA	2.17	116	-0.48	124	1.47	76
Port St. Lucie, FL	17.53	6	15.72	7	7.73	9	Richmond, VA	3.54	93	2.87	85	1.46	77
Tulsa, OK	9.43	29	9.52	16	7.64	10	Worcester, MA	1.39	125	-0.19	121	1.42	78
Bradenton-Sarasota-Venice, FL	6.41	50	10.24	14	7.52	11	Madison, WI	3.63	92	1.69	104	1.37	79
Oklahoma City, OK	12.41	16	8.05	24	7.30	12	Youngstown-Warren-Boardman, OH-PA	3.47	96	3.75	70	1.28	80
Hartford-West Hartford-East Hartford, CT	8.23	41	7.93	26	6.60	13	Providence-New Bedford-Fall River, RI-MA	4.43	84	3.09	81	1.24	81
Charlotte-Gastonia-Concord, NC-SC	9.55	28	15.27	8	6.51	14	Wilmington, NC	8.74	40	6.89	34	1.19	82
Peoria, IL	23.89	3	12.52	10	6.46	15	Milwaukee-Waukesha-West Allis, WI	2.82	108	1.43	109	1.05	83
Visalia-Porterville, CA	15.79	10	11.80	12	6.43	16	Minneapolis-St. Paul-Bloomington, MN-WI	5.72	61	2.73	91	1.00	84
Anchorage, AK	22.83	4	16.73	4	6.40	17	Birmingham-Hoover, AL	8.12	43	5.76	45	0.99	85
Rochester, NY	2.04	118	3.97	65	6.28	18	Greensboro-High Point, NC	-0.17	131	-0.12	120	0.95	86
Bridgeport-Stamford-Norwalk, CT	9.90	26	10.70	13	5.52	19	Raleigh-Cary, NC	2.43	112	3.17	79	0.83	87
Austin-Round Rock, TX	9.65	27	8.28	22	5.36	20	Jacksonville, FL	8.76	39	4.85	54	0.75	88
Salinas, CA	11.06	20	8.27	23	5.30	21	Dayton, OH	2.94	104	1.51	108	0.73	89
San Jose-Sunnyvale-Santa Clara, CA	8.99	35	8.96	21	5.28	22	Charleston-North Charleston-Summerville, SC	9.06	33	6.11	42	0.72	90
Pittsburgh, PA	5.01	71	5.47	47	5.03	23	Little Rock-North Little Rock-Conway, AR	3.16	101	3.02	82	0.69	91
Santa Barbara-Santa Maria-Goleta, CA	9.00	34	7.83	27	4.91	24	Akron, OH	2.67	109	0.71	113	0.65	92
Beaumont-Port Arthur, TX	29.21	2	25.10	2	4.79	25	Stockton, CA	6.40	51	5.44	48	0.53	93
Vallejo-Fairfield, CA	12.63	15	6.81	35	4.71	26	Knoxville, TN	6.40	52	3.72	71	0.39	94
Omaha-Council Bluffs, NE-IA	8.00	45	5.53	46	4.66	27	Montgomery, AL	1.43	124	1.42	110	0.36	95
Davenport-Moline-Rock Island, IA-IL	7.02	48	5.37	49	4.38	28	Reno-Sparks, NV	5.88	58	3.16	80	0.34	96
Corpus Christi, TX	15.18	12	13.63	9	4.36	29	Rockford, IL	2.93	105	0.02	119	0.31	97
Mobile, AL	10.60	23	9.39	17	4.36	30	Kansas City, MO-KS	3.12	102	1.68	105	0.06	98
Lansing-East Lansing, MI	2.63	110	2.62	94	4.31	31	Augusta-Richmond County, GA-SC	3.33	98	-0.33	122	0.03	99
Virginia Beach-Norfolk-Newport News, VA-NC	9.19	31	7.04	32	4.29	32	Huntsville, AL	5.73	59	3.34	77	-0.01	100
Salt Lake City, UT	4.94	74	5.33	50	4.29	33	Cleveland-Elyria-Mentor, OH	6.92	49	3.53	74	-0.02	101
New Haven-Milford, CT	2.86	107	3.94	67	4.25	34	Allentown-Bethlehem-Easton, PA-NJ	-3.07	134	-3.67	132	-0.04	102
Tucson, AZ	6.32	53	5.03	53	4.15	35	Orlando-Kissimmee, FL	6.11	56	1.95	101	-0.08	103
Poughkeepsie-Newburgh-Middletown, NY	5.08	68	2.61	95	4.09	36	Toledo, OH	2.22	115	-0.43	123	-0.14	104
Syracuse, NY	1.71	123	2.73	92	4.07	37	Louisville-Jefferson County, KY-IN	2.05	117	1.72	103	-0.24	105
Ogden-Clearfield, UT	4.99	73	4.73	55	3.70	38	Eugene-Springfield, OR	3.52	94	1.54	107	-0.30	106
Provo-Orem, UT	4.48	83	3.95	66	3.70	39	Fayetteville-Springdale-Rogers, AR-MO	10.35	24	6.79	36	-0.33	107
Reading, PA	4.17	87	4.12	63	3.63	40	Grand Rapids-Wyoming, MI	1.07	126	-1.03	127	-0.33	108
Albany-Schenectady-Troy, NY	4.84	77	2.55	96	3.62	41	Columbus, OH	3.51	95	1.75	102	-0.38	109
Spokane, WA	4.67	79	6.11	41	3.53	42	Portland-South Portland-Biddeford, ME	6.08	57	4.69	57	-0.40	110
Oxnard-Thousand Oaks-Ventura, CA	17.42	7	9.63	15	3.50	43	Lancaster, PA	-2.56	132	-0.55	125	-0.46	111
Trenton-Ewing, NJ	3.46	97	6.03	43	3.50	44	Canton-Massillon, OH	5.26	67	0.40	115	-0.49	112
Savannah, GA	3.04	103	4.18	62	3.48	45	Cincinnati-Middletown, OH-KY-IN	2.40	113	0.69	114	-0.70	113
Santa Rosa-Petaluma, CA	4.59	81	2.85	87	3.47	46	Tallahassee, FL	3.29	99	1.65	106	-0.79	114
Fresno, CA	8.91	37	5.99	44	3.45	47	Salem, OR	-0.14	130	-1.53	129	-0.79	115
Palm Bay-Melbourne-Titusville, FL	8.91	38	6.61	37	3.41	48	Chattanooga, TN-GA	5.37	65	2.90	84	-0.88	116
Buffalo-Niagara Falls, NY	2.26	114	2.82	88	3.33	49	Evansville, IN-KY	4.43	85	2.75	90	-0.89	117
Las Vegas-Paradise, NV	10.33	25	9.09	19	3.32	50	Des Moines-West Des Moines, IA	7.68	47	2.95	83	-0.89	118
Seattle-Tacoma-Bellevue, WA	4.08	89	2.86	86	3.27	51	Scranton-Wilkes-Barre, PA	1.93	121	0.36	117	-1.11	119
Tampa-St. Petersburg-Clearwater, FL	3.18	100	3.78	69	3.24	52	Ann Arbor, MI	0.67	127	-3.39	130	-1.26	120
Brownsville-Harlingen, TX	5.01	72	4.30	61	3.20	53	Columbia, SC	4.06	90	2.14	100	-1.34	121
Jackson, MS	2.00	119	3.33	78	3.02	54	Harrisburg-Carlisle, PA	5.06	70	0.83	112	-1.37	122
El Paso, TX	4.50	82	3.64	73	2.96	55	Albuquerque, NM	10.74	22	0.99	111	-2.05	123
Colorado Springs, CO	4.91	75	3.93	68	2.91	56	St. Louis, MO-IL	4.27	86	-0.69	126	-2.14	124
Deltona-Daytona Beach-Ormond Beach, FL	8.95	36	7.17	31	2.82	57	Honolulu, HI	8.09	44	6.31	39	-2.37	125
Lakeland-Winter Haven, FL	4.62	80	2.81	89	2.81	58	Manchester-Nashua, NH	5.07	69	0.07	118	-2.37	126
Asheville, NC	5.72	60	6.29	40	2.81	59	Greenville-Mauldin-Easley, SC	-3.84	135	-8.79	135	-2.44	127
Naples-Marco Island, FL	15.64	11	7.71	28	2.80	60	Springfield, MO	6.17	55	0.38	116	-2.63	128
Pensacola-Ferry Pass-Brent, FL	9.08	32	7.66	29	2.80	61	Memphis, TN-MS-AR	2.47	111	2.72	93	-2.91	129
McAllen-Edinburg-Mission, TX	4.15	88	3.68	72	2.77	62	Winston-Salem, NC	2.88	106	-1.10	128	-3.05	130
Cape Coral-Fort Myers, FL	14.26	14	9.33	18	2.61	63	Indianapolis-Carmel, IN	4.85	76	2.15	99	-3.08	131
San Antonio, TX	7.85	46	4.69	58	2.52	64	Kalamazoo-Portage, MI	0.42	128	-4.52	133	-3.45	132
Nashville-Davidson-Murfreesboro-Franklin, TN	4.80	78	4.71	56	2.28	65	Boise City-Nampa, ID	11.16	19	3.35	76	-3.67	133
Hickory-Lenoir-Morganton, NC	0.06	129	2.21	98	2.18	66	Fort Wayne, IN	-2.68	133	-4.54	134	-4.23	134
Sacramento-Arden-Arcade-Roseville, CA	11.38	18	6.94	33	1.99	67	Flint, MI	-6.38	136	-9.38	136	-4.81	135
Modesto, CA	10.91	21	5.19	52	1.85	68	South Bend-Mishawaka, IN-MI	1.95	120	-3.53	131	-5.37	136
Source: Moody's Economy.com							Sample Average	6.57		4.79		2.40	

APPENDIX C: INDICATORS SCORES AND RANKS BY MSA

Table C-1. Rank of Metropolitan Areas According to Skilled Workforce and R&D Factor Score, 2005, 2006, and 2007

Table C-2. Rank of Metropolitan Areas According to Technology Commercialization Factor Score, 2005, 2006, and 2007

Table C-3. Rank of Metropolitan Areas According to Racial Inclusion and Income Equality Factor Score, 2005, 2006, and 2007

Table C-4. Rank of Metropolitan Areas According to Urban Assimilation Factor Score, 2005, 2006, and 2007

Table C-5. Rank of Metropolitan Areas According to Legacy of Place Factor Score, 2005, 2006, and 2007

Table C-6. Rank of Metropolitan Areas According to Business Dynamics Factor Score, 2005, 2006, and 2007

Table C-7. Rank of Metropolitan Areas According to Individual Entrepreneurship Factor Score, 2005, 2006, and 2007

Table C-8. Rank of Metropolitan Areas According to Locational Amenities Factor Score, 2005, 2006, and 2007

Table C-9. Rank of Metropolitan Areas According to Urban/Metro Structure Factor Score, 2005, 2006, and 2007

Note: In the Tables C-1 to C-9, the apparent ties in the factor scores are due to rounding of the numbers to two decimal places.

Table C-1. Rank of Metropolitan Areas According to Skilled Workforce and R&D Factor Score, 2005, 2006, and 2007

Metro Area	2005 Score	Rank	2006 Score	Rank	2007 Score	Rank
Ann Arbor, MI	17.21	1	22.09	1	20.73	1
Durham, NC	15.06	2	14.27	2	13.79	2
San Jose-Sunnyvale-Santa Clara, CA	13.84	3	11.84	3	12.03	3
Trenton-Ewing, NJ	6.87	8	9.86	5	10.37	4
Madison, WI	10.28	4	10.75	4	10.31	5
San Diego-Carlsbad-San Marcos, CA	6.43	9	6.92	6	7.40	6
Raleigh-Cary, NC	7.08	7	6.76	7	7.09	7
Seattle-Tacoma-Bellevue, WA	5.58	11	5.68	9	5.72	8
Austin-Round Rock, TX	7.37	6	6.22	8	5.60	9
Bridgeport-Stamford-Norwalk, CT	5.89	10	5.67	10	5.52	10
Baltimore-Towson, MD	4.50	15	5.00	11	5.05	11
Tallahassee, FL	5.34	12	4.29	19	4.90	12
Worcester, MA	4.09	17	4.47	17	4.53	13
Eugene-Springfield, OR	1.97	30	4.77	13	4.34	14
Minneapolis-St. Paul-Bloomington, MN-WI	4.42	16	4.59	15	4.32	15
Albany-Schenectady-Troy, NY	4.05	18	4.48	16	4.23	16
Huntsville, AL	8.10	5	4.32	18	3.99	17
New Haven-Milford, CT	5.32	13	4.83	12	3.77	18
Denver-Aurora, CO	3.86	21	3.54	21	3.69	19
Santa Barbara-Santa Maria-Goleta, CA	4.94	14	2.18	29	3.43	20
Lexington-Fayette, KY	3.91	20	4.70	14	3.42	21
Hartford-West Hartford-East Hartford, CT	2.96	25	2.84	26	3.35	22
Lansing-East Lansing, MI	2.68	29	3.62	20	3.22	23
Colorado Springs, CO	3.19	23	3.15	23	3.09	24
Manchester-Nashua, NH	3.46	22	3.51	22	2.98	25
Portland-Vancouver-Beaverton, OR-WA	3.04	24	2.98	24	2.91	26
Columbus, OH	2.86	26	2.92	25	2.83	27
Portland-South Portland-Biddeford, ME	1.80	31	1.90	30	2.43	28
Kalamazoo-Portage, MI	1.66	32	1.62	33	2.34	29
Rochester, NY	2.71	28	2.29	28	2.11	30
Albuquerque, NM	2.78	27	1.78	31	2.09	31
Tucson, AZ	3.97	19	2.64	27	2.05	32
Sacramento-Arden-Arcade-Roseville, CA	1.50	35	1.41	36	1.53	33
Charlotte-Gastonia-Concord, NC-SC	0.50	51	0.87	48	1.50	34
Columbia, SC	0.65	46	1.34	37	1.48	35
Richmond, VA	1.02	40	1.46	35	1.36	36
Provo-Orem, UT	0.52	50	0.28	56	1.24	37
Santa Rosa-Petaluma, CA	1.66	33	0.87	47	1.24	38
Anchorage, AK	1.07	39	1.57	34	1.15	39
Des Moines-West Des Moines, IA	1.37	37	1.15	40	1.09	40
Providence-New Bedford-Fall River, RI-MA	0.64	47	0.96	44	1.07	41
Oxnard-Thousand Oaks-Ventura, CA	0.94	41	1.08	42	1.01	42
Kansas City, MO-KS	1.59	34	1.17	39	0.99	43
Springfield, MA	0.61	48	1.13	41	0.96	44
Honolulu, HI	0.01	56	1.34	38	0.84	45
Charleston-North Charleston, SC	0.81	43	0.88	46	0.80	46
Pittsburgh, PA	0.08	55	0.80	49	0.77	47
Omaha-Council Bluffs, NE-IA	1.34	38	1.74	32	0.69	48
Milwaukee-Waukesha-West Allis, WI	0.81	44	0.21	57	0.62	49
Syracuse, NY	-0.06	60	0.58	52	0.61	50
Buffalo-Niagara Falls, NY	-0.75	77	0.05	60	0.57	51
Indianapolis-Carmel, IN	0.59	49	0.97	43	0.56	52
Knoxville, TN	-0.12	63	0.91	45	0.46	53
Nashville-Davidson-Murfreesboro-Franklin, TN	0.82	42	0.64	51	0.43	54
St. Louis, MO-IL	0.43	53	0.65	50	0.39	55
Salt Lake City, UT	0.72	45	0.50	54	0.33	56
Cincinnati-Middletown, OH-KY-IN	-0.04	59	0.07	59	0.29	57
Akron, OH	-0.02	58	-0.39	68	0.19	58
Poughkeepsie-Newburgh-Middletown, NY	0.33	54	0.57	53	0.15	59
Virginia Beach-Norfolk-Newport News, VA-NC	-0.21	68	0.10	58	0.13	60
Cleveland-Elyria-Mentor, OH	-0.13	64	-0.25	65	0.04	61
Little Rock-North Little Rock-Conway, AR	-0.10	62	-0.07	63	0.00	62
Greenville-Mauldin-Easley, SC	-0.13	65	-1.07	78	-0.08	63
Harrisburg-Carlisle, PA	0.01	57	-0.16	64	-0.08	64
Wilmington, NC	-0.20	67	0.42	55	-0.11	65
Birmingham-Hoover, AL	-0.31	71	0.05	61	-0.16	66
Oklahoma City, OK	-0.45	73	-0.62	71	-0.17	67
Boise City-Nampa, ID	-0.91	78	-0.33	66	-0.21	68

