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Statewide and Regional Employment Growth in Ohio in 2017

Summary

The Ohio economy grew in 2017, but at a much slower rate than the rest of the nation. Ohio employment increased 0.8 percent (44,900 jobs), compared to U.S. employment growth of 1.4 percent.

Ohio growth through the expansion has also been slower than average, with total gains since 2010 amounting to 10.5 percent, versus U.S. growth of 14.1%. Ohio recovered the last of its jobs lost in the 2007-2009 recession in April 2016, but the state outside of the Columbus Metropolitan Statistical Area had still not reached this milestone in December 2017.

Many industry sectors underperformed the U.S. in 2017 and through the expansion. Education and health services, professional and business services, manufacturing, and other services were notably weaker than average in 2017, while financial activities and construction grew markedly faster than average.

Employment growth is also measured for the 12 Metropolitan Statistical Areas (MSAs) based in Ohio, and seven other regions encompassing smaller MSAs and rural areas. Economic performance differs significantly among the regions. Among the large MSAs, Cincinnati, Columbus, and Dayton outperformed the Ohio average in 2017. However, the performance of the six smaller MSAs was generally much worse than that of the six large ones. All seven of the small MSA-rural regions also underperformed in 2017.

Detailed analysis of all regions' performance in Ohio's four largest industry sectors – education and health services, professional and business services, government, and manufacturing – dramatizes the fact that economic performance varies widely among different parts of the state. Even in the two weakest sectors at the state level, professional and business services and manufacturing, some regions enjoyed growth greater than the national average that helped to offset the declines elsewhere.

Introduction

This is an annual update of Ohio employment growth, based on newly-released 2017 employment totals at the national, state, and county level. These statistics allow an analysis and comparison of growth among Ohio's metropolitan areas and rural regions.

The April 13, 2018, issue of *On the Money* (Vol. 132, No. 31) discussed newly-issued data for the U.S., states, and Metropolitan Statistical Areas (MSAs) showing employment growth through the end of 2017. While this release gave an early view of 2017 growth, the employment totals used in that analysis – the Bureau of Labor Statistics' Current Employment Statistics (CES) – are estimates based on a sample, and those for recent months are subject to significant revision, especially at the MSA level. The CES employment estimates are rounded off to the nearest hundred, making detailed analysis of trends in smaller MSAs difficult or impossible. Nor does the CES data set include the county data necessary to analyze the performance of non-metropolitan regions.

The data source used here, the Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW), is somewhat less timely, but it does include county data. Also, the employment totals here are counts of employment rather than estimates, so it is accurate as presented and not subject to any significant revision.

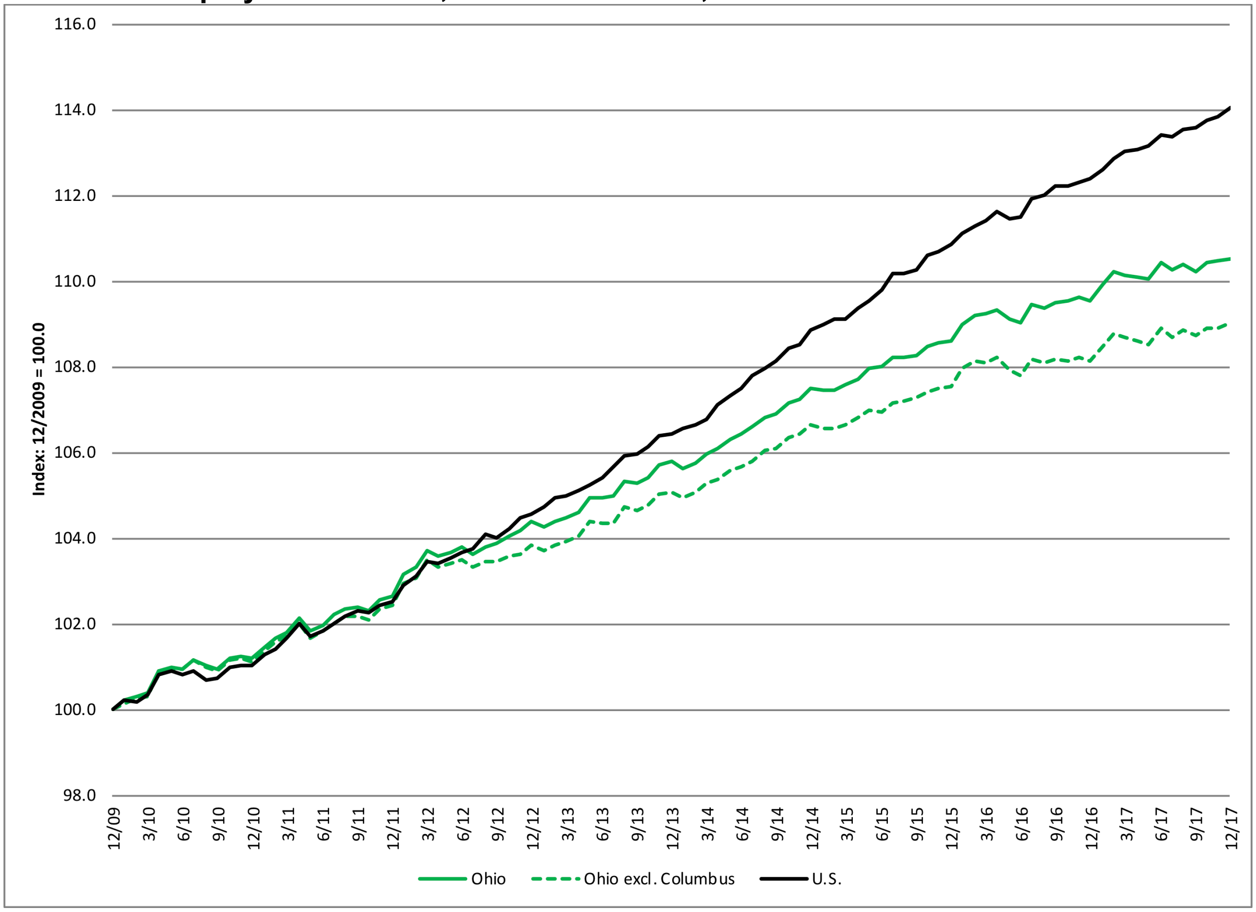
Statewide Trends[1]

Ohio and U.S. employment reached bottom in December 2009, six months after the end of the recession. Ohio's total nonfarm employment that month stood at 4.88 million, its lowest level since December 1993. U.S. employment that month reached a level not seen since September 1999.

