

Ohio

Department of
Job and Family Services

TO STRENGTHEN OHIO'S FAMILIES WITH SOLUTIONS TO TEMPORARY CHALLENGES

2008 CHANGING
COURSE

Ohio Economic Analysis



2008 Ohio Economic Analysis

Changing Course

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Preface

Last year, the Ohio Department of Job and Family Services (ODJFS), Bureau of Labor Market Information (BLMI) published its annual report, *Ohio Economic Analysis, 2007: Understanding the Environment and Charting a Course for the Future*. This publication gave a review of several economic indicators and predictions, such as changes in productivity, industrial makeup, poverty and economic well being, and educational attainment, setting the economic context from which to gauge future progress. The report also summarized several key workforce development programs from Governor Strickland's *Turnaround Ohio* initiatives, such as improving coordination between business leaders and educational institutions or responding more proactively to potential plant closures. The goal of this report is to review economic changes since this prior report and continuing developments in our workforce development strategies.

The past year has seen some dramatic changes in the state and national economies: the collapse of subprime mortgage securities, leading to a broader economic downturn; the price of crude oil reaching \$135 per barrel, causing higher prices at the gas pump and grocery store; the declining value of the dollar against other major international currencies; and, most recently, the delivery of over \$107 billion in federal tax rebates as part of an economic stimulus package. For Ohio, whose recovery from the 2001 economic recession was only a weak one, these gathering storm clouds only further emphasize the importance of the Turnaround Ohio initiatives and to continue the strategy for rebuilding Ohio's economy.

The first section of this report provides a general overview of the state of Ohio's labor economy, including gross domestic product, population, and employment. The second section takes a closer look at the mix of industries in Ohio and what the future might hold for the state's employment profile. The third section examines alternative measures of economic well-being, such as per capita income, poverty rates, and educational attainment. The fourth and final section reviews the progress we have made in our economic and workforce development programs to meet the new challenges that have emerged.

Through careful examination of the economic statistics in this publication, we hope that individuals, businesses, economic development corporations, labor and governmental organizations, educational institutions, and all others interested in the economy and quality of life in Ohio will be able to draw a clearer picture of where we are to help inform policy on where we should be going.

Keith Ewald, Ph.D., Chief
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Office of Workforce Development
Ohio Department of Job and Family Services

Executive Summary

- Ohio's 2007 gross domestic product is estimated at \$466.3 billion (not adjusted for inflation), making it the seventh-largest state economy.
- Manufacturing accounted for 20.6 percent of total output in 2007, making it the single largest sector. Manufacturing GDP has held relatively steady in the last ten years.
- Ohio's population was estimated at 11.46 million residents in 2007, though the state's rate of growth has declined greatly in the last 17 years.
- Approximately six million men and women comprise Ohio's labor force—a participation rate of 67.2 percent. Participation rates among women and the elderly are projected to climb through 2016.
- Total nonfarm payroll employment in 2007 was about 5.42 million, a combined loss of 200,000 jobs (-3.6%) since 2000.
- Nearly 300,000 people migrated out of Ohio between 2000 and 2007.
- Unemployment in 2007 was 5.6 percent, having 0.2 percentage points higher than in 2006 and a full percentage point higher than the national rate. Unemployment rates were highest in the more rural areas of the state.
- The largest employment sectors in Ohio in 2007 were manufacturing (14.2%); health care and social assistance (12.7%); retail trade (11.1%); and local government (10.2%). Manufacturing has sustained heavy job losses in the last seven years while health care employment has climbed steadily.
- Much of the decline in manufacturing employment may be attributed to increases in labor productivity. As productivity increases, firms need fewer workers to produce the same output.
- Compared with other states in this region, Ohio is one of only three that did not fully recover jobs lost after the 2001 recession. Ohio also had the second-highest manufacturing job losses, behind Michigan.
- Nationally, almost all employment growth projected through 2016 will continue to be in service-providing industries.
- Nominal per capita income in 2007 was \$34,874, having risen at a 3.5 percent annual compound rate since 1997. Per capita income was highest in the Cleveland, Cincinnati, and Columbus metropolitan areas.
- In 2006, 13.3 percent of Ohioans were living below the poverty line.
- Because of continued high unemployment, 43 counties and 14 cities have been designated as Priority Investment Areas by the Ohio Department of Development.
- Just less than one half of adults 25 and older have had at least some college education. The Central Ohio Economic Development Region awarded the greatest number of postsecondary degrees in the 2005-06 school year.
- The State of Ohio will be using several initiatives to improve the economic outlook, including OhioMeansJobs.com, the Ohio Skills Bank, Stackable Certificates, and registered apprenticeship.

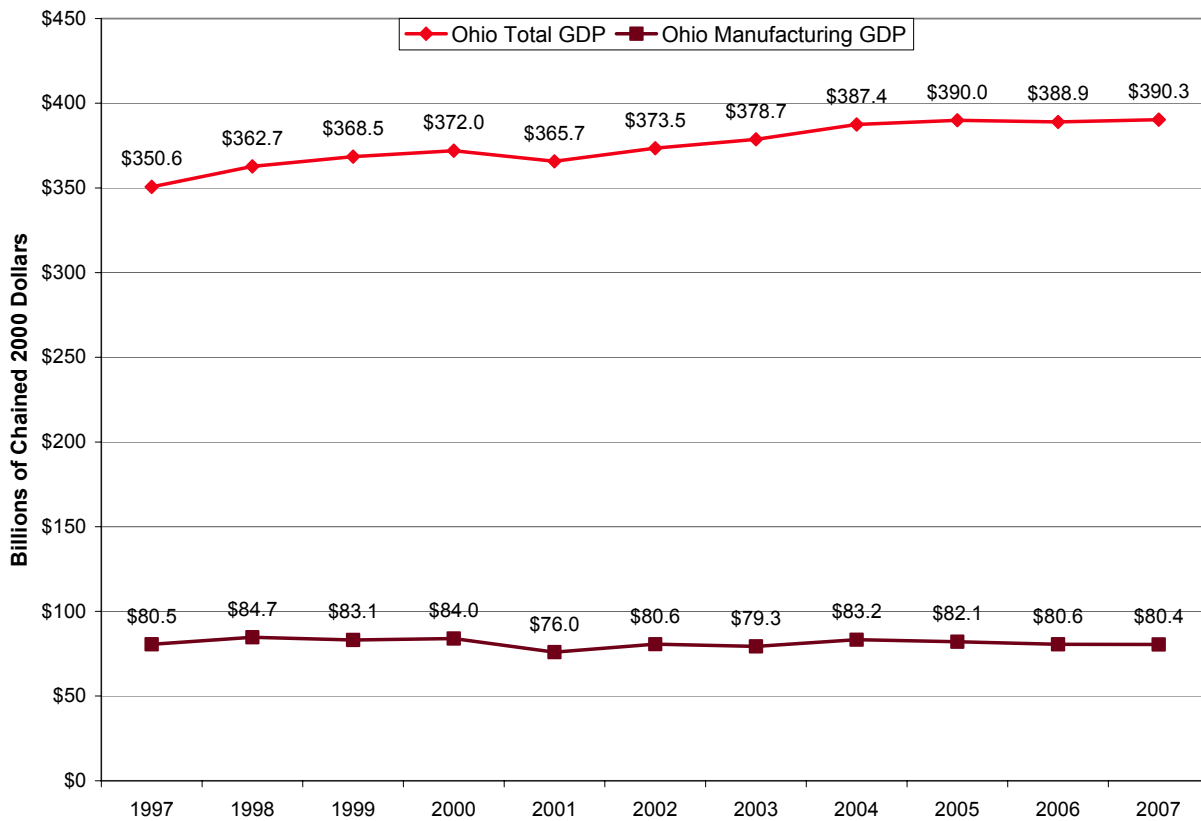
I. Economic Overview

Gross Domestic Product

The State of Ohio is one of the larger economies in the United States, with a state gross domestic product (GDP) estimated at \$466.3 billion in nominal dollars, making it the seventh-largest state economy.¹ If Ohio were a separate country, it would have the 25th largest economy in the world, behind the Netherlands and Poland.² Ohio's economic standing is in jeopardy, however. Real state GDP, which is adjusted for inflation, is growing much more slowly than real national GDP—11.3 percent since 1997 compared with 33.0 percent nationally. Ohio only ranked 48th in percent increase in real percent GDP growth during this period. In real dollars, Ohio dropped from seventh to eighth this past year, surpassed by New Jersey, and it could be overtaken by Georgia, the ninth-largest state, soon.

Per capita, Ohio's real GDP in 2007 was \$34,040, well below the national average of \$38,020 and ranking 33rd among the states. Ohio's per capita real GDP ranking has declined since 1997, when the state ranked 23rd.

Figure 1: Ohio Gross Domestic Product, 1997-2007



¹ U.S. Bureau of Economic Analysis [BEA], 2008a.

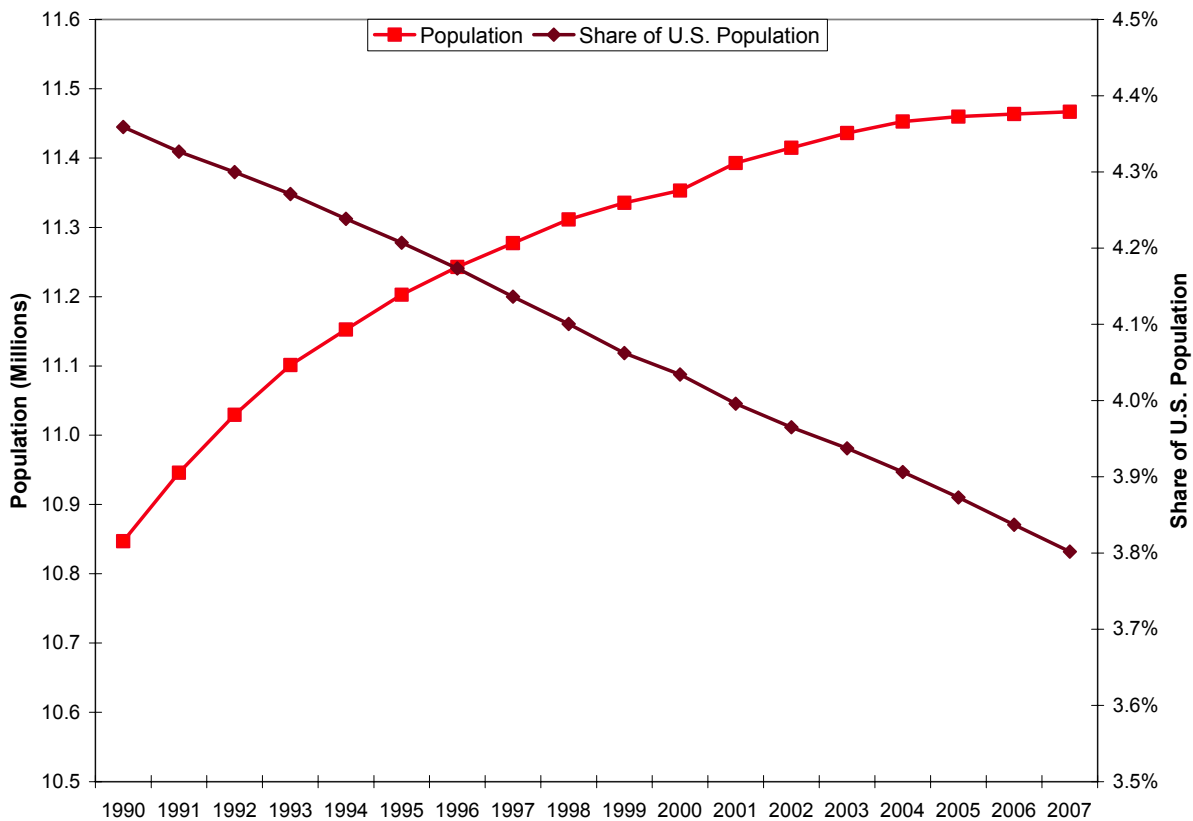
² Ohio Department of Development [ODOD], 2008a.

Figure 1 shows state GDP in 2000 dollars over the last economic cycle. Manufacturing, Ohio's single largest sector, is shown alongside total GDP and accounted for approximately one-fifth of total output. In terms of output in 2007, Ohio's manufacturing sector is the third-largest among the states, but has shown almost no growth in the last ten years. Ohio real manufacturing output fell 0.1 percent from 1997 to 2007, compared with 30.4 percent growth nationally, and 88.7 percent and 76.4 percent growth in California and Texas, the two largest manufacturing output states, respectively. All three states have seen a decline in manufacturing employment levels since 2001.

Population

Ohio is the seventh-largest state with a total population of approximately 11.46 million residents in 2007. Figure 2 shows how Ohio's population has increased since 1990. The rate of population growth has slowed significantly in recent years and will continue to grow at a slower pace than the rest of the country. Ohio's share of the U.S. population has steadily declined during this period, partially due to faster growth in southern and western states.

Figure 2: Population Growth in Ohio



One of the biggest demographic trends to affect the state of Ohio and the entire country in recent years has been the aging of the baby boom generation—the cohort of approximately 75 million Americans born between 1946 and 1964. In 1996, only 21.8 percent of the state was 55 or older. By 2006, this proportion has grown to 24.3 percent. By 2016, over 3.3 million Ohioans

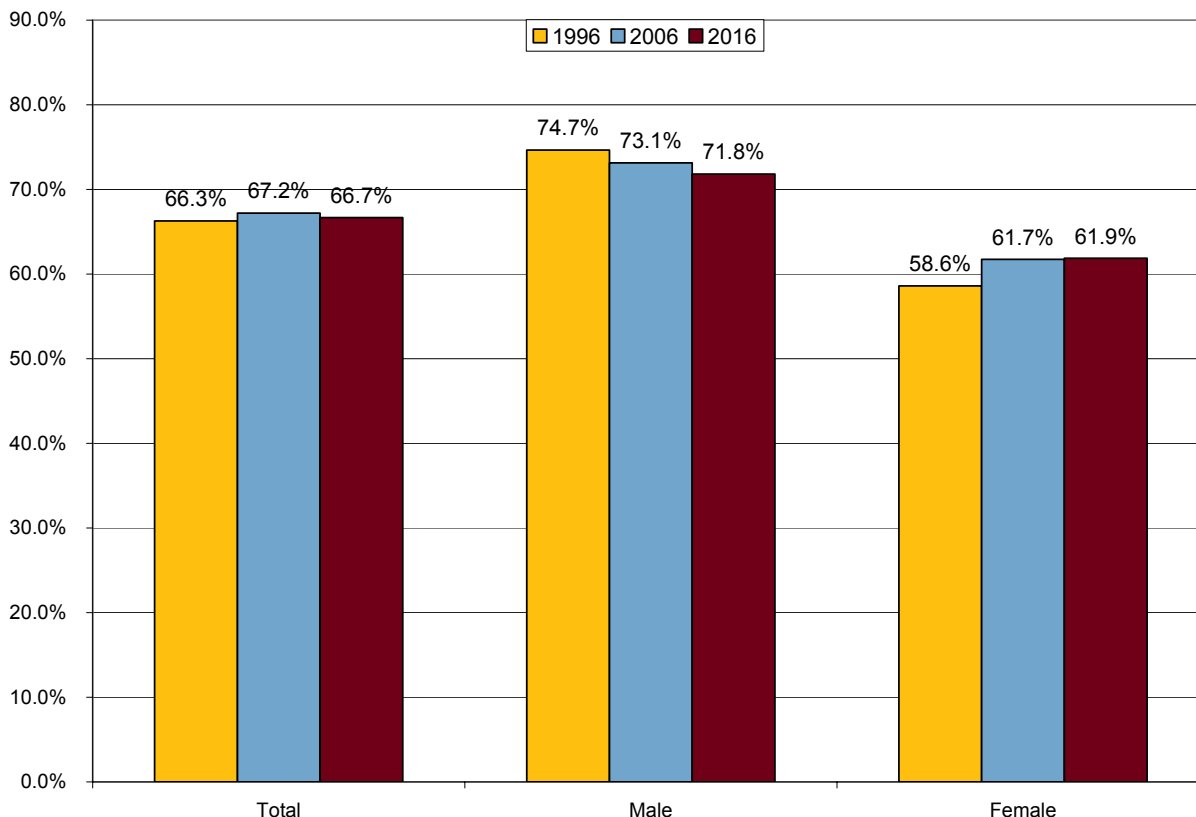
will be 55 or older (28.6%), an increase of more than 540,000, according to Census Bureau projections.³

Labor Force Participation

The labor force participation rate is defined as the proportion of persons sixteen years and older and not institutionalized (e.g. in hospitals, prisons, etc.) who are either working or willing to work.⁴ In 2006 there were approximately 6 million people in the Ohio labor force: 3.1 million men and 2.9 million women. Figures 3 and 4 show how the labor force participation rate has changed since 1996 and shows BLMI’s projections for 2016. Since 2000 there has been a national decline in overall labor force participation, likely the result of business cycle forces and long-term structural changes.⁵

One notable trend, shown here in figure 3, is the projected decline of participation rates among men coupled with rising women’s rates. In 1996, men comprised about 53.9 percent of the Ohio labor force; by 2006 that number had declined to 52.2 percent. In 2016, we project that 52.1 percent of the state’s labor force will be male and 47.9 percent female.