Metro Area	2005 Score	Rank	2006 Score	Rank	2007 Score	Rank
Dayton, OH	1.39	36	-0.60	69	-0.29	69
Reno-Sparks, NV	-0.22	69	-0.76	75	-0.35	70
Jackson, MS	0.47	52	-0.71	73	-0.48	71
Spokane, WA	-0.38	72	0.03	62	-0.51	72
Orlando-Kissimmee, FL	-0.52	74	-0.37	67	-0.54	73
Winston-Salem, NC	-0.63	75	-0.61	70	-0.59	74
New Orleans-Metairie-Kenner, LA	-0.28	70	-0.98	76	-0.63	75
Baton Rouge, LA	-1.68	88	-0.64	72	-0.69	76
Montgomery, AL	-1.01	79	-1.91	94	-0.85	78
Fayetteville-Springdale-Rogers, AR-MO	-0.06	61	-1.68	85	-0.90	79
Allentown-Bethlehem-Easton, PA-NJ	-1.01	80	-1.53	84	-0.96	80
Asheville, NC	-1.50	85	-1.42	83	-1.11	81
Jacksonville, FL	-1.02	81	-1.21	80	-1.13	82
San Antonio, TX	-0.65	76	-0.74	74	-1.19	83
Tampa-St. Petersburg-Clearwater, FL	-1.71	90	-1.69	86	-1.23	84
Ogden-Clearfield, UT	-1.65	86	-1.72	87	-1.40	85
Louisville-Jefferson County, KY-IN	-1.46	84	-1.29	81	-1.44	86
Palm Bay-Melbourne-Titusville, FL	-0.17	66	-1.20	79	-1.49	87
Greensboro-High Point, NC	-1.67	87	-1.78	90	-1.53	88
Wichita, KS	-1.79	91	-1.39	82	-1.59	89
Toledo, OH	-2.00	93	-2.16	97	-1.78	90
Peoria, IL	-2.28	102	-1.04	77	-1.83	91
Grand Rapids-Wyoming, MI	-2.05	95	-1.90	93	-1.87	92
South Bend-Mishawaka, IN-MI	-2.12	98	-1.76	89	-1.91	93
York-Hanover, PA	-3.63	114	-2.28	98	-1.97	94
Tulsa, OK	-1.27	83	-1.81	91	-1.99	95
Pensacola-Ferry Pass-Brent, FL	-2.45	103	-2.30	100	-2.12	96
Springfield, MO	-2.17	99	-2.32	101	-2.13	97
Salinas, CA	-3.37	110	-1.98	96	-2.16	98
Vallejo-Fairfield, CA	-2.27	101	-2.29	99	-2.21	99
Memphis, TN-MS-AR	-2.01	94	-2.42	102	-2.31	100
Augusta-Richmond County, GA-SC	-2.09	97	-1.97	95	-2.44	101
Davenport-Moline-Rock Island, IA-IL	-2.07	96	-3.14	110	-2.49	102
Charleston, WV	-2.26	100	-3.02	108	-2.57	103
Fort Wayne, IN	-1.68	89	-1.87	92	-2.79	104
Lancaster, PA	-2.58	104	-2.89	104	-2.81	105
Evansville, IN-KY	-2.95	105	-2.96	106	-2.90	106
Chattanooga, TN-GA	-1.88	92	-3.01	107	-2.96	107
Salem, OR	-3.09	107	-3.13	109	-2.96	108
Sarasota-Bradenton-Venice, FL	-3.17	108	-2.93	105	-3.02	109
Naples-Marco Island, FL	-3.24	109	-3.67	116	-3.09	110
Reading, PA	-3.01	106	-3.14	111	-3.13	111
Shreveport-Bossier City, LA	-3.73	115	-3.24	112	-3.35	112
Canton-Massillon, OH	-4.01	117	-4.38	123	-3.46	113
Rockford, IL	-4.18	119	-4.13	120	-3.77	114
Fayetteville, NC	-4.23	120	-2.65	103	-3.78	115
Cape Coral-Fort Myers, FL	-4.37	122	-3.48	113	-3.79	116
Corpus Christi, TX	-3.98	116	-4.69	124	-3.83	117
Las Vegas-Paradise, NV	-4.45	123	-3.86	117	-3.84	118
Scranton-Wilkes-Barre, PA	-3.55	113	-3.64	115	-3.87	119
Killeen-Temple-Fort Hood, TX	-3.42	111	-3.56	114	-3.97	120
Flint, MI	-4.46	124	-4.20	122	-4.12	121
Mobile, AL	-3.45	112	-3.86	118	-4.24	122
Fresno, CA	-4.66	126	-4.86	126	-4.80	123
Youngstown-Warren-Boardman, OH-PA	-5.20	129	-4.91	127	-4.81	124
Beaumont-Port Arthur, TX	-5.15	128	-5.17	130	-4.85	125
El Paso, TX	-5.34	130	-5.09	129	-4.89	126
Deltona-Daytona Beach-Ormond Beach, FL	-4.07	118	-4.20	121	-4.94	127
Port St. Lucie, FL	-4.28	121	-3.98	119	-4.98	128
Stockton, CA	-4.88	127	-5.07	128	-5.28	129
Hickory-Lenoir-Morganton, NC	-4.54	125	-4.85	125	-5.35	130
Modesto, CA	-5.88	132	-5.56	131	-5.40	131
Lakeland, FL	-5.79	131	-5.90	132	-5.50	132
Bakersfield, CA	-6.04	133	-6.09	133	-6.12	133
Brownsville-Harlingen, TX	-7.53	135	-7.14	134	-7.68	134
McAllen-Edinburg-Mission, TX	-6.64	134	-7.34	135	-7.72	135
Visalia-Porterville, CA	-7.55	136	-7.57	136	-7.78	136

Table C-2. Rank of Metropolitan Areas According to Technology Commercialization Factor Score, 2005, 2006, and 2007

Metro Area	2005		2006		2007	
	Score	Rank	Score	Rank	Score	Rank
San Jose-Sunnyvale-Santa Clara, CA	13.09	1	14.81	1	14.69	1
San Diego-Carlsbad-San Marcos, CA	2.80	4	2.78	2	3.29	2
Santa Rosa-Petaluma, CA	2.70	5	2.31	5	3.28	3
Las Vegas-Paradise, NV	-0.01	46	-0.06	47	2.94	4
Bridgeport-Stamford-Norwalk, CT	4.38	2	2.40	4	2.94	5
Austin-Round Rock, TX	1.57	13	2.42	3	2.30	6
Seattle-Tacoma-Bellevue, WA	1.09	18	1.71	8	2.03	7
Oxnard-Thousand Oaks-Ventura, CA	1.89	7	1.87	7	2.02	8
Santa Barbara-Santa Maria-Goleta, CA	1.85	8	1.63	9	2.00	9
Trenton-Ewing, NJ	1.74	9	1.31	15	1.94	10
Durham, NC	2.94	3	1.47	11	1.83	11
Boise City-Nampa, ID	2.48	6	2.04	6	1.74	12
Naples-Marco Island, FL	0.87	25	1.24	16	1.40	13
Worcester, MA	1.30	15	1.41	12	1.33	14
Poughkeepsie-Newburgh-Middletown, NY	1.17	17	1.32	14	1.25	15
Ann Arbor, MI	1.39	14	1.07	18	1.25	16
Salinas, CA	0.93	23	1.16	17	1.21	17
New Haven-Milford, CT	0.85	26	1.04	19	1.03	18
Vallejo-Fairfield, CA	1.23	16	0.95	21	0.96	19
Portland-Vancouver-Beaverton, OR-WA	0.52	31	0.76	23	0.91	20
Manchester-Nashua, NH	0.92	24	0.71	25	0.89	21
Raleigh-Cary, NC	0.73	27	0.99	20	0.85	22
Honolulu, HI	1.63	11	0.84	22	0.79	23
Hartford-West Hartford-East Hartford, CT	0.97	21	0.51	28	0.53	24
Albuquerque, NM	-0.27	56	-0.36	62	0.50	25
Baltimore-Towson, MD	0.20	37	0.26	33	0.45	26
Minneapolis-St. Paul-Bloomington, MN-WI	0.49	32	0.46	29	0.45	27
Provo-Orem, UT	0.00	44	-0.12	48	0.44	28
Sacramento-Arden-Arcade-Roseville, CA	0.55	29	0.41	30	0.36	29
Reno-Sparks, NV	1.00	20	0.33	32	0.31	30
Allentown-Bethlehem-Easton, PA-NJ	0.38	34	0.24	35	0.30	31
Sarasota-Bradenton-Venice, FL	0.23	36	0.53	27	0.29	32
Orlando-Kissimmee, FL	-0.20	51	0.06	41	0.21	33
Palm Bay-Melbourne-Titusville, FL	0.08	41	0.25	34	0.21	34
Salt Lake City, UT	0.03	43	0.01	44	0.16	35
Denver-Aurora, CO	0.48	33	0.72	24	0.15	36
Stockton, CA	0.26	35	0.39	31	0.14	37
Tucson, AZ	0.17	38	0.16	38	0.12	38
Rochester, NY	1.03	19	0.12	39	0.12	39
Albany-Schenectady-Troy, NY	0.09	40	0.04	43	0.10	40
Madison, WI	-0.16	50	0.05	42	0.08	41
Port St. Lucie, FL	0.04	42	0.23	36	0.07	42
Providence-New Bedford-Fall River, RI-MA	0.57	28	0.19	37	0.03	43
Cape Coral-Fort Myers, FL	0.52	30	0.11	40	-0.02	44
Tampa-St. Petersburg-Clearwater, FL	0.11	39	-0.01	45	-0.11	45
Bakersfield, CA	-0.26	54	-0.14	49	-0.18	46
Charleston-North Charleston, SC	-0.46	70	-0.38	64	-0.20	47
Colorado Springs, CO	-0.14	49	-0.25	54	-0.27	48
Fresno, CA	-0.27	55	-0.16	50	-0.27	49
Deltona-Daytona Beach-Ormond Beach, FL	-0.46	69	-0.05	46	-0.28	50
Portland-South Portland-Biddeford, ME	-0.35	61	-0.22	52	-0.29	51
Jacksonville, FL	-0.52	75	-0.27	56	-0.33	52
Akron, OH	-0.35	60	-0.30	58	-0.34	53
Nashville-Davidson-Murfreesboro-Franklin, TN	1.58	12	1.35	13	-0.35	54
Wilmington, NC	-0.23	52	-0.44	70	-0.37	55
Milwaukee-Waukesha-West Allis, WI	-0.34	58	-0.37	63	-0.38	56
Richmond, VA	-0.53	76	-0.36	61	-0.39	57
New Orleans-Metairie-Kenner, LA	-0.70	98	-0.35	60	-0.40	58
Springfield, MA	-0.57	80	-0.29	57	-0.40	59
Modesto, CA	-0.35	59	-0.23	53	-0.41	60
Spokane, WA	-0.51	74	-0.46	74	-0.41	61
Visalia-Porterville, CA	-0.50	73	1.56	10	-0.41	62
Baton Rouge, LA	-0.69	96	-0.48	77	-0.42	63
Huntsville, AL	-0.67	92	-0.51	80	-0.42	64
Eugene-Springfield, OR	-0.68	93	-0.43	67	-0.42	65
Salem, OR	-0.61	85	-0.45	71	-0.44	66
Ogden-Clearfield, UT	-0.37	66	-0.39	65	-0.46	67
Cleveland-Elyria-Mentor, OH	-0.33	57	-0.65	98	-0.46	68

Metro Area	2005		2006		2007	
	Score	Rank	Score	Rank	Score	Rank
Anchorage, AK	-0.42	67	-0.26	55	-0.47	69
Pittsburgh, PA	-0.66	91	-0.32	59	-0.47	70
Flint, MI	-0.58	81	-0.45	72	-0.48	71
Charlotte-Gastonia-Concord, NC-SC	-0.36	63	-0.19	51	-0.48	72
York-Hanover, PA	-0.64	89	0.54	26	-0.49	73
Lakeland, FL	-0.64	90	-0.45	73	-0.50	74
Greenville-Mauldin-Easley, SC	-0.60	83	-0.43	68	-0.50	75
Canton-Massillon, OH	-0.70	97	-0.54	83	-0.50	76
Reading, PA	-0.54	78	-0.50	78	-0.51	77
Kansas City, MO-KS	-0.36	64	-0.44	69	-0.53	78
Virginia Beach-Norfolk-Newport News, VA-NC	-0.80	108	-0.57	85	-0.54	79
Knoxville, TN	-0.60	84	-0.58	87	-0.55	80
Lexington-Fayette, KY	-0.72	101	-0.60	92	-0.55	81
Birmingham-Hoover, AL	-0.49	71	-0.48	76	-0.55	82
Cincinnati-Middletown, OH-KY-IN	-0.36	62	-0.42	66	-0.55	83
Asheville, NC	-0.53	77	-0.54	82	-0.55	84
Winston-Salem, NC	-0.49	72	-0.51	79	-0.56	85
Louisville-Jefferson County, KY-IN	-0.83	110	-0.78	110	-0.57	86
Lancaster, PA	-0.12	48	-0.53	81	-0.59	87
Tallahassee, FL	-0.77	105	-0.62	95	-0.60	88
Pensacola-Ferry Pass-Brent, FL	-0.78	106	-0.60	90	-0.60	89
Indianapolis-Carmel, IN	-0.07	47	-0.62	94	-0.61	90
Des Moines-West Des Moines, IA	-0.73	102	-0.67	99	-0.61	91
Greensboro-High Point, NC	-0.60	82	-0.61	93	-0.62	92
Jackson, MS	-0.69	95	-0.58	88	-0.62	93
Corpus Christi, TX	-0.01	45	-0.59	89	-0.62	94
Tulsa, OK	-0.36	65	-0.72	103	-0.63	95
Columbia, SC	-0.71	100	-0.60	91	-0.63	96
Kalamazoo-Portage, MI	-0.56	79	-0.57	86	-0.64	97
San Antonio, TX	-0.62	87	-0.63	96	-0.65	98
Shreveport-Bossier City, LA	-0.95	120	-0.80	115	-0.66	99
Peoria, IL	0.93	22	-0.76	108	-0.66	100
St. Louis, MO-IL	-0.63	88	-0.64	97	-0.67	101
Chattanooga, TN-GA	-0.62	86	-0.56	84	-0.67	102
Memphis, TN-MS-AR	-0.76	104	-0.48	75	-0.73	103
Grand Rapids-Wyoming, MI	-0.69	94	-0.68	101	-0.73	104
Mobile, AL	-0.91	114	-0.75	107	-0.74	105
Rockford, IL	-0.98	124	-0.80	114	-0.74	106
Montgomery, AL	-0.93	116	-0.75	104	-0.75	107
El Paso, TX	-0.86	112	-0.75	106	-0.75	108
Harrisburg-Carlisle, PA	-0.43	68	-0.70	102	-0.75	109
Columbus, OH	-0.70	99	-0.68	100	-0.76	110
Syracuse, NY	-0.95	119	-0.78	111	-0.77	111
Hickory-Lenoir-Morganton, NC	-0.79	107	-0.75	105	-0.78	112
Lansing-East Lansing, MI	-0.92	115	-0.86	121	-0.80	113
Beaumont-Port Arthur, TX	-0.97	123	-0.82	118	-0.81	114
Oklahoma City, OK	-0.97	121	-0.82	117	-0.82	115
Savannah, GA	-0.84	111	-0.77	109	-0.82	116
Dayton, OH	-0.74	103	-0.85	120	-0.86	117
Augusta-Richmond County, GA-SC	-1.01	125	-0.89	126	-0.88	118
Omaha-Council Bluffs, NE-IA	-0.95	118	-0.79	113	-0.89	119
Killeen-Temple-Fort Hood, TX	-1.03	127	-0.82	116	-0.90	120
Toledo, OH	-0.81	109	-0.93	128	-0.90	121
South Bend-Mishawaka, IN-MI	1.67	10	-0.86	122	-0.90	122
Little Rock-North Little Rock-Conway, AR	-1.03	126	-0.83	119	-0.91	123
Springfield, MO	-0.97	122	-0.88	125	-0.92	124
Evansville, IN-KY	-1.04	128	-0.91	127	-0.92	125
Fort Wayne, IN	-0.89	113	-0.94	129	-0.93	126
Charleston, WV	-1.05	129	-0.95	130	-0.94	127
Scranton-Wilkes-Barre, PA	-0.25	53	-0.99	132	-0.95	128
Buffalo-Niagara Falls, NY	-0.93	117	-0.87	123	-0.96	129
McAllen-Edinburg-Mission, TX	-1.11	133	-0.87	124	-0.96	130
Wichita, KS	-1.05	130	-0.79	112	-0.99	131
Fayetteville-Springdale-Rogers, AR-MO	-1.07	131	-0.98	131	-1.01	132
Davenport-Moline-Rock Island, IA-IL	-1.10	132	-1.06	134	-1.03	133
Fayetteville, NC	-1.14	135	-1.08	135	-1.10	134
Youngstown-Warren-Boardman, OH-PA	-1.13	134	-1.04	133	-1.10	135
Brownsville-Harlingen, TX	-1.34	136	-1.17	136	-1.26	136