Figure 1 compares net Ohio employment growth to U.S. growth from that 2009 trough through December 2017. Employment is expressed in this chart on an index basis with the December 2009 level set to 100.0. As the graph shows, Ohio's employment tracked slightly above the U.S. average before slowing relative to national growth in mid-2012. As of December 2017, Ohio employment had increased 511,100 from its low point – a gain of 10.5 percent versus the 14.1 percent gain at the national level. However, tables later in the report will demonstrate the extent to which the Columbus MSA has outperformed both Ohio and the U.S. This difference has a measurable impact on the statewide growth, making it unrepresentative of the status of the rest of the state. For this reason, Figure 1 also shows the growth of Ohio employment outside of the Columbus MSA. Excluding Columbus, statewide growth totals 360,000 jobs, or 9 percent – one-third less than the national average.

[1] This analysis is based on monthly QCEW data seasonally adjusted by Regionomics.

Figure 1
Total Employment Growth, Ohio and the U.S., December 2009 – December 2017



Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics, seasonally adjusted by Regionomics.

Figure 2 charts state and national progress in recovering the jobs lost in the 2007-2009 recession. This is accomplished by charting cumulative net changes since January 2008, the month that U.S. employment peaked. Using this as a benchmark month understates Ohio's recession losses somewhat: Ohio's employment peak occurred eight months earlier, in May 2007. The state had already lost 10,600 jobs by January 2008.[2] The U.S. suffered total losses of nearly nine million jobs in the recession, or 6.6 percent. Ohio's job losses from May 2007 totaled 451,300 (8.5 percent). Both the U.S. and Ohio have recovered those losses. U.S. employment first exceeded its pre-recession peak in April 2014, and as of December 2017 stood 8.9 million jobs (6.5 percent) above that peak. Ohio employment topped its May 2007 peak in April 2016, and has added 59,800 (1.1 percent) in subsequent months.

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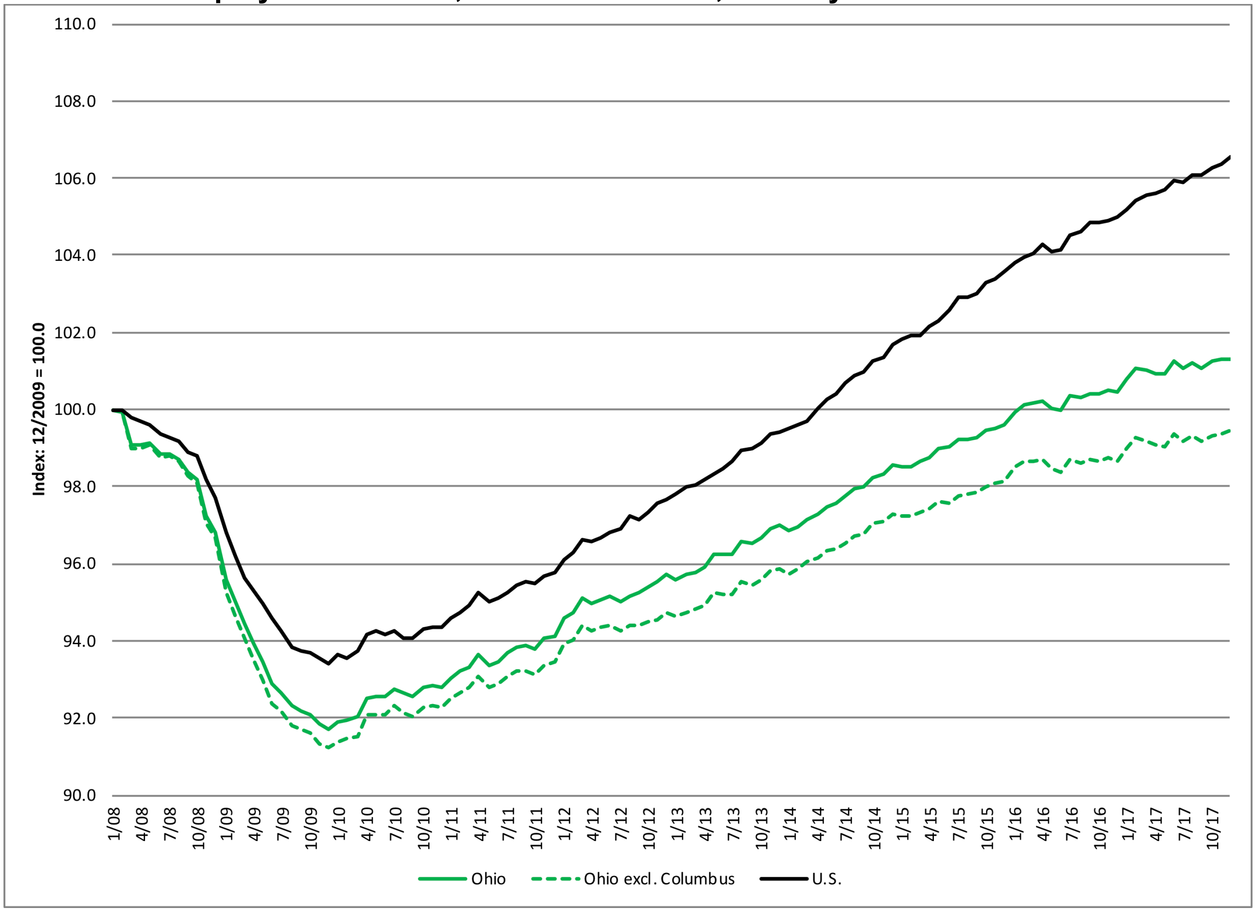
[2] The May 2007 peak was 187,000 less than the previous peak reached in February 2001, one month before the beginning of that year's recession.

Figure 2
Total Employment Growth, Ohio and the U.S., January 2008 – December 2017



Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics, seasonally adjusted by Regionomics.

However, once again the statewide average including the Columbus MSA overstates the performance of the remainder of the state. As Figure 2 makes clear, Ohio outside Columbus had not returned to its January 2008 employment level by the end of 2017. The shortfall from its true peak the previous May was 35,500 jobs (0.7 percent).