Figure 3: Labor Force Participation Rates by Gender

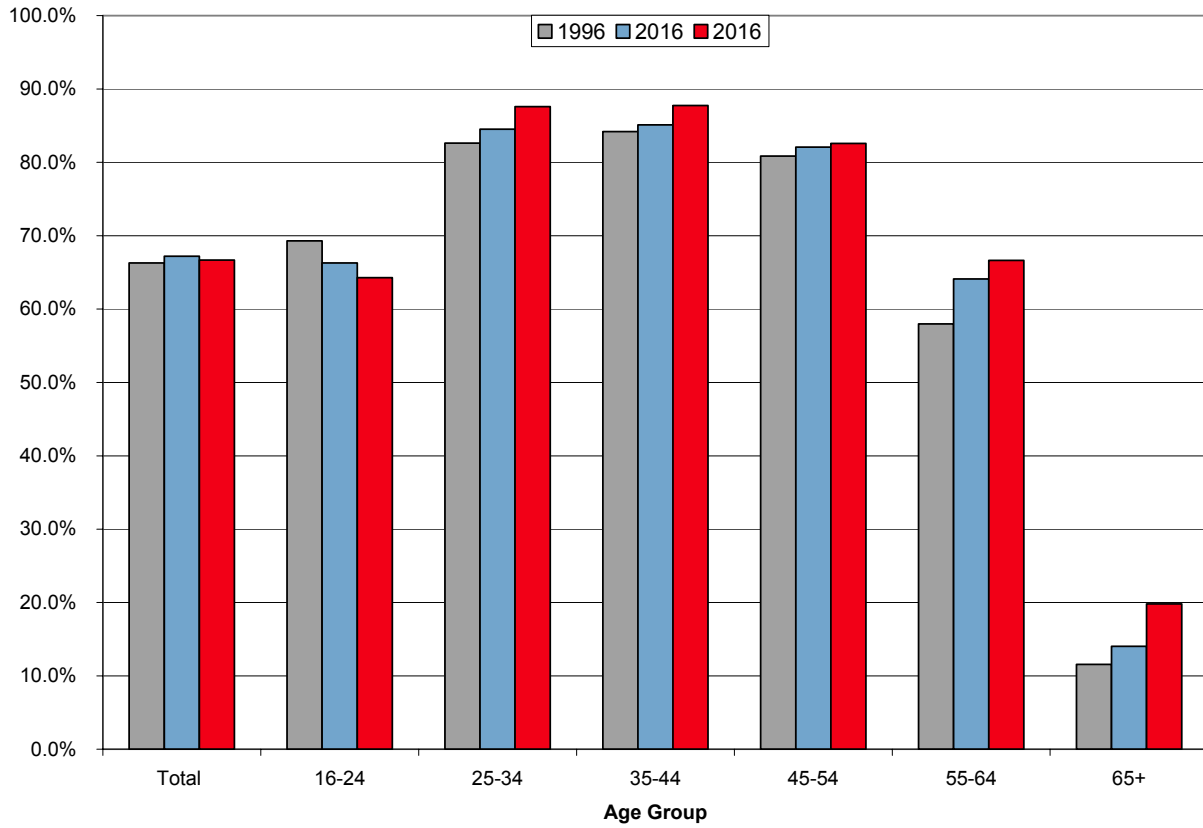


³ For a more in-depth discussion of the aging of the baby boom cohort and its possible effects on Ohio’s economy, see *Ohio’s Graying Labor Force: Aging through 2016*, available online at <http://lmi.state.oh.us/research/Graying2016.pdf>.

⁴ BLS, 2001.

⁵ Aaronson *et al.*, 2006.

Figure 4: Labor Force Participation Rates by Age Group



Another trend, shown in figure 4, is rising participation rates among mature workers. All but the youngest workers will see some increase by 2016, but growth will be especially dramatic among those 65 and older. This may be the result of increased activity among the elderly and the rising popularity of 'bridge jobs' among the newly-retired.

Employment Trends

Following the 2001 recession, total nonfarm employment in Ohio showed only a partial recovery. In 2006, Ohio employment was 2.1 percent lower than in 2001. Nationally, employment increased 3.2 percent from 2001 to 2006 despite temporary declines in employment from 2001 to 2003. In 2007 there was another drop in Ohio employment to approximately 5.42 million workers, leading to a total loss of over 200,000 jobs (3.6%) since 2000. Employment trends by industry are covered in greater detail in section II.

Figure 5: Total Ohio Nonfarm Employment, 1997-2007

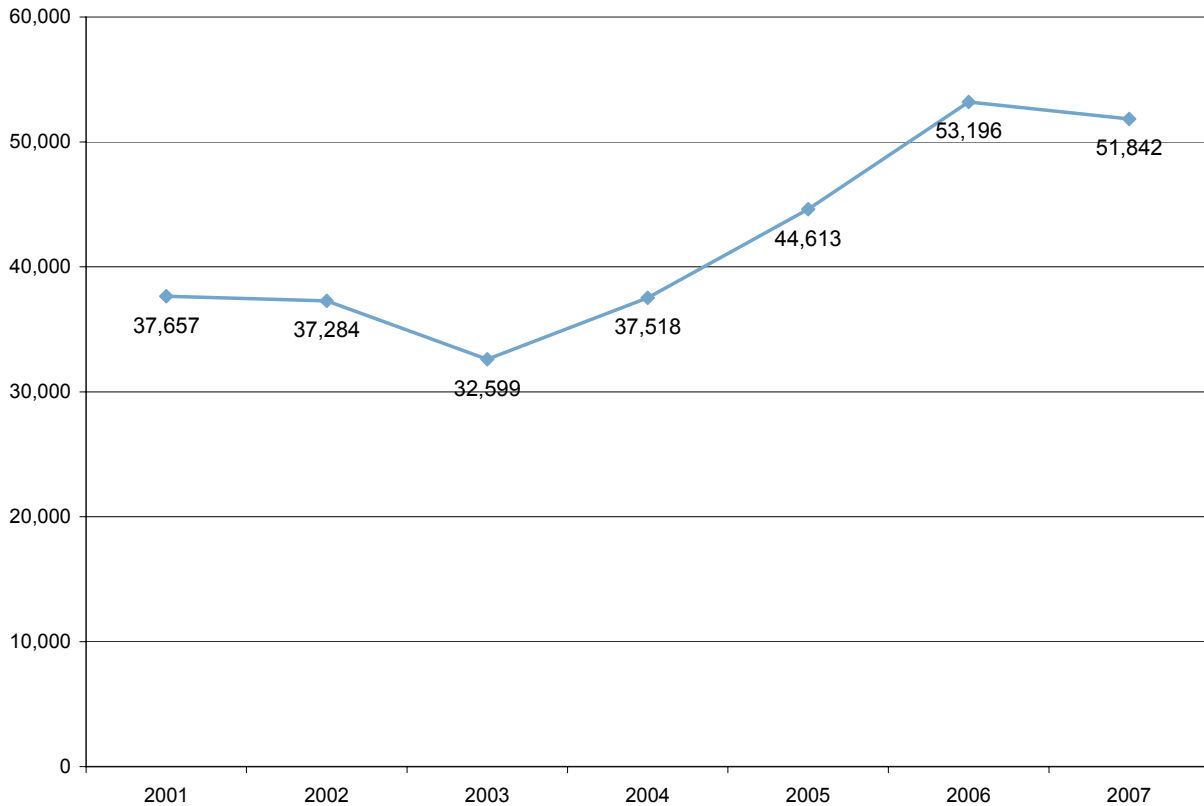


Migration

Domestic migration—movement between states—is the most volatile component of change, but also the most interesting from the perspective of regional economies. It is likely a function of economic growth or decline as workers follow job opportunities. Population in most states tends to increase naturally as the number of births exceeds deaths. The natural increase in Ohio's population from July 1, 2000 to July 1, 2007, was estimated by the Census Bureau to be about 288,193: 1,049,946 births less 761,753 deaths. Subtracting natural population change from total net population change should therefore yield approximate net migration: 294,709 people left Ohio from 2000 to 2007.

Patterns in Ohio migration are shown in figure 6. Comparing this trend with the employment trends shown on the previous page, one notices that out-migration appears to have risen *after* the worst of the 2001 recession was over—from 2003 to 2006. This may have resulted from a lag effect, with discouraged workers leaving the area only after exhausting their economic options locally.

Figure 6: Net Out-Migration from Ohio, 2000-2007



Unemployment Trends

Ohio's unemployment rate—the proportion of workers in the labor force who did not work at least one hour in the week of the 12th in a given month—declined moderately from its peak in 2003, falling to 5.4 percent by 2006, but climbing again in 2007 to 5.6 percent. In the past, state unemployment has generally been comparable to or lower than U.S. unemployment, but this has changed since 2003. The national unemployment rate in 2007 was a full point lower than Ohio's.

Figure 7: Unemployment Rates in Ohio and the U.S., 1997-2007

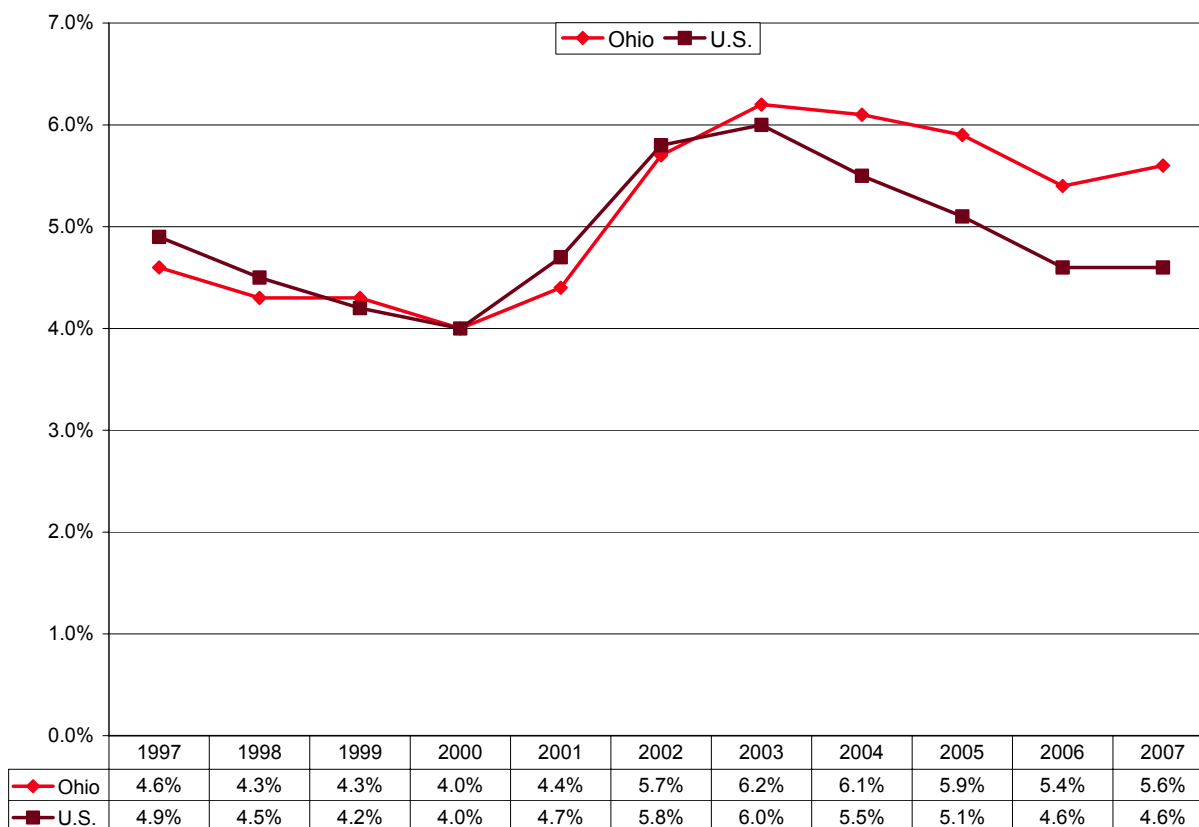


Figure 8 shows unemployment rates in each of Ohio's 12 Economic Development Regions (EDRs). A map of these EDRs is available in appendix A. While many of Ohio's higher regional unemployment rates are the more rural areas of the state, many former industrial centers in Ohio have also suffered high unemployment. Figure 9 shows unemployment rates in eight of the state's metropolitan statistical areas (MSAs). A map of the MSAs is available in appendix B.