Table C-3. Rank of Metropolitan Areas According to Racial Inclusion and Income Equality Factor Score, 2005, 2006, and 2007

Metro Area	2005 Score	2005 Rank	2006 Score	2006 Rank	2007 Score	2007 Rank
Manchester-Nashua, NH	3.39	7	4.04	3	4.10	1
Ogden-Clearfield, UT	4.06	2	4.37	2	3.97	2
Boise City-Nampa, ID	3.62	4	3.78	4	3.94	3
Provo-Orem, UT	4.23	1	4.40	1	3.94	4
Madison, WI	3.20	8	3.19	9	3.71	5
Portland-South Portland-Biddeford, ME	3.91	3	3.71	5	3.63	6
Lancaster, PA	3.49	5	3.59	6	3.41	7
Santa Rosa-Petaluma, CA	2.88	17	3.09	11	3.12	8
Hickory-Lenoir-Morganton, NC	2.90	16	3.17	10	3.12	9
Reading, PA	2.81	21	2.37	26	3.08	10
Reno-Sparks, NV	2.47	24	2.67	21	3.07	11
Eugene-Springfield, OR	3.11	11	3.22	8	3.06	12
Des Moines, IA	2.93	15	3.04	13	3.03	13
Allentown-Bethlehem-Easton, PA-NJ	3.16	10	3.05	12	3.03	14
York-Hanover, PA	2.84	19	2.97	16	3.00	15
Scranton--Wilkes-Barre, PA	3.00	12	2.98	15	2.97	16
Springfield, MO	2.93	14	2.69	20	2.89	17
Honolulu, HI Metro Area	2.57	23	2.74	19	2.85	18
Spokane, WA	2.88	18	2.81	18	2.80	19
Colorado Springs, CO	2.70	22	2.60	24	2.71	20
Salem, OR	2.98	13	2.89	17	2.68	21
Oxnard-Thousand Oaks-Ventura, CA	2.82	20	2.62	22	2.68	22
Portland-Vancouver-Beaverton, OR-WA	2.34	25	2.62	23	2.64	23
Fayetteville-Springdale-Rogers, AR-MO	3.17	9	3.04	14	2.58	24
Asheville, NC	2.09	29	2.50	25	2.52	25
Salt Lake City, UT	3.44	6	3.43	7	2.47	26
Seattle-Tacoma-Bellevue, WA	2.14	27	2.19	27	2.34	27
McAllen-Edinburg-Pharr, TX	0.83	57	1.75	33	2.29	28
Fort Wayne, IN	2.12	28	1.19	44	2.12	29
Worcester, MA	2.05	30	2.08	29	2.09	30
San Jose-Sunnyvale-Santa Clara, CA	2.20	26	1.99	30	2.08	31
Poughkeepsie-Newburgh-Middletown, NY	1.83	32	2.10	28	2.04	32
Minneapolis-St. Paul-Bloomington, MN-WI	1.82	33	1.80	32	1.88	33
Evansville, IN-KY	2.00	31	1.63	34	1.76	34
Tucson, AZ	-0.24	80	0.18	73	1.73	35
Anchorage, AK	1.50	35	1.39	38	1.61	36
Denver-Aurora, CO	1.39	39	1.34	40	1.54	37
Vallejo-Fairfield, CA	1.29	41	1.59	35	1.51	38
Santa Barbara-Santa Maria-Goleta, CA	1.24	43	1.18	45	1.44	39
Brownsville-Harlingen, TX	1.08	46	1.39	37	1.40	40
Canton-Massillon, OH	1.47	37	1.30	41	1.37	41
Palm Bay-Melbourne-Titusville, FL	1.17	44	1.38	39	1.34	42
Providence-New Bedford-Fall River, RI-MA	-3.33	122	0.98	53	1.29	43
Omaha-Council Bluffs, NE-IA	0.90	52	1.45	36	1.25	44
Raleigh-Cary, NC	0.59	64	1.05	49	1.19	45
Killeen-Temple-Fort Hood, TX	1.26	42	1.25	42	1.19	46
Cape Coral-Fort Myers, FL	1.05	47	1.23	43	1.11	47
Albany-Schenectady-Troy, NY	0.71	60	0.80	60	1.11	48
Sarasota-Bradenton-Venice, FL	0.85	55	1.09	47	1.10	49
Las Vegas-Paradise, NV	0.92	50	0.42	68	1.03	50
Lansing-East Lansing, MI	0.94	49	1.07	48	0.98	51
Hartford-West Hartford-East Hartford, CT	0.55	65	0.95	55	0.97	52
Ann Arbor, MI	1.44	38	0.90	57	0.97	53
Austin-Round Rock, TX	1.73	34	1.91	31	0.96	54
Deltona-Daytona Beach-Ormond Beach, FL	0.74	59	0.98	52	0.95	55
Grand Rapids-Wyoming, MI	0.59	63	0.60	63	0.81	56
South Bend-Mishawaka, IN-MI	0.51	68	0.81	59	0.77	57
Lakeland, FL	1.48	36	0.75	62	0.73	58
San Diego-Carlsbad-San Marcos, CA	0.88	53	0.80	61	0.72	59
Harrisburg-Carlisle, PA	1.39	40	1.16	46	0.69	60
Wichita, KS	1.16	45	1.00	50	0.68	61
Kalamazoo-Portage, MI	0.61	61	0.43	66	0.68	62
Wilmington, NC	0.30	70	0.86	58	0.67	63
Sacramento--Arden-Arcade--Roseville, CA	0.51	67	0.38	69	0.65	64
Modesto, CA	0.91	51	0.98	54	0.61	65
Port St. Lucie-Fort Pierce, FL	0.82	58	0.93	56	0.59	66
Naples-Marco Island, FL	-0.33	81	-0.09	82	0.54	67
Knoxville, TN	0.87	54	0.16	75	0.52	68
San Antonio, TX	0.25	72	0.46	65	0.51	69
Davenport-Moline-Rock Island, IA-IL	0.25	71	0.55	64	0.37	70
Pittsburgh, PA	0.05	75	0.15	76	0.36	71
Lexington-Fayette, KY	0.43	69	0.43	67	0.33	72
Bridgeport-Stamford-Norwalk, CT	0.54	66	0.22	72	0.25	73
Akron, OH	0.01	76	-0.01	79	0.10	74
Charleston, WV	0.21	73	0.23	71	0.03	75
Syracuse, NY	0.19	74	0.07	77	0.02	76
Louisville, KY-IN	0.83	56	-0.08	80	-0.02	77
Springfield, MA	-0.58	88	-0.37	85	-0.04	78
Greenville, SC	-0.34	82	0.00	78	-0.06	79
Youngstown-Warren-Boardman, OH-PA	-0.34	83	-0.36	84	-0.23	80
Rochester, NY	-0.15	78	-0.09	81	-0.25	81
Albuquerque, NM	-0.04	77	0.98	51	-0.28	82
Columbus, OH	-0.41	84	-0.40	86	-0.29	83
Tampa-St. Petersburg-Clearwater, FL	-0.51	86	-0.31	83	-0.31	84
Kansas City, MO-KS	-0.72	91	-0.47	87	-0.44	85
El Paso, TX	-1.28	103	-1.19	102	-0.66	86
Orlando, FL	-0.83	93	-0.94	94	-0.71	87
New Haven-Milford, CT	-0.58	89	0.18	74	-0.71	88
Corpus Christi, TX	-0.45	85	-0.65	90	-0.75	89
Rockford, IL	-0.21	79	-0.56	88	-0.89	90
Stockton, CA	-0.71	90	-0.60	89	-0.89	91
Greensboro-High Point, NC	-0.79	92	-1.02	96	-0.95	92
Oklahoma City, OK	-1.12	100	-1.01	95	-0.96	93
Virginia Beach-Norfolk-Newport News, VA-NC	-1.02	95	-1.02	97	-1.00	94
Dayton, OH	-1.12	101	-1.17	101	-1.00	95
Charlotte-Gastonia-Concord, NC-SC	-1.51	107	-1.49	105	-1.01	96
Tulsa, OK	-1.06	97	-1.09	100	-1.02	97
Indianapolis, IN	-0.58	87	-0.67	91	-1.03	98
Salinas, CA	1.04	48	0.28	70	-1.07	99
Cincinnati-Middletown, OH-KY-IN	-1.09	98	-0.84	92	-1.09	100
Peoria, IL	-1.19	102	-1.07	99	-1.10	101
Winston-Salem, NC	-0.91	94	-0.85	93	-1.20	102
Fayetteville, NC	-1.69	110	-1.33	103	-1.29	103
Huntsville, AL	-1.11	99	-1.06	98	-1.30	104
Richmond, VA	-1.70	111	-1.45	104	-1.36	105
Trenton-Ewing, NJ Metro Area	-2.25	116	-1.67	110	-1.36	106
Nashville-Davidson--Murfreesboro, TN	-1.03	96	-1.49	107	-1.38	107
Jacksonville, FL	-1.67	109	-1.49	106	-1.46	108
Pensacola-Ferry Pass-Brent, FL	-1.71	112	-1.59	108	-1.61	109
Chattanooga, TN-GA	0.61	62	-1.66	109	-1.70	110
Durham, NC	-1.40	105	-2.06	115	-1.72	111
Toledo, OH	-1.76	113	-1.71	111	-1.73	112
Bakersfield, CA	-1.94	114	-1.92	114	-1.79	113
Visalia-Porterville, CA	-1.33	104	-1.86	113	-1.80	114
Buffalo-Niagara Falls, NY	-1.53	108	-1.73	112	-1.85	115
Fresno, CA	-2.46	117	-2.80	119	-2.04	116
St. Louis, MO-IL	-2.10	115	-2.24	117	-2.22	117
Little Rock-North Little Rock, AR	-2.47	118	-2.49	118	-2.81	118
Milwaukee-Waukesha-West Allis, WI	-1.50	106	-2.19	116	-3.00	119
Columbia, SC	-3.17	120	-2.92	120	-3.02	120
Cleveland-Elyria-Mentor, OH	-2.72	119	-2.96	121	-3.19	121
Charleston-North Charleston, SC	-3.58	123	-3.47	123	-3.25	122
Augusta-Richmond County, GA-SC	-3.19	121	-3.39	122	-3.62	123
Baltimore-Towson, MD	-3.87	125	-3.56	124	-3.66	124
Flint, MI	-4.01	126	-4.61	128	-4.15	125
Savannah, GA	-3.86	124	-4.31	125	-4.16	126
Birmingham-Hoover, AL	-4.40	128	-4.39	127	-4.31	127
Beaumont-Port Arthur, TX	-4.28	127	-4.39	126	-4.62	128
Tallahassee, FL	-4.44	129	-5.36	130	-4.97	129
Montgomery, AL	-5.23	130	-5.36	131	-5.44	130
Mobile, AL	-5.68	133	-6.07	132	-5.67	131
New Orleans-Metairie-Kenner, LA	-7.34	136	-4.86	129	-6.27	132
Baton Rouge, LA	-5.59	131	-7.24	133	-6.68	133
Shreveport-Bossier City, LA	-7.11	135	-7.38	135	-7.01	134
Jackson, MS	-5.66	132	-7.30	134	-7.14	135
Memphis, TN-MS-AR	-6.95	134	-7.88	136	-8.74	136

Table C-4. Rank of Metropolitan Areas According to Urban Assimilation Factor Score, 2005, 2006, and 2007

