

# ON THE MONEY

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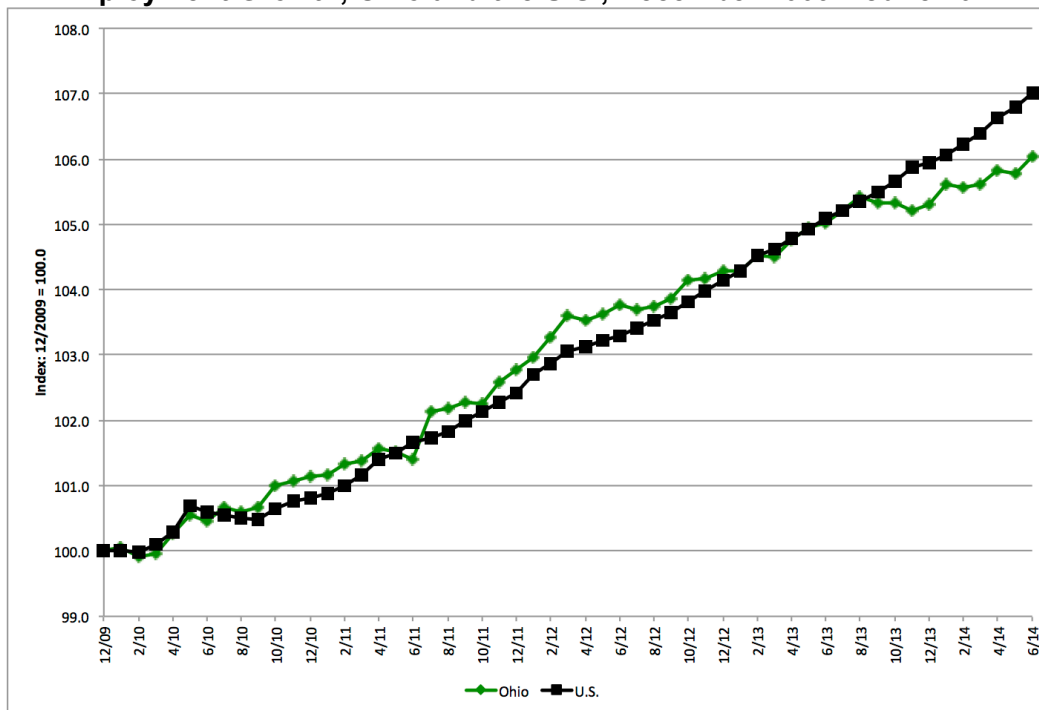
## Statewide and Regional Employment Growth in Ohio

This article provides a progress report on employment growth in Ohio, updating an article published a year ago at this time (*On the Money*, September 13, 2013, Vol. 130, No. 17). Newly-released 2013 employment totals at the county level allow a comparison of growth among metropolitan areas and small-metro and rural regions of the state.

### Statewide Trends

Monthly employment totals show that Ohio employment reached bottom in December 2009 with total nonfarm employment of 5,003,700 – its lowest level since February 1994. Between then and June 2014, net growth was 301,700, recovering 73 percent of the 414,500 jobs lost in the recession. Figure 1 compares net Ohio employment growth to U.S. growth from that trough