Figure 8: Unemployment Rates by Economic Development Region

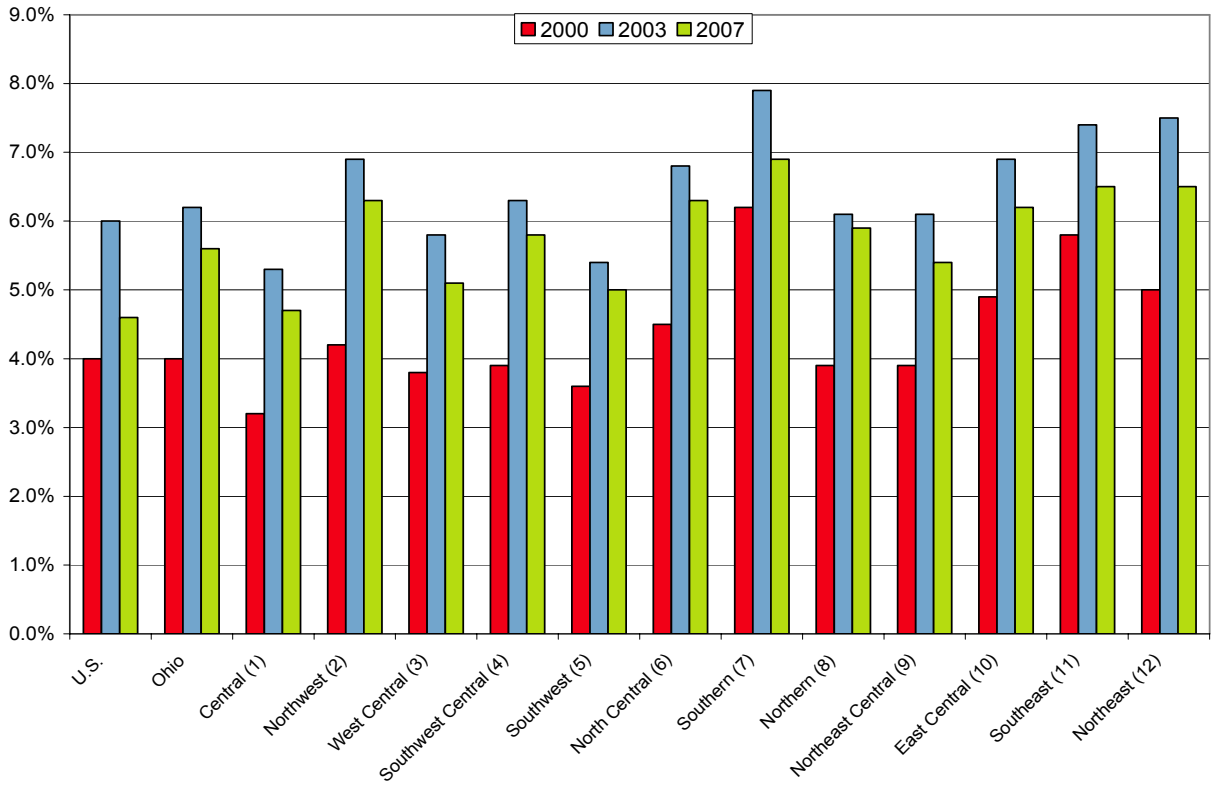
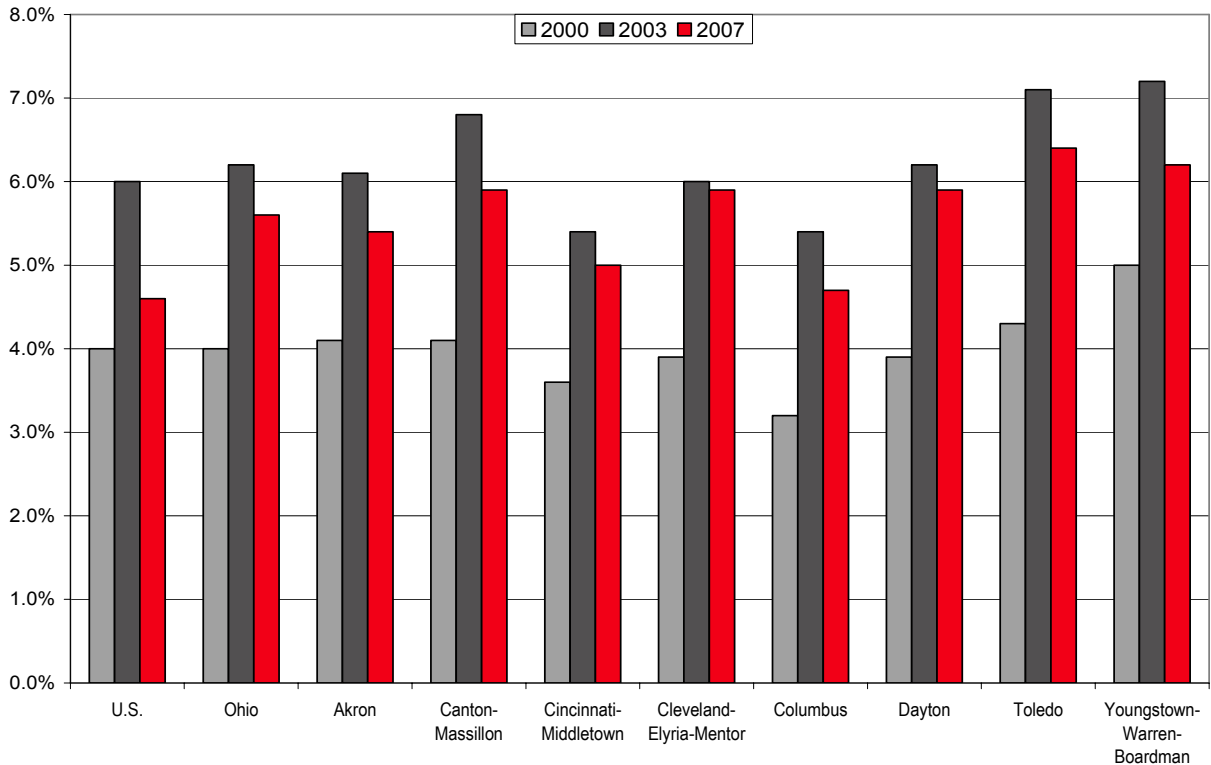


Figure 9: Unemployment Rates by Metropolitan Statistical Area



II. Industry Employment Trends

As mentioned earlier, total nonfarm payroll employment in Ohio has declined 3.6 percent since 2000. Following the 2001 economic recession, the state's employment levels have only partially recovered, due in part to continued heavy losses in manufacturing. Figure 10 shows Ohio employment in 2000 and 2006 by industry division, along with growth rates and 2007 location quotients (LQs)—the ratio of local industry concentration to national industry concentration. An LQ above 1.2 is generally recognized to indicate an export industry.

Manufacturing remains the single largest industry sector in the state, accounting for 14.2 percent of all workers, and one of the most concentrated, with an LQ of 1.41. But employment in this sector has shed nearly 250,000 workers (-24.3%) in the last seven years. Declining manufacturing employment is not unique to Ohio; the state's recent decline in manufacturing employment is similar to conditions in California and Texas.

Figure 10: Ohio Nonfarm Employment Estimates, 2000 and 2007

Industry Division	2000 Employment	2007 Employment	Net Change	Percent Change	2007 Location Quotient
Total Nonfarm Employment	5,624,700	5,424,400	-200,300	-3.6%	1.00
Total Goods-Producing	1,280,100	1,009,400	-270,700	-21.1%	1.15
Natural Resources & Mining	12,900	11,700	-1,200	-9.3%	0.41
Construction	246,100	224,900	-21,200	-8.6%	0.75
Manufacturing	1,021,000	772,800	-248,200	-24.3%	1.41
Total Service-Providing	4,344,600	4,415,000	70,400	1.6%	0.97
Trade, Transportation & Utilities	1,115,300	1,050,500	-64,800	-5.8%	1.00
Wholesale Trade	247,400	238,900	-8,500	-3.4%	1.01
Retail Trade	671,600	601,300	-70,300	-10.5%	0.98
Utilities	24,300	20,900	-3,400	-14.0%	0.96
Transportation & Warehousing	172,000	189,400	17,400	10.1%	1.06
Information	107,200	87,700	-19,500	-18.2%	0.73
Financial Activities	305,200	301,100	-4,100	-1.3%	0.92
Finance & Insurance	232,400	233,700	1,300	0.6%	0.96
Real Estate & Rental & Leasing	72,800	67,400	-5,400	-7.4%	0.79
Professional & Business Services	644,900	665,900	21,000	3.3%	0.94
Professional & Technical Services	236,600	246,200	9,600	4.1%	0.82
Management of Companies & Enterprises	82,200	105,700	23,500	28.6%	1.45
Administrative & Waste Management	326,100	314,000	-12,100	-3.7%	0.94
Education & Health Services	680,300	790,200	109,900	16.2%	1.09
Educational Services	89,800	98,700	8,900	9.9%	0.85
Health Care & Social Assistance	590,500	691,500	101,000	17.1%	1.14
Leisure & Hospitality	483,300	500,000	16,700	3.5%	0.94
Arts, Entertainment & Recreation	70,100	65,600	-4,500	-6.4%	0.84
Accommodation & Food Services	413,200	434,400	21,200	5.1%	0.96
Other Services	223,300	221,900	-1,400	-0.6%	1.03
Government	785,100	797,600	12,500	1.6%	0.91
Federal Government	87,200	77,100	-10,100	-11.6%	0.72
State Government	163,700	168,300	4,600	2.8%	0.83
Local Government	534,100	552,300	18,200	3.4%	0.98

Derived from CES estimates. Columns may not total due to rounding.

Ohio's most concentrated industry relative to the rest of the country is management of companies and enterprises, which includes firms like holding companies and corporate headquarter establishments. This industry is 45 percent more concentrated in Ohio than the rest of the U.S. and was also one of the fastest growing (28.6%) from 2001 to 2007. In 2005, Ohio was home to 64 companies on the Fortune 1000 list of largest companies by revenue, and it was fifth in the nation in the number of headquarters in the Fortune 500.

Figure 11 shows employment levels from 1990 to 2007 in the three goods-producing supersectors: natural resources and mining; construction; and manufacturing. All three have seen net employment declines since 2000. While construction has grown since 1990 (16.3%), there were significant declines following the 2001 recession.

Note that the bulk of manufacturing job losses have come following the 2001 recession. From 1990 to 2000, the sector only lost about 43,000 jobs in net (-4.0%). While the effects of the recession had begun to abate by 2003, industry employment continued to fall through 2007, largely due to foreign competition and productivity gains.

Figure 11: Goods-Producing Industry Employment, 1990-2007

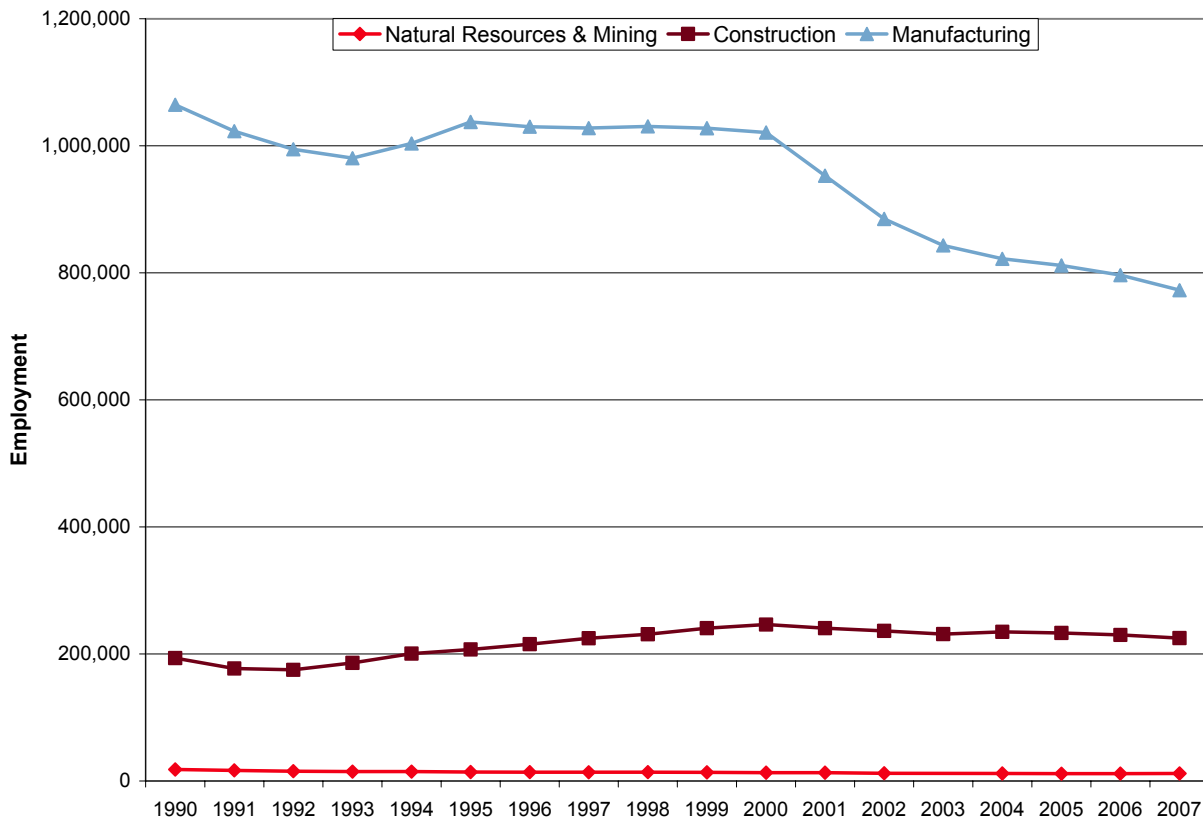
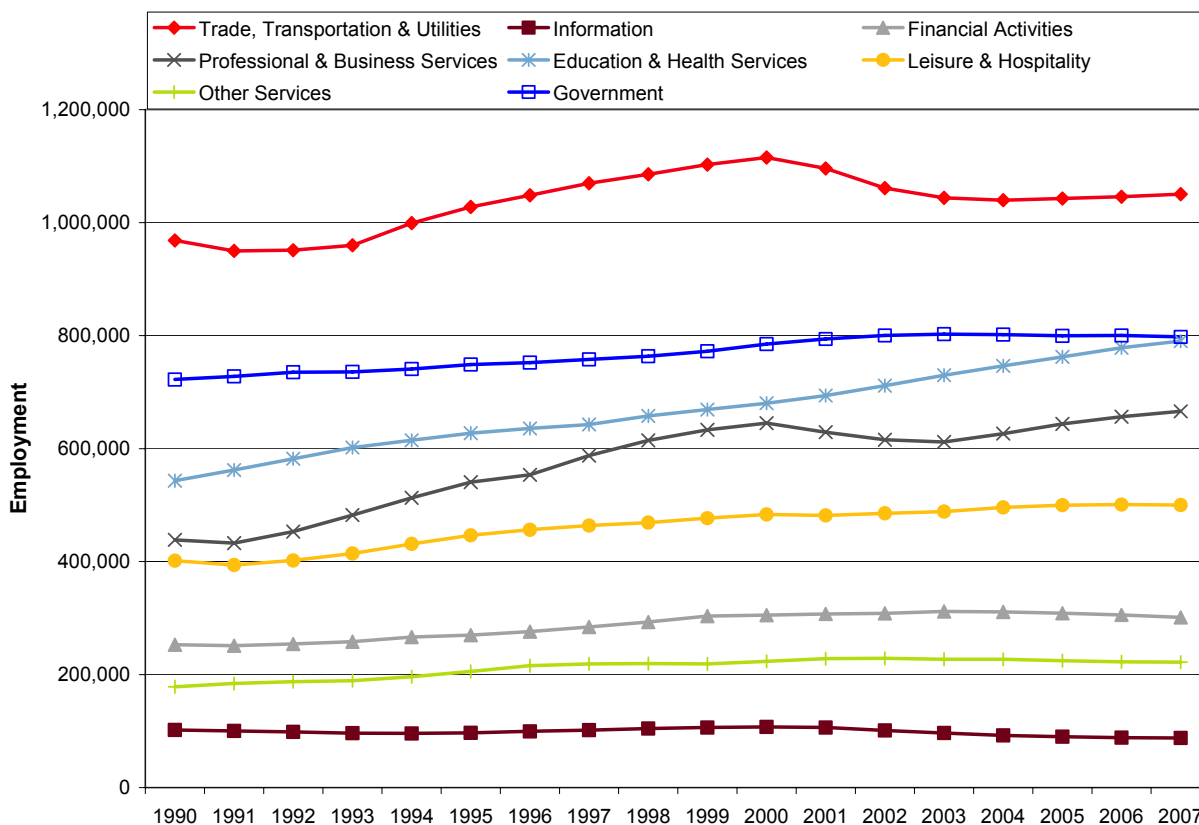


Figure 12 shows employment levels in service-providing industries. One can see many of these supersectors either saw employment declines or reduced growth following the 2001 recession. The only two supersectors that did not see any declines were leisure and hospitality and education and health services. Government employment has been fairly steady, and employment in professional and business services has rebounded.