Metro Area	2005 Score	Rank	2006 Score	Rank	2007 Score	Rank	Metro Area	2005 Score	Rank	2006 Score	Rank	2007 Score	Rank
El Paso, TX	9.53	1	9.50	1	9.40	1	Rockford, IL	-0.95	70	-0.97	70	-0.99	69
McAllen-Edinburg-Pharr, TX	9.22	2	9.01	2	9.21	2	Springfield, MA	-0.93	68	-1.04	76	-1.01	70
Brownsville-Harlingen, TX	8.70	4	8.70	4	8.68	3	Nashville-Davidson--Murfreesboro, TN	-1.03	73	-0.97	71	-1.03	71
San Jose-Sunnyvale-Santa Clara, CA	8.99	3	8.79	3	8.37	4	Buffalo-Niagara Falls, NY	-1.34	96	-1.24	88	-1.04	72
Honolulu, HI Metro Area	6.67	5	6.53	5	6.59	5	Provo-Orem, UT	-0.88	65	-0.87	67	-1.04	73
Salinas, CA	5.37	6	5.27	6	5.68	6	Deltona-Daytona Beach-Ormond Beach, FL	-0.95	69	-0.95	69	-1.05	74
Visalia-Porterville, CA	4.47	8	4.55	7	5.08	7	Little Rock-North Little Rock, AR	-1.03	74	-1.00	75	-1.06	75
Fresno, CA	4.18	10	4.04	10	4.69	8	Savannah, GA	-1.10	81	-1.13	80	-1.10	76
San Antonio, TX	4.63	7	4.54	8	4.48	9	Syracuse, NY	-1.65	114	-1.50	105	-1.12	77
San Diego-Carlsbad-San Marcos, CA	4.26	9	4.24	9	4.29	10	Greenville, SC	-1.24	90	-1.22	83	-1.14	78
Stockton, CA	3.86	11	3.93	11	4.08	11	Columbia, SC	-1.05	76	-1.00	73	-1.15	79
Oxnard-Thousand Oaks-Ventura, CA	3.60	12	3.81	12	3.73	12	Wichita, KS	-1.09	79	-1.12	79	-1.15	80
Vallejo-Fairfield, CA	3.33	13	3.32	13	3.24	13	Winston-Salem, NC	-1.06	77	-1.00	74	-1.16	81
Santa Barbara-Santa Maria-Goleta, CA	3.02	14	3.23	14	3.11	14	Grand Rapids-Wyoming, MI	-1.09	80	-1.22	84	-1.16	82
Bakersfield, CA	2.63	17	2.73	18	3.11	15	Birmingham-Hoover, AL	-1.28	93	-1.22	82	-1.17	83
Corpus Christi, TX	2.77	16	2.74	17	2.98	16	Virginia Beach-Norfolk-Newport News, VA-NC	-1.08	78	-1.06	77	-1.17	84
Modesto, CA	2.79	15	2.77	15	2.68	17	Greensboro-High Point, NC	-1.05	75	-1.12	78	-1.19	85
Albuquerque, NM	2.59	18	2.75	16	2.48	18	Reading, PA	-1.35	97	-1.21	81	-1.19	86
Las Vegas-Paradise, NV	2.47	19	2.36	20	2.42	19	Baton Rouge, LA	-1.25	91	-1.28	92	-1.21	87
Austin-Round Rock, TX	2.31	20	2.39	19	2.18	20	Boise City-Nampa, ID	-1.14	82	-1.23	85	-1.24	88
Trenton-Ewing, NJ Metro Area	2.12	22	2.35	21	2.15	21	Huntsville, AL	-1.23	88	-1.25	91	-1.26	89
Denver-Aurora, CO	1.95	24	2.09	23	2.02	22	Columbus, OH	-1.18	84	-1.23	87	-1.27	90
Bridgeport-Stamford-Norwalk, CT	2.13	21	2.15	22	1.93	23	Knoxville, TN	-1.40	101	-1.39	100	-1.29	91
Seattle-Tacoma-Bellevue, WA	1.92	25	1.97	24	1.91	24	Lansing-East Lansing, MI	-1.18	83	-1.25	90	-1.29	92
Tucson, AZ	1.96	23	1.91	25	1.83	25	Cleveland-Elyria-Mentor, OH	-1.20	87	-1.24	89	-1.31	93
Naples-Marco Island, FL	1.60	27	1.85	26	1.73	26	St. Louis, MO-IL	-1.18	85	-1.23	86	-1.31	94
Santa Rosa-Petaluma, CA	1.12	29	1.44	28	1.54	27	Ogden-Clearfield, UT	-1.26	92	-1.28	94	-1.32	95
Orlando, FL	1.71	26	1.65	27	1.50	28	Indianapolis, IN	-1.31	95	-1.31	95	-1.34	96
Sacramento--Arden-Arcade--Roseville, CA	1.45	28	1.44	29	1.38	29	Pensacola-Ferry Pass-Brent, FL	-1.42	103	-1.44	102	-1.35	97
Killeen-Temple-Fort Hood, TX	1.10	30	0.97	30	1.30	30	Jackson, MS	-1.45	104	-1.42	101	-1.38	98
Reno-Sparks, NV	0.89	31	0.89	32	0.99	31	Augusta-Richmond County, GA-SC	-1.29	94	-1.28	93	-1.41	99
Tampa-St. Petersburg-Clearwater, FL	0.88	32	0.96	31	0.85	32	Omaha-Council Bluffs, NE-IA	-1.23	89	-1.32	96	-1.42	100
Colorado Springs, CO	0.57	34	0.67	33	0.75	33	Kalamazoo-Portage, MI	-1.51	105	-1.55	108	-1.42	101
New Haven-Milford, CT	0.59	33	0.46	34	0.68	34	Davenport-Moline-Rock Island, IA-IL	-1.64	113	-1.61	111	-1.42	102
Hartford-West Hartford-East Hartford, CT	0.28	37	0.42	36	0.42	35	Lancaster, PA	-1.58	109	-1.58	110	-1.44	103
Raleigh-Cary, NC	0.33	36	0.44	35	0.36	36	Charleston-North Charleston, SC	-1.39	100	-1.45	103	-1.45	104
Cape Coral-Fort Myers, FL	-0.10	45	0.18	39	0.23	37	Lexington-Fayette, KY	-1.63	112	-1.46	104	-1.46	105
Poughkeepsie-Newburgh-Middletown, NY	0.08	39	0.23	38	0.22	38	Madison, WI	-1.20	86	-1.38	99	-1.48	106
Lakeland, FL	0.04	42	0.15	40	0.17	39	Eugene-Springfield, OR	-1.38	98	-1.51	106	-1.51	107
Fayetteville, NC	0.01	43	-0.05	44	0.13	40	Harrisburg-Carlisle, PA	-1.56	107	-1.57	109	-1.53	108
Worcester, MA	0.17	38	0.14	41	0.12	41	Des Moines, IA	-1.38	99	-1.38	98	-1.54	109
Port St. Lucie-Fort Pierce, FL	-0.18	47	-0.18	47	0.10	42	Montgomery, AL	-1.56	108	-1.53	107	-1.59	110
Portland-Vancouver-Beaverton, OR-WA	0.08	40	0.10	42	0.02	43	Tallahassee, FL	-1.41	102	-1.37	97	-1.63	111
Salem, OR	-0.03	44	-0.14	45	-0.02	44	Pittsburgh, PA	-1.81	121	-1.80	118	-1.63	112
Beaumont-Port Arthur, TX	-0.68	59	-0.49	56	-0.14	45	Shreveport-Bossier City, LA	-1.79	119	-1.67	115	-1.66	113
Durham, NC	0.07	41	-0.05	43	-0.16	46	Spokane, WA	-1.78	118	-1.80	119	-1.68	114
Charlotte-Gastonia-Concord, NC-SC	0.45	35	0.24	37	-0.21	47	Toledo, OH	-1.68	116	-1.83	120	-1.70	115
Jacksonville, FL	-0.53	55	-0.48	54	-0.24	48	Cincinnati-Middletown, OH-KY-IN	-1.56	106	-1.62	112	-1.71	116
Sarasota-Bradenton-Venice, FL	-0.23	49	-0.15	46	-0.29	49	Louisville, KY-IN	-1.66	115	-1.63	113	-1.71	117
Anchorage, AK	-0.46	52	-0.29	48	-0.36	50	Fort Wayne, IN	-1.59	110	-1.65	114	-1.72	118
Providence-New Bedford-Fall River, RI-MA	-0.20	48	-0.36	50	-0.40	51	South Bend-Mishawaka, IN-MI	-1.60	111	-1.68	116	-1.73	119
Rochester, NY	-0.83	63	-0.75	63	-0.42	52	Hickory-Lenoir-Morganton, NC	-1.73	117	-1.76	117	-1.87	120
Baltimore-Towson, MD	-0.31	50	-0.30	49	-0.43	53	Peoria, IL	-2.11	128	-2.17	127	-1.88	121
Salt Lake City, UT	-0.54	56	-0.52	57	-0.55	54	Mobile, AL	-1.79	120	-1.98	122	-1.96	122
Manchester-Nashua, NH	-0.15	46	-0.42	52	-0.55	55	Scranton--Wilkes-Barre, PA	-2.12	129	-2.17	128	-1.97	123
Fayetteville-Springdale-Rogers, AR-MO	-0.48	53	-0.58	58	-0.56	56	Asheville, NC	-1.91	122	-1.85	121	-2.06	124
New Orleans-Metairie-Kenner, LA	-0.69	60	-0.42	51	-0.59	57	Wilmington, NC	-2.05	126	-2.05	124	-2.07	125
Kansas City, MO-KS	-0.50	54	-0.43	53	-0.59	58	Evansville, IN-KY	-2.15	130	-2.26	132	-2.08	126
Albany-Schenectady-Troy, NY	-0.89	66	-0.72	61	-0.63	59	Charleston, WV	-2.00	124	-1.99	123	-2.12	127
Allentown-Bethlehem-Easton, PA-NJ	-0.92	67	-0.80	65	-0.68	60	Flint, MI	-1.93	123	-2.08	126	-2.19	128
Palm Bay-Melbourne-Titusville, FL	-0.57	58	-0.67	60	-0.71	61	Dayton, OH	-2.16	131	-2.22	130	-2.25	129
Ann Arbor, MI	-0.32	51	-0.48	55	-0.72	62	York-Hanover, PA	-2.30	133	-2.26	131	-2.29	130
Tulsa, OK	-0.82	62	-0.78	64	-0.77	63	Akron, OH	-2.02	125	-2.06	125	-2.30	131
Milwaukee-Waukesha-West Allis, WI	-0.83	64	-0.81	66	-0.82	64	Chattanooga, TN-GA	-2.09	127	-2.29	133	-2.32	132
Memphis, TN-MS-AR	-1.00	72	-0.89	68	-0.85	65	Portland-South Portland-Biddeford, ME	-2.17	132	-2.18	129	-2.34	133
Minneapolis-St. Paul-Bloomington, MN-WI	-0.71	61	-0.74	62	-0.85	66	Youngstown-Warren-Boardman, OH-PA	-2.36	134	-2.51	136	-2.43	134
Oklahoma City, OK	-0.99	71	-0.98	72	-0.87	67	Springfield, MO	-2.47	136	-2.44	134	-2.49	135
Richmond, VA	-0.55	57	-0.62	59	-0.88	68	Canton-Massillon, OH	-2.46	135	-2.50	135	-2.55	136

Table C-5. Rank of Metropolitan Areas According to Legacy of Place Factor Score, 2005, 2006, and 2007

Metro Area	2005 Score	2005 Rank	2006 Score	2006 Rank	2007 Score	2007 Rank	Metro Area	2005 Score	2005 Rank	2006 Score	2006 Rank	2007 Score	2007 Rank
Peoria, IL	6.88	1	6.69	1	7.60	1	Winston-Salem, NC	-0.68	72	-0.13	62	-0.45	69
Scranton-Wilkes-Barre, PA	6.29	3	5.96	3	5.99	2	Tulsa, OK	-0.81	77	-0.72	73	-0.46	70
Syracuse, NY	5.07	10	4.81	13	5.74	3	Greensboro-High Point, NC	-0.34	65	-0.20	64	-0.50	71
Davenport-Moline-Rock Island, IA-IL	5.00	11	5.32	7	5.59	4	Savannah, GA	-0.70	73	-0.24	66	-0.60	72
Youngstown-Warren-Boardman, OH-PA	5.30	8	5.86	4	5.47	5	Augusta-Richmond County, GA-SC	-0.52	67	-0.74	74	-0.63	73
York-Hanover, PA	6.69	2	6.15	2	5.39	6	Huntsville, AL	-0.56	69	-0.60	72	-0.65	74
Buffalo-Niagara Falls, NY	4.92	13	5.25	9	5.31	7	Nashville-Davidson-Murfreesboro-Franklin, TN	-0.92	80	-0.40	68	-0.78	75
Albany-Schenectady-Troy, NY	5.73	5	5.54	5	5.26	8	Shreveport-Bossier City, LA	-0.92	79	-0.56	70	-0.85	76
Reading, PA	5.90	4	5.30	8	5.17	9	Denver-Aurora, CO	-1.56	85	-1.29	82	-0.99	77
Pittsburgh, PA	4.95	12	5.14	10	5.15	10	Eugene-Springfield, OR	-1.30	81	-1.34	83	-0.99	78
Hartford-West Hartford-East Hartford, CT	5.28	9	4.75	15	5.13	11	Baton Rouge, LA	-0.90	78	-0.78	76	-0.99	79
Rochester, NY	5.65	6	5.47	6	5.03	12	Portland-Vancouver-Beaverton, OR-WA	-1.32	82	-1.27	81	-1.01	80
Harrisburg-Carlisle, PA	4.68	16	4.82	12	4.91	13	Fayetteville-Springdale-Rogers, AR-MO	-0.77	75	-1.08	78	-1.02	81
Springfield, MA	4.00	20	3.81	23	4.77	14	Greenville-Mauldin-Easley, SC	-1.34	83	-1.21	80	-1.18	82
Lancaster, PA	5.44	7	5.12	11	4.74	15	Oklahoma City, OK	-1.37	84	-1.38	84	-1.51	83
Cleveland-Elyria-Mentor, OH	4.64	17	4.55	17	4.60	16	Durham, NC	-1.86	87	-1.48	85	-1.53	84
Milwaukee-Waukesha-West Allis, WI	4.45	19	4.80	14	4.57	17	Salt Lake City, UT	-2.14	92	-1.70	87	-1.63	85
Evansville, IN-KY	3.75	24	3.98	19	4.40	18	Ogden-Clearfield, UT	-1.79	86	-1.72	88	-1.93	86
Canton-Massillon, OH	4.71	15	4.67	16	4.39	19	Seattle-Tacoma-Bellevue, WA	-2.02	89	-1.97	91	-1.96	87
Toledo, OH	3.93	21	4.33	18	4.13	20	Charleston-North Charleston, SC	-2.00	88	-1.88	89	-2.05	88
Omaha-Council Bluffs, NE-IA	3.91	22	3.74	24	4.04	21	Salinas, CA	-2.20	93	-1.92	90	-2.08	89
Worcester, MA	3.78	23	3.89	21	3.96	22	Salem, OR	-2.28	95	-2.15	92	-2.10	90
Kalamazoo-Portage, MI	4.74	14	3.54	28	3.90	23	Visalia-Porterville, CA	-0.72	74	-1.61	86	-2.20	91
Cincinnati-Middletown, OH-KY-IN	3.54	27	3.95	20	3.88	24	Santa Barbara-Santa Maria-Goleta, CA	-3.06	108	-2.30	94	-2.29	92
Dayton, OH	3.60	25	3.62	27	3.57	25	Fresno, CA	-2.13	91	-2.32	95	-2.29	93
Allentown-Bethlehem-Easton, PA-NJ	4.56	18	3.81	22	3.55	26	Tallahassee, FL	-2.30	97	-2.46	101	-2.30	94
Grand Rapids-Wyoming, MI	3.44	28	3.66	25	3.52	27	Charlotte-Gastonia-Concord, NC-SC	-2.29	96	-2.40	99	-2.35	95
Providence-New Bedford-Fall River, RI-MA	3.15	31	3.14	34	3.35	28	Santa Rosa-Petaluma, CA	-2.75	102	-2.71	103	-2.39	96
St. Louis, MO-IL	3.37	29	3.34	31	3.25	29	Brownsville-Harlingen, TX	-2.75	101	-2.92	106	-2.54	97
Poughkeepsie-Newburgh-Middletown, NY	3.56	26	3.37	30	3.23	30	Honolulu, HI	-2.56	99	-2.49	102	-2.55	98
Akron, OH	3.33	30	3.29	32	3.13	31	Stockton, CA	-2.05	90	-2.37	97	-2.60	99
Rockford, IL	2.97	34	3.62	26	3.11	32	Modesto, CA	-3.10	109	-3.06	108	-2.67	100
Lansing-East Lansing, MI	2.78	36	3.27	33	3.09	33	Virginia Beach-Norfolk-Newport News, VA-NC	-2.54	98	-2.35	96	-2.67	101
Portland-South Portland-Biddeford, ME	3.14	32	3.43	29	3.01	34	Killeen-Temple-Fort Hood, TX	-2.75	100	-2.26	93	-2.72	102
Flint, MI	2.45	37	2.62	37	2.93	35	Corpus Christi, TX	-3.05	107	-3.30	113	-2.86	103
South Bend-Mishawaka, IN-MI	2.92	35	2.75	35	2.88	36	San Antonio, TX	-3.03	106	-2.88	105	-2.91	104
Manchester-Nashua, NH	1.87	42	2.41	39	2.55	37	Wilmington, NC	-2.90	104	-2.42	100	-2.94	105
Madison, WI	2.30	38	2.64	36	2.47	38	Oxnard-Thousand Oaks-Ventura, CA	-3.18	112	-3.08	109	-2.96	106
New Haven-Milford, CT	3.13	33	2.41	40	2.43	39	Pensacola-Ferry Pass-Brent, FL	-2.83	103	-3.36	115	-3.01	107
Bridgeport-Stamford-Norwalk, CT	1.63	45	2.59	38	2.32	40	El Paso, TX	-3.19	113	-3.04	107	-3.02	108
Wichita, KS	1.77	44	2.15	41	2.27	41	Anchorage, AK	-3.17	111	-3.14	110	-3.06	109
Fort Wayne, IN	2.14	39	1.94	44	2.23	42	Boise City-Nampa, ID	-2.25	94	-2.38	98	-3.07	110
Minneapolis-St. Paul-Bloomington, MN-WI	2.01	40	2.04	43	1.97	43	Jacksonville, FL	-3.38	115	-3.71	120	-3.16	111
Birmingham-Hoover, AL	1.88	41	1.72	45	1.70	44	San Jose-Sunnyvale-Santa Clara, CA	-3.63	118	-3.61	117	-3.21	112
Chattanooga, TN-GA	1.53	46	2.06	42	1.62	45	Fayetteville, NC	-2.92	105	-2.79	104	-3.26	113
Trenton-Ewing, NJ	0.75	54	-0.01	60	1.43	46	Provo-Orem, UT	-3.97	125	-3.86	123	-3.46	114
Indianapolis-Carmel, IN	1.22	49	1.34	48	1.42	47	Bakersfield, CA	-3.46	117	-3.50	116	-3.47	115
Des Moines-West Des Moines, IA	1.34	47	1.45	47	1.18	48	Sarasota-Bradenton-Venice, FL	-3.41	116	-3.97	125	-3.50	116
Columbus, OH	1.06	51	1.14	49	1.13	49	Vallejo-Fairfield, CA	-3.24	114	-3.28	112	-3.52	117
Baltimore-Towson, MD	1.29	48	1.00	50	1.08	50	Sacramento-Arden-Arcade-Roseville, CA	-3.16	110	-3.23	111	-3.53	118
Hickory-Lenoir-Morganton, NC	1.08	50	0.71	53	1.07	51	Tampa-St. Petersburg-Clearwater, FL	-4.11	128	-3.84	122	-3.55	119
Louisville-Jefferson County, KY-IN	1.03	52	0.79	51	0.84	52	Raleigh-Cary, NC	-3.75	120	-3.66	118	-3.59	120
Kansas City, MO-KS	1.85	43	1.66	46	0.77	53	Austin-Round Rock, TX	-3.89	124	-3.83	121	-3.59	121
Beaumont-Port Arthur, TX	0.79	53	0.60	54	0.59	54	Colorado Springs, CO	-3.89	122	-4.00	126	-3.63	122
Knoxville, TN	0.08	60	0.75	52	0.54	55	McAllen-Edinburg-Mission, TX	-3.73	119	-3.30	114	-3.67	123
Ann Arbor, MI	0.48	55	-0.04	61	0.29	56	Albuquerque, NM	-4.04	127	-3.96	124	-3.70	124
Richmond, VA	-0.07	61	0.37	55	0.28	57	Palm Bay-Melbourne-Titusville, FL	-3.89	123	-4.40	128	-3.89	125
Montgomery, AL	-0.13	63	0.16	57	0.21	58	San Diego-Carlsbad-San Marcos, CA	-3.99	126	-4.06	127	-4.12	126
Jackson, MS	-0.10	62	0.26	56	0.15	59	New Orleans-Metairie-Kenner, LA	-0.27	64	-0.75	75	-4.19	127
Little Rock-North Little Rock-Conway, AR	0.23	58	0.13	59	0.11	60	Tucson, AZ	-3.84	121	-3.70	119	-4.22	128
Spokane, WA	-0.66	71	-0.56	71	-0.04	61	Deltona-Daytona Beach-Ormond Beach, FL	-4.30	129	-4.44	129	-4.50	129
Charleston, WV	0.19	59	0.15	58	-0.05	62	Orlando-Kissimmee, FL	-4.70	132	-4.88	131	-4.72	130
Columbia, SC	-0.64	70	-1.12	79	-0.16	63	Port St. Lucie, FL	-5.35	134	-5.32	133	-4.80	131
Springfield, MO	0.26	57	-0.22	65	-0.16	64	Reno-Sparks, NV	-4.62	131	-4.83	130	-5.00	132
Lexington-Fayette, KY	-0.40	66	-0.36	67	-0.23	65	Lakeland, FL	-4.55	130	-4.92	132	-5.09	133
Mobile, AL	-0.55	68	-0.40	69	-0.29	66	Cape Coral-Fort Myers, FL	-5.23	133	-5.53	134	-5.36	134
Asheville, NC	-0.79	76	-0.79	77	-0.41	67	Naples-Marco Island, FL	-6.00	135	-5.99	135	-5.87	135
Memphis, TN-MS-AR	0.39	56	-0.20	63	-0.43	68	Las Vegas-Paradise, NV	-7.21	136	-7.14	136	-6.71	136

