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Population and Employment in Ohio's Metropolitan Areas

Two recent data releases give new insight into population and employment changes in Ohio's 12 Metropolitan Statistical Areas (MSAs). These areas are home to 79 percent of the state's population and 71 percent of the state's jobs. Each year in March, the U.S. Bureau of Labor Statistics issues revised estimates of U.S., state, and MSA employment in total and by industry sector for the previous two years. This report has been the subject of the April issue of *On the Money* for the past three years. This article continues that tradition, but also includes insights from the 2015 MSA population estimates from the U.S. Census Bureau from a March release.

As explained in previous April articles, MSAs are collections of counties defined by the U.S. Office of Management and Budget (OMB), and are intended to give federal agencies a consistent geographical basis for statistical analysis and reporting. MSAs are centered on an urban core (one or more cities) with a population of at least 50,000. The county or counties containing the urban core are automatically included in the MSA. Adjacent counties are included if they have what OMB terms, "a high degree of social and economic interaction with the core as measured by commuting ties." Specifically, counties are included in the MSA if at least one of two conditions applies: (1) at least 25 percent of the employed residents of the outlying county commute to one of the central counties for work; and/or (2) at least 25 percent of the jobs in the outlying county are filled by workers who live in a central county.

There are 12 MSAs with urban cores in Ohio. These MSAs and their component counties are listed in Table 1.¹

¹ Belmont County is an outlying county of the Wheeling MSA and Lawrence County is an outlying county of the Huntington-Ashland MSA. These are not included in this analysis because their urban cores are outside of Ohio.

Table 1
Component Counties of Ohio MSAs

Akron, OH MSA Portage County, OH Summit County, OH Canton-Massillon, OH MSA Carroll County, OH Stark County, OH Cincinnati, OH-KY-IN MSA Dearborn County, IN Ohio County, IN Union County, IN Boone County, KY Bracken County, KY Campbell County, KY Gallatin County, KY Kenton County, KY Pendleton County, KY Brown County, OH Butler County, OH Clermont County, OH Hamilton County, OH Warren County, OH	Cleveland-Elyria, OH MSA Cuyahoga County, OH Geauga County, OH Lake County, OH Lorain County, OH Medina County, OH Columbus, OH MSA Delaware County, OH Fairfield County, OH Franklin County, OH Hocking County, OH Licking County, OH Madison County, OH Morrow County, OH Pickaway County, OH Union County, OH Dayton, OH MSA Greene County, OH Miami County, OH Montgomery County, OH	Lima, OH MSA Allen County, OH Mansfield, OH MSA Richland County, OH Springfield, OH MSA Clark County, OH Toledo, OH MSA Fulton County, OH Lucas County, OH Wood County, OH Weirton-Steubenville, WV-OH Jefferson County, OH Brooke County, WV Hancock County, WV Youngstown-Warren-Boardman, OH-PA MSA Mahoning County, OH Trumbull County, OH Mercer County, PA
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Population Changes in Ohio and Its MSAs

The Census Bureau publishes annual population estimates for the U.S., states, counties, and places (e.g., cities, villages, and townships). The county estimates are aggregated to produce estimates for MSAs. Estimates of population as of July 1, 2015, were released in March.

The population estimates are based on the most recent census totals (2010 in this case). The approach relies on the fact that the population in 2015 must be equal to the population in 2010 plus births, less deaths, plus movers into the area, less movers out between 2010 and 2015. The problem is that these changes are measured with imperfect data, so the resulting population estimates have an error component that increases as the time between the census and the estimation date increases.

Table 2 reveals census totals for Ohio, the 12 MSAs, and the U.S. for 2000 and 2010, estimates for 2014 and 2015, and percentage changes in population between the three earlier dates and 2015. Totals for 2000 and 2010 are shown for the MSAs as they are currently configured. As discussed in the April 5, 2013, edition of *On the Money* (Vol. 130, No. 7) MSAs nationwide went through their once-a-decade comprehensive redelineation in February 2013. As a result, the Cincinnati MSA lost one county and gained another, the Columbus MSA gained two counties, and Dayton and Toledo each lost one. But all population totals are calculated assuming the 2013 boundaries rather than the 1993 delineations effective in 2000 and the 2003 delineations effective in 2010.