Sector Employment Changes

Table 1 compares annual average employment percentage changes by nonfarm industry sector in Ohio to changes at the national level since the beginning of the expansion and over the past year. As shown in the table, Ohio's total employment growth was slower than average during both 2010-2017 and 2016-2017, confirming the results of Figure 1. Because the sectors are listed in order of employment size, those listed first generally have the largest impact on total employment growth. It is important to note, however, that annual growth rate comparisons are not as precise as monthly trends: annual growth rates are a function not only of this year's trend, but of last year's trend as well.

Table 1
Annual Employment Changes by Sector, Ohio and the U.S., 2010-2017 and 2016-2017

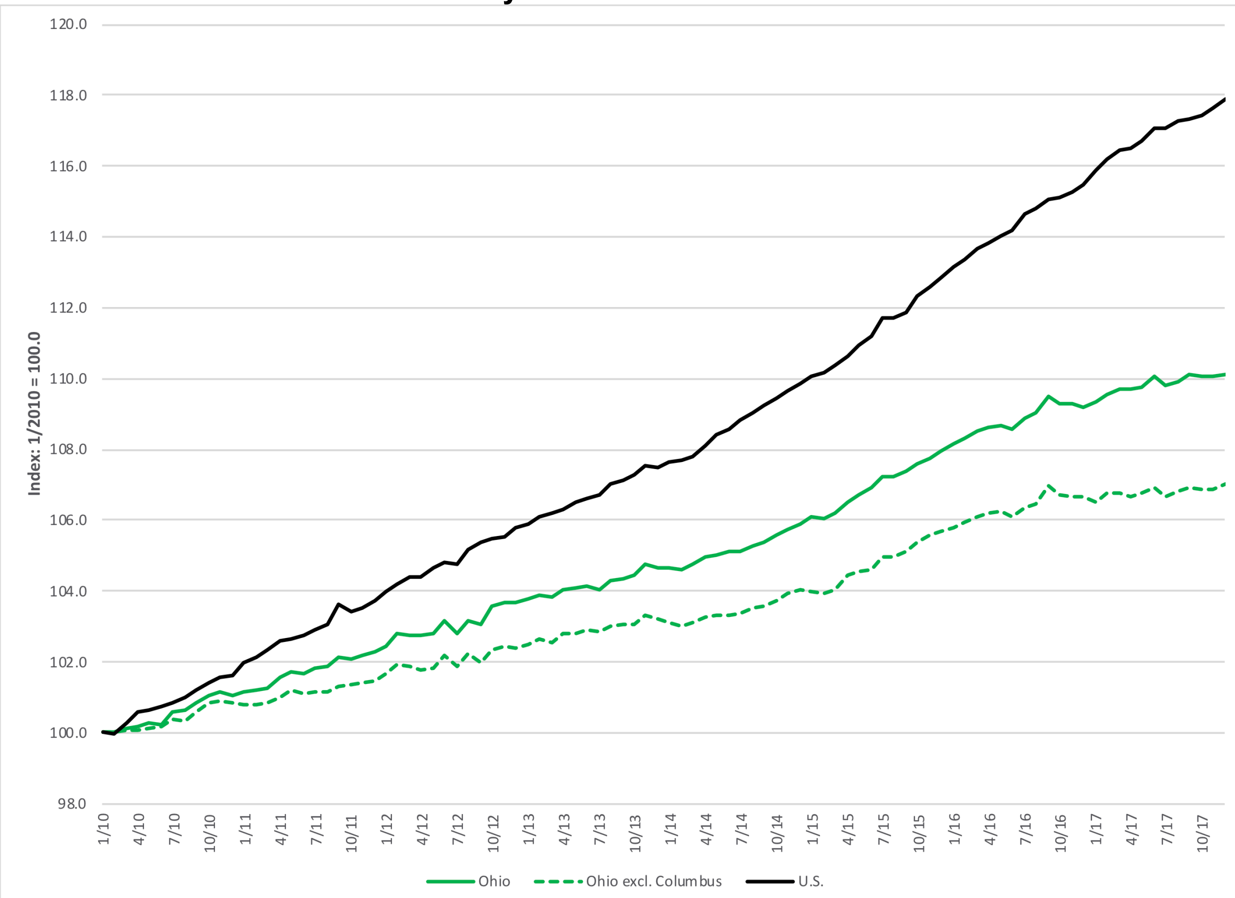
Sector	Share of Ohio emp., 2017	2010-2017			2016-2017		
		Ohio		U.S.	Ohio		U.S.
Total nonfarm	100.0%	455,966	9.3%	12.5%	44,858	0.8%	1.4%
Education & health services	16.7%	76,358	9.3%	18.7%	8,326	0.9%	2.2%
Prof. & business services	13.5%	100,299	16.1%	21.6%	1,541	0.2%	1.5%
Government	13.4%	-21,256	-2.9%	-0.7%	4,789	0.7%	0.5%
Manufacturing	12.8%	66,157	10.7%	8.0%	1,382	0.2%	0.9%
Retail trade	10.7%	24,442	4.4%	9.5%	832	0.1%	0.2%
Leisure and hospitality	10.4%	85,229	17.9%	22.2%	8,813	1.6%	2.2%
Financial activities	5.4%	23,347	8.8%	9.2%	6,062	2.1%	1.6%
Wholesale trade	4.4%	19,661	9.1%	7.9%	774	0.3%	0.6%
Construction	4.0%	48,006	28.4%	25.9%	11,080	5.4%	3.4%
Transport & warehousing	3.5%	32,528	21.1%	25.4%	2,325	1.3%	3.8%
Other services	2.9%	6,265	4.2%	1.8%	-474	-0.3%	1.0%
Information	1.3%	-5,993	-7.7%	3.7%	-171	-0.2%	0.3%
Natural resources & mining	0.5%	2,954	12.0%	4.8%	34	0.1%	0.6%
Utilities	0.4%	-839	-4.2%	0.1%	-160	-0.8%	-0.2%

Note: Sector employment changes do not sum to the total employment change because of changes in unclassified employment.
Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics.

With relatively few exceptions, industry sector employment growth in Ohio has also been slower than average. This is true for the largest sector, education and health services. This sector includes only private education; public school, college, and university employment is included in government. Consequently, 89 percent of the 897,275 jobs in this sector are in healthcare and social assistance.