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Table C-6. Rank of Metropolitan Areas According to Business Dynamics Factor Score, 2005, 2006, and 2007

Metro Area	2005 Score	2005 Rank	2006 Score	2006 Rank	2007 Score	2007 Rank	Metro Area	2005 Score	2005 Rank	2006 Score	2006 Rank	2007 Score	2007 Rank
Boise City-Nampa, ID	0.85	9	0.90	10	2.13	1	Lancaster, PA	-0.15	81	-0.11	79	-0.08	69
Provo-Orem, UT	0.77	10	0.58	19	1.62	2	Madison, WI	-0.07	70	0.10	47	-0.09	70
Cape Coral-Fort Myers, FL	0.46	25	0.94	9	1.20	3	Springfield, MO	0.23	44	0.32	28	-0.09	71
Raleigh-Cary, NC	0.17	50	0.43	23	1.05	4	McAllen-Edinburg-Mission, TX	0.88	8	0.48	21	-0.10	72
Port St. Lucie, FL	0.59	15	1.49	2	0.94	5	Montgomery, AL	-0.26	92	-0.15	86	-0.10	73
Las Vegas-Paradise, NV	1.29	3	0.82	12	0.92	6	Tulsa, OK	-0.34	98	-0.15	85	-0.11	74
Lakeland, FL	0.88	7	1.41	5	0.90	7	Fayetteville-Springdale-Rogers, AR-MO	1.62	2	1.22	7	-0.11	75
Orlando-Kissimmee, FL	0.96	6	1.49	3	0.80	8	Providence-New Bedford-Fall River, RI-MA	0.34	39	-0.45	109	-0.12	76
Jacksonville, FL	0.35	36	1.01	8	0.76	9	Knoxville, TN	-0.09	72	-0.14	84	-0.13	77
Wilmington, NC	0.46	24	0.34	27	0.76	10	Salem, OR	0.41	30	0.09	48	-0.13	78
Salt Lake City, UT	0.45	26	0.28	34	0.74	11	Trenton-Ewing, NJ	-0.36	102	0.15	43	-0.14	79
Ogden-Clearfield, UT	1.14	4	0.70	16	0.67	12	Worcester, MA	0.53	18	0.03	57	-0.16	80
Reno-Sparks, NV	-0.06	69	0.20	41	0.60	13	Louisville-Jefferson County, KY-IN	-0.35	99	-0.27	96	-0.17	81
Portland-Vancouver-Beaverton, OR-WA	0.16	53	0.05	53	0.59	14	Portland-South Portland-Biddeford, ME	0.34	37	0.05	54	-0.18	82
Naples-Marco Island, FL	0.57	16	0.60	18	0.59	15	Bridgeport-Stamford-Norwalk, CT	-0.77	125	-0.40	105	-0.18	83
Austin-Round Rock, TX	0.35	35	0.28	33	0.59	16	El Paso, TX	-0.57	113	-0.08	72	-0.18	84
Tucson, AZ	0.06	58	-0.13	82	0.56	17	York-Hanover, PA	-0.68	122	-0.06	69	-0.19	85
Charleston-North Charleston, SC	0.42	28	0.44	22	0.56	18	Springfield, MA	2.37	1	-1.63	136	-0.19	86
Colorado Springs, CO	0.06	57	0.13	44	0.54	19	Santa Rosa-Petaluma, CA	-0.50	110	-0.58	123	-0.20	87
Deltona-Daytona Beach-Ormond Beach, FL	0.42	29	1.56	1	0.51	20	Birmingham-Hoover, AL	-0.12	79	-0.10	77	-0.20	88
Bakersfield, CA	-0.21	90	-0.23	91	0.50	21	Jackson, MS	0.36	32	0.38	25	-0.21	89
Albuquerque, NM	0.03	61	0.02	59	0.50	22	Peoria, IL	-0.45	105	-0.02	63	-0.21	90
Palm Bay-Melbourne-Titusville, FL	0.42	27	1.29	6	0.49	23	Memphis, TN-MS-AR	-0.24	91	-0.04	66	-0.22	91
Charlotte-Gastonia-Concord, NC-SC	-0.17	84	0.28	32	0.47	24	Anchorage, AK	0.51	21	0.29	29	-0.22	92
Sarasota-Bradenton-Venice, FL	0.56	17	1.43	4	0.46	25	Kalamazoo-Portage, MI	-0.86	134	-0.88	134	-0.23	93
Spokane, WA	0.36	33	0.06	50	0.44	26	Shreveport-Bossier City, LA	0.05	60	-0.34	101	-0.24	94
San Diego-Carlsbad-San Marcos, CA	0.23	45	0.05	55	0.43	27	Rockford, IL	-0.65	120	-0.46	112	-0.26	95
Savannah, GA	-0.36	101	0.01	60	0.40	28	Allentown-Bethlehem-Easton, PA-NJ	-0.33	96	-0.43	108	-0.26	96
Killeen-Temple-Fort Hood, TX	0.50	22	-0.40	106	0.38	29	Cincinnati-Middletown, OH-KY-IN	-0.47	106	-0.46	110	-0.28	97
Fresno, CA	-0.17	83	-0.52	118	0.38	30	Salinas, CA	-0.64	119	-0.48	114	-0.29	98
Oxnard-Thousand Oaks-Ventura, CA	0.48	23	-0.01	62	0.37	31	Syracuse, NY	0.01	65	-0.23	90	-0.29	99
Richmond, VA	0.21	47	0.54	20	0.36	32	Harrisburg-Carlisle, PA	-0.32	95	0.64	17	-0.29	100
Asheville, NC	0.24	43	0.28	35	0.36	33	Manchester-Nashua, NH	-0.42	104	-0.04	65	-0.30	101
Modesto, CA	0.31	41	-0.35	102	0.35	34	Chattanooga, TN-GA	-0.50	107	-0.08	71	-0.31	102
Seattle-Tacoma-Bellevue, WA	-0.03	67	0.10	46	0.35	35	Columbus, OH	-0.10	74	-0.10	78	-0.31	103
Tampa-St. Petersburg-Clearwater, FL	0.62	13	0.86	11	0.33	36	Greensboro-High Point, NC	-0.35	100	-0.09	75	-0.35	104
Nashville-Davidson-Murfreesboro-Franklin, TN	-0.11	77	0.23	37	0.31	37	Reading, PA	-0.33	97	-0.04	67	-0.37	105
Visalia-Porterville, CA	-0.28	94	-1.05	135	0.31	38	Mobile, AL	-0.79	130	-0.46	111	-0.38	106
Baton Rouge, LA	-0.05	68	-0.51	116	0.31	39	Corpus Christi, TX	-0.01	66	-0.49	115	-0.40	107
Sacramento-Arden-Arcade-Roseville, CA	0.21	48	-0.27	95	0.31	40	Vallejo-Fairfield, CA	0.29	42	-0.21	88	-0.40	108
Virginia Beach-Norfolk-Newport News, VA-NC	0.59	14	0.73	14	0.30	41	Wichita, KS	-0.20	89	-0.21	89	-0.40	109
Tallahassee, FL	1.03	5	0.78	13	0.27	42	Dayton, OH	-0.60	116	-0.82	132	-0.41	110
Santa Barbara-Santa Maria-Goleta, CA	-0.40	103	-0.59	124	0.27	43	Rochester, NY	-0.12	78	0.05	52	-0.42	111
Albany-Schenectady-Troy, NY	0.17	51	0.29	31	0.24	44	Davenport-Moline-Rock Island, IA-IL	-0.78	129	-0.25	92	-0.42	112
Columbia, SC	0.14	54	-0.06	68	0.23	45	Kansas City, MO-KS	0.07	56	0.20	40	-0.47	113
Durham, NC	-0.19	88	-0.18	87	0.21	46	Grand Rapids-Wyoming, MI	-0.15	82	-0.14	83	-0.47	114
Stockton, CA	0.52	20	-0.82	131	0.19	47	Brownsville-Harlingen, TX	0.22	46	-0.77	127	-0.48	115
Baltimore-Towson, MD	0.33	40	0.27	36	0.18	48	South Bend-Mishawaka, IN-MI	-0.68	121	-0.85	133	-0.50	116
Honolulu, HI	0.76	11	-0.03	64	0.16	49	St. Louis, MO-IL	-0.14	80	0.19	42	-0.50	117
Huntsville, AL	0.40	31	0.02	58	0.15	50	Evansville, IN-KY	-0.80	131	-0.27	94	-0.52	118
Pensacola-Ferry Pass-Brent, FL	0.66	12	0.72	15	0.15	51	Ann Arbor, MI	-0.10	73	-0.57	121	-0.52	119
San Jose-Sunnyvale-Santa Clara, CA	-0.77	126	-0.56	119	0.13	52	Buffalo-Niagara Falls, NY	-0.19	86	-0.56	120	-0.55	120
Fort Wayne, IN	-0.19	85	-0.39	104	0.10	53	Canton-Massillon, OH	-0.51	112	-0.78	128	-0.55	121
Eugene-Springfield, OR	0.11	55	-0.28	97	0.09	54	Milwaukee-Waukesha-West Allis, WI	-0.72	124	-0.25	93	-0.56	122
Fayetteville, NC	-0.50	108	0.23	38	0.08	55	Hartford-West Hartford-East Hartford, CT	-0.96	135	-0.12	80	-0.58	123
Omaha-Council Bluffs, NE-IA	-0.11	75	-0.10	76	0.08	56	Cleveland-Elyria-Mentor, OH	-0.78	127	-0.57	122	-0.59	124
Minneapolis-St. Paul-Bloomington, MN-WI	0.36	34	0.23	39	0.08	57	Hickory-Lenoir-Morganton, NC	-0.82	133	-0.52	117	-0.66	125
Little Rock-North Little Rock-Conway, AR	0.05	59	0.01	61	0.07	58	Scranton-Wilkes-Barre, PA	-0.58	115	-0.32	98	-0.68	126
Lexington-Fayette, KY	0.03	62	0.40	24	0.07	59	New Haven-Milford, CT	-0.99	136	-0.38	103	-0.68	127
San Antonio, TX	0.01	64	-0.08	70	0.06	60	Pittsburgh, PA	-0.78	128	-0.33	100	-0.71	128
Augusta-Richmond County, GA-SC	0.17	52	-0.09	73	0.03	61	Lansing-East Lansing, MI	-0.60	117	-0.48	113	-0.71	129
Greenville-Mauldin-Easley, SC	0.03	63	0.06	49	0.02	62	Akron, OH	-0.26	93	-0.79	129	-0.78	130
Denver-Aurora, CO	-0.09	71	-0.09	74	-0.02	63	Flint, MI	-0.82	132	-0.32	99	-0.83	131
Indianapolis-Carmel, IN	-0.11	76	0.06	51	-0.02	64	Beaumont-Port Arthur, TX	-0.50	109	-0.81	130	-0.86	132
Winston-Salem, NC	-0.50	111	0.03	56	-0.04	65	Toledo, OH	-0.58	114	-0.63	126	-0.87	133
Oklahoma City, OK	0.18	49	0.29	30	-0.06	66	Charleston, WV	-0.60	118	-0.63	125	-0.87	134
Des Moines-West Des Moines, IA	0.52	19	0.12	45	-0.06	67	Youngstown-Warren-Boardman, OH-PA	-0.71	123	-0.41	107	-0.94	135
Poughkeepsie-Newburgh-Middletown, NY	0.34	38	0.37	26	-0.07	68	New Orleans-Metairie-Kenner, LA	-0.19	87	-0.13	81	-2.50	136