As shown, the only MSAs to register positive population growth over the 15-year period are Akron, Cincinnati, and Columbus. Only Cincinnati and Columbus grew faster than the state average, and only Columbus grew faster than the national average. However, Dayton reversed

a population decline of 0.8 percent between 2000 and 2010 with small positive growth since 2010. Between 2000 and 2015, Ohio population increased 260,000 and the Columbus MSA population increased more than 346,000 and now exceeds 2,000,000. Thus, the population outside the Columbus MSA declined 86,300, or 0.9 percent, between 2000 and 2015.

Table 2
Ohio, MSA, and U.S. Population and Population Changes

Area	Census		Estimates		Percentage change		
	2000	2010	2014	2015	2000-15	2010-15	2014-15
Ohio	11,353,336	11,536,504	11,596,998	11,613,423	2.3%	0.7%	0.1%
Akron	694,975	703,200	704,835	704,243	1.3%	0.1%	-0.1%
Canton	406,966	404,422	403,847	402,976	-1.0%	-0.4%	-0.2%
Cincinnati	1,994,818	2,114,580	2,148,450	2,157,719	8.2%	2.0%	0.4%
Cleveland	2,148,041	2,077,240	2,064,079	2,060,810	-4.1%	-0.8%	-0.2%
Columbus	1,675,226	1,901,974	1,997,308	2,021,632	20.7%	6.3%	1.2%
Dayton	805,971	799,232	801,145	800,909	-0.6%	0.2%	0.0%
Lima	108,464	106,331	105,048	104,425	-3.7%	-1.8%	-0.6%
Mansfield	128,932	124,475	121,914	121,707	-5.6%	-2.2%	-0.2%
Springfield	144,742	138,333	136,482	135,959	-6.1%	-1.7%	-0.4%
Toledo	618,216	610,001	606,781	605,956	-2.0%	-0.7%	-0.1%
Steubenville	131,995	124,454	121,313	120,512	-8.7%	-3.2%	-0.7%
Youngstown	603,061	565,773	553,510	549,885	-8.8%	-2.8%	-0.7%
U.S. (000)	281,425	308,746	318,907	321,419	14.2%	4.1%	0.8%

Source: U.S. Census Bureau.

Updated Ohio Employment Estimates

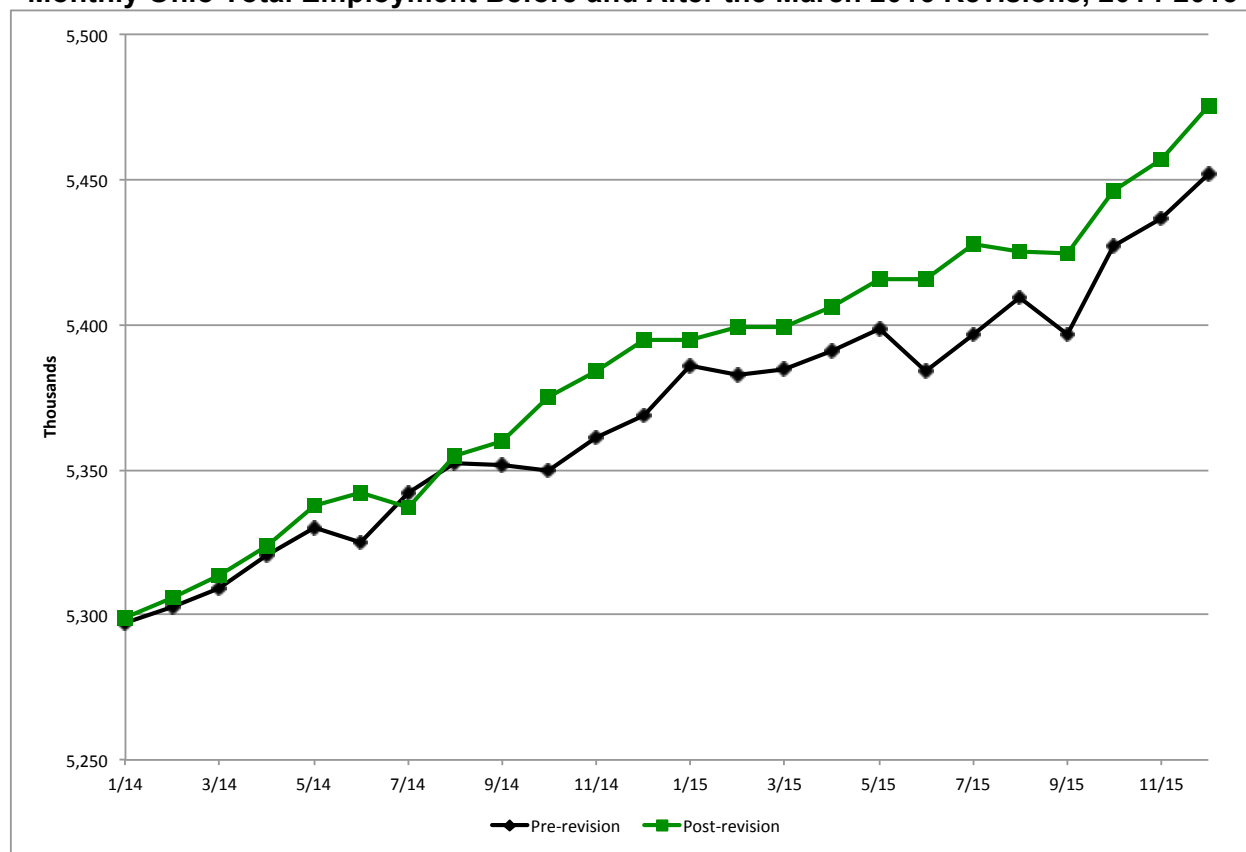
The U.S. Bureau of Labor Statistics (BLS) issues monthly employment estimates for the nation, states, and MSAs. In Ohio, the estimates are prepared by the Ohio Labor Market Information Bureau in cooperation with BLS. These estimates, the Current Employment Statistics (CES), are generally issued only a month after the fact. Thus, they give a close to real-time view of employment in total and for industry sectors. However, in order to produce the estimates so quickly, the Bureau of Labor Statistics bases them on a relatively small sample of employers. The national sample totals approximately 145,000 firms and government agencies representing about 557,000 worksites; the sample in Ohio is 4,160 firms covering 20,150 worksites (out of a total of 288,500). Basing the CES totals on a sample creates error. The error is larger the smaller the MSA and the smaller the industry sector, but can initially misstate employment trends materially even for larger MSAs such as Cincinnati, Cleveland and Columbus. The implication is that this very timely view of the local economy can often be misleading.

National CES estimates are corrected each February and state and local estimates are corrected each March as more accurate data become available. These data are primarily the Unemployment Insurance (UI) tax reports required of nearly all employers (and covering about 97 percent of total employment). These UI reports form the basis of the Quarterly Census of Employment and Wages (QCEW), which is often analyzed in these articles. QCEW provides an employment count, not an estimate, and are used to correct the CES totals for the previous two years.

As has been the case in the last several years, the March 2016 corrections showed that Ohio's employment growth in 2014 and 2015 was somewhat stronger than first reported. The pre-

revision and post-revision monthly estimates of statewide employment are shown in Figure 1. Employment over these two years averaged 5,383,900, an increase of 15,000 – or slightly less than 0.3 percent – from the average of the pre-revision estimates. Notice too that some of the choppiness present in the original estimates has disappeared in the corrections. This makes clear that one must be careful not to attach too much significance to large swings in the monthly employment totals; these often do not reflect reality.

Figure 1
Monthly Ohio Total Employment Before and After the March 2016 Revisions, 2014-2015



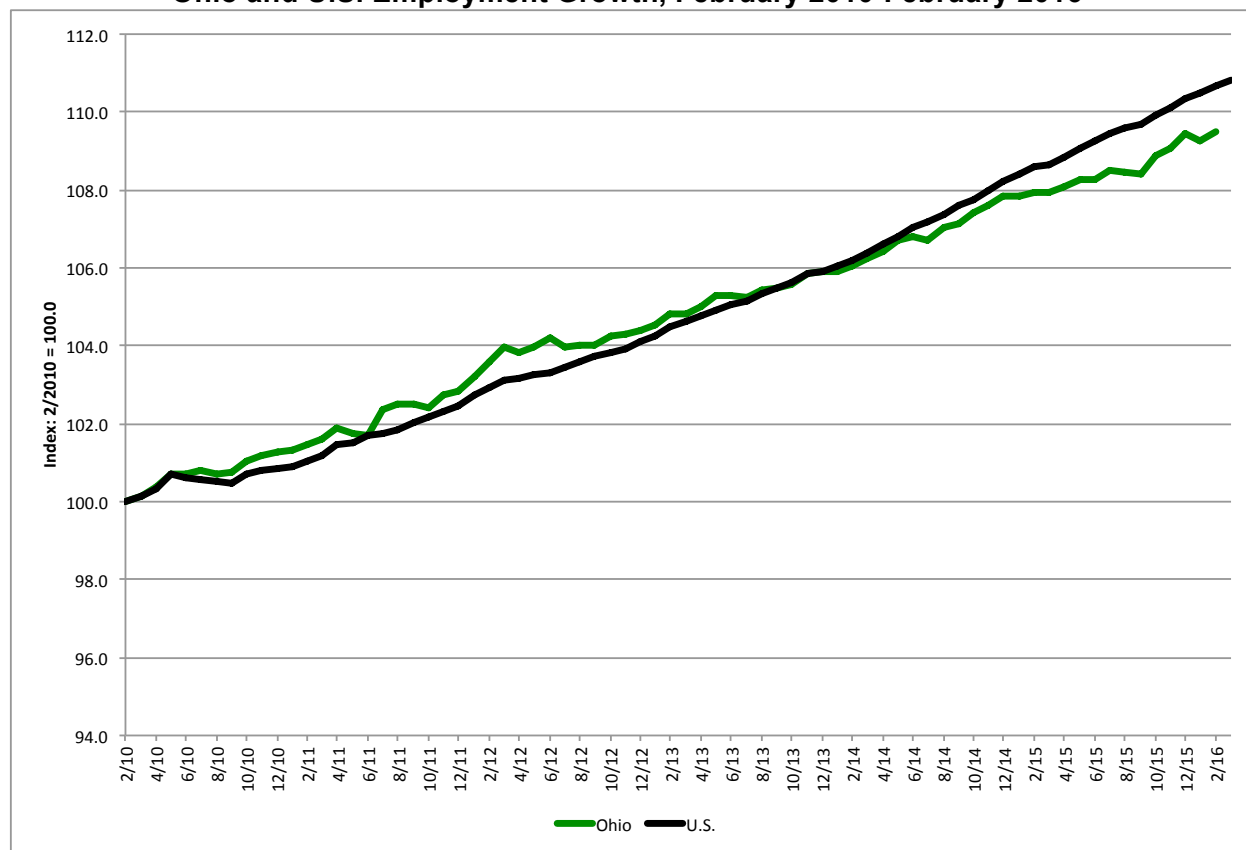
Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

The new annual averages imply 1.4 percent year-over-year employment growth, compared to 2.1 percent for the U.S. This is not the last word on the 2015 employment estimates, however: they will be revised again next March. However, the second-year revisions are usually much smaller than those in the first year, implying that the estimate of 1.4 percent employment growth is probably close enough to reality to conclude that the Ohio economy significantly underperformed the nation in employment growth last year.

With these new estimates, we can update the growth trend of Ohio employment in the expansion and compare it to the U.S. This is accomplished in Figure 2, which plots Ohio and U.S. employment growth since the trough of February 2010 on an index basis. As this graph reveals, Ohio employment growth exceeded the national average early in the expansion. On a year-over-year basis, Ohio growth tied the national average in 2010 and exceeded it in 2011 and 2012. This was a remarkable feat: the last three consecutive years during which Ohio employment growth equaled or exceeded the national average were 1946, 1947, and 1948.

Growth began to lag in late 2013, however, as U.S. employment growth began to accelerate. As a result, the total Ohio employment gain from February 2010 through February 2016 was 475,000 jobs, or 9.5 percent, compared to a national average of 10.7 percent.

Figure 2
Ohio and U.S. Employment Growth, February 2010-February 2016*



*March for U.S. employment.

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

Employment Growth in Ohio's MSAs

The March CES corrections also restated employment in all MSAs, giving an updated view of employment growth in these areas. Table 3 updates a table in the April 10, 2015, issue of *On the Money* (Vol. 131, No. 7). The table compares gains in the expansion that began in early 2010 to the losses suffered during the recession. The months designated as the pre-recession employment peak and the post-recession trough are specific to each area. Although the employment trough occurred in February 2010 for both Ohio and the U.S, employment hit bottom in individual areas as early as November 2009 or as late as June 2010. Defining the pre-recession peak is more difficult. National employment clearly peaked in January 2008, but employment in most of Ohio's MSAs (those marked with an asterisk in Table 3) declined fairly steadily throughout the 2000s. This was primarily due to the decade-long employment decline in manufacturing. In order to focus solely on the impact of the recession, employment peaks were assumed to occur no earlier than October 2007. (The recession officially began in December.) However, in some cases this was either an intermediate peak or not a peak at all.

Table 3
Recovery of Recession Employment Losses by Ohio and its MSAs

Area	Peak to trough		Trough to Feb. 2016		Percentage recovered
	Number	Percentage	Number	Percentage	
Ohio	-425,100	-7.8%	396,200	7.9%	93.2%
Akron	-28,700	-8.4%	31,700	10.1%	110.5%
Canton	-15,500	-8.9%	15,000	9.5%	96.8%
Cincinnati	-72,800	-6.9%	95,400	9.7%	131.0%
Cleveland*	-86,600	-8.1%	60,300	6.1%	69.6%
Columbus	-52,300	-5.4%	143,600	15.7%	274.6%
Dayton*	-33,300	-8.5%	27,200	7.6%	81.7%
Lima*	-4,600	-8.2%	2,800	5.5%	60.9%
Mansfield*	-6,400	-11.1%	700	1.4%	10.9%
Springfield*	-4,600	-8.7%	2,300	4.7%	50.0%
Toledo*	-30,700	-9.9%	30,500	10.9%	99.3%
Weirton-Steubenville*	-4,700	-9.6%	-1,400	-3.2%	-29.8%
Youngstown*	-22,000	-9.2%	8,900	4.1%	40.5%
United States	-8,658,000	-6.3%	13,785,000	10.6%	159.2%

*Employment was in decline prior to the recession.

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

Akron, Cincinnati, and Columbus have more than made back their recession losses, and Toledo has recovered essentially all of its losses. On the other hand, Mansfield's employment growth has been minimal, while Weirton-Steubenville's losses have continued through the recovery. Note that the performance of Cleveland significantly differs from that of Akron, and Dayton is different from Springfield (at least in the recovery) despite their proximity. This reinforces the recurring message in these articles that Ohio's economies are highly localized and behave very differently from one another.

Table 4 provides additional details regarding employment totals and performance during the expansion of each of the MSAs. Annual average employment totals are shown for 2010, 2014, and 2015, together with percentage changes in employment from 2010 and 2014 through 2015. Akron, Cincinnati, Columbus, Dayton, and Toledo enjoyed employment gains over the last year greater than the state average, but only Columbus exceeded the U.S. average. Youngstown's one-year gain was only marginal, while Canton, Mansfield, and Springfield suffered net losses between 2014 and 2015.

Table 4
Employment and Employment Changes in Ohio, MSAs, and the U.S., 2010-2015

Area	Total employment (thousands)			Percentage change	
	2010	2014	2015	2010-2015	2014-2015
Ohio	5,036.0	5,344.0	5,421.2	7.6%	1.4%
Akron	317.6	332.8	338.9	6.7%	1.8%
Canton	159.7	172.5	172.0	7.7%	-0.3%
Cincinnati	981.6	1,042.0	1,059.8	8.0%	1.7%
Cleveland	990.9	1,036.6	1,045.2	5.5%	0.8%
Columbus	920.3	1,016.7	1,039.9	13.0%	2.3%
Dayton	360.7	372.6	379.1	5.1%	1.7%
Lima	51.6	52.0	52.5	1.7%	1.0%
Mansfield	52.1	52.8	52.5	0.8%	-0.6%
Springfield	49.5	51.3	50.8	2.6%	-1.0%
Toledo	282.0	299.4	304.6	8.0%	1.7%
Weirton-Steubenville	44.1	43.3	43.5	-1.4%	0.5%
Youngstown	220.0	225.5	225.8	2.6%	0.1%
United States	130,361	138,958	141,865	8.8%	2.1%

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

As mentioned earlier, the CES data include employment totals for industry sectors. The detail is greater for the state and for larger MSAs because of the greater reliability of the underlying estimates. The following tables replicate the format of Table 4 for the United States in Table 5, Ohio in Table 6, Cincinnati in Table 7, Cleveland in Table 8, and Columbus in Table 9. While it is theoretically possible to construct these tables for all 12 MSAs, the problem is the rounding of the employment totals to the nearest hundred in the source and the small totals for most of the sectors in smaller MSAs, in addition to the still somewhat tentative nature of the estimates themselves. This rounding can produce misleading results. If a 10,000-job sector has a rounded employment gain of 100, the calculated increase is 0.7 percent, but even if the rounded totals themselves are accurate, the actual increase can be as little as 0.1 percent or as much as 1.3 percent. Exploring the sector performance of these MSAs can be more productively accomplished using the precise totals from the QCEW, which will be released for 2015 in June. This release will be the focus of the August 2016 issue of *On the Money*.

Focusing primarily on the one-year changes, statewide manufacturing employment growth continued much stronger than the national average, and transportation and utilities employment growth was also greater than average. These gains were more than offset by weakness in retail, professional and business services, and education and health services. (This includes only private education, so the sector is primarily healthcare.)

Cincinnati's construction and financial activities employment growth has exceeded both state and national averages. Although manufacturing jobs grew more slowly than average before 2014, last year's growth was outstanding. However, educational and health services employment started off strong but weakened last year.

Cleveland's performance has been weaker than the Ohio average, and far weaker than the U.S. average, in almost every sector. However, leisure and hospitality (arts, entertainment, hotels, and restaurants) and government both exceeded Ohio growth and matched the U.S.

The one major disappointment in Columbus has been retail. Growth has been slower than average throughout the recovery, with gains in the last year of one-sixth the national average and one-third the state average. Professional services and leisure and hospitality also weakened in the past year. Professional services' lagging growth was due to weakness in the administrative support subsector, which includes all temporary employment. One possible explanation is that temporary jobs were becoming permanent and thus were reclassified in the sector of the employing firms. All other sectors' growth equaled or exceeded that of the corresponding national averages.

Table 5
U.S. Employment and Employment Changes by Sector, 2010-2015

Area	Total employment (thousands)			Percentage change	
	2010	2014	2015	2010-2015	2014-2015
Total employment	130,361	138,958	141,865	8.8%	2.1%
Construction and mining	6,223	7,042	7,266	16.8%	3.2%
Manufacturing	11,528	12,185	12,317	6.8%	1.1%
Wholesale trade	5,452	5,813	5,875	7.8%	1.1%
Retail trade	14,440	15,357	15,641	8.3%	1.8%
Transportation and utilities	4,744	5,212	5,404	13.9%	3.7%
Information	2,707	2,726	2,750	1.6%	0.9%
Financial activities	7,695	7,977	8,124	5.6%	1.8%
Professional & business svcs.	16,728	19,062	19,672	17.6%	3.2%
Educational and health svcs.	19,975	21,439	22,055	10.4%	2.9%
Leisure and hospitality	13,049	14,696	15,128	15.9%	2.9%
Other services	5,331	5,567	5,625	5.5%	1.0%
Government	22,490	21,882	22,007	-2.1%	0.6%

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

Table 6
Ohio Employment and Employment Changes by Sector, 2010-2015

Area	Total employment (thousands)			Percentage change	
	2010	2014	2015	2010-2015	2014-2015
Total employment	5,036.0	5,344.0	5,421.2	7.6%	1.4%
Construction and mining	180.1	210.5	214.2	18.9%	1.8%
Manufacturing	620.5	674.9	686.8	10.7%	1.8%
Wholesale trade	215.1	232.5	235.6	9.5%	1.3%
Retail trade	551.9	565.9	570.8	3.4%	0.9%
Transportation and utilities	180.6	197.6	206.5	14.3%	4.5%
Information	77.6	72.4	71.6	-7.7%	-1.1%
Financial activities	276.7	288.1	292.3	5.6%	1.5%
Professional & business svcs.	625.8	708.9	715.4	14.3%	0.9%
Educational and health svcs.	840.6	890.8	906.8	7.9%	1.8%
Leisure and hospitality	475.3	526.5	539.6	13.5%	2.5%
Other services	206.0	209.8	213.2	3.5%	1.6%
Government	785.7	766.1	768.6	-2.2%	0.3%

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

Table 7
Cincinnati MSA Employment and Employment Changes by Sector, 2010-2015

Area	Total employment (thousands)			Percentage change	
	2010	2014	2015	2010-2015	2014-2015
Total employment	981.6	1,042.0	1,059.8	8.0%	1.7%
Construction and mining	36.3	41.0	42.6	17.4%	3.9%
Manufacturing	103.0	110.0	113.3	10.0%	3.0%
Wholesale trade	54.7	59.4	60.6	10.8%	2.0%
Retail trade	101.6	104.4	106.1	4.4%	1.6%
Transportation and utilities	38.8	39.6	41.1	5.9%	3.8%
Information	14.1	13.5	13.6	-3.5%	0.7%
Financial activities	62.5	66.9	68.5	9.6%	2.4%
Professional & business svcs.	148.4	166.3	167.8	13.1%	0.9%
Educational and health svcs.	147.3	159.5	161.7	9.8%	1.4%
Leisure and hospitality	102.1	113.0	116.1	13.7%	2.7%
Other services	40.8	38.9	38.6	-5.4%	-0.8%
Government	132.1	129.5	129.8	-1.7%	0.2%

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

Table 8
Cleveland MSA Employment and Employment Changes by Sector, 2010-2015

Area	Total employment (thousands)			Percentage change	
	2010	2014	2015	2010-2015	2014-2015
Total employment	990.9	1,036.6	1,045.2	5.5%	0.8%
Construction and mining	31.6	35.5	35.8	13.3%	0.8%
Manufacturing	116.5	124.3	124.7	7.0%	0.3%
Wholesale trade	46.6	50.4	51.1	9.7%	1.4%
Retail trade	100.2	101.5	101.6	1.4%	0.1%
Transportation and utilities	29.3	30.7	30.9	5.5%	0.7%
Information	15.8	14.6	14.3	-9.5%	-2.1%
Financial activities	64.6	64.6	65.0	0.6%	0.6%
Professional & business svcs.	132.1	148.6	148.4	12.3%	-0.1%
Educational and health svcs.	187.7	196.2	199.3	6.2%	1.6%
Leisure and hospitality	86.9	97.0	99.9	15.0%	3.0%
Other services	41.3	39.6	39.7	-3.9%	0.3%
Government	138.5	133.8	134.6	-2.8%	0.6%

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

Table 9
Columbus MSA Employment and Employment Changes by Sector, 2010-2015

Area	Total employment (thousands)			Percentage change	
	2010	2014	2015	2010-2015	2014-2015
Total employment	920.3	1,016.7	1,039.9	13.0%	2.3%
Construction and mining	28.5	34.4	35.9	26.0%	4.4%
Manufacturing	64.9	70.0	71.5	10.2%	2.1%
Wholesale trade	37.4	41.4	42.0	12.3%	1.4%
Retail trade	97.9	102.7	103.0	5.2%	0.3%
Transportation and utilities	42.8	48.1	52.0	21.5%	8.1%
Information	16.8	17.5	16.9	0.6%	-3.4%
Financial activities	69.3	76.5	79.7	15.0%	4.2%
Professional & business svcs.	146.8	175.4	177.7	21.0%	1.3%
Educational and health svcs.	126.7	146.3	151.1	19.3%	3.3%
Leisure and hospitality	87.3	100.1	102.5	17.4%	2.4%
Other services	36.0	39.5	41.0	13.9%	3.8%
Government	165.9	164.8	166.6	0.4%	1.1%

Source: Current Employment Statistics, U.S. Bureau of Labor Statistics.

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