As graphed in Figure 3, Ohio's education and health services employment increased 10 percent between January 2010 and December 2017, but only 7 percent outside of the Columbus MSA. U.S. employment increased nearly 18 percent. While the hospitals in Ohio's largest cities have an excellent reputation, and are drawing increasing numbers of patients from outside Ohio, many healthcare providers serve only a local market. As reported in the April 13, 2018 issue of *On the Money* (Vol. 132, No. 31), population is declining in most regions of Ohio. That poses challenges for this and other locally-serving industries: with a lack of growth in the market, the industry's growth is likewise limited. The lack of population growth also leads to a lack of growth in the workforce, which limits the growth of both these industries and those serving a broader market.

Figure 3
Education and Health Services Employment Growth, Ohio and the U.S.
January 2010 – December 2017



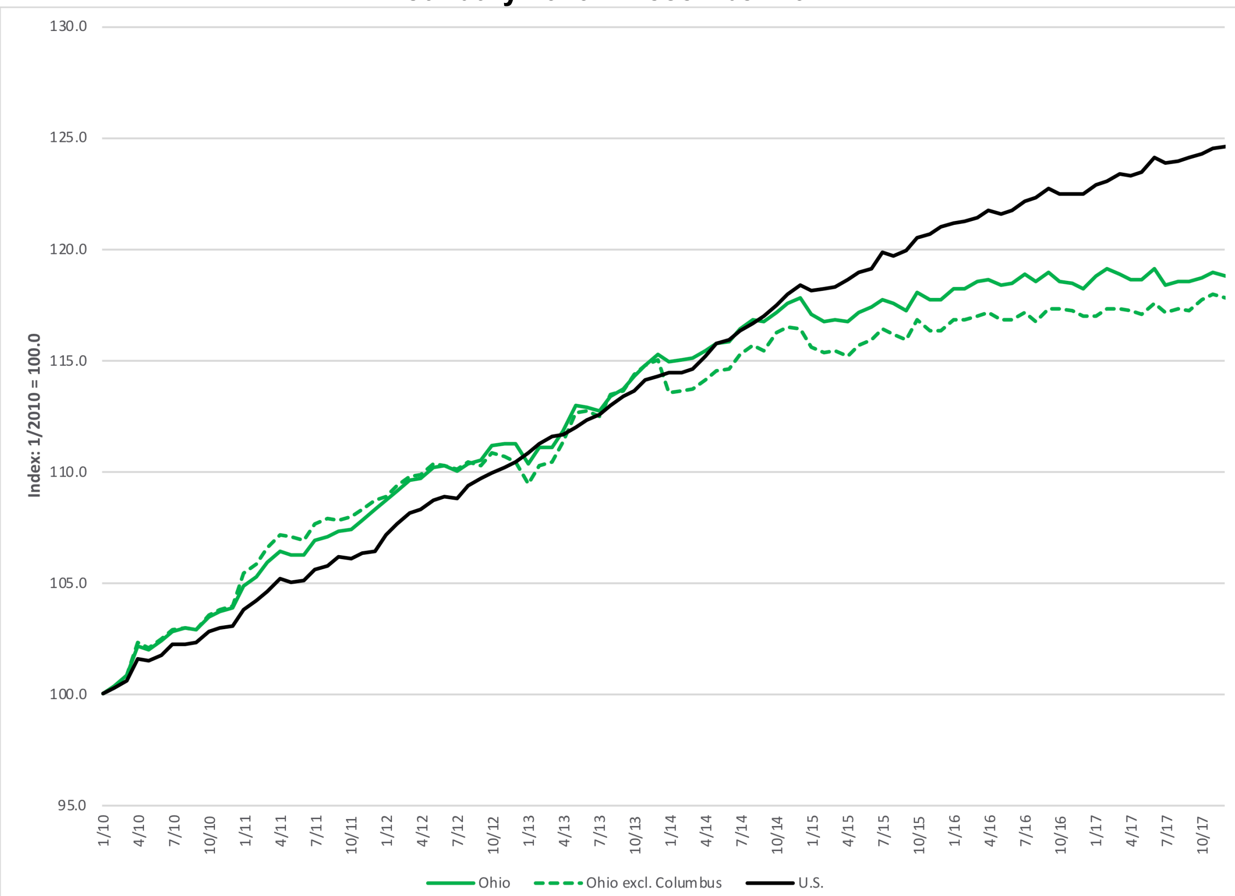
Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics, seasonally adjusted by Regionomics.

The professional and business services sector accounted for 724,577 Ohio jobs in 2017. This includes a variety of primarily – but not completely – business-to-business services, categorized in three primary subsectors:

- Professional and technical services: non-medical professional offices, such as accountants, attorneys, architects, and engineers; research and development services; and marketing and public relations.
- Management of companies and enterprises (corporate and division headquarters).
- Administrative support and waste services: professional, building, and dwelling support services; all temporary employment regardless of the sector in which workers are employed; and private-sector waste collection, remediation, and recycling services.

Figure 4 documents that employment growth in professional and business services generally kept pace with the national average through the end of 2014, but then slowed significantly. The performance of Ohio outside of Columbus was not much worse than the entire state. The culprits seem to be the professional and technical services and administrative and waste services segments. Professional and technical services employment, 36 percent of the sector total, grew only 0.4 percent in 2017 while U.S. employment grew 1.2 percent. Administrative and waste services employment is 45 percent of the total. Ohio employment declined 1 percent in 2017 while growing 1.2 percent nationally. In contrast, employment in Ohio corporate offices grew 2.6 percent in Ohio, better than the 2.1 percent U.S. rate. This segment accounts for only 19 percent of professional and business service employment, however. This important segment was last featured in *On the Money* on October 14, 2014 (Vol. 130, No. 43). Clearly it is time for an updated look, which will occur this October.