Figure 12: Service-Providing Industry Employment, 1990-2007



Rise of Health Care Employment

One sector that has consistently risen over the past 17 years, showing little or no reaction to economic cycles, has been health care and social assistance. Since 2000, this sector has added 101,000 net new jobs (17.1%), making it the fastest-growing single sector during this period, and emblematic of Ohio’s move from a manufacturing economy to a service economy.

The types of occupations employed in health care appear to fall on two extremes: On one hand, many health care occupations require a high level of specialized knowledge, leading to increased demand for workers who have completed certain structured training programs, especially registered nurses. Between 2002 and 2006, average hourly wages for registered nurses rose 17.8 percent, compared with 12.1 percent inflation for urban areas. On the other hand, there are other key occupations in health care that require comparably little training and offer less attractive wages, such as nursing aides, orderlies, and attendants. Establishment size follows a similar pattern, with few large institutions employing hundreds of workers on one extreme and numerous small firms with small workforces on the other.

Health care’s “recession-proof” nature makes it an attractive option for workforce and economic development policymakers looking to retrain displaced workers or attract new area businesses.⁶

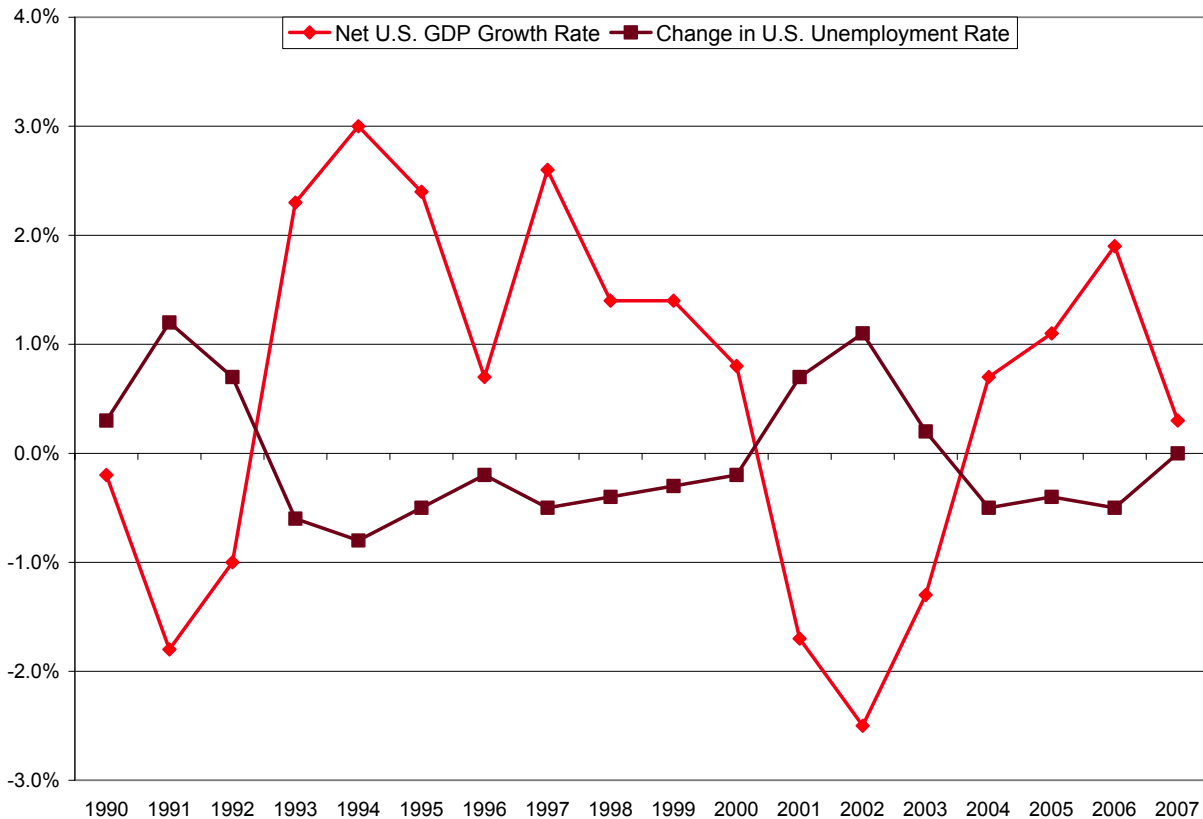
⁶ For a more in-depth discussion, see *Ohio Health Care Employment: Labor Market Trends and Challenges*, available online at <http://lmi.state.oh.us/research/Healthcare.pdf>.

Productivity Effects

Labor productivity—firms’ output divided by the number of man-hours needed to create that output—is almost always increasing as new production processes and technologies emerge. In addition, productivity growth may reach different levels in different industries. Between 1990 and 2007, productivity growth in manufacturing, measured in real output per labor hour, grew an average 3.8 percent per year, compared with only 2.3 percent across all industries.⁷ This is one of the reasons manufacturing employment has been declining in Ohio.

As mentioned earlier, real state GDP in 2006 was approximately \$397.2 billion (chained 2000 dollars), an increase of about 6.8 percent from 2000.⁸ In order to explain why this recovery has not generated a comparable number of new jobs, it would help to separate GDP growth attributable to productivity increases from growth attributable to business activity. We created a measure of the “net growth” rate: growth in real U.S. GDP minus productivity growth. (Productivity measures are unavailable at the state level, so we will use national statistics as an analog.) Figure 13 compares the net growth rate with changes in the national unemployment rate and shows a clear inverse relationship.

Figure 13: Net GDP Growth Rates and Changes in Unemployment Rates, 1990-2006



When growth in output is higher than productivity increases, indicated here by a high net growth rate, the unemployment rate usually falls as firms require more employees to meet demand.

⁷ BLS, 2008c.

⁸ BEA, 2008b.

This was the case through much of the 1990s: Demand outpaced productivity gains. From 2001 through 2003, however, productivity growth exceeded GDP growth and firms found themselves with more employees than they needed, leading to layoffs and a climb in the unemployment rate.

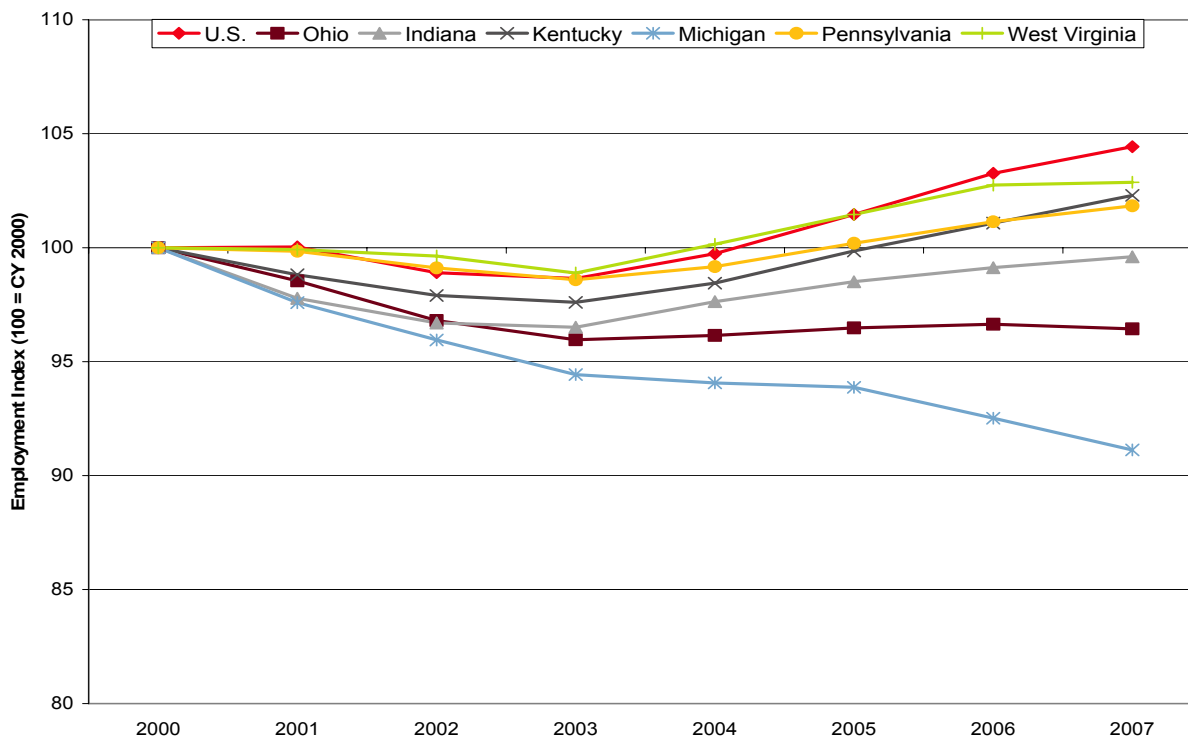
Changes in productivity may have varying effects depending on the industry and on the specific establishment. Contrary to the popular notion of the 'model plant,' where productivity changes affect all establishments equally, effects may vary based on plant age, size, and numerous other factors.⁹

Comparisons with Neighboring States

Ohio's nonfarm payroll employment levels, indexed to 2000, are compared with other bordering states and the United States in figure 14. In this region, West Virginia has enjoyed the best recovery following the 2001 recession, today at 102.9 percent of its 2000 employment level. Kentucky and Pennsylvania have also fully recovered.

Three states in this region have not yet fully recovered former employment levels: Indiana, Michigan, and Ohio. Michigan in particular has not seen even a partial recovery and continues to shed jobs. Michigan's and Ohio's difficulties in recovering employment during this period stem from large manufacturing levels concentrated in automotive and related industries. Major restructuring in these industries is contributing to the current slow pace of recovery. Indiana has nearly recovered from the 2001 recession, but the nation appears to be on the cusp of a new economic downturn, and it is uncertain how this will affect employment levels.

Figure 14: Total Nonfarm Payroll Employment in Ohio and Neighboring States

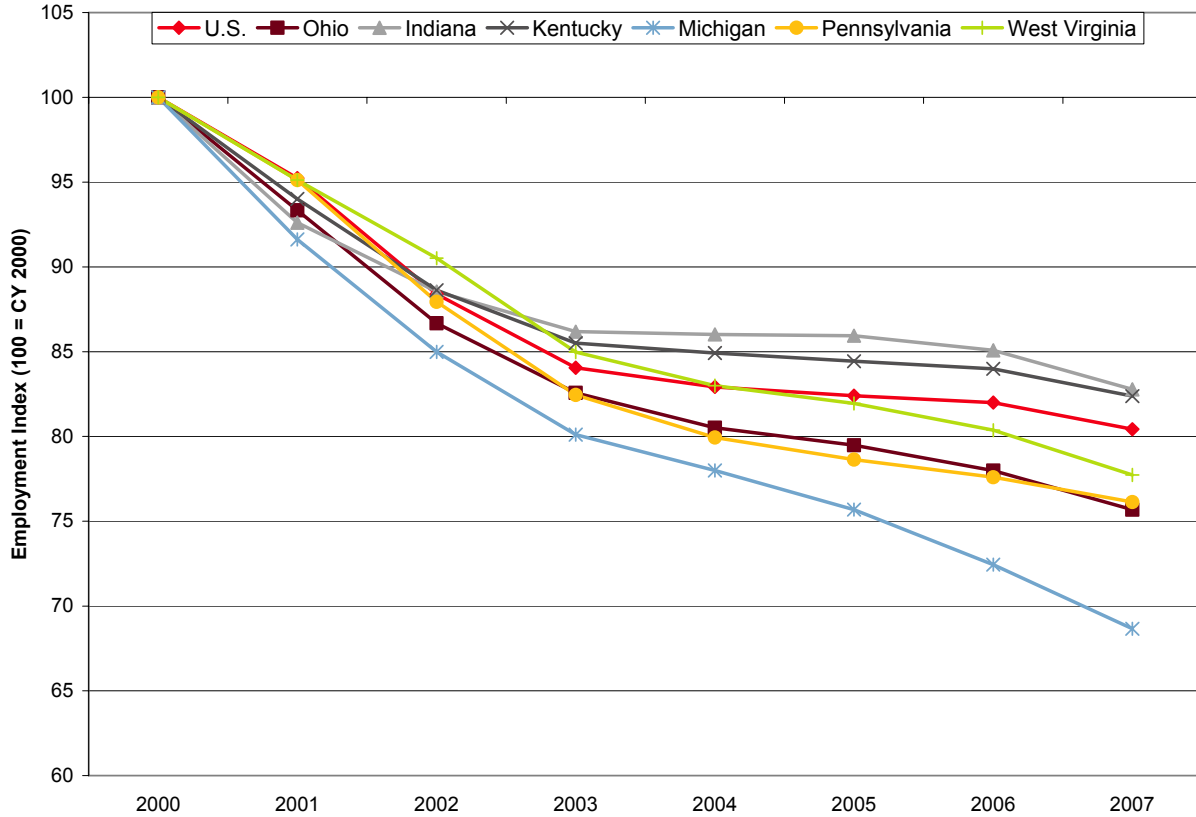


⁹ Bartelsman & Dhrymes, 1998.

All of the states in this region have also experienced heavy losses in manufacturing employment in the last six years and none have had any significant recovery in this sector. Michigan, with its heavy reliance on the auto industry, had the most manufacturing job losses.

The profiles of manufacturing trends for states in our region, shown in figure 15, are not much different from what has occurred across the nation. U.S. manufacturing employment has fallen to 80.4 percent of its 2000 level.

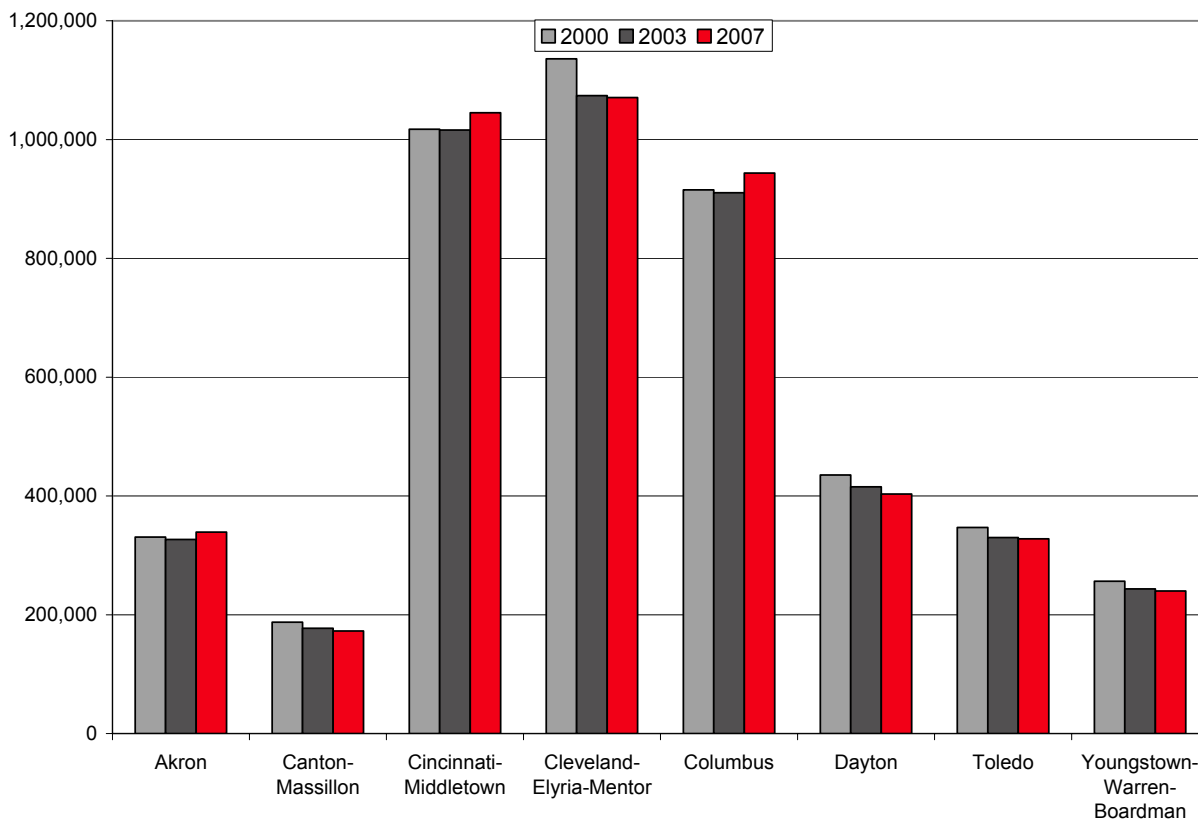
Figure 15: Manufacturing Employment in Ohio and Neighboring States



Employment in Major Metropolitan Areas

Figure 16 shows employment levels in 2000, 2003, and 2006 for the eight largest MSAs in Ohio. Each of these metro areas sustained job losses over the course of the last business cycle, but only three subsequently had full recoveries: Akron, Cincinnati-Middletown, and Columbus.

Figure 16: Total Nonfarm Employment by Metropolitan Statistical Area



Columbus had the state's strongest job growth from 2000 to 2007, gaining 28,200 workers over the period (3.1%). Akron and Cincinnati-Middletown also fully recovered jobs lost from the recession (2.5% and 2.7%, respectively). All other major metropolitan areas still had lower employment in 2007 than in 2000. The Cleveland-Elyria-Mentor area had a net job loss of 65,200, caused by strong declines following the recession and a weak recovery. The Canton-Massillon area had the greatest relative job losses (-7.9%).

A Look Ahead to 2016

The BLS recently released their projections for employment patterns through 2016. Nationwide, most employment growth in the next ten years will continue to be in service-providing industries, especially health care and social assistance and professional and business services. Goods-producing industries will shed approximately 905,000 jobs in net nationally between 2006 and 2016, mostly in manufacturing. Figure 17 shows industry employment projections for the U.S., 2006-2016. In total, U.S. employment is expected to grow 10.4 percent during this period.

Figure 17: National Industry Employment Projections, 2006-2016

Industry Sector	2006	2016	Net Growth	Percent Growth
Total	150,620.1	166,220.3	15,600.2	10.4%
Agriculture, Forestry, Fishing and Hunting	2,138.6	1,965.5	-173.1	-8.1%
Mining	618.7	608.5	-10.2	-1.6%
Construction	7,688.9	8,469.6	780.7	10.2%
Manufacturing	14,197.3	12,694.5	-1,502.8	-10.6%
Wholesale Trade	5,897.7	6,326.2	428.5	7.3%
Retail Trade	15,319.4	16,006.4	687.0	4.5%
Utilities	548.5	517.6	-30.9	-5.6%
Transportation and Warehousing	4,465.8	4,962.0	496.2	11.1%
Information	3,054.9	3,266.7	211.8	6.9%
Financial Activities	8,363.2	9,570.1	1,206.9	14.4%
Professional and Business Services	17,551.6	21,643.7	4,092.1	23.3%
Educational Services	2,918.4	3,527.4	609.0	20.9%
Health Care and Social Assistance	14,919.8	18,954.1	4,034.3	27.0%
Leisure and Hospitality	13,143.4	15,016.7	1,873.3	14.3%
Other Services	6,234.6	7,077.2	842.6	13.5%
Federal Government	2,728.3	2,625.7	-102.6	-3.8%
State and Local Government	19,261.7	20,696.1	1,434.4	7.4%
Self-Employed, Private Household & Unpaid Family Workers	9,772.2	10,462.0	689.8	7.1%

All figures in thousands. Columns may not total due to rounding, secondary jobs, and unclassifiable industries.
Source: Figueroa & Woods, 2007, p. 54.

The most recent employment projections for Ohio run from 2004 to 2014 and largely tell the same story.¹⁰ Total employment from 2004-14 will grow approximate 7.3 percent, while manufacturing employment will decline 9.4 percent. Comparing the 2014 Ohio projections with the national projections from the same period, we may expect weaker job growth in Ohio through 2016 than across the country. National projected growth to 2014 was about 13 percent, twice what was expected from Ohio. Early preliminary projections for 2016 are that Ohio's employment levels will only grow about 5 percent.

¹⁰ Statewide employment projections for Ohio, 2006-2016, will be released in the fall of 2008. These will be followed by metropolitan area and economic development region projections. For 2004-2014 projections, visit <http://lmi.state.oh.us/proj/OhioJobOutlook.htm>.

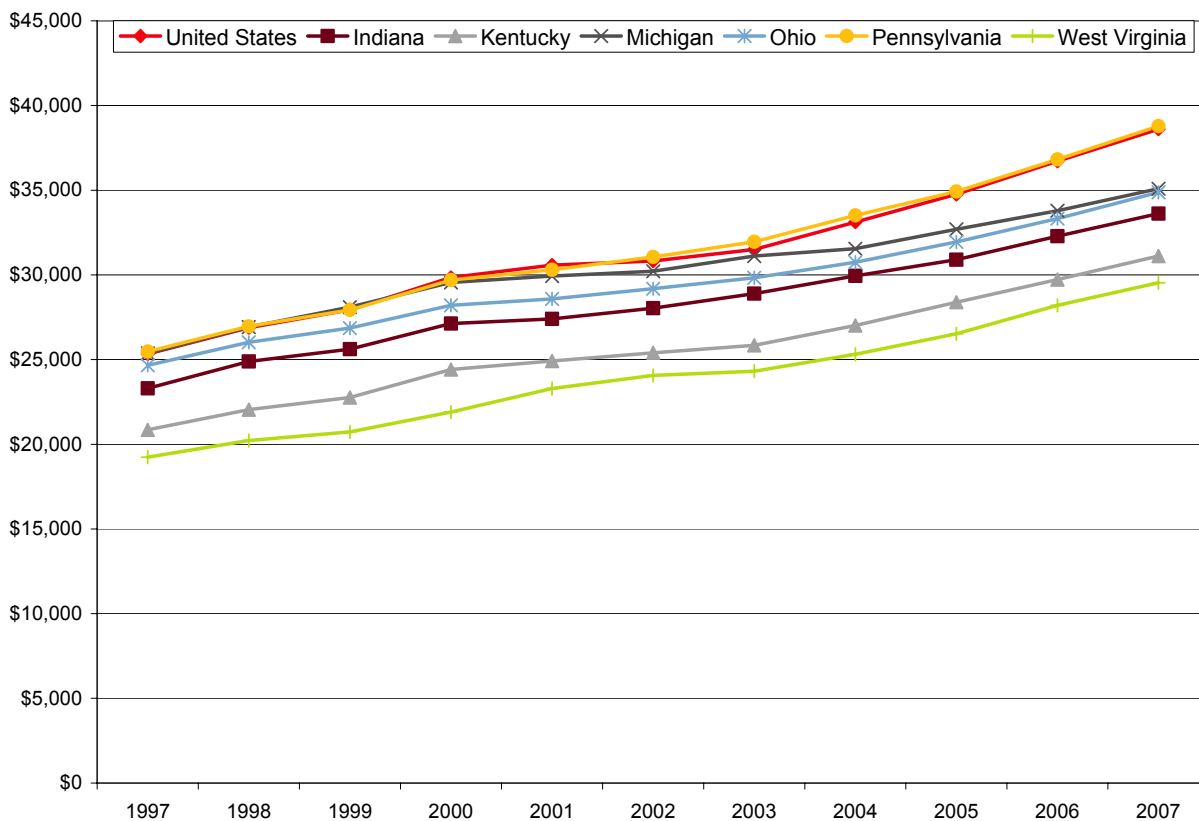
III. Measures of Economic Health & Well-Being

Traditionally, job growth and unemployment have been the primary measures of an area's economic well-being. However, in an economy such as Ohio's, with a stable population and increasing national and international competition, and given an increased emphasis on quality of life in economic evaluation, it pays to look at alternative gauges of economic health. We will examine three indicators that have been strongly correlated with net job growth in the last ten years: per capita income, poverty rates, and educational attainment.

Per Capita Income

Per capita income is derived by dividing an area's total personal income by its population and is a good comparative measure of wealth. Figure 18 shows income levels in Ohio and neighboring states over the last decade. Throughout this period, Ohio has exhibited relatively high per capita incomes for this region, though it still lags behind the nation as a whole. Ohio per capita income in 2007 was \$34,874, compared with \$33,616 in Indiana, \$31,111 in Kentucky, \$35,068 in Michigan, \$38,788 in Pennsylvania, and \$29,537 in West Virginia. Nationally, per capita income was \$38,611. Although the state's per capita income has been increasing, the rate of growth is not keeping pace with other states. In 1997 Ohio ranked 21st in per capita income; by 2007 that rank had fallen to 29th.

Figure 18: Per Capita Income in Ohio and Neighboring States, 1997-2007

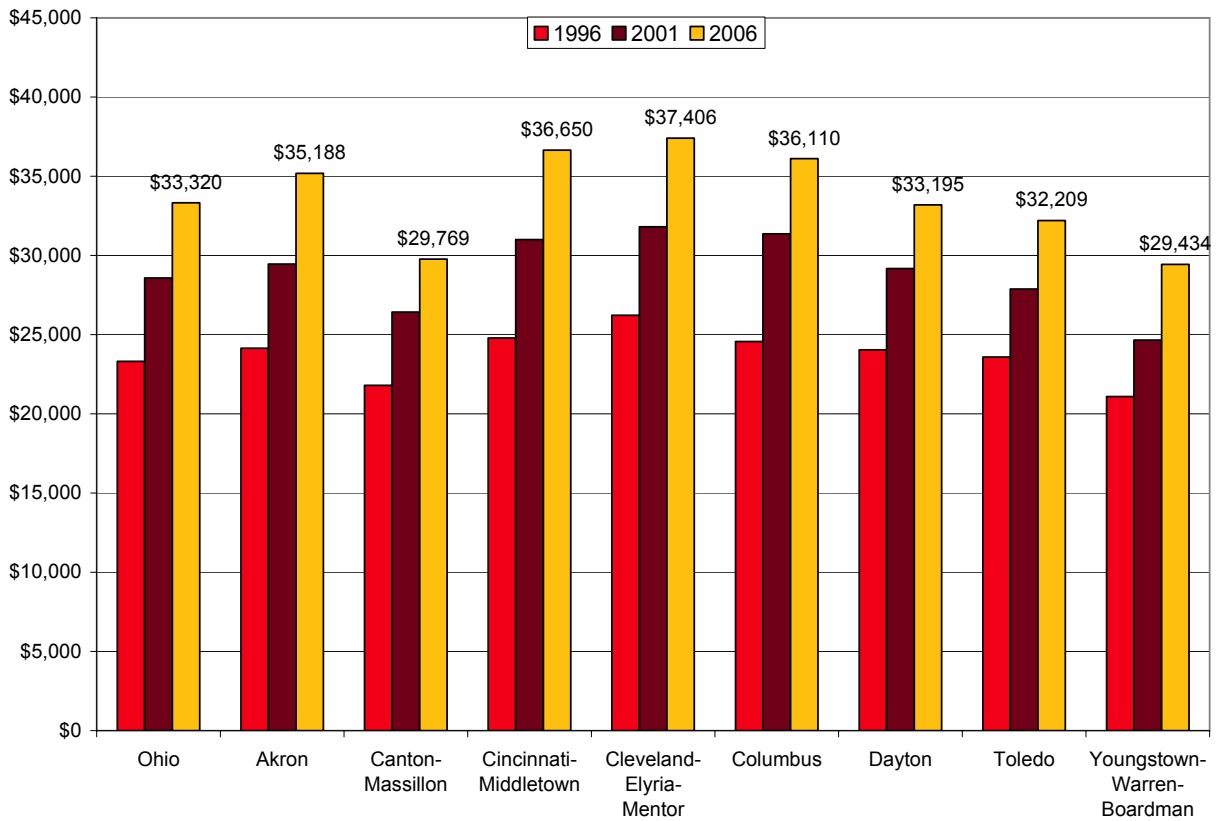


Ohio exhibited a slower rate of per capita income growth than most nearby states. The statewide annual compound rate of growth in Ohio was 3.5 percent from 1997 to 2007. By

comparison, Indiana grew 3.7 percent; Kentucky, 4.1 percent; Michigan, 3.3 percent; Pennsylvania, 4.3 percent; West Virginia, 4.4 percent; and national income 4.3 percent during that same period.

Within the state, there was significant variation in income levels across the major metropolitan areas. Ohio's three largest metropolitan areas—Cincinnati, Cleveland, and Columbus—had the state's three highest per capita incomes. Akron was the only other MSA with a per capita income above the state average. Urban areas tend to have higher income levels than rural areas. Cincinnati-Middletown had Ohio's fastest-growing per capita income: 4.0 percent per year.

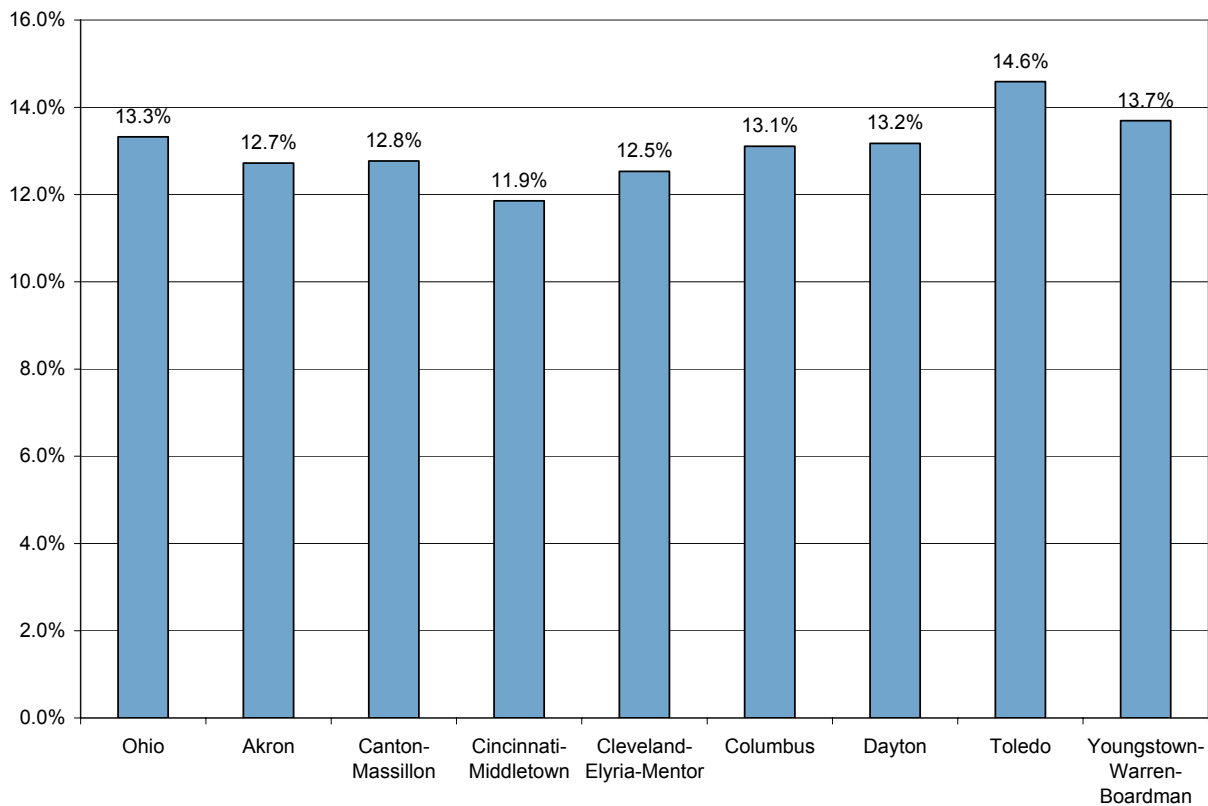
Figure 19: Per Capita Income by Metropolitan Statistical Area



Poverty Rates

Another common measure for evaluating a state's economic health is the poverty rate—the percentage of people in an area living in a household earning less than a defined threshold income level. In 2006, that level was \$20,614 for a household of four people.¹¹ Ohio's combined poverty rate in 2006 was 13.3 percent, slightly higher than the year before (13.0%). Ohio's poverty rate was equal to the national average and ranked 21st highest among the states. Figure 20 shows poverty rates in Ohio and each of the major metropolitan areas from 2006. The Toledo MSA had the state's highest poverty rate—14.6 percent.

Figure 20: Poverty Rates by Metropolitan Statistical Area, 2006



County poverty levels in Ohio in 2005 (the latest year available) are shown in appendix C at the end of this report and ranged from a low of 4.5 percent in Delaware County to a high of 31.5 percent in Athens County. Athens County's comparatively high poverty rate may be due in part to its large student population. Scioto County had the second-highest rate at 25.3 percent. The median county poverty level was 11.6 percent. Many of the counties with comparatively high poverty rates are in Ohio's Appalachian region.

Priority Investment Areas

The Ohio Department of Development (ODOD) has developed a list of Priority Investment Areas—counties and cities that meet certain economic requirements—for preference in receiving certain development grants. These criteria are based on an area's population,

¹¹ U.S. Census Bureau, 2008.

unemployment rates, per capita incomes, and poverty rates. Because ODOD looks at unemployment rates over a multi-year period, they can identify those areas that consistently have had difficulties in economic development.

Appendix D at the end of this report shows a map of Ohio with all the state's Priority Investment Areas for the first half of 2008. *Distressed* areas are cities of at least 50,000 and counties that meet two of these three criteria: (a) an unemployment rate 125 percent of the U.S. five year average; (b) per capita income at or below 80 percent of national per capita income; or (c) poverty rates of 20 percent or greater. *Labor Surplus* areas are defined by the U.S. Department of Labor as cities of at least 25,000 and counties that have an average two-year unemployment rate of 6 percent or higher. Two other classifications—*Inner City* and *Situational Distress*—may be set at ODOD's discretion.¹²

In terms of counties, many of Ohio's Priority Investment Areas are in the eastern and southern portions of the state. Persistent poverty has long been a serious problem in Appalachian America.¹³ Another notable trend is the concentration of distressed and labor surplus cities near major metropolitan areas, especially Cleveland. Many American cities have seen economic opportunities literally flee to the suburbs as residents with greater means exit the central city.¹⁴

Educational Attainment

Numerous studies have shown strong correlations between an area's economic well-being and overall educational levels. Education or training beyond high school is usually necessary to secure a higher-paying job, especially in an economy transitioning towards service-providing industries. Nationally, median weekly earnings for someone with a bachelor's degree were \$987 in 2007, compared with \$604 per week with only a high school diploma and \$428 with no degree.¹⁵ A similar phenomenon with unemployment rates can also be seen. Clearly, educational attainment is key to economic advancement. Proportions of adults 25 and older in Ohio attaining various levels of traditional education are shown in figure 21, using data from the 2006 American Community Survey. Statewide, about 30.1 percent have attained an associate's degree or better.

Compared to other states, Ohio is in the middle range on some measures of educational attainment. For example, Ohio ranks 22nd in the number of adults 25 to 64 without a high school diploma and 19th in the number of adults with some college education but no degree. However, in other measures of educational attainment, Ohio is closer to the back of the pack. The state ranks 46th in the number of adults with a high school diploma but no college education and 38th in the number of adults with an associate's degree or higher.

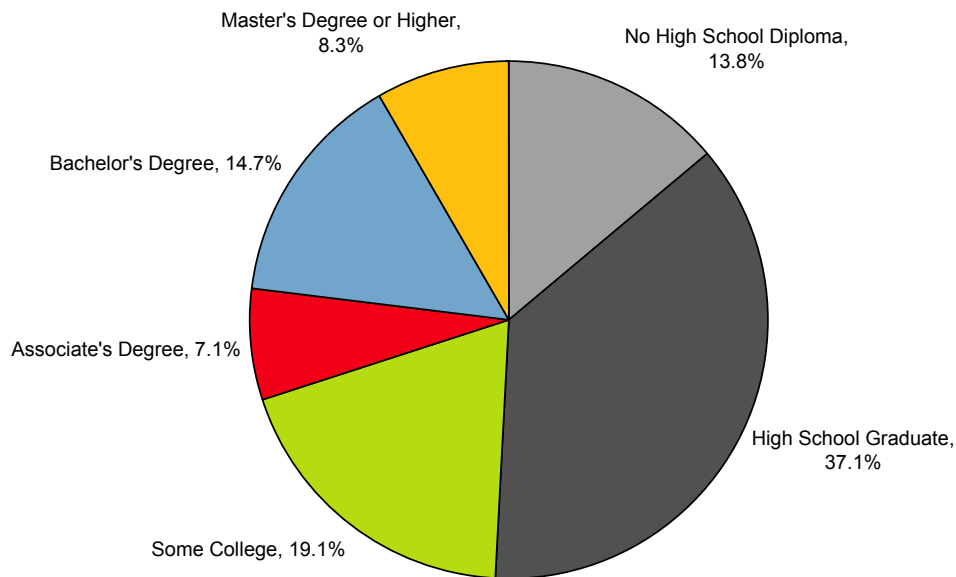
¹² ODOD, 2008b.

¹³ Ziliak, 2007.

¹⁴ Schweitzer & Rudick, 2007.

¹⁵ BLS, 2008a.

Figure 21: Educational Attainment Levels, 25 and Older, 2006

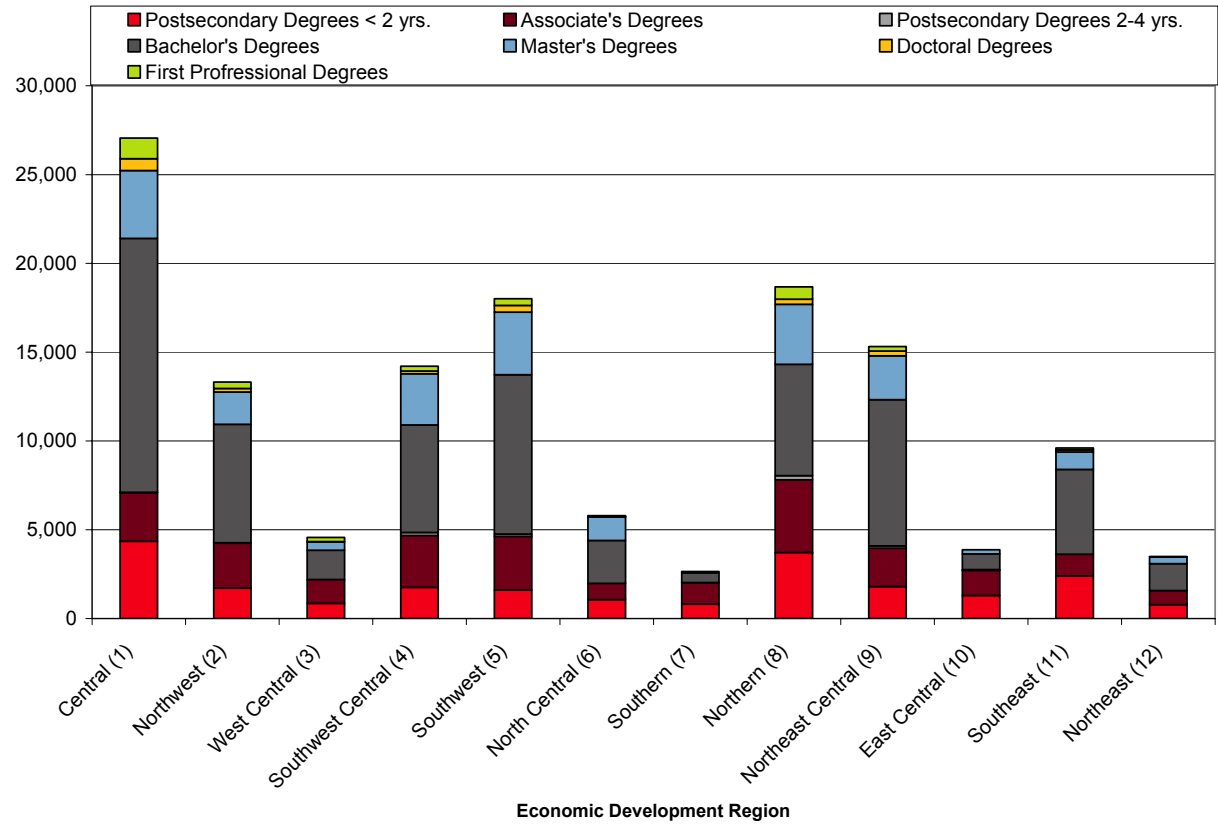


Appendix E at the end of this document lists the numbers and types of postsecondary degrees and awards granted in Ohio institutions from the 2005-06 academic year. There were 124,581 postsecondary degrees awarded in Ohio that year. Among associate's degrees and programs less than two years long, health professions and related clinical sciences are among the most popular programs. An intense need for workers in the health care field, combined with their need for structured training programs, has led to a proliferation of associate's degree programs in health-related fields across Ohio. Among bachelor's degrees, the most popular programs are in business, management, marketing and related support services; education; and social sciences.

Figure 22 shows which economic development regions are awarding which postsecondary degree types. Central Ohio, which includes much of the Columbus area, awarded the greatest number of postsecondary degrees in 2006, including the most bachelor's, masters, doctoral, and first professional degrees—over 27,000 in total. Northern Ohio, which includes much of the Cleveland area, awarded the greatest number of associate's degrees.

On a per capita basis, Southeast Ohio awarded the greatest number of degrees by far. While this is not especially surprising, given the region's relatively sparse population and the presence of the Ohio University main campus, it is worth noting that the region did award the greatest number of associate's degrees per capita. Given the number of occupations requiring advanced technical knowledge and specialized training, associate's degrees, certificates, and other awards have become quite important in the modern economy.

Figure 22: Postsecondary Degree Completions by Economic Development Region, 2006



IV. Ohio's Strategies for the Future

The last economic recession in the United States lasted from the first quarter to the third quarter of 2001.¹⁶ Since that time, Ohio has only had a very weak recovery, with many segments of the economy continuing to lose jobs. It now appears that the U.S. may be entering a second recession. Credit markets have become very tight following a collapse in the housing market; oil prices rose to \$135 per barrel in mid-May, leading to retail gasoline prices of \$4 per gallon; and Ohio continues to lose jobs, especially in manufacturing. Flowing from the Strickland Administration's Turnaround Ohio lead, a series of economic and workforce development initiatives were developed in response.

Last year's report identified a seven-part plan for rebuilding Ohio's economy:

- Coordination between education providers, economic development, and workforce development;
- A redesign of Rapid Response services;
- Worker assessment and credentialing;
- Forming alliances between employers, workforce development, and education providers;
- Providing training to the state's growth industries;
- Making One-Stop Employment Centers more business-friendly; and
- Making all workforce development programs and initiatives in Ohio demand- and data-driven.

The overarching goal of Ohio's current plans is to better align the services of government to the needs of businesses and workers. If Ohio is to weather economic storms successfully, it must build on our strengths and develop programs that improve Ohio's ability to react to the changing economic environment. To emphasize how the state is changing course, below is a brief outline of key initiatives over the last year.

Governor's Workforce Policy Advisory Board (GWPAB)

The GWPAB was formed to assist Governor Strickland in directing workforce development resources to maximize return on investment and ensure optimal growth in Ohio's workforce economy. The GWPAB has established advisory research committees in the following areas:

- The Recruitment, Retention, and Placement Committee will develop strategies to help employers secure, upgrade and retain workers from underutilized populations (i.e., mature workers, disabled workers, veterans, and youth).
- The Accountability and Metrics Committee has the task of identifying the characteristics and specific performance measures that define an effective workforce development system. The Committee shall regularly collect workforce development program performance information and data from various state agencies. The Committee shall evaluate said information and advise the Board about the performance of individual programs and the system as a whole. The Committee will also advise the Board on compliance issues related to the federal Workforce Investment Act, specifically 29 U.S.C. § 2821(d). The Committee's responsibilities reflect Governor Strickland's pledge in *Jobs Worthy of Ohioans: The Strickland/Fisher Strategy for Job Creation in Ohio*,

¹⁶ National Bureau of Economic Research, 2003.

which calls for the State to “Develop an Ohio Economic Growth Scorecard that builds in accountability through performance and outcome standards. Indicators and benchmarks appropriate to the entire state and to each region will be developed in collaboration with business and labor leadership groups to maximize statewide accountability and local flexibility.”

- The Targeted Industry Sectors Committee has the responsibility of identifying and developing strategies for building a qualified workforce for high growth, high wage industry sectors that experience workforce shortages in entry level, middle management and senior level staff positions. The Committee’s responsibilities stem from Governor Strickland’s *Vision to Move Ohio Forward*, which calls for the State to “Retain, create and attract jobs worthy of Ohio workers by focusing on industry sectors in which Ohio companies are growing, and which will spur our economy to generate wealth and prosperity for the future.”
- The System Partnership and Alignment Committee will evaluate the effectiveness of Ohio’s workforce development system and propose recommendations for how the system can be better aligned with the objective of growing and sustaining Ohio’s driving industries.

Increasing Human Capital

In order to compete in the global market, Ohio must increase its store of human capital—the knowledge, skills, and abilities held by workers. This can be accomplished by improving Ohioans’ educational attainment levels. Currently, Ohio ranks 41st among the states in the proportion of residents who have attained a bachelor’s degree or higher. The University System of Ohio has developed a 10-year plan for higher education with the goals of enrolling 230,000 more students in higher education, keeping more graduates in Ohio, and attracting more talent to the state.

The plan will provide Ohioans with access to a high-quality education with a low cost tuition by:

- Creating distinctive missions for each university leading to the establishment of Centers of Excellence that will drive the economy;
- Offering many educational options to students who can then choose the best programs at the best price to meet their needs;
- Offering associate and bachelor’s programs in core fields available at a University System of Ohio campus within 30 miles of every Ohioan;
- Allowing “dual admission” for students entering a community college with the intention of continuing on to a University System of Ohio university;
- Reframing the relationship between business and higher education to create new jobs and a highly-skilled workforce; and
- Encouraging high school students to earn college credit through “Seniors to Sophomores” and other early college credit programs.

Ohio Skills Bank

Businesses will be the front line competitors in the global marketplace. The Turnaround Ohio plan recognizes that Ohio’s workforce development efforts need to better align with the needs of business, particularly to ensure that employers have an adequate supply of skilled workers. With this in mind, we have created the Ohio Skills Bank within the Ohio Board of Regents to identify the specific occupations and skills that are critical to Ohio businesses. The Ohio Skills Bank will work closely with postsecondary institutions and other training providers across the state to ensure Ohio has a large enough training infrastructure to meet the varied needs of

business, and provide information to prospective employers on where in Ohio a trained workforce lives.

Stackable Certificates Initiative

Adults face many challenges as they pursue postsecondary credentials and they have different needs and motivations than traditional college students. It is not surprising that relatively few adults—many of whom left high school before earning a diploma and/or without the knowledge and skills required for postsecondary education—succeed in upgrading their skills, earning needed credentials and becoming self-directed, lifelong learners.

To be effective in addressing these challenges, we must then address the unique needs, aspirations and motivations of adult learners. Our initiatives cannot be grounded in an assumption that adult learners are just like traditional college and university students—just older. They cannot ignore the fact that most nontraditional students need to ready themselves for jobs quickly and cannot afford full-time enrollment. Some may not be able to pursue, at least initially, an associate’s or bachelor’s degree. And still others may be looking for limited training with an “open door” that allows them to return again and again as their needs change or they are presented with new opportunities.

Very simply, we need to create new, accessible pathways that make it easier for adult learners—particularly those in hard-to-serve populations—to prepare themselves for career-relevant postsecondary education and training. We need to ensure that these new pathways offer effective remedial education, provide supports that help adult learners overcome both academic and non-academic barriers, and allow learners to move smoothly from adult career-technical programs to a credential or degree program at a two-or four-year campus.

Ohio’s Stackable Certificates Initiative, which will be delivered primarily through the Ohio Skills Bank organizational framework, will be based on demonstrated competencies and experiences, as opposed to “seat time” spent in the classroom.

Stackable Certificates will provide a clear and accessible path for adults seeking to advance their education and improve the quality of their lives. It is being designed to help adult learners connect pre-college academic work to relevant technical coursework. With certificates, including many that could be industry-recognized, it will give adults an accessible pathway to college-level degrees and improved employment opportunities. Certificates earned while an adult is enrolled in an institution of higher education may be turned into college credit in different subject competencies, subject to standards set by the University System of Ohio.

The Ohio Workforce Guarantee

The Ohio Workforce Guarantee is a program charged with ensuring Ohio companies have the talent, skills, and resources necessary to support growth through innovation. Under the direction of the Ohio Department of Development, the Ohio Workforce Guarantee streamlines access to Ohio’s many workforce development resources, aligning service delivery with identified or anticipated workforce needs in targeted, high-growth industries. This initiative fortifies the state’s ability to recruit and retain high-paying, high-value jobs by establishing Ohio as the preeminent provider of demand-driven workforce assistance in the country.

OhioMeansJobs.com

Historically, employers, job seekers, and workforce development professionals were independent entities carrying out separate and disparate functions relative to jobs (i.e.,

preparing job postings, résumés, or career guidance and job fairs, respectively). Unfortunately, there was no organizing mechanism by which to assure that these independent entities and their disparate functions would cross paths, ensuring speedy and successful job outcomes. The objective of OhioMeansJobs.com is to blend these disparate functions into a single unified whole and in a fashion that enhances the capabilities and services available to job seekers and workforce development professionals alike.

OhioMeansJobs.com is a **repository** of information (jobs, résumés, workshops, and job fairs), a **posting forum** for information, and a **search engine** to combine all these separate actions into a unified whole, enhancing the outcomes for all the players in the job arena.

Rather than build a new job board or another separate job bank, OhioMeansJobs.com taps the best that already exists in content and technology, from the private or public sectors, and focuses on presentation and unification of information. Currently, OhioMeansJobs.com captures job opportunities from over 8,000 job boards and employer sites. Similar features for résumés, job fairs, and workshops are currently under development for release later this year.

Registered Apprenticeship

Registered apprenticeship is a time-proven training and workforce development strategy that teaches and improves skills while enhancing efficiency and productivity. As Ohio faces critical shortages of skilled workers, registered apprenticeship offers an effective approach to meeting the needs of business and industry, as well as providing Ohioans with high-demand career opportunities. But while nearly everyone knows that apprenticeship is a proven training model for construction and manufacturing, not nearly enough know that apprenticeship in the 21st century is keeping pace with economic changes. There are now over 6,000 registered apprentices in 167 occupations, each program offering skills development, a competency-based training system, and interim credentials in high-growth, high-demand industries, such as health care, energy, biotechnology, advanced manufacturing, and information technology.

In addition to a major effort to increase compliance review and assessments, the Ohio State Apprenticeship Council (OSAC) is working in concert with the Ohio Board of Regents, postsecondary education partners, and sponsors to formulate statewide recognized articulation and transfer agreements to grant career pathways toward the associate degree or beyond for work completed.

Youth Employment Program

In order for Ohio to develop and maintain a skilled workforce, it is critical that effective programs are in place for the emerging workforce, Ohio's youth population. This initiative led to the creation of a Youth Employment Program, to be delivered through Ohio's local workforce investment boards. A request for proposal was issued for innovative local or regional youth employment programs and in March 2008, eighteen vendors were selected. The grants ranged from \$104,470 to \$668,390. These grants will provide innovative education and employment programs to youth 16 to 21 through June 30, 2009.

Federal Shared Youth Vision (SYV)

Ohio KEYS (Knowledge and Education for Youth Success)

Ohio is one of sixteen initial states in the country participating in SYV. The vision is a collaborative approach to prepare youth for success in a global, demand-driven economy. During the onset, eight federal agencies participated to make the vision a reality for the sixteen states. The target populations are children of incarcerated parents, court-involved youth, youth

at risk of court involvement, homeless and runaway youth, Indian and Native American youth, migrant youth, out-of-school youth, youth at risk of dropping out of school, youth in or aging out of foster care, and youth with disabilities.

As a result of SYV successes, Ohio has been designated to mentor Missouri and Nevada. So far, we have sent numerous support documents to both states and participated in conference calls regarding SYV. Ohio recently participated in the Federal SYV Forum held in Tulsa, OK on May 6-7, 2008.

Rapid Response

Ohio Rapid Response will be strengthened by a tighter state-level collaboration with the Ohio Department of Development and the Ohio Board of Regents. This has filtered to the local level, where a partnering of the various stakeholders has taken on the challenge of stretching available funds to avert layoffs and to maximize services for dislocated workers.

Under the provisions of House Bill 372 of the 128th General Assembly, signed into law in March of 2008, \$15,000,000 from Rapid Response and Governor's Discretionary Funds were earmarked for incumbent worker training to avert layoffs. The resources for the first year were fully allocated in just three months, and Program year 2009 funds are expected to equal demand. Local Workforce Investment Act (WIA) areas serve as fiscal agents for this program, a partnership that will foster new capacity in layoff aversion at the local level as local areas increasingly partner with the state on incumbent worker training projects.

During Fiscal year 2008, Ohio Rapid Response responded to 123 Worker Adjustment Retaining Notifications (WARNs) and 200 non-WARNs. While manufacturing plants continue to dominate the notices, there is a significant increase in WARNs and mass layoffs in retail, transportation and distribution, public sector services and financial services.

The state's level of participation in Rapid Responses has expanded in the past year through a new partnership with the Ohio AFL-CIO. A team of seven Rapid Response professionals on the staff of the state's central labor body offer training in peer-to-peer support at sites of plant closure, help set up Labor-Management Committees in affected plants, train trade unionists to serve on Workforce Investment Boards, organize training programs supported by labor and management to avert layoffs in targeted sectors (automotive is the first sector for this focus), and analyze workforce trends.

In addition, the state is taking a new role in offering regional coordination and technical assistance to service deliverers, both in the county of impact as well as to surrounding counties in the commuting area. In the coming year, state support of local areas' rapid response will continue to be strengthened. It will encourage new collaborations and partnerships to reach out to affected workers.

Conclusion

In our 2007 annual report on Ohio's economy, the report concluded with analytical models or methods to focus economic and workforce development strategies. For 2008, we have been able to conclude with the state's development of strategic initiatives and the concrete steps we are taking to address critical issues of importance to Ohio's economic well being.

This report has been written from the philosophy that information and understanding are the foundations for economic and workforce development choices. It has been said that change is

the only constant in our universe; one cannot prevent its inevitability. However, that does not mean we cannot influence its direction and outcome. The goal of these initiatives is to use information and understanding of our economic and workforce environment and drive change to Ohio's benefit.

Technical Notes

All industry employment figures are from the Current Employment Survey (CES), a joint survey by the BLS and BLMI of business establishments to estimate number of employees, hours worked, and earnings. Data are available at <http://www.bls.gov/sae/home.htm>. Employees are counted by place of employment and not residence. Industry classifications were made using the North American Industrial Classification System (NAICS) from the U.S. Office of Management and Budget. A list of all NAICS codes and definitions is available at <http://www.census.gov/naics/2007/index.html>. 2007 statistics are preliminary only and are subject to revision.

National employment projections through 2016 were published in the *Monthly Labor Review*, a BLS publication, available online at <http://www.bls.gov/opub/mlr/2007/11/contents.htm>. We anticipate that Ohio statewide projections through 2016 will be published in late fall of 2008, followed by projections for metropolitan areas and EDRs. Ohio projections through 2014 are available online now at <http://lmi.state.oh.us/proj/OhioJobOutlook.htm>.

Estimates for state and national GDP are from the U.S. Bureau of Economic Analysis (BEA), deflated, where noted, to 2000 dollars using a chained deflator. This means that GDP components may not necessarily be summative. GDP data are available for the national level at <http://www.bea.gov/national/nipaweb/index.asp> and for the state level at <http://www.bea.gov/regional/gsp/>. 2007 estimates are preliminary only and are subject to revision. Productivity estimates are from the Labor Productivity and Costs program by BLS and may be downloaded at <http://www.bls.gov/lpc/home.htm>.

Personal income estimates, including per capita income, are from the BEA and include all sources of income (e.g. wages, investment income, government assistance, etc.). Data are available at <http://www.bea.gov/regional/spi/>. 2006 figures are preliminary only and are subject to revision.

Unemployment and labor force estimates are from the Local Area Unemployment Statistics (LAUS) program, a joint program by the BLS and BLMI to determine unemployment at the local level. Unemployment data are available at <http://www.bls.gov/lau/home.htm>.

Population and demographic estimates, including poverty rates and educational attainment distributions, are from the U.S. Census Bureau. Population estimates are available for download from <http://www.census.gov/popest/datasets.html>. Special demographic data were estimated as part of the American Community Survey and may be downloaded at the American FactFinder site at <http://factfinder.census.gov>.

Statistics on postsecondary degree completions are from the Integrated Postsecondary Education Data System (IPEDS) by the U.S. Department of Education. Downloads are available from <http://nces.ed.gov/ipeds/pas/>. The program classifications used in appendix E are from the Classifications of Instructional Programs (CIP). For details visit <http://nces.ed.gov/pubs2002/cip2000>.

References

- Aaronson, S., Fallick, B., Figura, A., Pingle J., & Wascher, W. (2006). The recent decline in the labor force participation rate and its implications for potential labor supply [Electronic version]. *Brookings Papers on Economic Activity*, 37, 69-154.
- Bartelsman, E.J. & Dhrymes, P.J. (1998). Productivity dynamics: U.S. manufacturing plants, 1972-1986 [Electronic version]. *Journal of Productivity Analysis*, 9, 5-34.
- Figueroa, E.B. & Woods, R.A. (2007, November). Industry output and employment projections to 2016. *Monthly Labor Review*, 130(11), 53-85.
- National Bureau of Economic Research (2003). *The Business Cycle Peak of March 2001*. Retrieved May 23, 2008, from <http://www.nber.org/cycles/november2001/recessions.pdf>.
- Ohio Department of Development (2008a). *Gross Domestic Product of Ohio*. Retrieved May 15, 2008, from <http://www.odod.state.oh.us/research/files/E100.pdf>.
- Ohio Department of Development (2008b). *Priority Investment Areas*. Retrieved May 30, 2008, from [http://www.odod.state.oh.us/cms/uploadedfiles/Research/g200000000\(3\).pdf](http://www.odod.state.oh.us/cms/uploadedfiles/Research/g200000000(3).pdf).
- Ohio Department of Job and Family Services (2006). *Ohio Job Outlook to 2014*. Retrieved June 3, 2008, from <http://lmi.state.oh.us/proj/Projections/Ohio/OhioJobOutlook.pdf>.
- Ohio Department of Job and Family Services (2008a). *Ohio's Graying Labor Force: Aging through 2016*. Retrieved May 19, 2008, from <http://lmi.state.oh.us/research/Graying2016.pdf>.
- Ohio Department of Job and Family Services (2008b). *Ohio Health Care Employment: Labor Market Trends and Challenges*. Retrieved May 19, 2008, from <http://lmi.state.oh.us/research/Healthcare.pdf>.
- Schweitzer, M. & Rudick, B. (2007, February 15). A closer look at Cleveland's latest poverty ranking [Electronic version]. *Economic Commentary*. Retrieved May 22, 2008, from <http://www.clevelandfed.org/Research/commentary/2007/021507.cfm>.
- U.S. Bureau of Economic Analysis (2008a). *Gross Domestic Product by State*. Retrieved June 11, 2008, from <http://www.bea.gov/regional/gsp/>.
- U.S. Bureau of Economic Analysis (2008b). *Selected NIPA Tables*. Retrieved May 19, 2008, from <http://www.bea.gov/national/nipaweb/SelectTable.asp>.
- U.S. Bureau of Economic Analysis (2008c). *State Annual Personal Income*. Retrieved May 22, 2008, from <http://www.bea.gov/regional/spi/>.
- U.S. Bureau of Labor Statistics (2001). *How the Government Measures Unemployment*. Retrieved May 19, 2008, from http://www.bls.gov/cps/cps_htgm.htm.

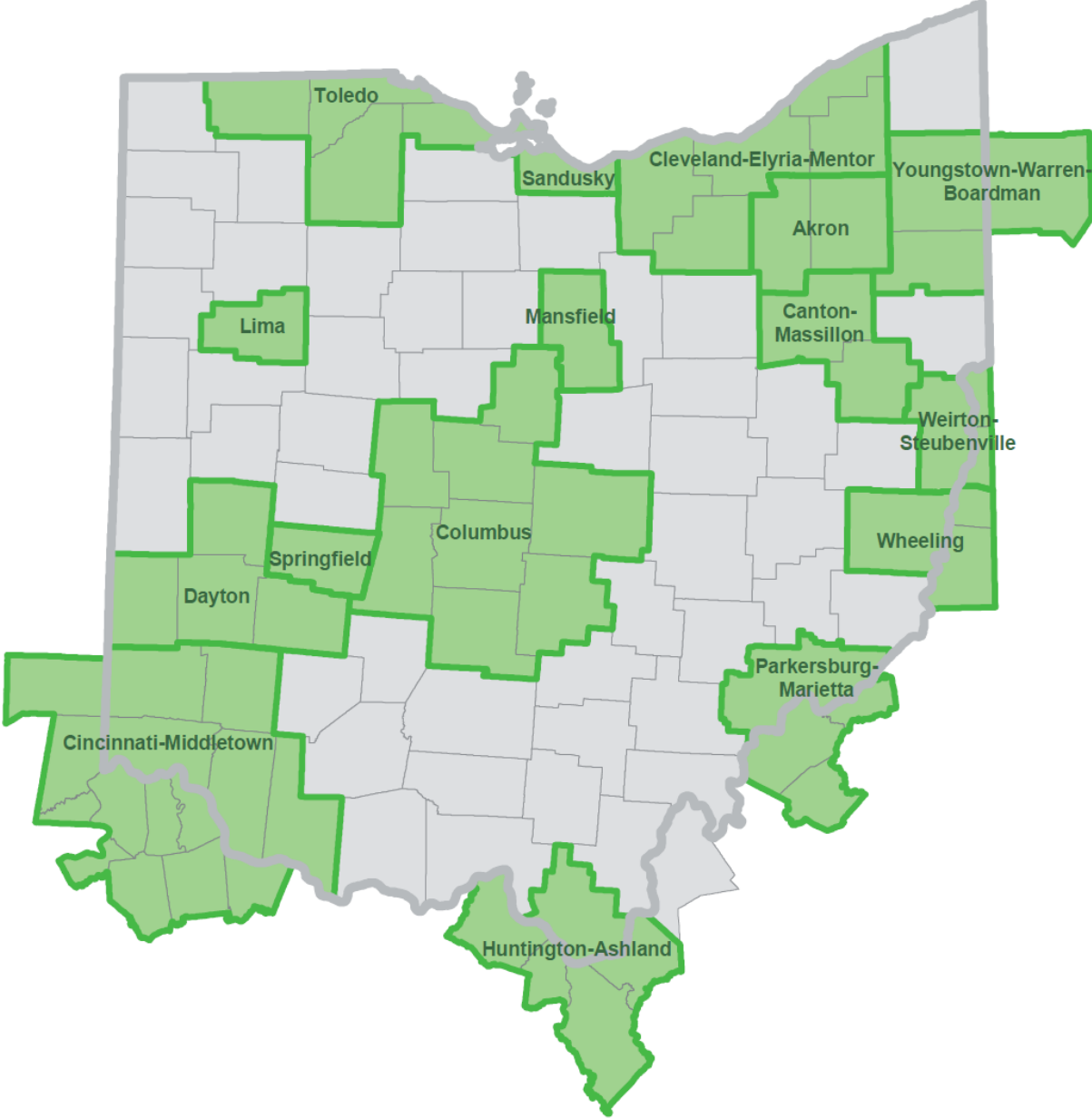
- U.S. Bureau of Labor Statistics (2008a). *Education pays...* Retrieved June 23, 2008, from <http://www.bls.gov/emp/emptab7.htm>.
- U.S. Bureau of Labor Statistics (2008b). *Employment, Hours, and Earnings from the Current Employment Statistics Survey (State & Metro Area)*. Retrieved May 22, 2008, from <http://www.bls.gov/sae/home.htm>.
- U.S. Bureau of Labor Statistics (2008c). *Labor Productivity and Costs*. Retrieved May 19, 2008, from <http://www.bls.gov/lpc/home.htm>.
- U.S. Bureau of Labor Statistics (2008d). *Local Area Unemployment Statistics*. Retrieved May 16, 2008, from <http://www.bls.gov/lau/home.htm>.
- U.S. Census Bureau (2003). *1990-1999 Intercensal State and County Characteristics Population Estimates*. Retrieved May 22, 2008, from <http://www.census.gov/popest/datasets.html>.
- U.S. Census Bureau (2007a). *Household Income Rises, Poverty Rate Declines, Number of Uninsured Up* [Press release]. Retrieved May 22, 2008, from http://www.census.gov/Press-Release/www/releases/archives/income_wealth/010583.html.
- U.S. Census Bureau (2007b). *Population for Whom Poverty Status is Determined*. Retrieved January 15, 2008, from <http://factfinder.census.gov>.
- U.S. Census Bureau (2007c). *Population, Population Change and Estimated Components of Population Change: April 1, 2000 to July 1, 2007*. Retrieved May 22, 2008, from <http://www.census.gov/popest/datasets.html>.
- U.S. Census Bureau (2008). *Poverty Thresholds 2006*. Retrieved May 20, 2008, from <http://www.census.gov/hhes/www/poverty/threshld/thresh06.html>.
- U.S. Department of Education (2007). *Integrated Postsecondary Education Data System*. Retrieved January 15, 2008, from <http://nces.ed.gov/ipeds/pas/>.
- Ziliak, J.P. (2007, February 1). Human capital and the challenge of persistent poverty in Appalachia [Electronic version]. *Economic Commentary*. Retrieved May 30, 2008, from <http://www.clevelandfed.org/Research/commentary/2007/020107.cfm>.

Appendix A: Economic Development Regions in Ohio

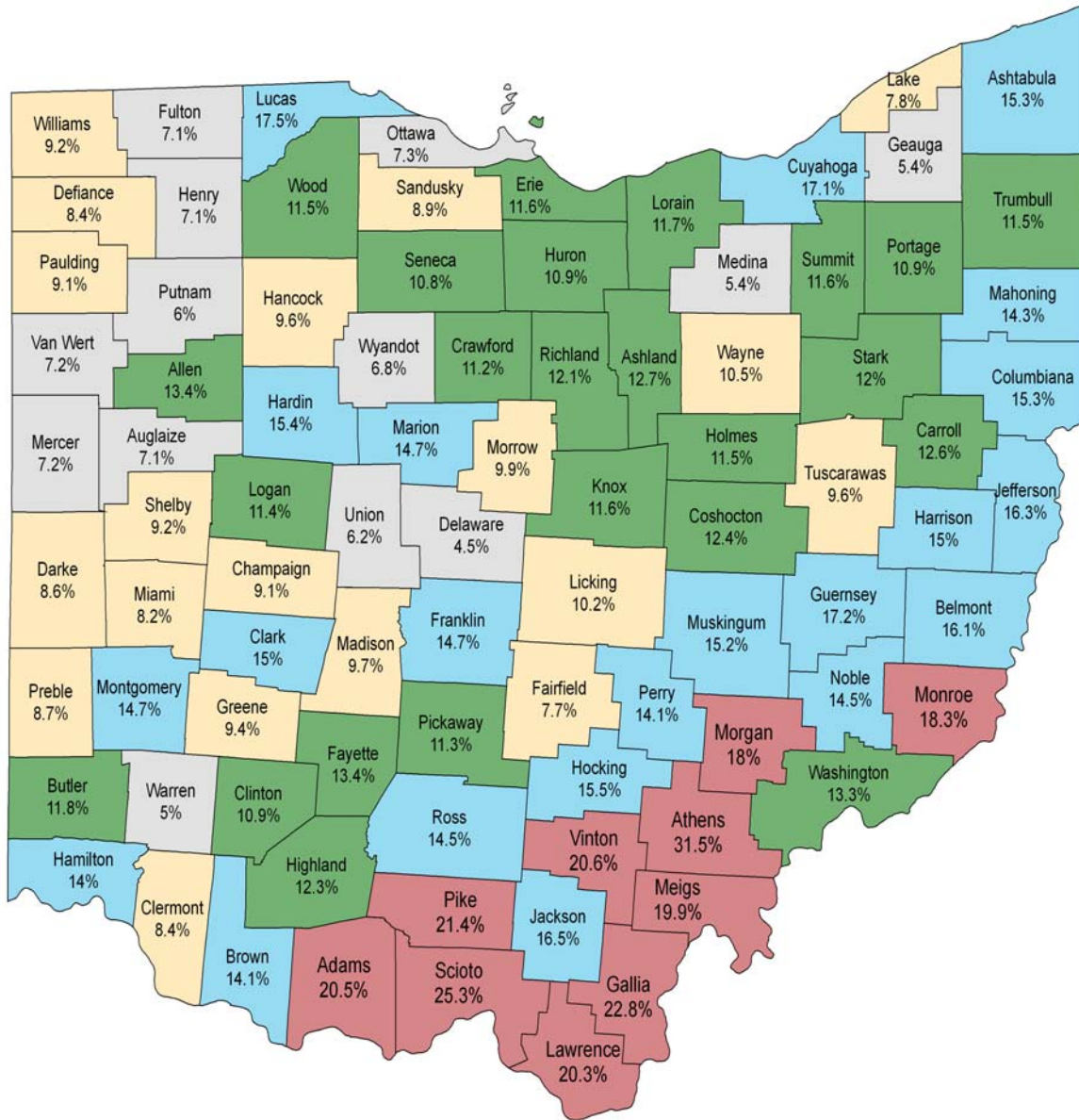


- | | |
|---------------------------|---------------------------|
| 1. Central Ohio | 7. Southern Ohio |
| 2. Northwest Ohio | 8. Northern Ohio |
| 3. West Central Ohio | 9. Northeast Central Ohio |
| 4. Southwest Central Ohio | 10. East Central Ohio |
| 5. Southwest Ohio | 11. Southeast Ohio |
| 6. North Central Ohio | 12. Northeast Ohio |

Appendix B: Metropolitan Statistical Areas in Ohio



Appendix C: County Poverty Rates, 2005



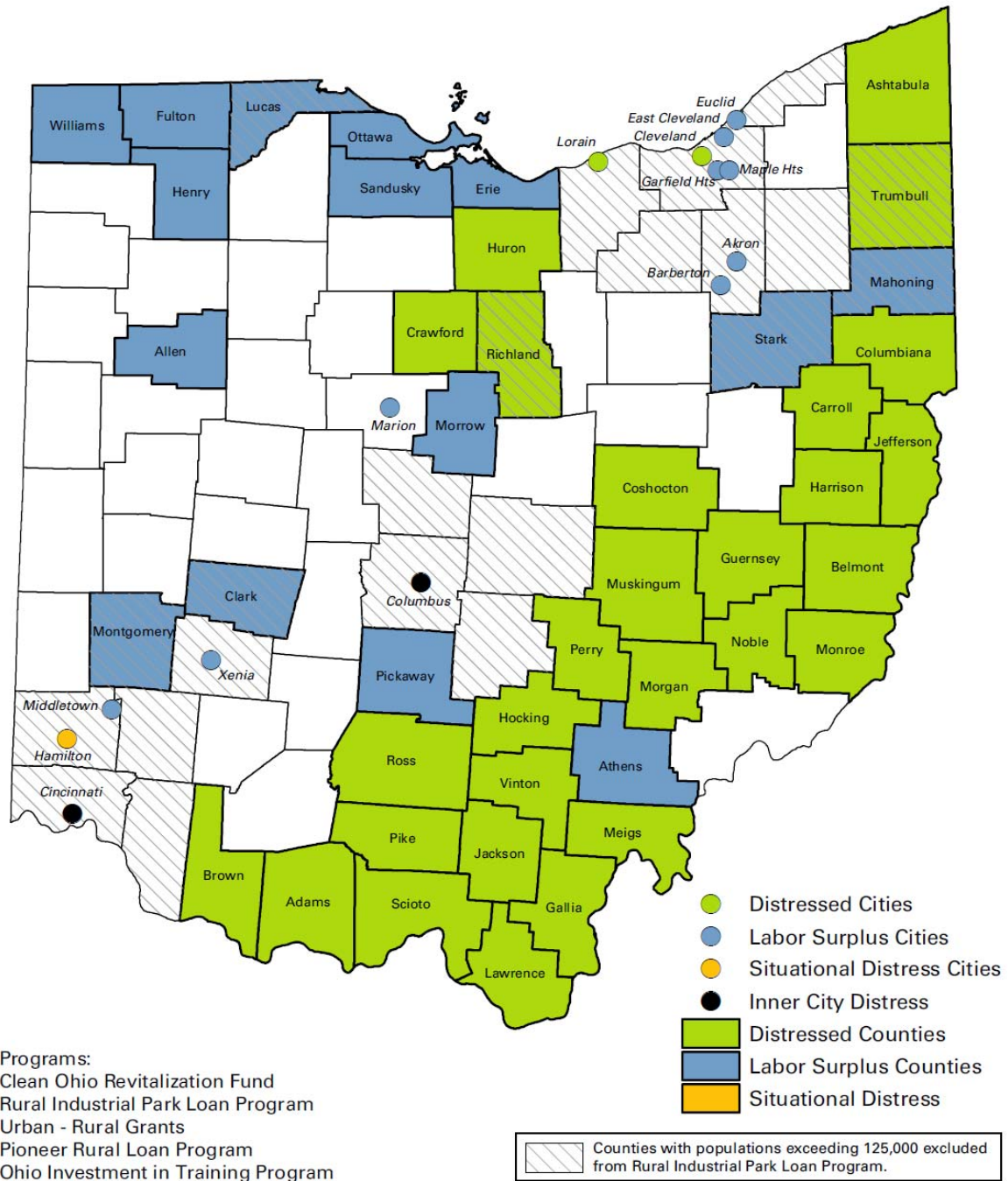
Ohio Average: 13.0%

U.S. Average: 13.3%

Poverty Rate



Appendix D: Priority Investment Areas, January – June 2008



Appendix E: Structured Training Program Completers by Program Group, 2005 – 06

Program Group	Postsec. < 2 yrs.	Assoc.	Postsec. 2-4 yrs.	Bach.	Master's	Doctor's	1st Prof.
Total, All Programs	10,134	24,372	771	62,264	21,403	2,113	3,524
Agriculture, Agriculture Ops. & Rel. Sci.	56	340		394	45	30	
Natural Resources & Conservation		165		307	55	6	
Architecture & Rel. Serv.				422	188	3	
Area, Ethnic, Cultural & Gender Studies				334	81	7	
Communications, Journalism & Rel.	20	57		3,600	217	42	
Comm. Technologies/Technicians & Support	3	111		17			
Computer & Information Sci. & Support	137	1,711		1,308	290	27	
Personal & Culinary Services	19	224		48			
Education	12	548		6,989	6,435	298	
Engineering	6	126		2,964	1,549	365	
Engineering Technologies/Technicians	418	2,168		744	94	3	
Foreign Languages, Literatures & Linguistics	70	67		894	179	31	
Family & Consumer Sci./Human Sci.	47	272		1,452	84	23	
Legal Professions & Studies	128	501		115	45		1,590
English Language & Literature/Letters	48	9		2,401	477	33	
Liberal Arts & Sci., General Stud. & Humanities	52	3,754		1,050	72		
Library Science		8		1	262		
Biological & Biomedical Sciences	4	19		2,473	309	197	
Mathematics & Statistics		9		467	231	42	
Military Technologies					13		
Multi/Interdisciplinary Studies	11	116		711	169	85	
Parks, Rec., Leisure & Fitness Studies	4	117		1,161	221	1	
Philosophy & Religious Studies	2			659	87	14	
Theology & Religious Vocations	22	31	16	451	232	80	185
Physical Sciences		7		740	244	211	
Science Technologies/Technicians	4	33		11			
Psychology	3	18		2,919	582	195	
Security & Protective Services	48	1,276		1,190	288		
Pub. Admin. & Social Service Professions	19	358		690	740	10	
Social Sciences	28	51		4,790	443	77	
Construction Trades	198	29					
Mechanic & Repair Technologies/Trades	984	618	112				
Precision Production	240	34					
Transportation & Materials Moving	14	10		168			
Visual & Performing Arts	90	634	14	3,423	683	73	
Health Professions & Rel. Clinical Sci.	6,872	6,910	629	4,406	1,696	177	1,749
Business, Mgt., Marketing & Rel. Support Svcs.	574	4,034		13,630	5,258	50	
History	1	7		1,335	134	33	

Key: Postsecondary awards less than 2 years; associate degrees; postsecondary awards 2 to 4 years; baccalaureate degrees; master's degrees; doctoral degrees; and first professional degrees.

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Bureau of Labor Market Information
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This report was produced by the Bureau of Labor Market Information, under the supervision of Bureau Chief Keith Ewald and Assistant Bureau Chief Rudy Wilkinson. For further information, visit our website at <http://lmi.state.oh.us> or contact the Ohio Bureau of Labor Market Information at 1-888-296-7541.

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State of Ohio

Helen E. Jones-Kelley, **Director**
Ohio Department of Job and Family Services

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