**Figure 1**  
**Employment Growth, Ohio and the U.S., December 2009 – June 2014**

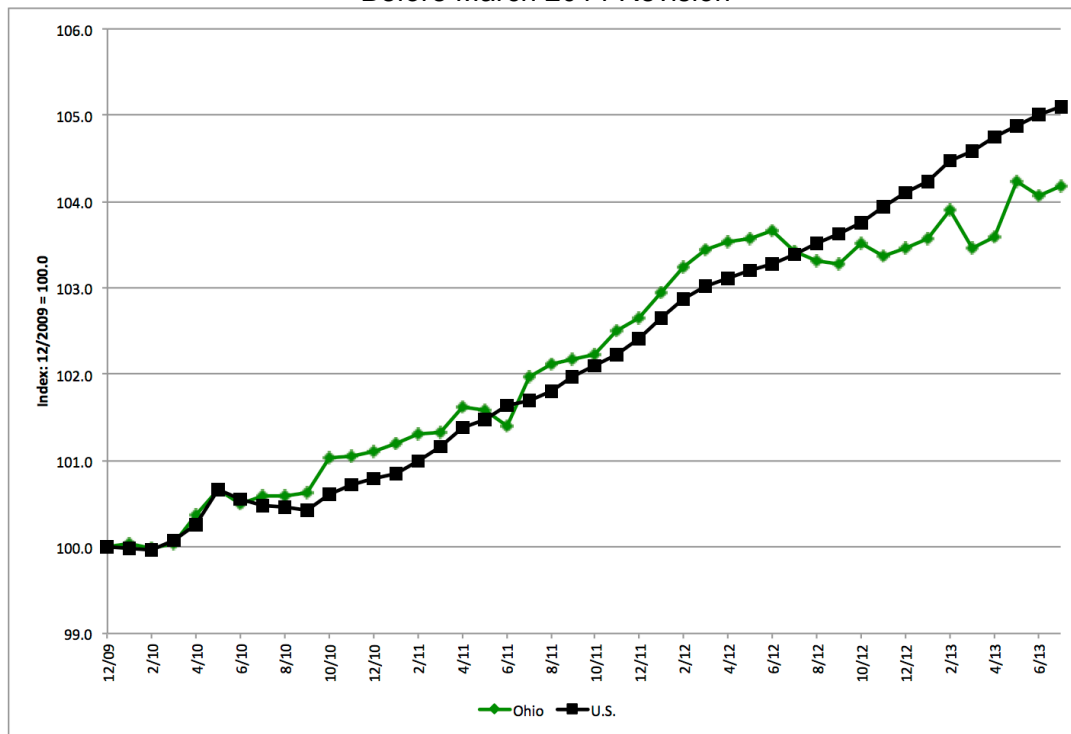


Source: Current Employment Statistics, U.S. Bureau of Labor Statistics, September 2013.

through June 2014. Employment is expressed on an index basis with the December 2009 level set to 100.0; consequently the chart shows cumulative state and national employment growth since then. As the graph shows, Ohio's employment growth closely tracked the U.S. average before weakening beginning in October 2013. As a result, Ohio's cumulative employment growth since the beginning of the recovery has been 6.0 percent compared to 7.0 percent nationally.

However, the weaker growth in recent months may or may not have happened. While earlier years' estimates are fairly reliable, the 2013 and 2014 estimates are preliminary and subject to possibly significant revision in March 2015. To dramatize how significant these revisions can be, Figure 2 reproduces the monthly employment growth chart from the September 2013 *On the Money* article, which is based on estimates released prior to the March 2014 corrections. The chart shows an alarming flattening of the Ohio trend in mid-2012. However, comparing Figure 2 to Figure 1 reveals that this growth deceleration did not actually occur; the March 2014 revisions raised late 2012 and early 2013 growth Ohio to the U.S. trend. While a similar upward revision may or may not occur next March, it is worth noting that Figure 1 shows the first sustained period of Ohio growth comparable to the national average since the early 1990s.

**Figure 2**  
**Employment Growth, Ohio and the U.S., December 2009 – July 2013**  
 Before March 2014 Revision



**Source:** Current Employment Statistics, U.S. Bureau of Labor Statistics, September 2013.

Table 1 compares year-over-year employment percentage changes by nonfarm industry sector in Ohio to changes at the national level. Sectors are shown in descending order of their 2013 Ohio employment. Changes are calculated from the Quarterly Census of Employment and

Wages (QCEW). As its name implies, this is a census, not an estimate. While the most recent employment totals are subject to change, any changes are usually quite small.

**Table 1**  
**Annual Employment Changes by Sector, Ohio and the U.S., 2010-2013 and 2012-2013**

Sector	Share of Ohio emp., 2013	2010-2013		2012-2013	
		Ohio	U.S.	Ohio	U.S.
Total nonfarm	100.0%	4.1%	4.8%	1.2%	1.7%
Education and health services	16.7%	3.6%	8.3%	1.1%	4.1%
Government	13.8%	-4.5%	-2.8%	-0.7%	-0.2%
Professional and business services	13.5%	10.3%	10.5%	2.4%	3.3%
Manufacturing	13.0%	6.8%	4.4%	0.9%	0.7%
Retail trade	11.0%	2.0%	4.1%	-0.3%	1.4%
Leisure & hospitality	10.1%	9.0%	9.1%	3.5%	3.3%
Financial activities	5.3%	1.9%	2.9%	1.4%	1.4%
Wholesale trade	4.4%	4.9%	5.0%	1.3%	1.4%
Construction	3.6%	9.9%	6.0%	2.7%	4.1%
Transportation and warehousing	3.2%	7.4%	7.7%	2.9%	2.1%
Other services	2.9%	0.9%	-4.6%	-0.7%	-8.8%
Information	1.5%	-2.9%	-0.1%	1.1%	0.9%
Natural resources & mining	0.5%	8.9%	12.5%	0.9%	1.8%
Utilities	0.4%	-5.9%	-0.6%	-1.8%	-0.3%

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

Table 1 shows a lower growth rate for both 2010-2013 and 2012-2013, confirming the results of Figure 1. 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 as well. Because the sectors are listed in order of employment size, those listed first generally have the largest impact on total growth.

Growth in the two largest sectors, government and education and healthcare, significantly slower than average. Education and healthcare includes private education only and is mostly healthcare employment. This sector's slow growth may have been due to Ohio's much slower-than-average population growth. Two-thirds of Ohio's 33,300-job government employment decline was in local governments. If employment change in these two sectors had been equal to the national average, Ohio's employment growth during the recovery would have been an above-average 5.1 percent.

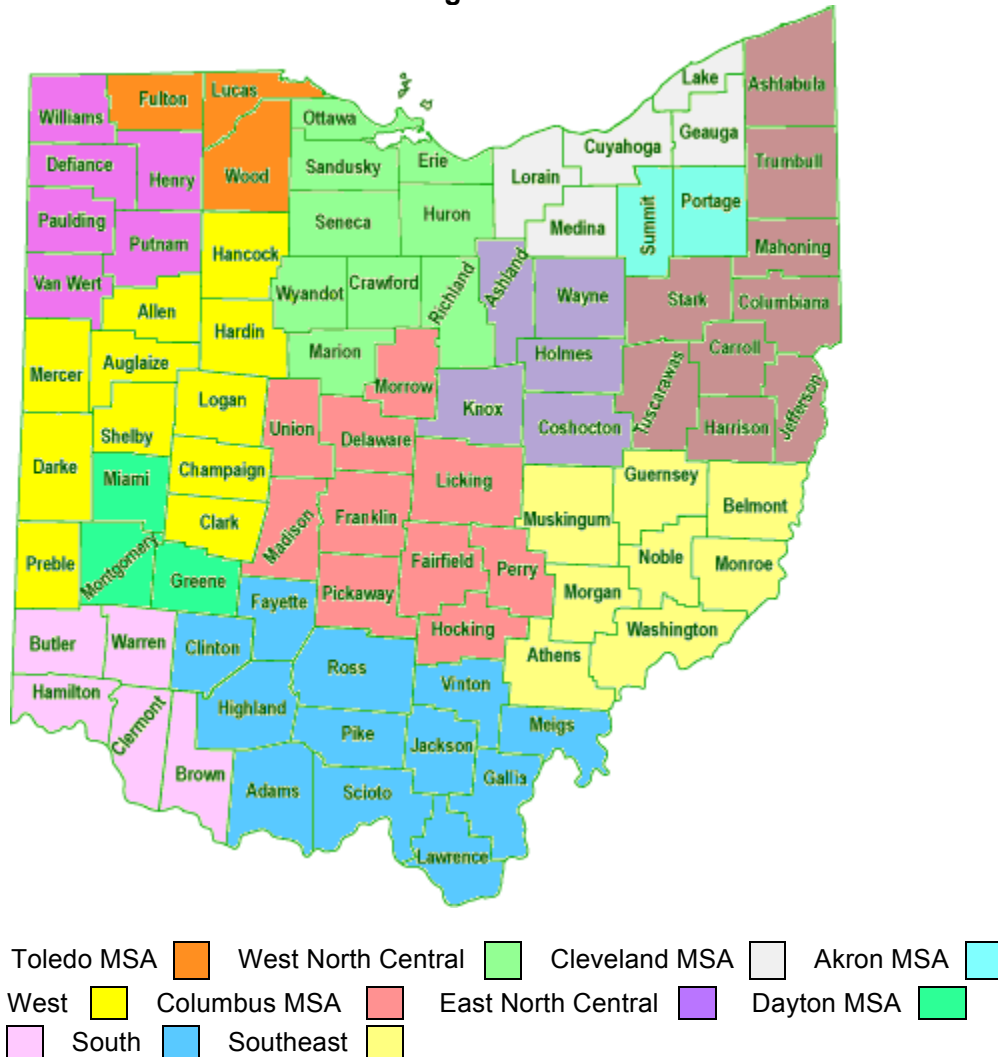
In contrast, manufacturing employment growth has been far faster than average, accounting for 42,000 of the 201,000 net year-over-year job growth between 2010 and 2013. Growth has remained consistently higher than the national average but has slowed; growth of 2.8 percent in 2010-2011 and 2.9 percent in 2011-2012 gave way to only 0.9 percent in 2012-2013. The central role of manufacturing in the Ohio economy means that it is a key reason for the strength or weakness of the economies of the state and its regions. As discussed in previous issues of *On the Money*, manufacturers trade off between labor and technology in producing goods. The shift from production by hand to production by machine has in only 15 years led to a doubling of the amount of output that a typical manufacturing worker can produce. However, the February 14 edition (Vol. 130, No. 27) called attention to a troubling productivity gap that opened before and during the recession. As a result, workers in several key sectors including transportation equipment, electronics, and chemicals are notably less productive than their counterparts elsewhere. Although the gap is no longer widening, closing it will require either producing more output or hiring fewer workers.

## Regional Trends

As discussed repeatedly in these articles, Ohio's economy is not monolithic, but rather is composed 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 examine the pace of growth at a regional level.

These regions are mapped in Figure 3 – a regional breakdown that will be familiar to regular readers of these articles. These regions include each of the six large MSAs and seven other regions composed of the remaining 60 counties including Ohio's smaller MSAs and rural areas. These seven non-MSA regions combine roughly similar counties based on employment concentrations primarily in agriculture and manufacturing. However, the regions shown here are slightly different from those in previous articles, reflecting the new MSA delineations that were released on February 28, 2013; see the April 5, 2013, edition of *On the Money* (Vol. 130, No. 7). As a result of these changes, Preble County moves from the Dayton MSA to the West

**Figure 3**  
**Ohio Regions**



region, Ottawa County moves from the Toledo MSA to the West North Central region, and Hocking and Perry Counties move from the Southeast and South regions, respectively, to the Columbus MSA.

Table 2 shows the employment growth of these 13 regions over the course of the recovery and in 2012-2013. Economic performance does indeed differ significantly among these regions. Ohio's large MSAs as a class have underperformed the state as a whole, largely because of weak growth last year in Akron, Cleveland, and Toledo, and an outright decline in Dayton. Detailed analysis of these four MSAs shows overall weakness in many industry sectors, including manufacturing, financial activities, business services, healthcare and education, and government. While the Ohio counties of the Cincinnati MSA matched the state average, Columbus employment growth significantly exceeded both Ohio and U.S. averages. This growth was widely distributed; all major sectors outperformed their counterparts at the state level, and only business services and trade, transportation, and utilities underperformed the national average.

**Table 2**  
**Employment Growth of Ohio Regions, 2010-2013 and 2012-2013**

Area	Employment, 2013		Percentage changes	
	Number	% of Ohio	2010-2013	2012-2013
<b>Ohio*</b>	<b>5,109,478</b>	<b>100.0%</b>	<b>4.1%</b>	<b>1.2%</b>
<b>Large MSAs</b>	<b>3,637,445</b>	<b>71.2%</b>	<b>3.7%</b>	<b>1.1%</b>
Akron MSA	308,542	6.0%	2.1%	0.2%
Cincinnati MSA**	775,267	15.2%	2.7%	1.2%
Cleveland MSA	987,038	19.3%	3.1%	0.8%
Columbus MSA	937,490	18.3%	6.7%	2.3%
Dayton MSA	349,646	6.8%	1.7%	-0.1%
Toledo MSA	279,462	5.5%	3.4%	0.5%
<b>Small MSAs and rural</b>	<b>1,373,625</b>	<b>26.9%</b>	<b>5.1%</b>	<b>1.5%</b>
Northwest	69,309	1.4%	3.9%	0.8%
West North Central	209,828	4.1%	0.5%	-0.5%
East North Central	109,513	2.1%	4.7%	1.6%
Northeast	450,849	8.8%	3.1%	0.6%
West	271,086	5.3%	4.8%	1.8%
South	140,153	2.7%	-0.3%	-0.2%
Southeast	122,887	2.4%	2.9%	1.1%

\*Includes 98,408 positions whose specific location within Ohio is unknown. \*\*Ohio portion only.

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

Table 2 also reveals that while the small MSA and rural regions as a class outperformed the state, this was due to strength in only two regions, the East North Central and the West. (The regional nature of Ohio's economies is dramatized by the fact that the second-strongest region in the state, the West, partly surrounds the weakest, the Dayton MSA.) In the West, a 5.3 percent gain in manufacturing in 2012-2013 and a 12.6 percent gain in business services offset weakness in construction; trade, transportation, and utilities; healthcare; and government. In the East North Central region, strength in all the goods-producing sectors (mining, construction, and manufacturing) offset weakness in all other sectors.

In contrast, two regions, the West North Central region and the South, suffered net employment declines in 2012-2013; the South's 2013 employment was 465 less than it was in 2010. The West North Central weakness was broad-based, with only two sectors – trade, transportation, and utilities and leisure – enjoying employment gains. The weakness in the South was due to a 5.9 percent decline in manufacturing – more than 1,100 jobs.

## **Oil and Gas Extraction Activity in Eastern Ohio**

Last year's *On the Money* survey of Ohio's regional economies analyzed the impacts of the tapping of the Utica and Marcellus shale deposits in Ohio's eastern counties. Early leases were signed in 2010 and drilling began in 2012. This activity creates *direct* jobs in the natural resources and mining sector, *indirect* jobs among suppliers in the mining sector and other sectors, and *induced* jobs as employees of the companies and their suppliers spend their earnings on household goods and services. It is fair to count the indirect and induced jobs as part of the economic impact because without the original activity taking place, the indirect and induced impact would not have occurred and the employment in those industries would not have been supported. Last year's study of this question found no substantial impacts on employment, but these are beginning to emerge.

As pointed out in last year's article, detailed employment totals are suppressed in the QCEW whenever disclosing them would reveal the employment of an individual establishment. This is a concern if there are only one or two establishments in an industry or one large establishment and several much smaller ones. Employment may also be suppressed if disclosing it enables calculation of employment in a suppressed related industry. As a result, county-level employment is often not available for the oil and gas extraction industry but only for the broader mining subsector. Occasionally, not even mining employment is available, so natural resources and mining employment is used instead. This is an even broader sector including hunting, fishing, logging, and agricultural support in addition to mining.

Tables 3 and 4 on the next page explore employment growth in the same nine counties analyzed in the September 13, 2013, *On the Money* article. The first columns of Table 3 show total and mining employment in 2013. The following columns present the natural resources and mining location quotients for 2010 and 2013. A location quotient is the percentage of total local employment in a specific industry (in this case, mining) divided by the percentage of total national employment in that industry. Thus, a location quotient greater than one indicates an employment concentration greater than average, and an increasing location quotient implies increasing relative concentration. The next two columns show the 2010-2013 numerical and percentage mining employment growth for each area, while the last column shows the total 2010-2013 percentage change in employment for each area. Table 4 presents what data are available on oil and gas extraction specifically, including 2010 and 2013 employment totals and establishment counts.

Ohio's mining employment change was 11.1 percent – extremely strong relative to overall employment growth, but less than half the national average. As shown in Table 4, however, this mining employment increase is not due to oil and gas extraction employment, which actually declined by nearly one-quarter over the three-year period. This decline occurred entirely between 2012 and 2013, and is somewhat dubious. Monthly employment was 3,233 in December 2012, but plunged by nearly half in January 2013, to 1,778. Large errors in the most

**Table 3**  
**Mining Employment Growth and Concentration in Counties Impacted by Oil and Gas Exploration Activity**

	Employment, 2013		Location quotient		Change, 2010-2013		Total chng. 2010-2013
	Total	Mining	2010	2013	Number	Pct.	
United States	133,964,953	813,061	1.000	1.000	189,527	24.8%	4.8%
Ohio	5,109,478	12,153	0.437	0.392	1,219	11.1%	4.1%
Belmont	22,828	1,876	12.725	13.540	416	28.5%	1.4%
Carroll	6,675	179	2.217	4.418	117	188.7%	21.7%
Columbiana	30,489	152	1.279	0.821	-37	-19.6%	5.2%
Guernsey*	14,518	306	1.026	3.473	111	56.9%	7.4%
Harrison	3,910	456	19.645	19.216	128	39.0%	19.4%
Monroe	3,613	140	2.896	6.385	88	169.2%	2.6%
Noble**	3,462	218	3.846	4.169	57	35.4%	16.4%
Portage	52,053	192	1.154	0.608	-100	-34.2%	4.9%
Stark	155,858	571	0.278	0.604	360	170.6%	4.7%

\*Mining employment not available for 2010 or 2013; industry employment and location quotients are for natural resources and mining. \*\*Mining employment not available for 2010; 2010 location quotient is for natural resources and mining.

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

**Table 4**  
**Oil and Gas Extraction Employment and Number of Establishments in Counties Impacted by Oil and Gas Exploration Activity**

	Number of Employees			Number of Establishments		
	2010	2013	Change	2010	2013	Change
United States	158,423	196,642	38,219	9,096	9,773	677
Ohio	2,759	1,988	-771	193	224	31
Belmont	0	n/a	n/a	0	2	2
Carroll	n/a	34	n/a	1	4	3
Columbiana	n/a	n/a	n/a	2	5	3
Guernsey	n/a	117	n/a	3	7	4
Harrison	0	n/a	n/a	0	1	1
Monroe	26	n/a	n/a	5	8	3
Noble	n/a	n/a	n/a	2	4	2
Portage	62	63	1	8	7	-1
Stark	28	203	175	11	17	6

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

recent year's QCEW data are quite rare but not unheard of. It remains to be seen whether this decline reflects an error in the data that will be corrected next year.

In any case, many of the nine counties are enjoying large increases in mining employment, which in some cases are translating to sizable increases in total county employment as well. Table 3 reveals that mining employment concentrations continue to be very high and stable in Belmont and Harrison Counties, and are increasing significantly in Carroll, Guernsey, Monroe, and Stark Counties. Columbiana and Portage Counties have suffered declines, consistent with the observation of a number of sources that oil and gas activity in Ohio has been shifting south. It must be noted, though, that the double and triple-digit increases in employment are partly due to the fact that these are generally calculated from a very small base. The double-digit increases in total employment in Carroll, Harrison, and Noble Counties reflect net growth of

nearly 1,200 jobs in Carroll County, more than 600 in Harrison, and 500 in Noble. These are the highest levels of employment seen in these counties in more than a decade, and no doubt reflect indirect and induced employment gains in addition to the mining employment itself.

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