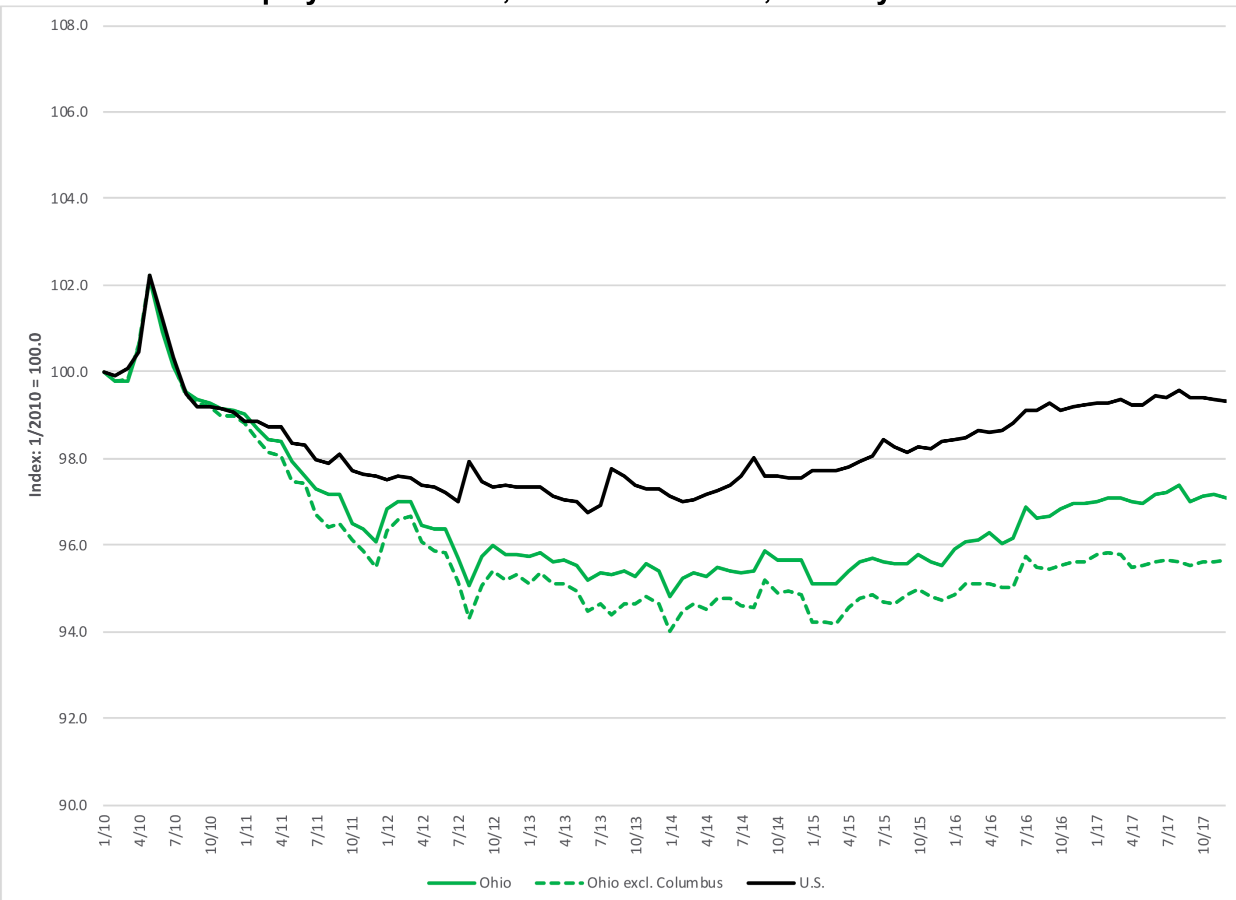
Figure 4
Professional and Business Services Employment Growth, Ohio and the U.S.
January 2010 – December 2017



Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics, seasonally adjusted by Regionomics.

As Figure 5 demonstrates, employment in the government sector has been far more stable than employment in other sectors, but this sector too has underperformed over the course of the expansion. (The employment spike in 2010 represented the hiring of temporary workers to assist with that year's Census.) Government in Ohio added nearly 4,800 jobs in Ohio in 2017, 60 percent of those in the Columbus MSA. Ohio's growth in 2017 amounted to 0.7 percent statewide and 0.3 percent outside of Columbus. Government employment nationwide increased 0.5 percent. Employment increased in all three levels of government – federal, state, and local. Federal employment increased 1.1 percent (800 jobs) compared to a national gain of only 0.3 percent. State government employment increased nearly 1,800 jobs, or 1.4 percent, most of those in Columbus. Employment in state governments throughout the U.S. rose by 1.2 percent. Local government employment was stable in both Ohio and elsewhere, increasing 0.4 percent, or more than 2,100 jobs, in Ohio and 0.3 percent throughout the U.S.

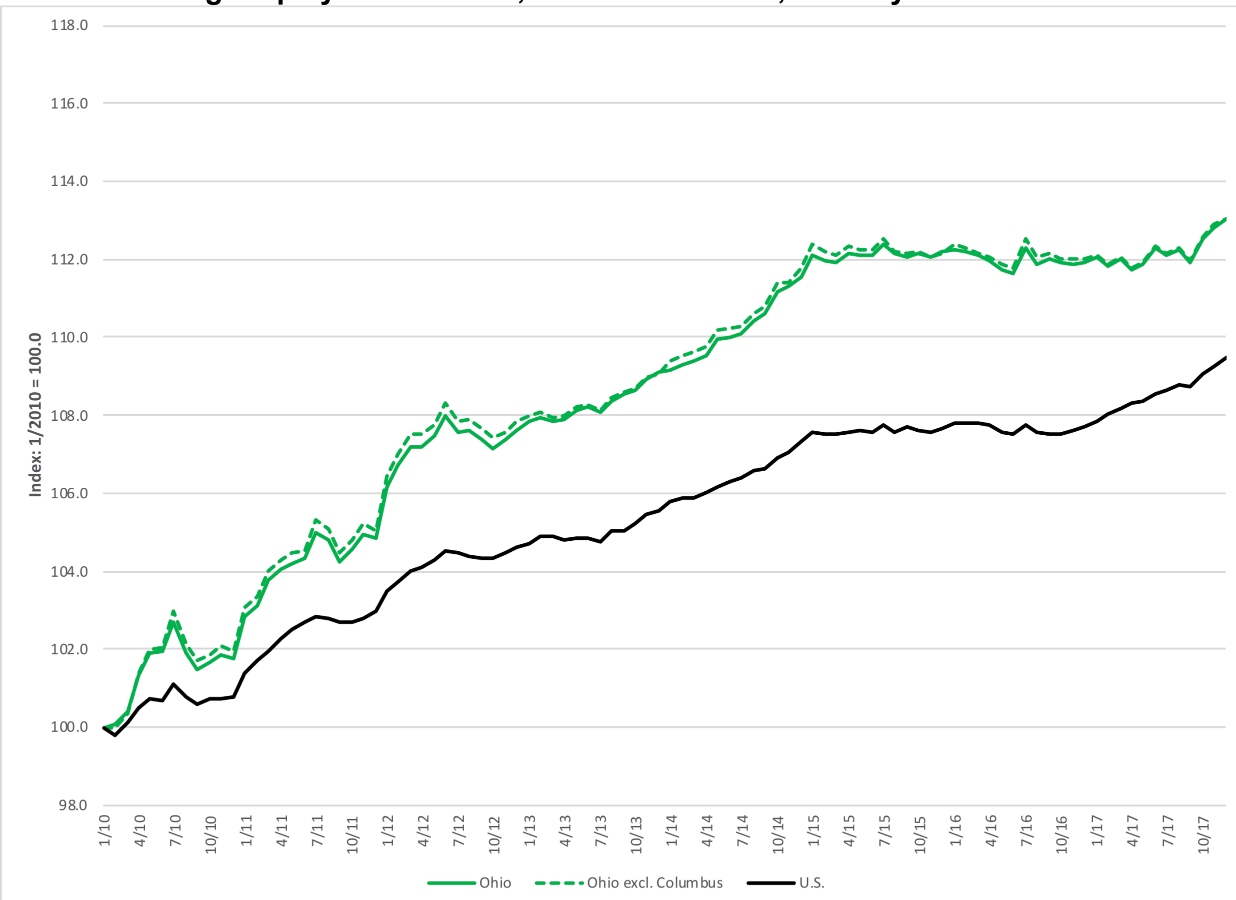
Figure 5
Government Employment Growth, Ohio and the U.S., January 2010 – December 2017



Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics, seasonally adjusted by Regionomics.

Until the end of 2014, manufacturing was the key driver of the state's employment growth, with much stronger-than-average employment increases throughout the state. However, as Figure 6 makes clear, employment growth flattened both in Ohio and nationwide in 2015. U.S. growth resumed in late 2016, but Ohio employment ticked upward only in the last months of 2017. For the year as a whole, Ohio employment was up 0.2 percent, while U.S. employment was up 0.9 percent. It remains to be seen whether the growth in U.S. manufacturing employment will begin to be felt in Ohio. Given the central role of manufacturing in Ohio and in communities throughout the state, that would be a welcome development. However, the Current Employment Statistics, available through July 2018, suggest that manufacturing employment growth continues weak.

Figure 6
Manufacturing Employment Growth, Ohio and the U.S., January 2010 – December 2017



Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics, seasonally adjusted by Regionomics.

Regional Trends

As most of these articles have emphasized, Ohio's economy consists of a number of distinct urban and rural regional economies, each with different economic characteristics and economic performance. Thus, this survey of Ohio's employment growth must also examine the pace of growth at a regional level. Figure 7 maps the 13 regions that have been repeatedly featured in these articles – the six largest Metropolitan Statistical Areas (MSAs) and seven others including smaller MSAs and rural areas. Thanks to the fact that QCEW statistics are precise and available at the county level, all of these regions and the six other MSAs based in Ohio can be analyzed.

Figure 7
Ohio Regions

Northwest | Toledo MSA | West North Central | Cleveland MSA | Akron MSA
Northeast | West | Columbus MSA | East North Central | Dayton MSA
Cincinnati MSA | South | Southeast

Table 2 documents the total annual average employment growth of these 13 regions, the six smaller MSAs, and the total Cincinnati MSA, including its three Indiana and seven Kentucky counties, over the course of the recovery and in 2017. U.S. and Ohio growth are included for comparison. The state's employment includes more than 117,000 jobs that are within Ohio but are not assigned to any county. These unallocated jobs have increased by more than 52,000 (80 percent) since 2010. If these jobs were in their own county, its employment would rank ninth in the state. The large and growing number of unallocated jobs causes the performance of individual regions and their growth to be understated, and may or may not distort comparisons of the regions' relative performance. Like the Cincinnati MSA, the Weirton-Steubenville and Youngstown MSAs also cross state lines. Weirton-Steubenville includes one county in Ohio and two in West Virginia, while Youngstown includes two counties in Ohio and one in Pennsylvania.

Table 2
Employment Growth of Ohio Regions and MSAs, 2010-2017 and 2016-2017

Area	Employment, 2017		Percentage changes	
	Number	% of Ohio	2010-2017	2016-2017
United States	**143,860,904**	**n/a**	**12.5%**	**1.4%**
Ohio*	**5,364,537**	**100.0%**	**9.3%**	**0.8%**
Large MSAs	**3,838,517**	**71.6%**	**9.4%**	**0.9%**
Akron MSA	321,265	6.0%	6.3%	0.2%
Cincinnati MSA (Ohio counties)	827,570	15.4%	9.6%	1.3%
Cleveland MSA	1,008,574	18.8%	5.3%	0.3%
Columbus MSA	1,018,935	19.0%	15.9%	1.9%
Dayton MSA	369,643	6.9%	7.5%	1.3%
Toledo MSA	292,530	5.5%	8.2%	-0.6%
Small MSAs and rural	**1,408,782**	**26.3%**	**5.5%**	**0.3%**
Northwest	71,932	1.3%	7.9%	0.6%
West North Central	214,731	4.0%	2.9%	0.1%
East North Central	116,358	2.2%	11.3%	0.4%
Northeast	450,191	8.4%	3.0%	-0.4%
West	281,785	5.3%	9.0%	0.7%
South	146,880	2.7%	4.5%	0.9%
Southeast	126,905	2.4%	6.3%	0.7%
Other MSAs				
Canton MSA	165,877	3.1%	7.5%	0.6%
Cincinnati MSA (total)	1,037,597	n/a	9.9%	1.4%
Lima MSA	50,922	0.9%	3.2%	1.0%
Mansfield MSA	50,115	0.9%	-1.1%	-1.3%
Springfield MSA	48,157	0.9%	1.9%	0.5%
Weirton-Steubenville MSA	37,517	n/a	-8.4%	-2.2%
Youngstown MSA	210,151	n/a	-0.9%	-1.7%

n/a = not applicable because the MSA includes employment outside Ohio.
*Includes 117,238 positions (2.2% of the total) whose specific location within Ohio is unknown.
Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics.