Table C-7. Rank of Metropolitan Areas According to Individual Entrepreneurship Factor Score, 2005, 2006, and 2007

Metro Area	2005 Score	Rank	2006 Score	Rank	2007 Score	Rank
Naples-Marco Island, FL	2.16	3	3.60	1	4.60	1
Santa Rosa-Petaluma, CA	1.75	6	3.14	4	2.88	2
Sarasota-Bradenton-Venice, FL	2.57	2	3.41	2	2.73	3
Port St. Lucie, FL	1.96	4	1.81	12	2.50	4
Portland-South Portland-Biddeford, ME	1.47	7	1.90	10	2.44	5
Boise City-Nampa, ID	1.20	11	1.82	11	2.28	6
Deltona-Daytona Beach-Ormond Beach, FL	1.76	5	1.36	15	2.23	7
Bridgeport-Stamford-Norwalk, CT	1.46	8	1.93	9	2.08	8
Wilmington, NC	1.25	10	3.19	3	2.04	9
Asheville, NC	1.13	12	2.52	6	2.03	10
Eugene-Springfield, OR	1.08	13	1.23	18	2.02	11
Oxnard-Thousand Oaks-Ventura, CA	0.57	27	2.22	7	1.90	12
Cape Coral-Fort Myers, FL	1.29	9	2.78	5	1.86	13
Colorado Springs, CO	0.74	23	1.06	23	1.48	14
Palm Bay-Melbourne-Titusville, FL	0.84	17	2.16	8	1.46	15
Santa Barbara-Santa Maria-Goleta, CA	0.84	18	1.20	19	1.37	16
Tampa-St. Petersburg-Clearwater, FL	0.79	21	1.32	16	1.37	17
Salinas, CA	0.93	15	1.55	14	1.30	18
San Diego-Carlsbad-San Marcos, CA	0.54	28	1.26	17	1.29	19
New Orleans-Metairie-Kenner, LA	-0.22	66	0.30	38	1.27	20
Portland-Vancouver-Beaverton, OR-WA	0.64	25	1.19	20	1.24	21
Denver-Aurora, CO	0.67	24	1.04	24	1.07	22
Pensacola-Ferry Pass-Brent, FL	0.83	19	1.17	21	1.02	23
Poughkeepsie-Newburgh-Middletown, NY	0.85	16	1.11	22	0.96	24
Brownsville-Harlingen, TX	7.69	1	0.36	36	0.94	25
McAllen-Edinburg-Mission, TX	0.52	29	1.65	13	0.93	26
Oklahoma City, OK	0.44	31	0.77	27	0.89	27
Provo-Orem, UT	0.78	22	0.86	25	0.87	28
Anchorage, AK	0.97	14	0.62	31	0.79	29
Orlando-Kissimmee, FL	0.44	32	0.83	26	0.72	30
Salem, OR	0.82	20	0.63	29	0.68	31
Seattle-Tacoma-Bellevue, WA	0.38	33	0.69	28	0.64	32
Charleston-North Charleston, SC	0.13	43	-0.02	52	0.50	33
Austin-Round Rock, TX	0.17	42	0.33	37	0.47	34
Springfield, MO	0.28	38	0.58	33	0.47	35
Tulsa, OK	0.38	34	0.63	30	0.33	36
Ogden-Clearfield, UT	0.60	26	0.48	35	0.28	37
Little Rock-North Little Rock-Conway, AR	-0.22	64	-0.08	55	0.28	38
Jacksonville, FL	0.35	35	0.02	48	0.26	39
Nashville-Davidson-Murfreesboro-Franklin, TN	-0.29	73	-0.11	57	0.21	40
Lakeland, FL	0.47	30	0.27	39	0.15	41
Sacramento-Arden-Arcade-Roseville, CA	-0.06	51	0.48	34	0.15	42
Winston-Salem, NC	-0.24	67	-0.43	78	0.13	43
Raleigh-Cary, NC	-0.15	60	0.01	49	0.12	44
Tucson, AZ	-0.06	50	0.19	44	0.06	45
Lancaster, PA	-0.38	86	-0.22	65	0.04	46
Albuquerque, NM	-0.13	58	-0.16	62	0.04	47
Jackson, MS	-0.25	68	-0.28	70	0.03	48
Greenville-Mauldin-Easley, SC	-0.12	57	-0.07	54	0.03	49
Providence-New Bedford-Fall River, RI-MA	0.04	46	-0.02	51	0.02	50
Reno-Sparks, NV	0.27	39	-0.62	99	-0.08	51
Salt Lake City, UT	-0.17	62	-0.05	53	-0.10	52
Manchester-Nashua, NH	-0.40	87	-0.24	66	-0.10	53
Modesto, CA	-0.53	102	-0.10	56	-0.10	54
Chattanooga, TN-GA	-0.30	76	0.11	45	-0.11	55
San Jose-Sunnyvale-Santa Clara, CA	-0.15	59	-0.16	56	-0.13	56
Fayetteville-Springdale-Rogers, AR-MO	0.30	37	0.22	42	-0.14	57
El Paso, TX	-0.10	52	-0.15	60	-0.14	58
Savannah, GA	-0.26	69	0.22	41	-0.14	59
Springfield, MA	-0.02	47	-0.27	69	-0.15	60
Honolulu, HI	-0.03	48	-0.15	61	-0.16	61
Columbia, SC	-0.49	97	-0.54	90	-0.17	62
Stockton, CA	-0.65	114	-0.61	97	-0.17	63
Spokane, WA	0.31	36	0.26	40	-0.17	64
Durham, NC	-0.22	63	-0.32	71	-0.20	65
Lexington-Fayette, KY	-0.33	79	-0.33	73	-0.21	66
Corpus Christi, TX	0.22	41	0.59	32	-0.25	67
San Antonio, TX	-0.06	49	-0.27	68	-0.26	68
Worcester, MA	-0.11	54	0.11	46	-0.26	69
Minneapolis-St. Paul-Bloomington, MN-WI	-0.42	91	-0.36	74	-0.28	70
Tallahassee, FL	0.11	44	0.20	43	-0.29	71
Allentown-Bethlehem-Easton, PA-NJ	-0.11	53	-0.45	79	-0.31	72
Canton-Massillon, OH	-0.34	81	-0.48	82	-0.32	73
Hickory-Lenoir-Morganton, NC	-0.61	109	-0.88	115	-0.32	74
Syracuse, NY	-0.51	99	-1.07	122	-0.34	75
Birmingham-Hoover, AL	-0.55	105	0.01	50	-0.35	76
Omaha-Council Bluffs, NE-IA	-0.47	96	-0.54	89	-0.37	77
Charleston, WV	-0.12	56	-0.52	87	-0.38	78
New Haven-Milford, CT	-0.27	71	-0.58	92	-0.39	79
Killeen-Temple-Fort Hood, TX	0.22	40	-0.59	94	-0.40	80
Kansas City, MO-KS	-0.30	77	-0.38	75	-0.41	81
Baltimore-Towson, MD	-0.30	75	-0.58	93	-0.42	82
Montgomery, AL	-0.37	84	-1.02	120	-0.45	83
Albany-Schenectady-Troy, NY	-0.55	104	-0.52	85	-0.45	84
Knoxville, TN	-0.61	110	-0.82	112	-0.46	85
Hartford-West Hartford-East Hartford, CT	-0.22	65	-0.46	80	-0.46	86
Visalia-Porterville, CA	0.05	45	-0.16	63	-0.47	87
Charlotte-Gastonia-Concord, NC-SC	-0.55	106	-0.56	91	-0.50	88
Baton Rouge, LA	-0.87	124	-0.73	104	-0.51	89
Reading, PA	-0.95	130	-0.53	88	-0.51	90
Cleveland-Elyria-Mentor, OH	-0.44	94	-0.60	95	-0.52	91
Fresno, CA	-0.16	61	-0.67	103	-0.56	92
Greensboro-High Point, NC	-0.76	119	-0.63	101	-0.62	93
Richmond, VA	-0.42	89	-0.80	109	-0.63	94
Youngstown-Warren-Boardman, OH-PA	-0.29	74	-0.32	72	-0.63	95
Kalamazoo-Portage, MI	-0.84	123	-0.26	67	-0.63	96
Bakersfield, CA	-0.37	85	-0.47	81	-0.66	97
Ann Arbor, MI	-0.44	93	-0.48	84	-0.66	98
Shreveport-Bossier City, LA	-0.42	90	-0.81	111	-0.67	99
Louisville-Jefferson County, KY-IN	-0.53	100	-0.78	107	-0.67	100
Scranton-Wilkes-Barre, PA	-0.51	98	-0.15	59	-0.68	101
Rochester, NY	-0.45	95	-0.63	100	-0.69	102
Vallejo-Fairfield, CA	-0.11	55	-0.15	58	-0.70	103
Akron, OH	-0.53	101	-0.87	114	-0.72	104
Pittsburgh, PA	-0.33	80	-0.66	102	-0.77	105
St. Louis, MO-IL	-0.57	107	-0.87	113	-0.77	106
Davenport-Moline-Rock Island, IA-IL	-0.59	108	-0.78	108	-0.77	107
Virginia Beach-Norfolk-Newport News, VA-NC	-0.70	117	-1.04	121	-0.79	108
Flint, MI	-0.36	83	0.05	47	-0.80	109
Wichita, KS	-0.32	78	-0.61	96	-0.81	110
Fayetteville, NC	-0.34	82	-0.94	116	-0.82	111
Augusta-Richmond County, GA-SC	-0.26	70	-0.41	76	-0.84	112
Lansing-East Lansing, MI	-0.65	113	-0.76	105	-0.85	113
Huntsville, AL	-0.69	116	-0.48	83	-0.86	114
Rockford, IL	-0.62	111	-1.29	128	-0.87	115
Trenton-Ewing, NJ	-0.44	92	-0.42	77	-0.87	116
Indianapolis-Carmel, IN	-0.71	118	-0.81	110	-0.91	117
Grand Rapids-Wyoming, MI	-0.93	129	-0.76	106	-0.93	118
Des Moines-West Des Moines, IA	-0.78	121	-0.62	98	-0.96	119
Las Vegas-Paradise, NV	-0.68	115	-1.11	123	-0.99	120
Fort Wayne, IN	-0.93	128	-1.01	119	-1.04	121
Columbus, OH	-0.92	127	-1.16	125	-1.04	122
Madison, WI	-0.77	120	-1.00	118	-1.07	123
Beaumont-Port Arthur, TX	-0.28	72	-1.16	124	-1.16	124
Peoria, IL	-0.54	103	-1.40	131	-1.16	125
York-Hanover, PA	-1.09	133	-1.46	134	-1.24	126
Cincinnati-Middletown, OH-KY-IN	-0.89	126	-1.37	130	-1.26	127
Mobile, AL	-0.41	88	-1.20	126	-1.30	128
Toledo, OH	-0.95	131	-1.45	133	-1.42	129
Harrisburg-Carlisle, PA	-0.88	125	-1.43	132	-1.43	130
Buffalo-Niagara Falls, NY	-0.80	122	-1.29	127	-1.45	131
South Bend-Mishawaka, IN-MI	-1.00	132	-1.15	124	-1.46	132
Dayton, OH	-1.29	136	-1.55	136	-1.49	133
Milwaukee-Waukesha-West Allis, WI	-1.18	134	-1.48	135	-1.53	134
Evansville, IN-KY	-0.65	112	-0.98	117	-1.60	135
Memphis, TN-MS-AR	-1.39	136	-1.34	129	-1.68	136

Table C-8. Rank of Metropolitan Areas According to Locational Amenities Factor Score, 2005, 2006, and 2007

Metro Area	2005 Score	2005 Rank	2006 Score	2006 Rank	2007 Score	2007 Rank
Cleveland-Elyria-Mentor, OH	2.28	16	2.88	1	2.88	1
Seattle-Tacoma-Bellevue, WA	3.65	1	2.84	2	2.84	2
Minneapolis-St. Paul-Bloomington, MN-WI	3.16	5	2.79	3	2.79	3
Madison, WI	2.75	8	2.75	4	2.75	4
Baltimore-Towson, MD	2.23	17	2.74	5	2.74	5
St. Louis, MO-IL	2.42	15	2.69	6	2.69	6
Pittsburgh, PA	3.36	3	2.62	7	2.62	7
Denver-Aurora, CO	3.44	2	2.61	8	2.61	8
Portland-Vancouver-Beaverton, OR-WA	3.25	4	2.60	9	2.60	9
Milwaukee-Waukesha-West Allis, WI	2.68	10	2.54	10	2.54	10
New Orleans-Metairie-Kenner, LA	0.43	54	2.52	11	2.52	11
Rochester, NY	1.73	25	2.46	12	2.46	12
Knoxville, TN	0.40	57	2.34	13	2.34	13
Cincinnati-Middletown, OH-KY-IN	1.52	28	2.34	14	2.34	14
Indianapolis-Carmel, IN	0.51	52	2.30	15	2.30	15
Buffalo-Niagara Falls, NY	2.73	9	2.28	16	2.28	16
Salt Lake City, UT	-3.40	132	2.19	17	2.19	17
Orlando-Kissimmee, FL	0.85	41	2.16	18	2.16	18
Charleston-North Charleston, SC	-0.72	91	2.13	19	2.13	19
Virginia Beach-Norfolk-Newport News, VA-NC	-0.02	72	2.11	20	2.11	20
Omaha-Council Bluffs, NE-IA	1.79	23	2.09	21	2.09	21
San Diego-Carlsbad-San Marcos, CA	1.79	24	2.04	22	2.04	22
Louisville-Jefferson County, KY-IN	0.37	58	2.00	23	2.00	23
Durham, NC	-1.70	115	1.99	24	1.99	24
Richmond, VA	1.15	35	1.95	25	1.95	25
Nashville-Davidson-Murfreesboro-Franklin, TN	0.49	53	1.92	26	1.92	26
Kansas City, MO-KS	2.03	18	1.88	27	1.88	27
Columbus, OH	0.58	48	1.81	28	1.81	28
Reno-Sparks, NV	1.22	33	1.76	29	1.76	29
Albany-Schenectady-Troy, NY	1.95	19	1.76	30	1.76	30
Providence-New Bedford-Fall River, RI-MA	1.42	31	1.68	31	1.68	31
Memphis, TN-MS-AR	0.05	70	1.55	32	1.55	32
Charlotte-Gastonia-Concord, NC-SC	0.26	65	1.54	33	1.54	33
Jacksonville, FL	-2.81	127	1.50	34	1.50	34
Tampa-St. Petersburg-Clearwater, FL	1.32	32	1.47	35	1.47	35
Little Rock-North Little Rock-Conway, AR	-0.72	92	1.46	36	1.46	36
Hartford-West Hartford-East Hartford, CT	2.60	11	1.36	37	1.36	37
San Jose-Sunnyvale-Santa Clara, CA	0.42	55	1.32	38	1.32	38
Savannah, GA	-0.88	95	1.26	39	1.26	39
Portland-South Portland-Biddeford, ME	0.87	40	1.24	40	1.24	40
Asheville, NC	-0.27	80	1.22	41	1.22	41
San Antonio, TX	2.86	6	1.20	42	1.20	42
Albuquerque, NM	0.99	37	1.13	43	1.13	43
Anchorage, AK	1.65	26	1.12	44	1.12	44
Syracuse, NY	1.87	21	1.10	45	1.10	45
Spokane, WA	0.10	68	1.08	46	1.08	46
Tulsa, OK	-0.15	75	1.05	47	1.05	47
Toledo, OH	0.99	38	1.03	48	1.03	48
Birmingham-Hoover, AL	-1.36	106	1.03	49	1.03	49
Evansville, IN-KY	-0.76	93	0.99	50	0.99	50
Oklahoma City, OK	-1.35	104	0.95	51	0.95	51
Austin-Round Rock, TX	0.05	71	0.94	52	0.94	52
Sarasota-Bradenton-Venice, FL	-0.79	94	0.94	53	0.94	53
Sacramento-Arden-Arcade-Roseville, CA	-0.44	84	0.90	54	0.90	54
Grand Rapids-Wyoming, MI	0.54	51	0.86	55	0.86	55
Kalamazoo-Portage, MI	0.95	39	0.83	56	0.83	56
Ann Arbor, MI	2.85	7	0.80	57	0.80	57
Raleigh-Cary, NC	0.33	60	0.80	58	0.80	58
Las Vegas-Paradise, NV	1.43	30	0.79	59	0.79	59
Tallahassee, FL	-0.52	85	0.78	60	0.78	60
Chattanooga, TN-GA	-1.33	103	0.74	61	0.74	61
Columbia, SC	-0.59	88	0.74	62	0.74	62
Boise City-Nampa, ID	0.80	42	0.63	63	0.63	63
Dayton, OH	2.47	14	0.57	64	0.57	64
Honolulu, HI	2.50	13	0.53	65	0.53	65
Akron, OH	0.58	49	0.46	66	0.46	66
Lexington-Fayette, KY	0.28	63	0.45	67	0.45	67
Eugene-Springfield, OR	1.84	22	0.40	68	0.40	68

Metro Area	2005 Score	2005 Rank	2006 Score	2006 Rank	2007 Score	2007 Rank
New Haven-Milford, CT	1.50	29	0.39	69	0.39	69
Des Moines-West Des Moines, IA	1.20	34	0.35	70	0.35	70
Springfield, MO	0.55	50	0.32	71	0.32	71
South Bend-Mishawaka, IN-MI	0.13	66	0.25	72	0.25	72
Harrisburg-Carlisle, PA	0.62	46	0.21	73	0.21	73
Santa Barbara-Santa Maria-Goleta, CA	1.05	36	0.20	74	0.20	74
Corpus Christi, TX	0.12	67	0.16	75	0.16	75
Greenville-Mauldin-Easley, SC	-1.26	101	0.08	76	0.08	76
Jackson, MS	-1.50	112	0.04	77	0.04	77
Huntsville, AL	-1.92	119	-0.04	78	-0.04	78
Poughkeepsie-Newburgh-Middletown, NY	-3.12	129	-0.08	79	-0.08	79
Colorado Springs, CO	0.27	64	-0.12	80	-0.12	80
Allentown-Bethlehem-Easton, PA-NJ	0.36	59	-0.15	81	-0.15	81
Cape Coral-Fort Myers, FL	-1.41	107	-0.20	82	-0.20	82
Fort Wayne, IN	-0.16	76	-0.25	83	-0.25	83
Peoria, IL	0.68	45	-0.25	84	-0.25	84
Greensboro-High Point, NC	-0.25	79	-0.29	85	-0.29	85
Scranton-Wilkes-Barre, PA	-0.16	77	-0.30	86	-0.30	86
Wilmington, NC	-0.91	96	-0.36	87	-0.36	87
Deltona-Daytona Beach-Ormond Beach, FL	-1.45	109	-0.36	88	-0.36	88
Bridgeport-Stamford-Norwalk, CT	0.42	56	-0.55	89	-0.55	89
Pensacola-Ferry Pass-Brent, FL	-1.16	97	-0.58	90	-0.58	90
Davenport-Moline-Rock Island, IA-IL	-0.40	82	-0.63	91	-0.63	91
Tucson, AZ	0.77	43	-0.89	92	-0.89	92
Springfield, MA	1.91	20	-0.89	93	-0.89	93
Fayetteville-Springdale-Rogers, AR-MO	-0.42	83	-0.96	94	-0.96	94
Shreveport-Bossier City, LA	-1.46	110	-0.96	95	-0.96	95
Wichita, KS	0.58	47	-0.98	96	-0.98	96
Baton Rouge, LA	-1.72	116	-0.99	97	-0.99	97
Manchester-Nashua, NH	-1.36	105	-0.99	98	-0.99	98
Salinas, CA	-1.31	102	-1.02	99	-1.02	99
Mobile, AL	-2.13	122	-1.04	100	-1.04	100
Augusta-Richmond County, GA-SC	-2.81	126	-1.15	101	-1.15	101
Lansing-East Lansing, MI	1.64	27	-1.21	102	-1.21	102
Winston-Salem, NC	-3.55	135	-1.34	103	-1.34	103
Palm Bay-Melbourne-Titusville, FL	-3.27	130	-1.45	104	-1.45	104
Brownsville-Harlingen, TX	-2.62	125	-1.53	105	-1.53	105
Fresno, CA	-0.32	81	-1.60	106	-1.60	106
Hickory-Lenoir-Morganton, NC	-1.89	118	-1.77	107	-1.77	107
Naples-Marco Island, FL	-1.53	113	-1.78	108	-1.78	108
Rockford, IL	-1.21	99	-1.82	109	-1.82	109
Charleston, WV	-0.05	73	-1.84	110	-1.84	110
Worcester, MA	-0.24	78	-1.89	111	-1.89	111
Canton-Massillon, OH	0.28	62	-1.92	112	-1.92	112
Youngstown-Warren-Boardman, OH-PA	-0.14	74	-1.92	113	-1.92	113
Trenton-Ewing, NJ	2.52	12	-1.94	114	-1.94	114
Santa Rosa-Petaluma, CA	0.32	61	-1.97	115	-1.97	115
Ogden-Clearfield, UT	-3.55	136	-2.01	116	-2.01	116
El Paso, TX	-0.61	89	-2.11	117	-2.11	117
Flint, MI	0.05	69	-2.55	118	-2.55	118
Lakeland, FL	-1.87	117	-2.65	119	-2.65	119
Provo-Orem, UT	0.76	44	-2.67	120	-2.67	120
Beaumont-Port Arthur, TX	-1.26	100	-2.86	121	-2.86	121
Oxnard-Thousand Oaks-Ventura, CA	-1.69	114	-2.88	122	-2.88	122
Lancaster, PA	-1.49	111	-2.91	123	-2.91	123
Montgomery, AL	-1.43	108	-2.92	124	-2.92	124
Reading, PA	-0.56	87	-3.48	125	-3.48	125
McAllen-Edinburg-Mission, TX	-3.54	134	-3.72	126	-3.72	126
Bakersfield, CA	-3.02	128	-3.72	127	-3.72	127
Visalia-Porterville, CA	-2.37	123	-3.78	128	-3.78	128
York-Hanover, PA	-2.59	124	-3.83	129	-3.83	129
Fayetteville, NC	-3.35	131	-3.97	130	-3.97	130
Salem, OR	-0.63	90	-4.00	131	-4.00	131
Port St. Lucie, FL	-1.20	98	-4.04	132	-4.04	132
Killeen-Temple-Fort Hood, TX	-1.95	120	-4.12	133	-4.12	133
Stockton, CA	-1.98	121	-4.31	134	-4.31	134
Vallejo-Fairfield, CA	-0.52	86	-4.48	135	-4.48	135
Modesto, CA	-3.41	133	-4.56	136	-4.56	136

Table C-9. Rank of Metropolitan Areas According to Urban/Metro Structure Factor Score, 2005, 2006, and 2007

Metro Area	2005 Score	Rank	2006 Score	Rank	2007 Score	Rank
Poughkeepsie-Newburgh-Middletown, NY	2.20	1	2.14	1	2.05	1
Naples-Marco Island, FL	1.82	2	1.99	2	1.98	2
Harrisburg-Carlisle, PA	1.75	3	1.76	3	1.81	3
Lancaster, PA	1.66	4	1.61	5	1.65	4
Bridgeport-Stamford-Norwalk, CT	1.53	9	1.58	7	1.65	5
Pittsburgh, PA	1.59	8	1.58	6	1.63	6
York-Hanover, PA	1.62	6	1.65	4	1.60	7
Albany-Schenectady-Troy, NY	1.53	10	1.43	12	1.52	8
Providence-New Bedford-Fall River, RI-MA	1.45	11	1.49	10	1.51	9
Scranton-Wilkes-Barre, PA	1.65	5	1.52	8	1.49	10
Allentown-Bethlehem-Easton, PA-NJ	1.41	13	1.45	11	1.43	11
Portland-South Portland-Biddeford, ME	1.60	7	1.39	13	1.40	12
Worcester, MA	1.41	12	1.50	9	1.37	13
Trenton-Ewing, NJ	1.04	27	1.24	16	1.30	14
Oxnard-Thousand Oaks-Ventura, CA	1.26	14	1.38	14	1.30	15
Hartford-West Hartford-East Hartford, CT	1.17	17	1.21	18	1.28	16
Youngstown-Warren-Boardman, OH-PA	1.19	16	1.22	17	1.26	17
Reading, PA	1.04	26	1.09	22	1.25	18
Santa Barbara-Santa Maria-Goleta, CA	1.10	22	1.28	15	1.24	19
Manchester-Nashua, NH	1.12	20	1.16	20	1.17	20
Syracuse, NY	1.08	24	1.16	21	1.15	21
Richmond, VA	0.80	36	1.07	24	1.07	22
Ogden-Clearfield, UT	0.99	28	1.07	23	1.05	23
Fayetteville-Springdale-Rogers, AR-MO	1.15	19	0.91	29	1.03	24
Rochester, NY	0.82	35	0.92	28	1.01	25
Provo-Orem, UT	0.50	51	1.02	25	0.96	26
New Haven-Milford, CT	0.94	29	0.90	30	0.95	27
Santa Rosa-Petaluma, CA	0.56	46	0.90	31	0.94	28
Asheville, NC	0.83	34	0.87	32	0.93	29
Minneapolis-St. Paul-Bloomington, MN-WI	1.10	21	0.93	26	0.90	30
Cleveland-Elyria-Mentor, OH	1.08	23	0.85	33	0.89	31
Pensacola-Ferry Pass-Brent, FL	1.24	15	0.92	27	0.87	32
Cincinnati-Middletown, OH-KY-IN	0.84	32	0.73	40	0.87	33
St. Louis, MO-IL	0.93	30	0.78	38	0.85	34
Lansing-East Lansing, MI	0.73	38	0.82	35	0.84	35
Hickory-Lenoir-Morganton, NC	1.15	18	1.16	19	0.82	36
Springfield, MA	0.64	41	0.79	36	0.79	37
Charleston, WV	0.58	44	0.59	45	0.69	38
Greenville-Mauldin-Easley, SC	0.87	31	0.79	37	0.69	39
Buffalo-Niagara Falls, NY	0.84	33	0.83	34	0.68	40
Dayton, OH	0.55	47	0.55	47	0.67	41
Canton-Massillon, OH	0.63	42	0.64	42	0.65	42
Palm Bay-Melbourne-Titusville, FL	1.08	25	0.78	39	0.61	43
Columbia, SC	0.36	57	0.55	48	0.60	44
Denver-Aurora, CO	0.15	69	0.36	57	0.59	45
Sarasota-Bradenton-Venice, FL	0.75	37	0.72	41	0.58	46
Sacramento-Arden-Arcade-Roseville, CA	0.15	70	0.31	60	0.58	47
Deltona-Daytona Beach-Ormond Beach, FL	0.62	43	0.55	46	0.55	48
Boise City-Nampa, ID	0.30	62	0.42	55	0.55	49
Tampa-St. Petersburg-Clearwater, FL	0.46	53	0.52	50	0.54	50
Grand Rapids-Wyoming, MI	0.65	39	0.60	44	0.53	51
Evansville, IN-KY	0.54	48	0.44	54	0.51	52
Ann Arbor, MI	0.57	45	0.50	51	0.46	53
Lakeland, FL	0.52	49	0.53	49	0.45	54
Raleigh-Cary, NC	0.40	56	0.34	58	0.43	55
Baltimore-Towson, MD	0.47	52	0.47	53	0.41	56
Orlando-Kissimmee, FL	0.65	40	0.50	52	0.40	57
Virginia Beach-Norfolk-Newport News, VA-NC	0.34	59	0.41	56	0.33	58
Portland-Vancouver-Beaverton, OR-WA	-0.21	78	0.31	59	0.31	59
Akron, OH	0.19	66	0.24	65	0.31	60
Kalamazoo-Portage, MI	0.46	54	0.22	67	0.28	61
Charleston-North Charleston, SC	0.34	60	0.26	64	0.27	62
Kansas City, MO-KS	0.52	50	0.14	72	0.17	63
Vallejo-Fairfield, CA	0.16	68	0.19	69	0.17	64
Killeen-Temple-Fort Hood, TX	0.34	58	0.31	61	0.15	65
Flint, MI	0.20	64	0.02	74	0.14	66
Cape Coral-Fort Myers, FL	0.43	55	0.30	62	0.12	67
Seattle-Tacoma-Bellevue, WA	-0.02	72	-0.15	78	0.10	68

Metro Area	2005 Score	Rank	2006 Score	Rank	2007 Score	Rank
Visalia-Porterville, CA	-0.36	87	-0.36	84	0.07	69
Port St. Lucie, FL	0.30	63	0.16	70	0.07	70
Madison, WI	0.32	61	0.21	68	0.06	71
McAllen-Edinburg-Mission, TX	-0.31	83	0.08	73	0.04	72
Knoxville, TN	0.19	65	0.29	63	0.03	73
Birmingham-Hoover, AL	0.18	67	0.14	71	0.02	74
Des Moines-West Des Moines, IA	-0.23	79	-0.38	85	-0.04	75
Salinas, CA	-0.05	73	0.23	66	-0.06	76
San Diego-Carlsbad-San Marcos, CA	-0.10	76	-0.11	77	-0.12	77
Salt Lake City, UT	-0.25	81	-0.04	75	-0.12	78
Beaumont-Port Arthur, TX	-0.25	80	-0.11	76	-0.16	79
San Jose-Sunnyvale-Santa Clara, CA	-0.08	74	-0.20	79	-0.16	80
New Orleans-Metairie-Kenner, LA	-0.36	86	0.63	43	-0.18	81
Jackson, MS	-0.09	75	-0.25	81	-0.22	82
Las Vegas-Paradise, NV	-0.32	84	-0.44	88	-0.25	83
Nashville-Davidson-Murfreesboro-Franklin, TN	-0.36	85	-0.32	82	-0.32	84
South Bend-Mishawaka, IN-MI	-0.15	77	-0.41	86	-0.32	85
Salem, OR	-0.84	105	-0.42	87	-0.33	86
Baton Rouge, LA	-0.48	94	-0.62	97	-0.38	87
Wilmington, NC	-0.47	92	-0.45	89	-0.40	88
Savannah, GA	-0.86	106	-0.57	94	-0.41	89
Milwaukee-Waukesha-West Allis, WI	0.03	71	-0.33	83	-0.46	90
Chattanooga, TN-GA	-0.47	93	-0.24	80	-0.46	91
Tulsa, OK	-0.70	99	-0.48	90	-0.57	92
Davenport-Moline-Rock Island, IA-IL	-0.59	97	-0.60	96	-0.57	93
Honolulu, HI	-0.87	107	-0.60	95	-0.58	94
Louisville-Jefferson County, KY-IN	-0.29	82	-0.53	91	-0.60	95
Bakersfield, CA	-0.55	96	-0.67	100	-0.62	96
Spokane, WA	-1.71	130	-0.72	101	-0.69	97
Greensboro-High Point, NC	-0.37	88	-0.57	93	-0.69	98
Omaha-Council Bluffs, NE-IA	-0.82	104	-0.80	103	-0.69	99
Tallahassee, FL	-0.46	91	-0.56	92	-0.77	100
Eugene-Springfield, OR	-0.97	111	-0.79	105	-0.79	101
Huntsville, AL	-0.55	95	-1.00	112	-0.79	102
Springfield, MO	-0.43	90	-0.64	99	-0.80	103
Augusta-Richmond County, GA-SC	-0.40	89	-0.63	98	-0.81	104
Reno-Sparks, NV	-0.90	108	-0.96	110	-0.82	105
Fort Wayne, IN	-0.66	98	-0.94	108	-0.86	106
Austin-Round Rock, TX	-0.80	103	-0.76	102	-0.92	107
Indianapolis-Carmel, IN	-0.71	100	-0.88	104	-0.93	108
Durham, NC	-0.93	109	-0.92	106	-0.95	109
Oklahoma City, OK	-1.48	121	-1.09	114	-0.98	110
Columbus, OH	-1.05	114	-0.95	109	-0.99	111
Winston-Salem, NC	-0.73	101	-0.94	107	-1.02	112
Lexington-Fayette, KY	-0.98	112	-1.14	117	-1.02	113
Toledo, OH	-0.97	110	-1.23	118	-1.02	114
Little Rock-North Little Rock-Conway, AR	-0.77	102	-0.97	111	-1.03	115
Modesto, CA	-1.46	120	-1.03	113	-1.04	116
Peoria, IL	-1.00	113	-1.11	115	-1.07	117
Fresno, CA	-1.45	119	-1.29	120	-1.08	118
Colorado Springs, CO	-1.52	122	-1.40	122	-1.10	119
Stockton, CA	-1.35	118	-1.38	121	-1.32	120
Charlotte-Gastonia-Concord, NC-SC	-1.10	115	-1.24	119	-1.34	121
Shreveport-Bossier City, LA	-1.59	124	-1.61	126	-1.37	122
Mobile, AL	-1.63	126	-1.44	123	-1.38	123
Brownsville-Harlingen, TX	-1.33	117	-1.12	116	-1.43	124
Montgomery, AL	-1.70	129	-1.53	124	-1.71	125
El Paso, TX	-1.68	128	-1.67	127	-1.73	126
Albuquerque, NM	-1.67	127	-1.79	129	-1.75	127
Wichita, KS	-1.61	125	-1.56	125	-1.77	128
Jacksonville, FL	-1.52	123	-1.70	128	-1.88	129
Memphis, TN-MS-AR	-1.85	132	-2.08	131	-1.97	130
Fayetteville, NC	-1.14	116	-1.97	130	-2.02	131
Rockford, IL	-2.03	133	-2.16	133	-2.03	132
Anchorage, AK	-1.78	131	-2.21	134	-2.06	133
San Antonio, TX	-2.13	134	-2.14	132	-2.32	134
Tucson, AZ	-2.53	135	-2.54	135	-2.44	135
Corpus Christi, TX	-2.67	136	-2.72	136	-2.86	136

APPENDIX D: INDICATORS AND THEIR UNDERLYING VARIABLES FOR NEO MSAS AND NEO AVERAGE

Table D-1. NEO Metropolitan Areas Ranked by Each Variable

Table D-1. NEO Metropolitan Areas Ranked by Each Variable

Factors and Variables	Akron MSA 2000 Value	Rank	2005 Value	Rank	2006 Value	Rank	2007 Value	Rank	Canton-Massillon MSA 2000 Value	Rank	2005 Value	Rank	2006 Value	Rank	2007 Value	Rank	Cleveland-Elyria-Mentor MSA 2000 Value	Rank	2005 Value	Rank	2006 Value	Rank	2007 Value	Rank	Youngstown-Warren-Boardman 2000 Value	Rank	2005 Value	Rank	2006 Value	Rank	2007 Value	Rank	NEO Average 2000	2005	2006	2007
Skilled Workforce & R&D		**74**		**58**		**68**		**58**		**119**		**117**		**123**		**113**		**66**		**64**		**65**		**61**		**128**		**129**		**127**		**124**				
pct. of population in professional occupation	32.0	81	34.1	59	33.0	71	34.9	57	28.1	122	28.7	114	28.7	118	30.0	114	33.5	58	33.9	64	33.8	64	35.2	52	26.1	133	26.5	130	27.5	123	27.1	127	31.6	32.3	32.2	33.4
pct. of population with graduate or professional degree	8.1	73	9.7	61	9.2	68	10.2	57	5.9	121	6.1	124	6.0	124	7.4	110	8.7	61	10.0	52	10.0	55	10.4	51	5.3	127	5.6	128	5.6	128	6.2	125	7.7	8.9	8.7	9.4
pct. of population with bachelor's degree	16.2	56	18.4	48	18.2	50	17.8	57	11.5	119	12.6	122	12.1	123	14.0	112	15.2	75	16.6	80	15.7	90	16.3	88	11.0	84	11.7	129	11.9	128	12.8	120	14.3	15.7	15.2	15.8
industry R&D	417.3	66	353.5	74	429.3	73	1767.1	50	394.6	69	476.5	64	250.7	100	253.6	121	719.7	47	759.7	50	791.2	53	1441.7	56	57.4	132	50.6	132	50.5	133	103.3	131	397.2	410.1	380.4	891.4
SBIR & STTR awards	5.78	44	6.54	62	4.71	35	5.08	33	0.00	103	0.00	114	0.00	83	0.00	85	9.30	33	26.63	23	15.20	8	11.40	12	0.00	136	0.00	136	0.00	136	0.00	136	6.51	16.75	5.65	7.62
population dependency	0.38	71	0.37	54	0.37	59	0.37	53	0.40	110	0.38	96	0.39	111	0.38	109	0.40	109	0.38	99	0.39	113	0.38	106	0.41	119	0.39	111	0.39	114	0.39	117	0.40	0.38	0.38	0.38
university R&D	109.0	49	140.8	51	134.5	65	139.5	64	0.0	98	0.0	94	0.0	118	0.0	117	193.1	34	235.8	37	307.2	50	352.8	45	2.6	84	4.5	79	6.3	104	4.6	109	76.2	95.3	112.0	124.2
Technology Commercialization		**36**		**60**		**58**		**53**		**91**		**97**		**83**		**76**		**35**		**57**		**98**		**68**		**125**		**134**		**133**		**135**				
venture capital	270.2	60	0.0	95	60.5	42	44.5	59	0.0	114	8.3	83	0.0	97	0.0	103	840.4	29	239.9	36	16.4	69	163.0	31	39.5	96	5.0	87	26.3	61	1.4	94	550.4	141.5	24.3	104.0
number of patents	1.424	18	1.437	20	1.460	22	1.239	24	0.902	33	1.095	27	1.327	25	1.251	22	0.845	38	0.803	42	0.716	49	0.686	44	0.392	88	0.307	96	0.310	93	0.265	100	0.889	0.881	0.857	0.787
cost of living	96.2	66	89.0	100	86.7	118	88.2	111	91.6	117	84.7	126	84.4	127	85.3	127	97.9	49	89.7	95	88.0	110	89.1	108	90.0	126	83.8	132	82.6	132	83.1	132	93.9	86.8	85.4	86.4
Racial Inclusion & Income Equality		**69**		**76**		**79**		**74**		**40**		**37**		**41**		**41**		**119**		**119**		**121**		**121**		**81**		**83**		**84**		**80**				
pct. of black population	10.9	86	11.5	88	11.7	86	12.0	88	6.7	58	6.4	56	6.9	55	6.6	53	19.1	107	19.4	111	19.5	107	19.6	109	10.6	84	10.5	81	10.7	82	11.0	82	15.0	15.2	15.4	15.5
isolation index for black population	0.61	106	0.47	112	0.45	113	0.43	110	0.42	79	0.28	82	0.31	86	0.29	82	0.79	131	0.68	136	0.67	136	0.67	136	0.65	114	0.53	123	0.51	121	0.48	118	0.62	0.49	0.49	0.47
income inequality	5.8	62	5.8	56	5.8	57	5.8	57	5.1	21	5.1	21	5.1	18	5.1	20	6.3	88	6.3	85	6.4	91	6.4	91	5.5	48	5.5	43	5.5	43	5.5	44	5.7	5.7	5.7	5.7
students at schools with 70%+ free lunches	0.121	81	0.062	78	0.069	75	0.050	58	0.084	64	0.046	60	0.054	61	0.056	67	0.259	121	0.136	119	0.133	115	0.136	121	0.153	98	0.091	99	0.096	97	0.082	94	0.199	0.105	0.106	0.102
violent crime	191.7	4	274.7	18	284.9	16	313.1	24	403.3	45	386.9	49	401.3	50	388.5	47	436.7	54	401.9	54	459.7	70	436.5	63	348.4	33	323.4	30	335.4	29	324.7	29	345.0	346.7	370.3	365.7
Urban Assimilation		**126**		**125**		**125**		**131**		**136**		**135**		**135**		**136**		**77**		**87**		**89**		**93**		**133**		**134**		**136**		**134**				
pct. of hispanic population	0.8	134	1.0	133	1.0	133	1.1	133	0.9	131	0.9	134	1.0	134	1.1	135	3.4	85	3.8	94	3.8	94	4.0	94	1.7	117	1.9	122	1.9	124	1.9	125	2.4	2.7	2.7	2.9
share of minority business employment (in total emp)	0.010	118	0.010	118	0.010	118	0.010	118	0.009	122	0.009	122	0.009	122	0.009	122	0.017	75	0.017	75	0.017	75	0.017	75	0.012	107	0.012	107	0.012	107	0.012	107	0.014	0.014	0.014	0.014
pct. of foreign born population	3.0	113	3.2	117	3.7	112	3.5	116	1.7	131	1.9	132	2.2	131	1.9	132	5.3	71	5.6	83	5.7	86	5.6	86	2.0	129	1.7	134	1.8	132	2.5	129	4.0	4.1	4.4	4.3
productivity in information sector	88.4	93	130.9	94	128.9	104	124.4	124	70.2	129	110.1	124	108.5	129	124.3	125	99.0	61	147.4	60	150.9	62	167.9	72	69.5	132	106.4	129	97.4	133	115.2	130	97.5	147.3	138.2	151.6
pct. of asian population	1.3	92	1.6	89	1.8	86	1.8	82	0.5	134	0.6	133	0.8	130	0.8	131	1.4	82	1.8	76	1.8	83	1.8	80	0.4	136	0.5	136	0.5	136	0.6	135	1.1	1.4	1.5	1.5
Legacy of Place		**30**		**30**		**32**		**31**		**17**		**15**		**16**		**19**		**16**		**17**		**17**		**16**		**6**		**8**		**4**		**5**				
business churning	0.171	112	0.169	114	0.167	114	0.174	118	0.157	133	0.157	130	0.161	124	0.169	127	0.171	114	0.171	110	0.171	106	0.184	97	0.161	128	0.158	128	0.153	135	0.167	130	0.16798	0.167	0.167	0.178
climate	19	114	19	114	19	114	19	114	14	122	14	122	14	122	14	122	15	119	15	119	15	119	15	119	8	128	8	128	8	128	8	128	14	14	14	14
pct. of houses built before 1940	20.7	108	21.2	110	21.5	110	19.4	104	24.1	120	24.0	117	25.6	120	22.8	116	24.3	121	25.9	120	26.2	121	25.7	121	23.6	117	22.4	111	24.5	118	22.7	115	23.5	24.3	25.0	26.6
dissimilarity index for black population	0.70	110	0.66	115	0.65	113	0.63	109	0.61	93	0.60	101	0.63	107	0.60	101	0.80	135	0.78	132	0.77	133	0.77	132	0.77	130	0.73	126	0.72	130	0.71	127	0.721	0.695	0.693	0.678
city poverty ratio	1.79	97	1.78	98	1.69	94	1.77	97	2.05	109	2.27	115	1.97	107	2.01	107	2.44	124	2.34	119	2.14	119	2.33	122	2.16	111	2.03	107	2.15	120	2.20	118	2.21	2.17	2.00	2.05
no. of government units per 10,000 pop	1.266	63	1.266	63	1.255	66	1.201	59	1.843	94	1.843	94	1.829	96	1.791	91	0.968	44	0.968	44	0.984	53	1.016	49	2.504	125	2.504	113	2.573	117	2.628	118	1.355	1.355	1.369	1.378
share of manufacturing employment	0.19	115	0.14	113	0.14	111	0.14	112	0.24	130	0.17	126	0.17	127	0.17	128	0.17	107	0.14	108	0.14	110	0.13	110	0.20	124	0.16	124	0.16	123	0.15	118	0.18	0.15	0.14	0.14
Business Dynamics		**89**		**93**		**129**		**130**		**81**		**112**		**128**		**121**		**100**		**127**		**122**		**124**		**104**		**123**		**107**		**135**				
birth over death ratio	1.01	89	1.10	93	0.97	129	0.90	130	1.03	81	1.05	112	0.97	128	0.97	121	0.99	100	0.99	127	1.03	122	0.96	124	0.98	104	1.00	123	1.08	107	0.85	135	0.995	1.014	1.001	0.990
Individual Entrepreneurship		**104**		**101**		**114**		**104**		**100**		**81**		**82**		**73**		**102**		**94**		**95**		**91**		**87**		**74**		**72**		**95**				
self employed (all industries except ag & mining)	0.083	84	0.094	93	0.087	106	0.090	104	0.082	89	0.095	90	0.093	81	0.096	67	0.082	90	0.089	110	0.088	105	0.089	92	0.080	99	0.088	113	0.091	91	0.084	113	0.082	0.090	0.089	0.092
share of business establishments with under 20 workers	0.837	106	0.840	99	0.839	106	0.836	105	0.840	94	0.846	76	0.845	88	0.843	80	0.839	98	0.846	75	0.848	74	0.845	75	0.849	70	0.853	51	0.853	54	0.848	61	0.840	0.846	0.847	0.843
Locational Amenities		**71**		**49**		**66**		**66**		**110**		**62**		**112**		**112**		**3**		**16**		**1**		**1**		**114**		**74**		**113**		**113**				
transportation index (Almanac)	69.7	76	38.0	71	71.0	68	71.0	68	65.4	83	54.0	47	70.0	71	70.0	71	96.3	10	73.0	25	97.0	6	97.0	6	49.0	109	24.0	98	30.0	115	30.0	115	70.1	n/c	67.0	67.0
arts index (Almanac)	81.6	37	76.0	45	69.0	72	69.0	72	8.8	132	36.0	107	46.0	111	46.0	111	97.2	6	94.0	10	87.0	35	87.0	35	21.8	124	65.0	70	63.0	90	63	90	52.3	n/c	66.3	66.3
recreation index (Almanac)	77.3	54	76.0	34	97.0	9	97.0	9	68.0	77	70.0	46	12.0	131	12.0	131	99.7	2	92.0	8	96.0	11	96.0	11	73.7	64	63.0	61	53.0	92	53.0	92	79.7	n/c	64.5	64.5
health index (Almanac)	24.1	117	33.0	78	27.0	112	27.0	112	34.3	103	53.0	47	44.0	93	44.0	93	84.7	29	23.0	102	86.0	21	86.0	21	20.4	122	48.0	57	29.0	111	29.0	111	40.9	n/c	46.5	46.5
Urban/ Metro Structure		**38**		**66**		**65**		**60**		**32**		**42**		**42**		**42**		**35**		**23**		**33**		**31**		**18**		**16**		**17**		**17**				
share of city population in MSA population	0.31	75	0.29	71	0.28	69	0.28	70	0.20	38	0.18	38	0.19	37	0.19	40	0.22	42	0.20	42	0.19	39	0.19	38	0.14	17	0.12	14	0.12	14	0.11	12	0.22	0.20	0.20	0.19
property crime	2795.4	16	3772.9	61	3562.4	55	3357.4	50	3423.7	37	3764.9	60	3554.8	54	3394.7	53	3423.2	36	2759.1	21	3130.8	37	3003.4	37	3319.2	32	3185.0	34	3007.3	34	2871.8	30	3240.4	3370.5	3313.8	3156.8

* n/c means the data from 2005 source are not comparable to data from 2000 and 2006.

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