Economic performance differs significantly among the regions. All of the large MSAs except Columbus have underperformed the Ohio average since 2010. While none of the large MSAs except Columbus exceeded national average growth in 2017, the Ohio portion of Cincinnati and Dayton were only marginally less. Columbus, Cincinnati, and Dayton have enjoyed steady growth over the past four years. Growth in the Akron and Cleveland MSAs was minimal, with Akron's seven-year performance somewhat better than Cleveland's. The performance of the smaller MSAs in the bottom panel of Table 2 was generally much worse than that of the six large ones. Mansfield, Weirton-Steubenville, and Youngstown lost jobs in 2017. Mansfield's and Youngstown's 2017 losses were enough to erase their previous positive employment growth since 2010. Weirton-Steubenville's employment has been in steady decline since 2008, with a loss of nearly 8,500 jobs (18.4 percent) since then.

Employment growth in the regions including the small MSAs and rural areas (the middle section of Table 2) was also weak. This included the East North Central region, which had the strongest growth in the state in 2015, but has weakened considerably since then.

Sector Employment Growth at the Regional Level

The following tables detail regional employment and employment changes in the four largest sectors statewide: education and health services, professional and business services, government, and manufacturing. These tables have the same basic format as Table 2, except that the second data column shows the sector's location quotient within each region. The location quotient is a measure of employment concentration. It is the percentage of total regional employment in a given sector divided by the percentage of total employment in that sector nationally. Thus, a location quotient greater than one indicates a sector with a greater-than-average concentration in the area. Note that U.S. location quotients are always 1.000 by definition: these are the national employment percentages divided by themselves.

Table 3 analyzes education – again, private education only – and health services. This sector's location quotients are generally higher in the MSAs than in the more rural regions because healthcare providers in the larger urban areas serve both patients in their own area and patients from outlying communities requiring more specialized treatment. The high location quotients in the South and Southeast are likely due to the lack of larger cities nearby. The location quotient in Columbus is less than one, but this is understated because the employees of The Ohio State University Wexner Medical Center are classified in state government, and the data are not available to reassign them to this sector.

As in the case of total employment, there is wide variation among the regional results. Only the Columbus MSA's growth over the past year and past seven years is greater than the national average, but a number of regions outperformed the state in 2017: Cincinnati and Dayton among the large MSAs; the Northwest, West North Central, West, and Southeast regions; and Canton, Lima, and Springfield among the smaller MSAs.

Table 3
Education and Health Services Employment Growth in Ohio Regions, 2010-2017 and 2016-2017

	Employment, 2017		Percentage changes	
Area	Number	Location quotient	2010-2017	2016-2017
United States	**22,139,340**	**1.000**	**18.7%**	**2.2%**
Ohio	**897,275**	**1.087**	**9.3%**	**0.9%**
Large MSAs	**656,547**	**1.111**	**9.8%**	**1.0%**
Akron MSA	54,211	1.096	8.4%	0.6%
Cincinnati MSA (Ohio counties)	137,001	1.076	7.7%	1.3%
Cleveland MSA	190,362	1.226	6.2%	-1.3%
Columbus MSA	154,579	0.986	21.4%	3.5%
Dayton MSA	70,365	1.237	8.4%	1.8%
Toledo MSA	50,029	1.111	-0.9%	0.7%
Small MSAs and rural	**234,231**	**1.080**	**3.2%**	**0.8%**
Northwest	9,194	0.831	3.1%	1.8%
West North Central	31,962	0.967	-0.7%	1.6%
East North Central	17,321	0.967	9.7%	0.3%
Northeast	83,921	1.211	1.3%	0.6%
West	40,727	0.939	3.1%	1.1%
South	27,672	1.224	11.4%	-0.9%
Southeast	23,434	1.200	2.3%	2.1%
Other MSAs				
Canton MSA	31,689	1.241	5.4%	1.1%
Cincinnati MSA (total)	161,174	1.009	10.7%	1.4%
Lima MSA	11,328	1.446	3.3%	3.9%
Mansfield MSA	7,786	1.010	-7.1%	-1.6%
Springfield MSA	8,503	1.147	-3.6%	1.0%
Weirton-Steubenville MSA	8,175	1.416	2.1%	-1.3%
Youngstown MSA	41,857	1.294	-0.4%	0.6%

Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics.

Professional and business services employment growth is shown in Table 4. This analysis takes on particular importance because of the recent weakening in the sector's growth discussed above. Business services employment is focused in the large MSAs, particularly Akron, Cincinnati, and Columbus. These establishments tend to cluster in larger cities from which they can serve a regional market.

Many regions – but not all – suffered weak growth or declines in 2017. Among the large MSAs, Cleveland was a rare standout, with 2017 growth double the U.S. average. The South region, Canton, and Weirton-Steubenville also experienced sharp employment increases. The growth of Weirton-Steubenville is particularly eye-catching; the 12 percent growth translates to 201 net new jobs during 2017.

Table 4
Professional and Business Services Employment Growth in Ohio Regions
2010-2017 and 2016-2017

Area	Employment, 2017		Percentage changes	
	Number	Location quotient	2010-2017	2016-2017
United States	**20,326,689**	**1.000**	**21.6%**	**1.5%**
Ohio	**724,577**	**0.956**	**16.1%**	**0.2%**
Large MSAs	**582,379**	**1.074**	**14.1%**	**0.3%**
Akron MSA	50,385	1.110	10.0%	-0.9%
Cincinnati MSA (Ohio counties)	132,756	1.135	9.1%	-0.9%
Cleveland MSA	146,381	1.027	13.3%	3.1%
Columbus MSA	170,225	1.182	20.9%	-0.1%
Dayton MSA	47,595	0.911	9.7%	-0.1%
Toledo MSA	35,037	0.848	16.7%	-1.7%
Small MSAs and rural	**101,780**	**0.511**	**11.5%**	**-0.8%**
Northwest	3,242	0.319	20.9%	-1.0%
West North Central	13,105	0.432	3.3%	-0.8%
East North Central	6,586	0.401	0.9%	-1.4%
Northeast	39,252	0.617	2.8%	0.0%
West	22,192	0.557	24.7%	-4.3%
South	9,740	0.469	37.4%	5.5%
Southeast	7,663	0.427	21.7%	-0.7%
Other MSAs				
Canton MSA	14,940	0.637	12.4%	7.9%
Cincinnati MSA (total)	157,988	1.078	10.1%	-0.6%
Lima MSA	4,322	0.601	17.2%	-2.8%
Mansfield MSA	4,841	0.684	-6.8%	-7.6%
Springfield MSA	4,530	0.666	19.7%	1.0%
Weirton-Steubenville MSA	1,861	0.351	3.0%	12.1%
Youngstown MSA	19,323	0.651	-4.7%	-7.1%

Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics.

Table 5 examines government employment. Note that the Columbus government location quotient is only 1.03, less than in Dayton and much less than in the South and Southeast. The Dayton MSA is home to Wright-Patterson Air Force Base, giving the region a federal government location quotient of 2.57 – indicating that federal government employment is more than 2.5 times what would be expected in a region the size of Dayton. The small population of the South and Southeast leads to many counties, municipalities and townships serving relatively few residents. Columbus, on the other hand, is one of the largest cities in the U.S. to serve as a state capital. Consequently, even though the state government location quotient is 1.82, the government sector as a whole does not dominate the central Ohio economy nearly to the extent that it does in regions anchored by smaller capital cities, where government can account for one-quarter of total employment.

Consistent with the recent increase in government employment documented in Table 1 and Figure 5, many regions experienced increases in employment that reduced the accumulated declines of the previous six years. Growth was particularly favorable in Cincinnati, Columbus, the Northeast, the Southeast, Canton, and Youngstown.

Table 5
Government Employment Growth in Ohio Regions, 2010-2017 and 2016-2017

Area	Employment, 2017		Percentage changes	
	Number	Location quotient	2010-2017	2016-2017
United States	**21,470,573**	**1.000**	**-0.7%**	**0.5%**
Ohio	**717,783**	**0.897**	**-2.9%**	**0.7%**
Large MSAs	**512,005**	**0.894**	**-3.2%**	**0.8%**
Akron MSA	38,709	0.807	-9.2%	-0.5%
Cincinnati MSA (Ohio counties)	88,636	0.718	-5.4%	1.2%
Cleveland MSA	130,485	0.867	-4.8%	0.1%
Columbus MSA	156,544	1.029	0.8%	1.9%
Dayton MSA	58,593	1.062	-4.3%	0.5%
Toledo MSA	39,038	0.894	-2.4%	-0.2%
Small MSAs and rural	**203,040**	**0.966**	**-5.3%**	**0.3%**
Northwest	10,304	0.960	-5.6%	-0.4%
West North Central	30,124	0.940	-6.9%	-0.8%
East North Central	14,918	0.859	-6.2%	0.8%
Northeast	61,063	0.909	-4.6%	1.0%
West	33,130	0.788	-5.5%	-0.3%
South	28,622	1.306	-8.0%	-0.1%
Southeast	24,879	1.314	-0.6%	1.5%
Other MSAs				
Canton MSA	19,850	0.802	-2.2%	1.9%
Cincinnati MSA (total)	117,338	0.758	-3.6%	0.8%
Lima MSA	5,892	0.775	-9.4%	-0.7%
Mansfield MSA	7,396	0.989	-8.1%	-0.9%
Springfield MSA	6,917	0.962	-2.4%	0.5%
Weirton-Steubenville MSA	5,514	0.985	-9.5%	0.4%
Youngstown MSA	27,979	0.892	-5.4%	1.0%

Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics.

Table 6 reports employment, concentration, and growth of manufacturing. Although manufacturing employment ranks fourth among sectors statewide, it is dominant in numerous counties and some of the small MSA and rural regions. Of all the regions in Table 6, only Central Ohio's concentration is below the national average, while several small MSA-rural regions' location quotients exceed 3.0 – i.e., employment concentrations more than triple that of the U.S. The smaller regions and smaller MSAs are generally more manufacturing-focused than the large MSAs; of all six major MSAs, only Toledo's location quotient is greater than the 1.48 state average. This is because large tracts of relatively inexpensive land are more readily available in less-populous areas. This also explains the relatively low concentration in the Southeast: large, flat tracts are not nearly as common as they are in the West and Northwest.

Among the large MSAs, Akron and Toledo suffered relatively large employment declines in 2017. Dayton's growth, however, was nearly twice the U.S. average. The West, the South, and the Southeast stood out among the small MSA-rural regions for robust growth, which reduced the seven-year job deficit in the last two regions. Performance was also mixed in the small MSAs. Lima, Mansfield, and Springfield comfortably exceeded the national average, while Canton, Weirton-Steubenville, and Youngstown suffered sizeable declines.

Table 6
Manufacturing Employment Growth of Ohio Regions, 2010-2017 and 2016-2017

Area	Employment, 2017		Percentage changes	
	Number	Location quotient	2010-2017	2016-2017
United States	**12,406,401**	**1.000**	**8.0%**	**0.9%**
Ohio	**686,465**	**1.484**	**10.7%**	**0.2%**
Large MSAs	**408,182**	**1.233**	**9.5%**	**0.1%**
Akron MSA	38,987	1.407	5.6%	-1.1%
Cincinnati MSA (Ohio counties)	91,077	1.276	7.4%	1.1%
Cleveland MSA	120,726	1.388	3.8%	-0.2%
Columbus MSA	72,014	0.820	10.5%	0.8%
Dayton MSA	41,935	1.316	15.3%	1.7%
Toledo MSA	43,443	1.722	25.5%	-2.6%
Small MSAs and rural	**277,198**	**2.282**	**11.9%**	**0.3%**
Northwest	21,484	3.463	15.7%	0.8%
West North Central	49,562	2.676	9.5%	0.8%
East North Central	32,309	3.220	22.3%	0.2%
Northeast	68,022	1.752	6.5%	-2.8%
West	75,255	3.097	23.5%	1.9%
South	19,028	1.502	-5.3%	3.2%
Southeast	11,538	1.054	-8.1%	1.4%
Other MSAs				
Canton MSA	26,251	1.835	6.7%	-2.3%
Cincinnati MSA (total)	115,922	1.295	12.7%	1.3%
Lima MSA	9,019	2.054	16.9%	2.1%
Mansfield MSA	9,843	2.277	13.1%	1.5%
Springfield MSA	6,843	1.648	12.1%	1.7%
Weirton-Steubenville MSA	5,222	1.614	-18.0%	-2.8%
Youngstown MSA	27,748	1.531	-1.9%	-5.1%

Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics.