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Labor Force and Unemployment in Ohio: An Update

Trends in Ohio's labor force and unemployment were last explored in the June 12, 2015, issue of *On the Money* (Vol. 131, No. 11). Now that two and a half years have passed, it is worth updating that discussion. This update will not include the long-range trends and projections of the labor force explored in the previous article because the conclusions of that analysis have not changed significantly. However, this article will discuss the impact of two important factors: age and educational attainment.

Key conclusions include:

- Unemployment rates in Ohio were comparable to the national average until late 2015, when Ohio rates leveled off while the national rate continued to decline. Ohio's unemployment rate of 5.1 percent in October 2017 was a point greater than the national average.
- Labor force changes and employment changes are both determinants of changes in the unemployment rate. Ohio's unemployment rate decline was driven by a decline in labor force rather than a growth in employment. Employment growth has tracked well below average.
- The share of adults in the labor force (the labor force participation rate) has declined over the past decade as workers dropped out of the labor force during the recession and as a greater percentage of adults reach retirement age.
- Of the 46 percent of Ohio teens who were in the job market in 2016, 17 percent were unemployed. The unemployment rate was less than 3 percent for those 60 and older.
- Labor force participation increases significantly and the unemployment rate declines significantly as the level of education increases.

Unemployment Rate Trends and Concepts

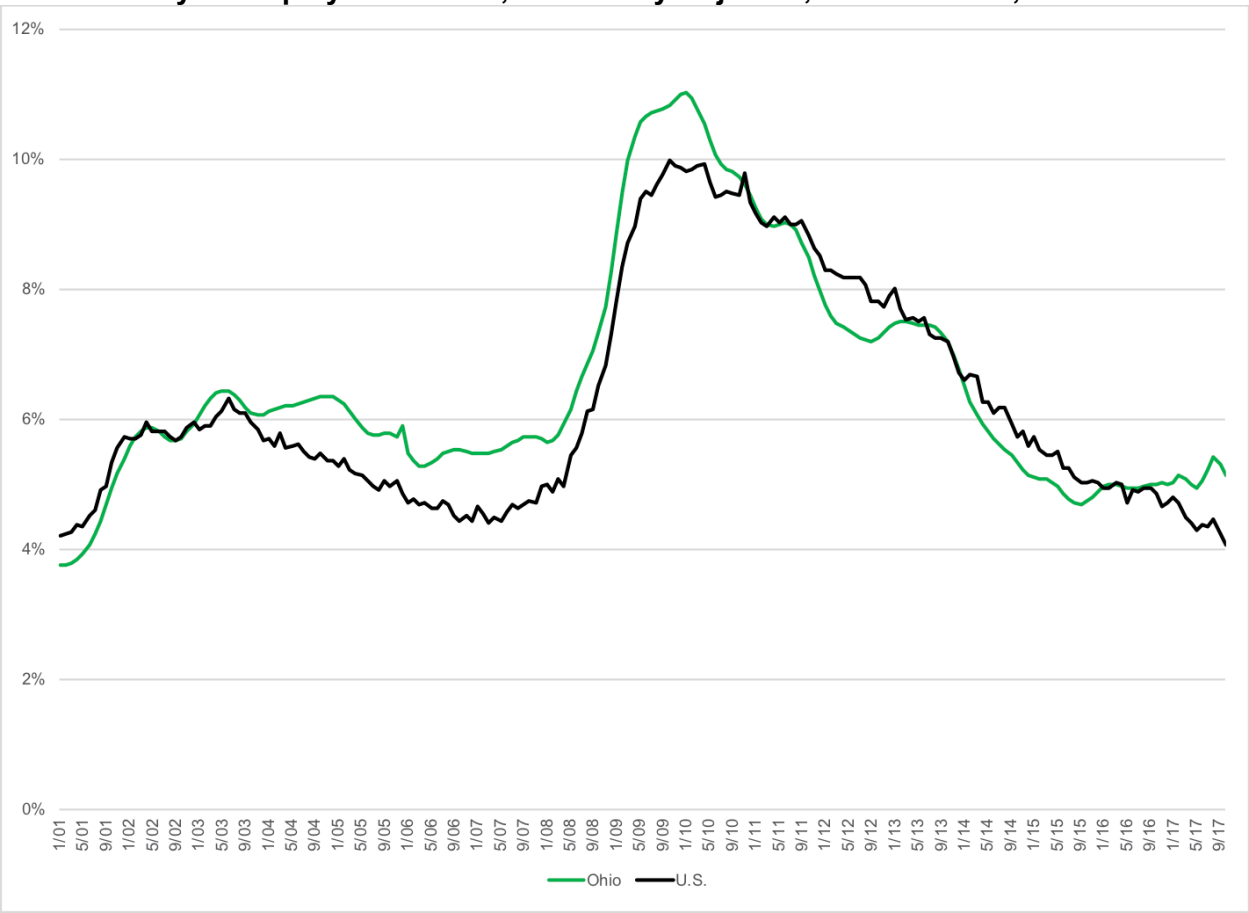
Figure 1 on the next page shows monthly U.S. and Ohio unemployment rates beginning in January 2001. Thus, it shows the impact on the unemployment rate of the 2001 recession, the 2002-2003 jobless recovery, the 2003-2007 employment expansion, the 2007-2009 recession, and the employment recovery that began in early 2010.

Ohio's unemployment rate was greater than the national average throughout the 2003-2007 expansion and the 2007-2009 recession, and peaked at 11 percent, a full percentage point higher than the national peak. Ohio was left out of the 2003-2007 expansion; Ohio was one of only four states with employment at the end of 2007 less than it was at the end of the previous expansion in March 2001. Similarly, job losses in the recession began earlier than average and were much more severe. Job growth was somewhat stronger than average in the early years of the expansion. As a result, the unemployment rate fell more rapidly than average, and reached a low of 4.7 percent in August 2015. The relatively weak job growth of recent years has led to a

slight increase in the unemployment rate to its current level of 5.1 percent, a percentage point greater than the 4.1 percent national average.

Interpreting unemployment rate trends is more complicated than many people realize, however. The unemployment rate is affected by two forces: changes in the number of people working and changes in the number of people looking for work. The unemployment rate is the number of unemployed individuals divided by the civilian labor force; the civilian labor force is *defined as* the number of people who worked during a specific week plus the number of people unemployed.

Figure 1
Monthly Unemployment Rates, Seasonally Adjusted, Ohio and U.S., 2001-2017



Source: U.S. Bureau of Labor Statistics.

The number unemployed is from the Current Population Survey, a joint effort of the Census Bureau and the Bureau of Labor Statistics that surveys a random sample of about 60,000 households each month. Essentially, the survey asks whether the respondent worked *at all* during the specific week. If the answer is yes, the respondent is in the labor force and employed. If the answer is no, the respondent is asked whether she/he actively sought employment during the past four weeks. (Actively seeking employment involves more than looking at want ads; it involves activities that could directly lead to employment, such as sending out applications, going on interviews, or attending job fairs.) If the answer to that question is yes, then the individual is in the labor force and unemployed. If the individual did not actively

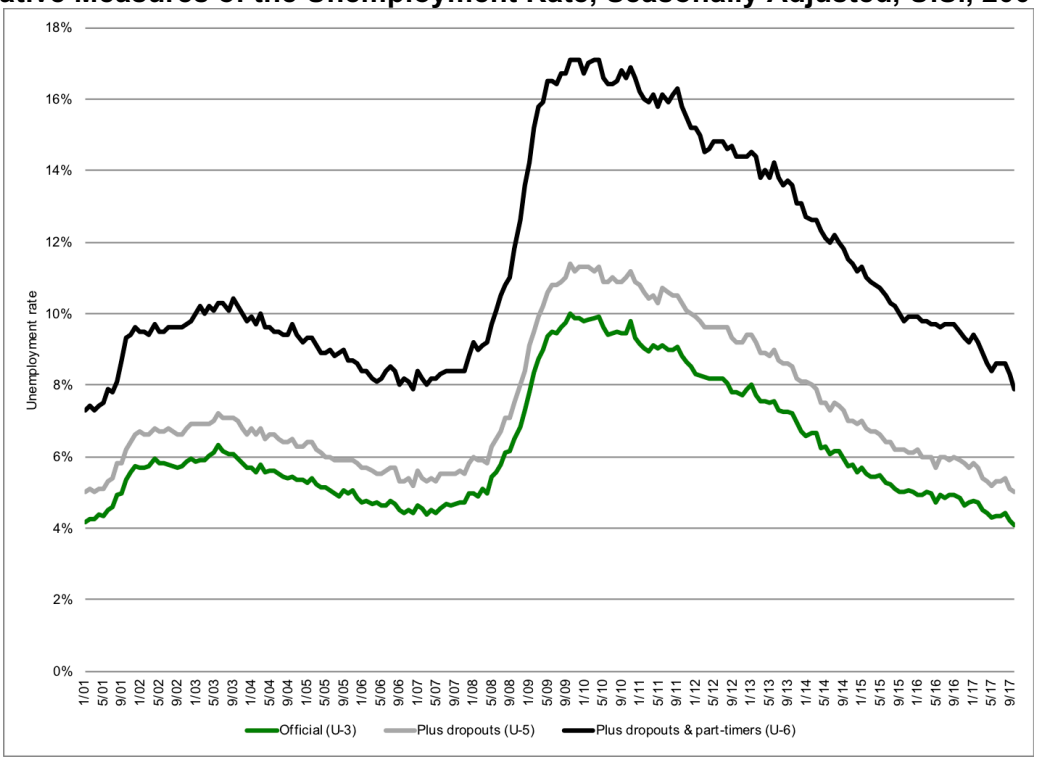
look for work during the past month, the individual is not counted in the statistics, regardless of an ability and desire to work.

This reduction of availability of work and not working to a yes-or-no question rather than the more-or-less matter that it actually is causes distortions in the measured unemployment rate. As economic conditions worsen and jobs disappear, people become discouraged over their job prospects and drop out of the labor force (as defined). This puts downward pressure on the unemployment rate. Similarly, as conditions improve after a downturn, people begin to look for work again. This increases the unemployment rate, all else equal. Thus, the unemployment rate always understates the true extent of job-seekers' pain, but understates it more in bad times than in good. Also, it is not uncommon to see the seemingly paradoxical phenomenon of the unemployment rate increasing as employment increases and falling as employment falls.

The Bureau of Labor Statistics addresses these problems by publishing six different unemployment rates for the U.S. (but unfortunately not for states) using successively broader definitions of unemployment and the labor force. The familiar unemployment rate described above is actually the third broadest of the six, and is referred to as U-3. (The narrowest, U-1, counts as unemployed only those out of work at least 15 weeks.) U-4 includes U-3's active job seekers plus "discouraged workers," those who want to work but are not looking for a job because they don't believe there are any available for them. U-5 includes active job seekers, discouraged workers, and other "marginally attached" workers – those who are available for work and have looked for a job sometime in the past 12 months. U-6 includes all those in U-5 plus those working part-time because they can't find full-time work. Figure 2 charts U-3, U-5, and U-6 beginning in 2001.

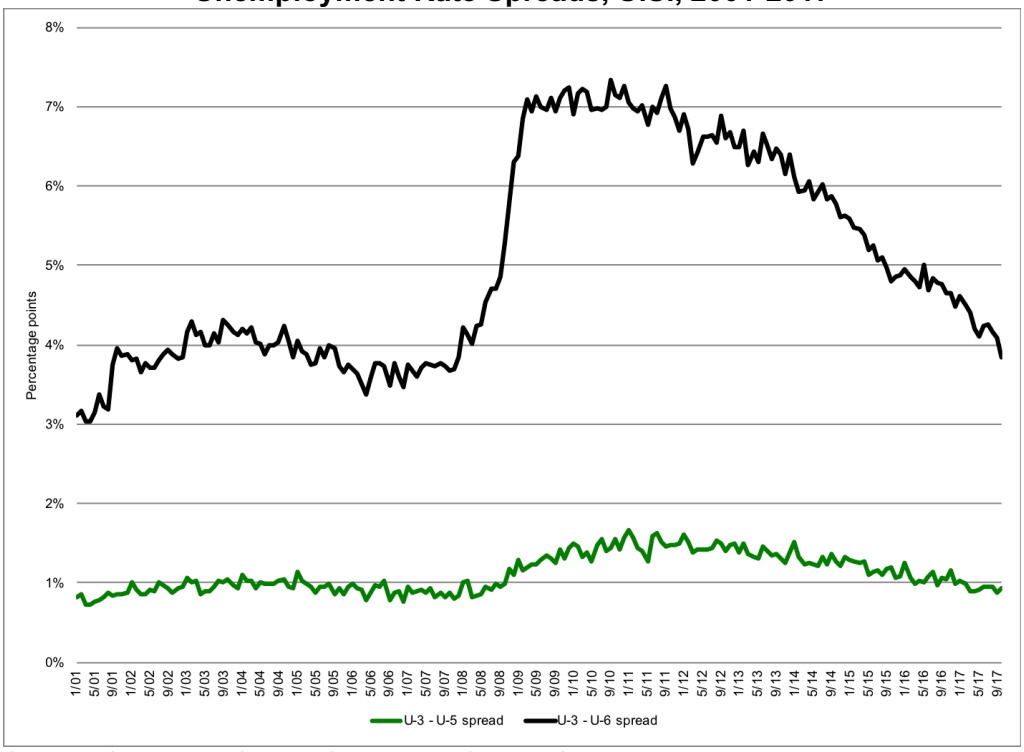
As shown in both Figure 1 and Figure 2, the U.S. headline unemployment rate peaked at 10 percent in October and November 2009 and has declined to 4.1 percent as of October 2017. U-6, however, peaked at 17.1 percent in March and April 2010. After more than eight years of economic expansion, U-6 has finally declined to a pre-recession level of 7.9 percent. Tracking the spreads between various unemployment rates can provide useful insight into the health of the labor market. Figure 3 graphs the differences between U-5 and U-3 and U-6 and U-3. The U-3 – U-5 spread measures the impact of discouraged workers and occasional jobseekers, and varies little. The spread increased from an average of 0.9 percent in 2006-2007 to 1.5 percent during 2011, and has returned to a 0.9 percent average over the past seven months. The U-3 – U-6 spread takes the broadest view of unemployment and by including part-timers wanting full-time work, some aspects of underemployment. This spread was around 3.75 percent entering the recession, rose quickly to seven percent by early 2009, and remained in that range until beginning to decline in early 2012. As job growth has continued, the decline in the spread has become more rapid over the past several years, and with an average of 4.1 percent over the past six months the spread is nearing its pre-recession level.

Figure 2
Alternative Measures of the Unemployment Rate, Seasonally Adjusted, U.S., 2001-2017



Source: U.S. Bureau of Labor Statistics.

Figure 3
Unemployment Rate Spreads, U.S., 2001-2017

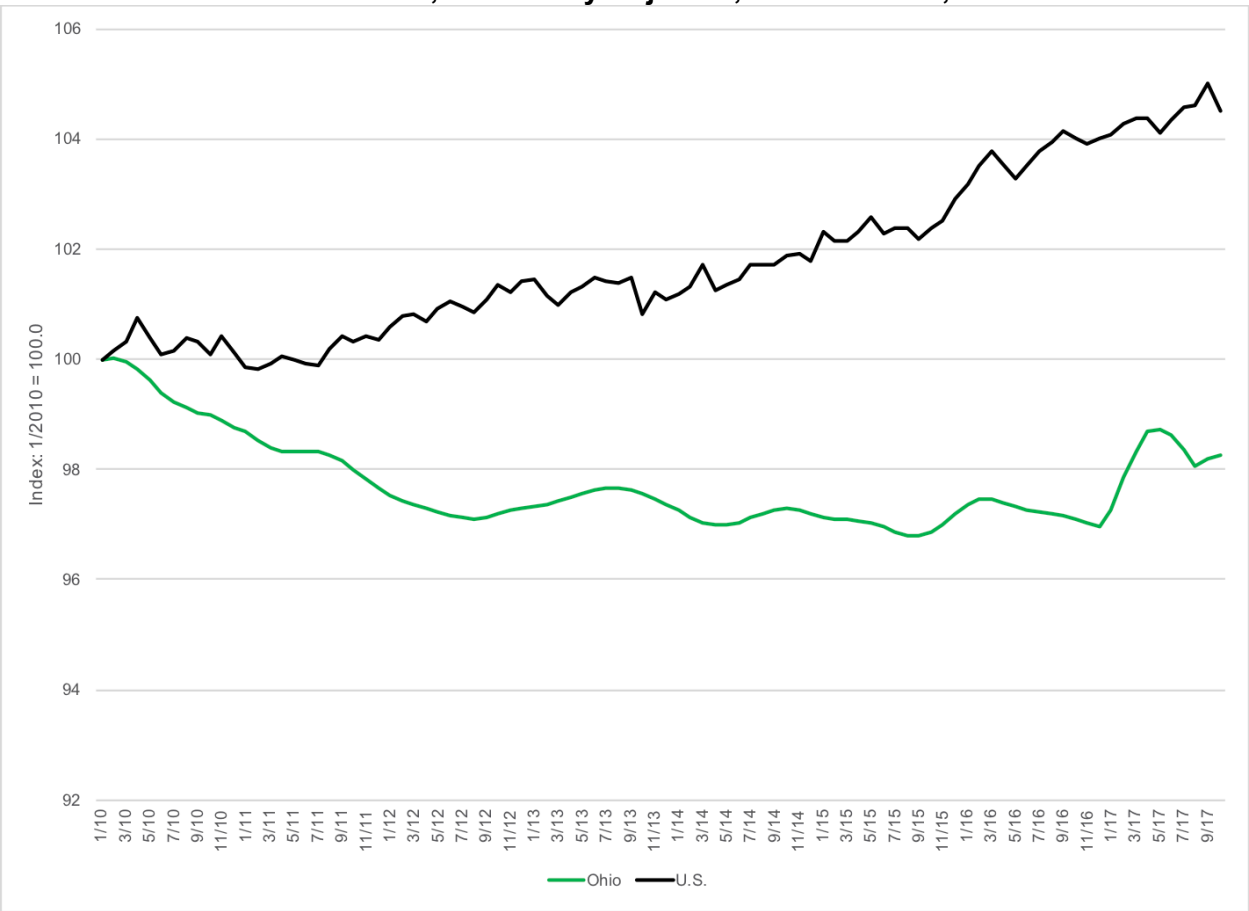


Source: Calculated from U.S. Bureau of Labor Statistics data.

Ohio Labor Force and Resident Employment

As pointed out earlier, changes in the unemployment rate depend on changes both in resident employment and labor force so it is important to analyze each of these two elements separately. Figure 4 charts Ohio and U.S. labor force trends since the resumption of employment growth in January 2010. Labor force is graphed on an index basis, so the figure shows cumulative percentage labor force growth. The figure reveals that by October 2017, U.S. labor force had increased 4.5 percent, but Ohio labor force declined through 2012 and essentially stagnated before an increase in 2017. A cautionary note on the size of this increase, however: The large increase in the early months of 2017 followed by the offsetting decline occurred in the preliminary statistics in each of the last three years. In both 2015 and 2016, the pattern disappeared in the revised statistics issued the following year. That said, there may actually have been some labor force increase in 2017.

Figure 4
Labor Force Growth, Seasonally Adjusted, Ohio and U.S., 2010-2017

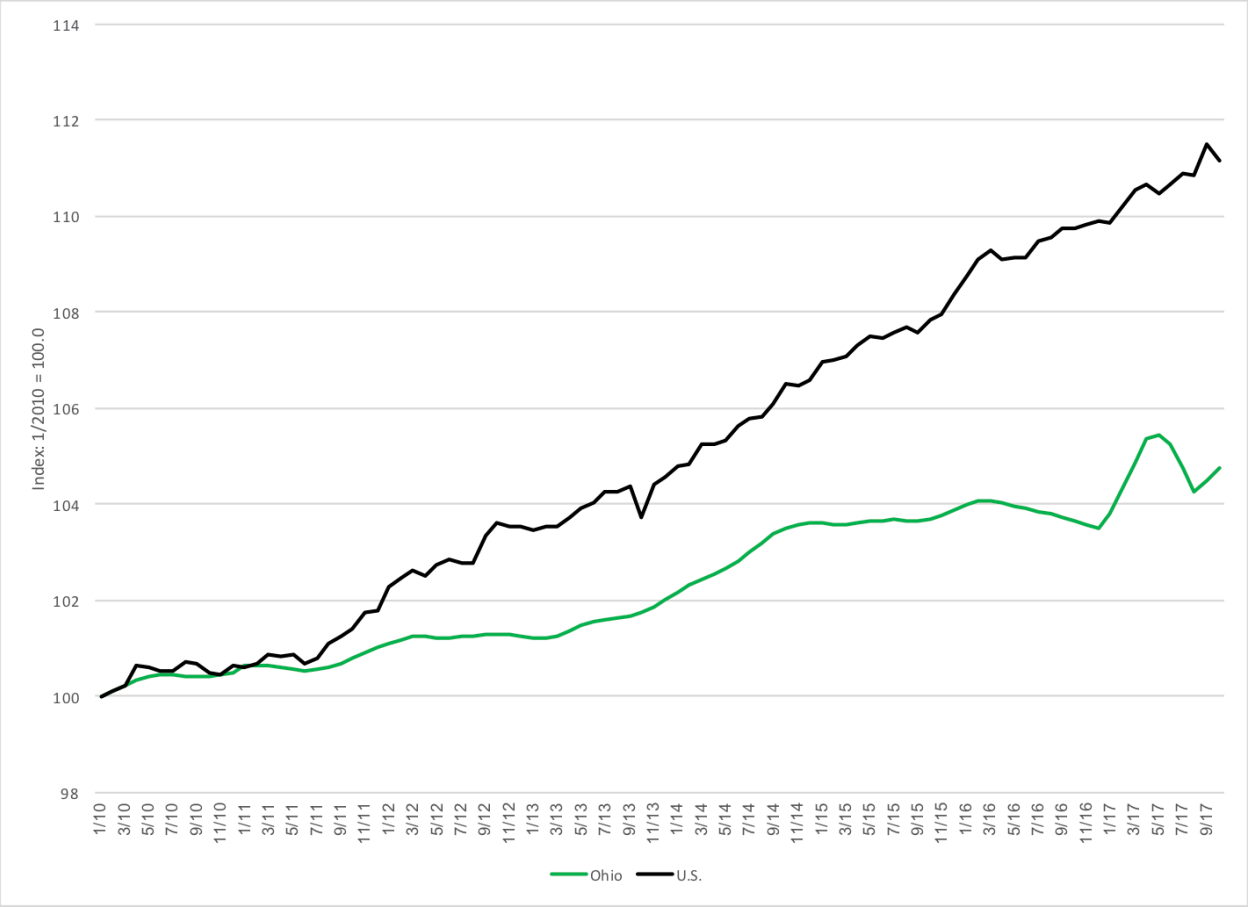


Source: Calculated from U.S. Bureau of Labor Statistics data.

Figure 5 shows employment growth since January 2010. It is important to point out that this is a different measure of employment from that considered in most of these articles. Customarily, employment is defined as the number of jobs located in Ohio or one of its sub-state areas; these jobs may be filled by those residing outside of the state or area. A worker holding two jobs in Ohio would be counted twice. Here, though, employment is the number of Ohio residents

working at jobs that may be either in Ohio or elsewhere. The worker holding two Ohio jobs would be counted once. Resident employment nationwide has increased 11.1 percent since January 2010; the increase in Ohio has been only 4.7 percent. Thus, Ohio's unemployment rate decline was driven by the decline in labor force, and came despite the modest increase in the number of Ohioans working.

Figure 5
Resident Employment Growth, Seasonally Adjusted, Ohio and U.S., 2010-2017

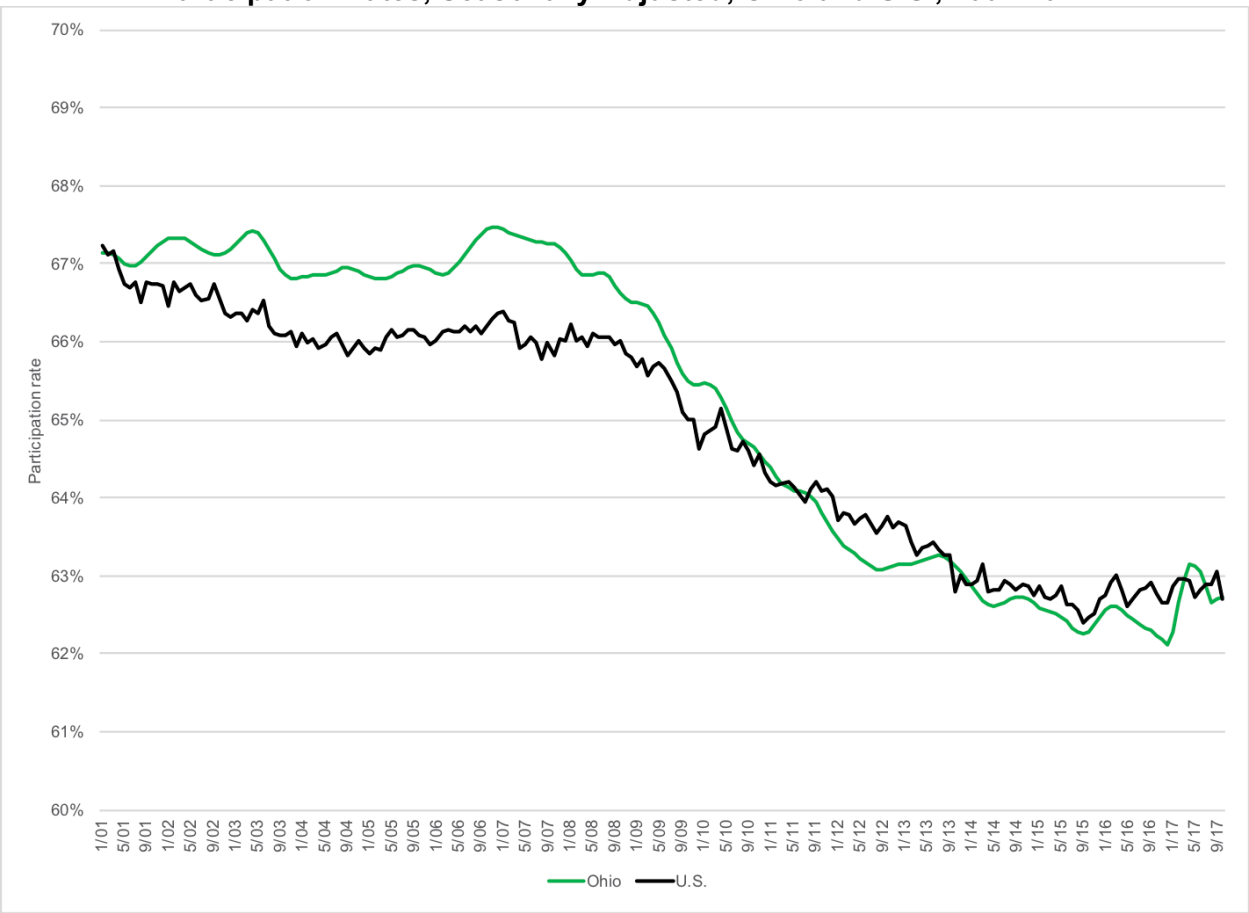


Source: Calculated from U.S. Bureau of Labor Statistics data.

Labor Force Participation

The relationship between the number of people in the labor force and the total adult population is an important indicator of the availability of workers to support economic growth. This is summarized in a ratio called the labor force participation rate – the labor force divided by the civilian noninstitutional population 16 years and older. (Note that there is no upper bound on the age.) Participation rates are provided by the Bureau of Labor Statistics for the U.S. and by the Ohio Labor Market Information Bureau for Ohio. These participation rates are graphed in Figure 6 beginning in 2001. (Ohio participation rates prior to 2016 are recalculated by the author based on revised population and labor force estimates; U.S. rates are revised as the underlying statistics change.)

Figure 6
Participation Rates, Seasonally Adjusted, Ohio and U.S., 2001-2017



Source: U.S. Bureau of Labor Statistics, author's calculations, Ohio Labor Market Information Bureau.

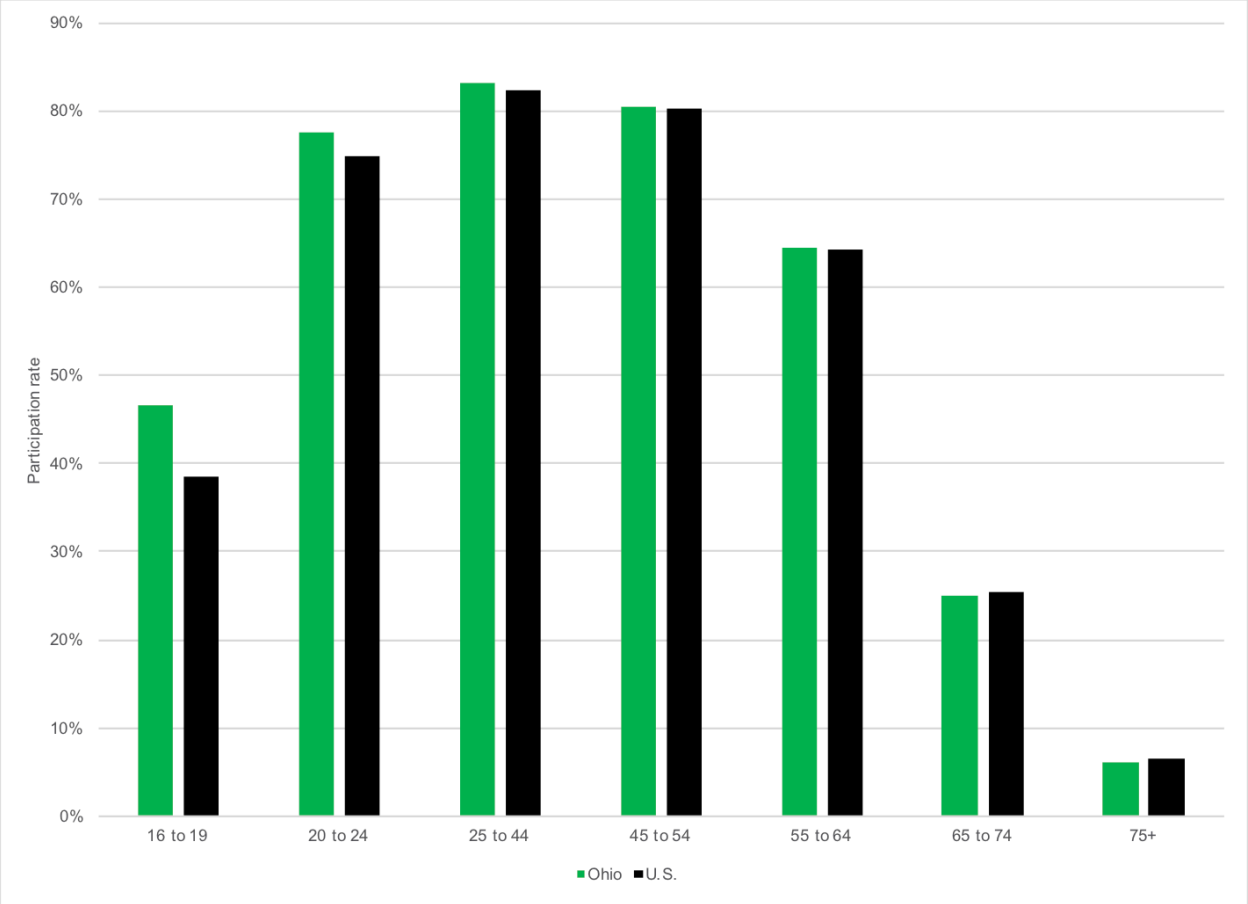
As shown, the Ohio participation rate held steady through the 2003-2007 expansion at about a point higher than the national average. Both state and national rates declined through the recession, but the Ohio rate declined more so that it is now comparable to the national average. The earlier discussion of the impact of people suspending job searches in recessions and resuming them when the economy improves suggests that the participation rate should decline in a recession but then increase subsequently. This has been the case following previous recessions. The fact that this did not occur after the 2007-2009 recession caused a great deal of concern, with some arguing that some workers' skills had deteriorated through their long spell of unemployment to the point that they had become unemployable and had become a "lost generation." U.S. labor force participation is now at levels not seen since the late 1970s.

There is an alternative explanation, though – one that is more positive for individual welfare if not for workforce availability. That is that ongoing demographic shifts and aging of the population have given rise to a long-term decline in the participation rate that was merely hastened by the recession. As will be shown in the next section, the rate of workforce participation increases as individuals move through their 20s and declines markedly after age 55. The fact that a larger percentage of the population is now in the 55-plus age bracket than was true a decade ago certainly explains part of the failure of the participation rate to increase after the recession.

Impacts of Age and Education

Not surprisingly, age has a substantial impact on the likelihood that an individual is in the labor force and whether or not she/he is employed. Figure 7 graphs 2016 participation rates by age for Ohio and the U.S.[1] Labor force participation is low for teens, increases as individuals complete high school and college, and then declines as they reach retirement age. Note that Ohio participation rates are similar to national averages except for individuals younger than 25, who are more likely to be in the labor force than are their counterparts in other states. There are at least two possible explanations: more individuals in this age group are working because fewer are enrolled in school, or the economic structure of the state's economy provides a larger-than-average proportion of jobs available to the less-experienced individuals in this age group. Analysis of American Community Survey data reveals that school enrollment in these age groups is not significantly different from the national average, so apparently individuals aged 16 to 24 enter the labor force because they have a greater-than-average expectation of finding work.

Figure 7
Participation Rates by Age, Ohio and U.S., 2016

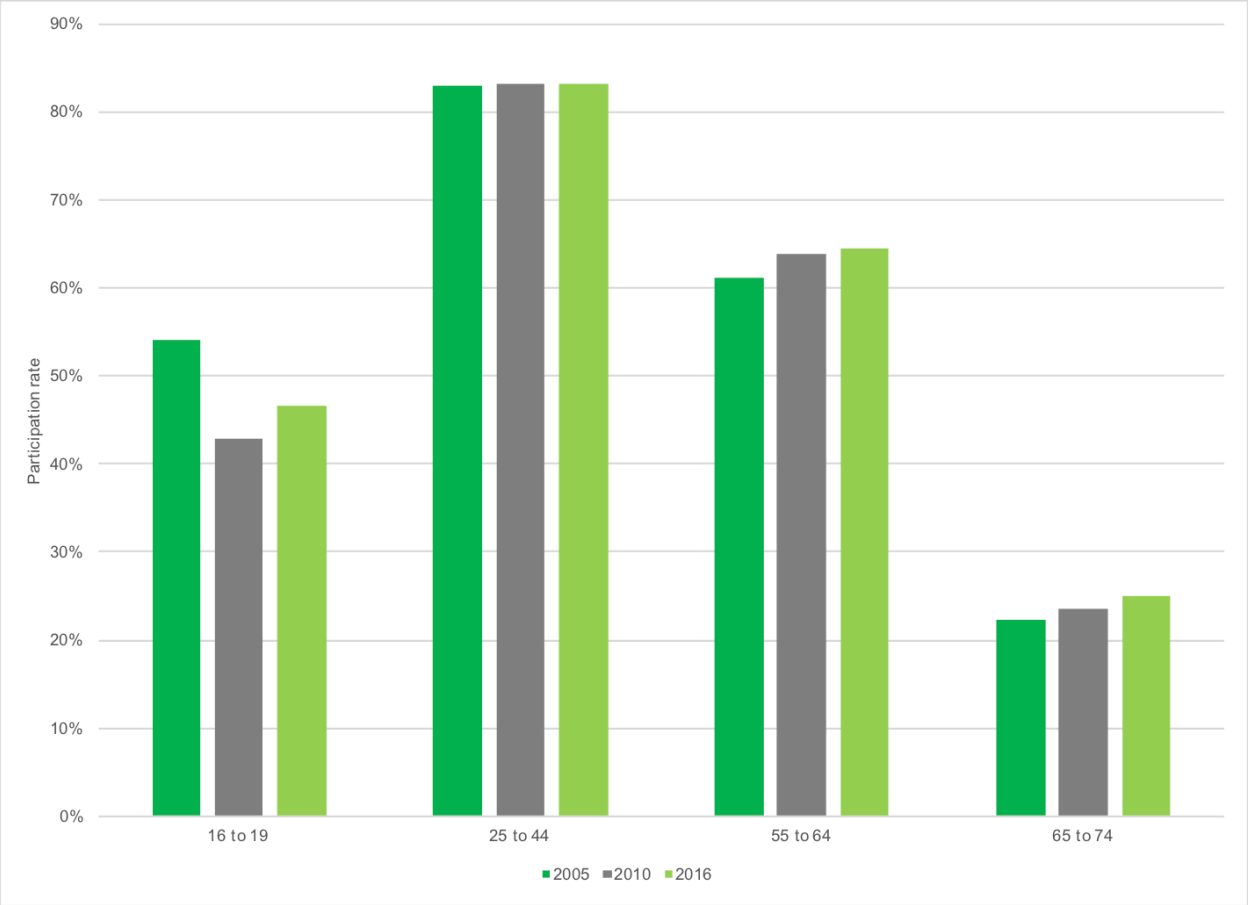


Source: American Community Survey, 2016 One-Year Estimates.

[1] These rates come from the Census Bureau's American Community Survey rather than the Current Population Survey and are not exactly comparable to those discussed earlier.

Figure 8 provides estimates of Ohio participation rates for four of the age groups in Figure 6 and for three years, 2005, 2010, and 2016; 2010 shows the impact of the recession. Younger workers were the only ones who left the labor force in large numbers during the recession. Participation of 25 to 44-year-olds was stable, and that of older individuals actually increased.

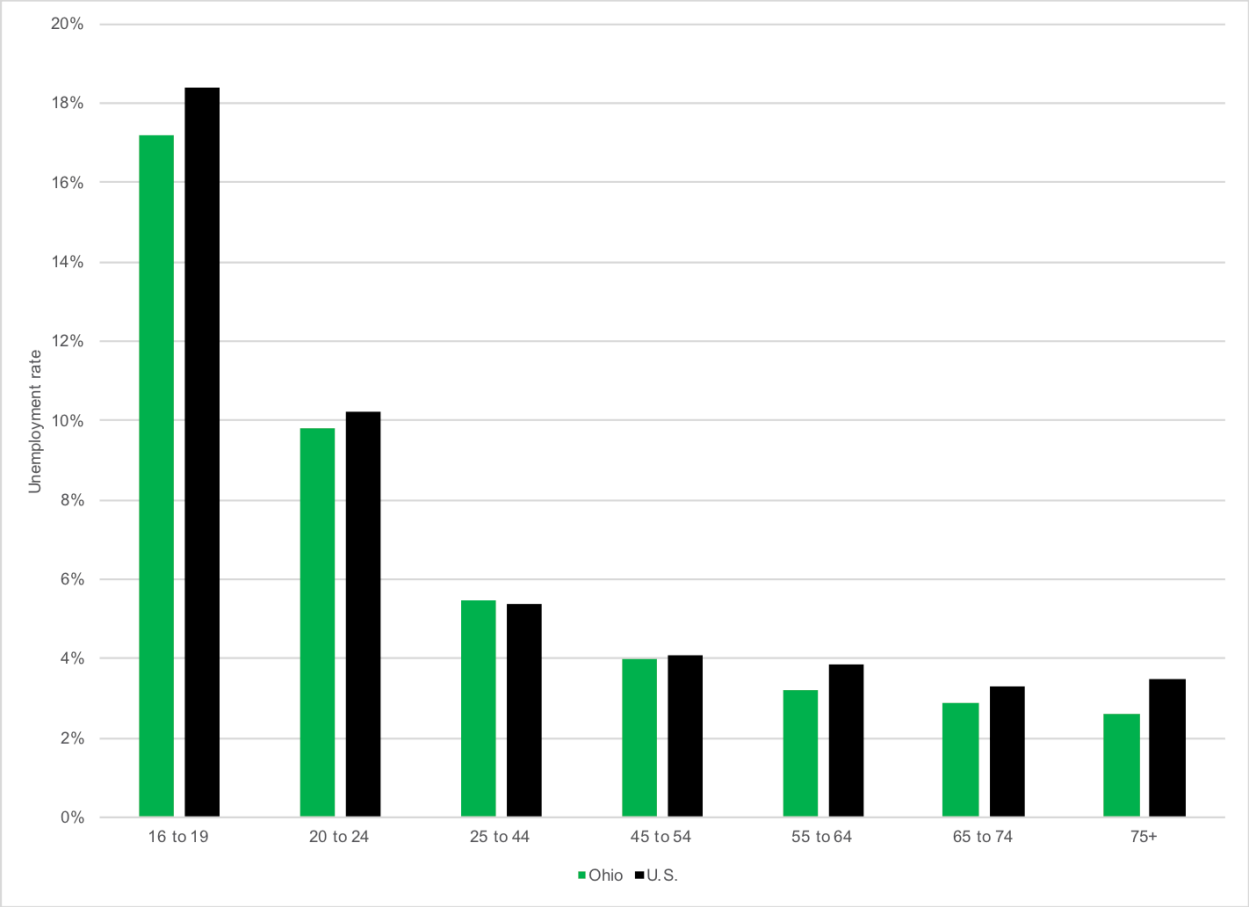
Figure 8
Participation Rates by Age, Ohio, 2005, 2010, and 2016



Source: American Community Survey, One-Year Estimates.

Age is an important factor in the unemployment rate as well. As Figure 9 reveals, the unemployment rate declines across age groups. Although most estimated Ohio unemployment rates are less than the national average, none of these differences is statistically significant. Ohio teens face a bleak job outlook: of the 46 percent of this group that were in the job market in 2016, 17 percent were unemployed. Meanwhile, the unemployment rate was less than 3 percent for those 60 and older. Part of the explanation may be that older jobseekers leave the market sooner if they are unable to find work.

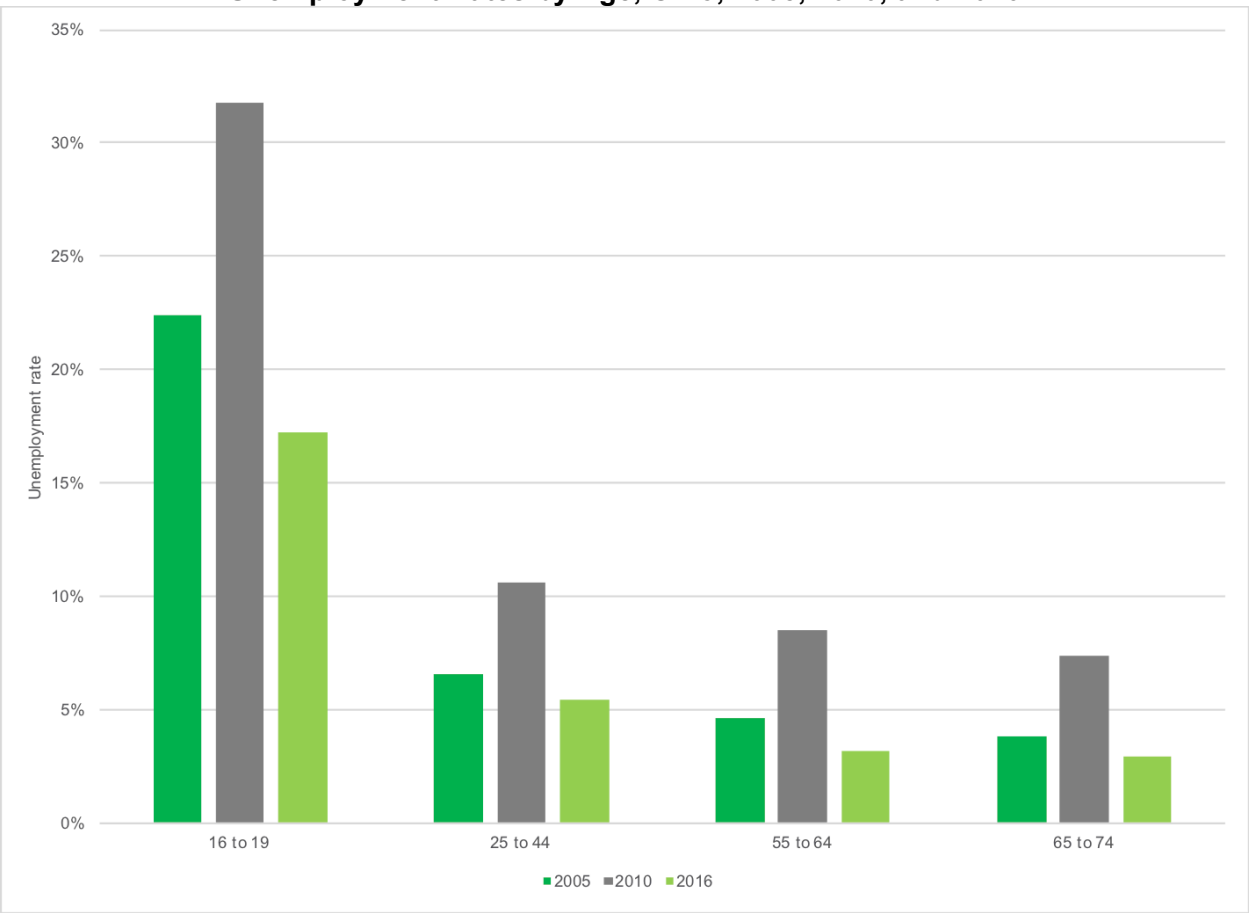
Figure 9
Unemployment Rates by Age, Ohio and U.S., 2016



Source: American Community Survey, 2016 One-Year Estimates.

Figure 10 shows that unemployment rates increased for all age groups during the recession. Not readily apparent is the fact that the proportional increase in unemployment was greater for older groups than younger ones. While the unemployment rate for 16 to 19-year-olds at the end of the recession was 32 percent, 45 percent higher than its 2005 level of 22 percent, the rate for the 65 to 74 age group nearly doubled between 2005 and 2010, from 3.8 percent to 7.4 percent.

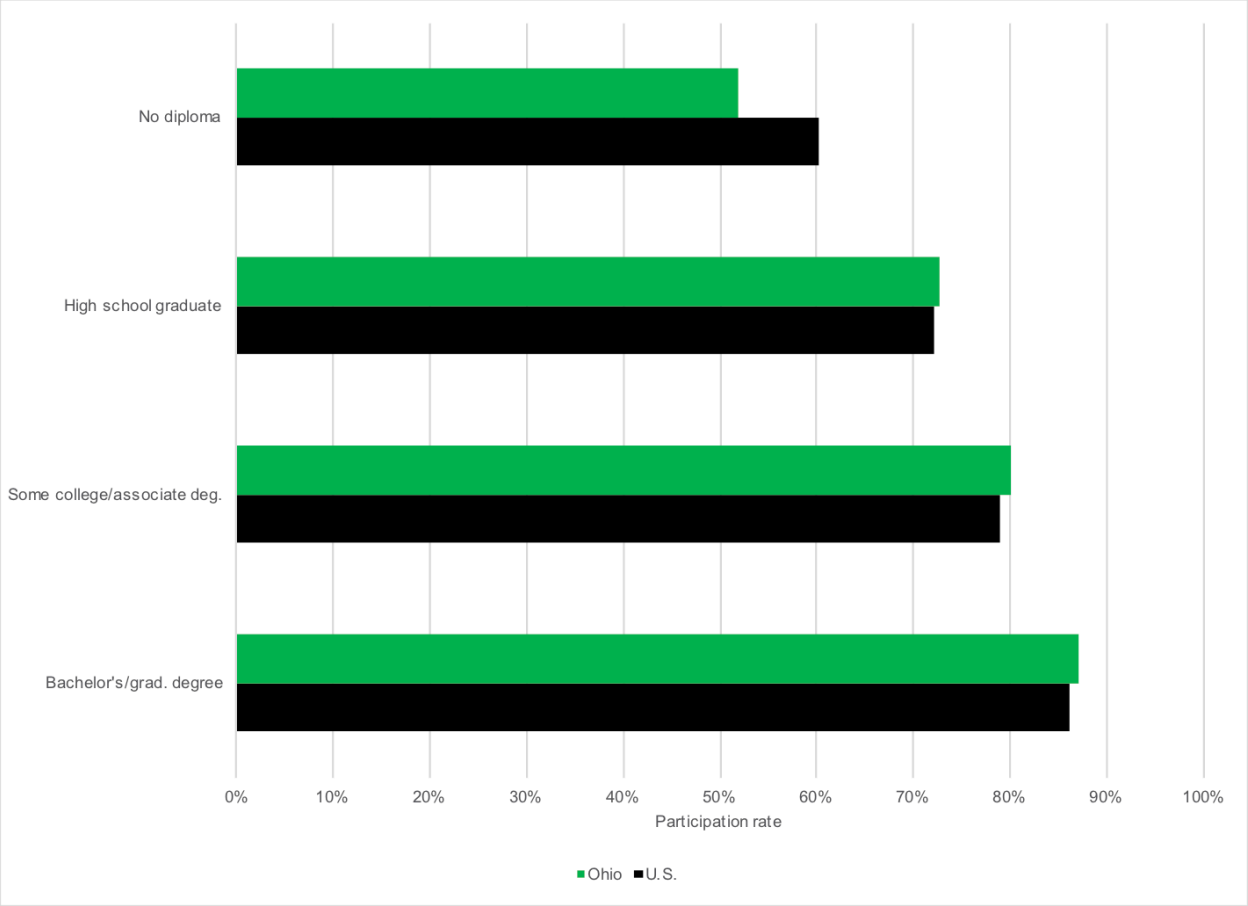
Figure 10
Unemployment Rates by Age, Ohio, 2005, 2010, and 2016



Source: American Community Survey, One-Year Estimates.

The level of education completed is also a determinant of labor force participation and employment. Figure 11 shows that only 52 percent of adults without a high school diploma were in the labor force in 2016, compared to 87 percent of those with a college degree. The eight-point difference between the non-diploma holders' participation rates in Ohio and nationally is statistically significant: Ohio adults without a high school diploma are less likely to be in the labor force than are their counterparts elsewhere.

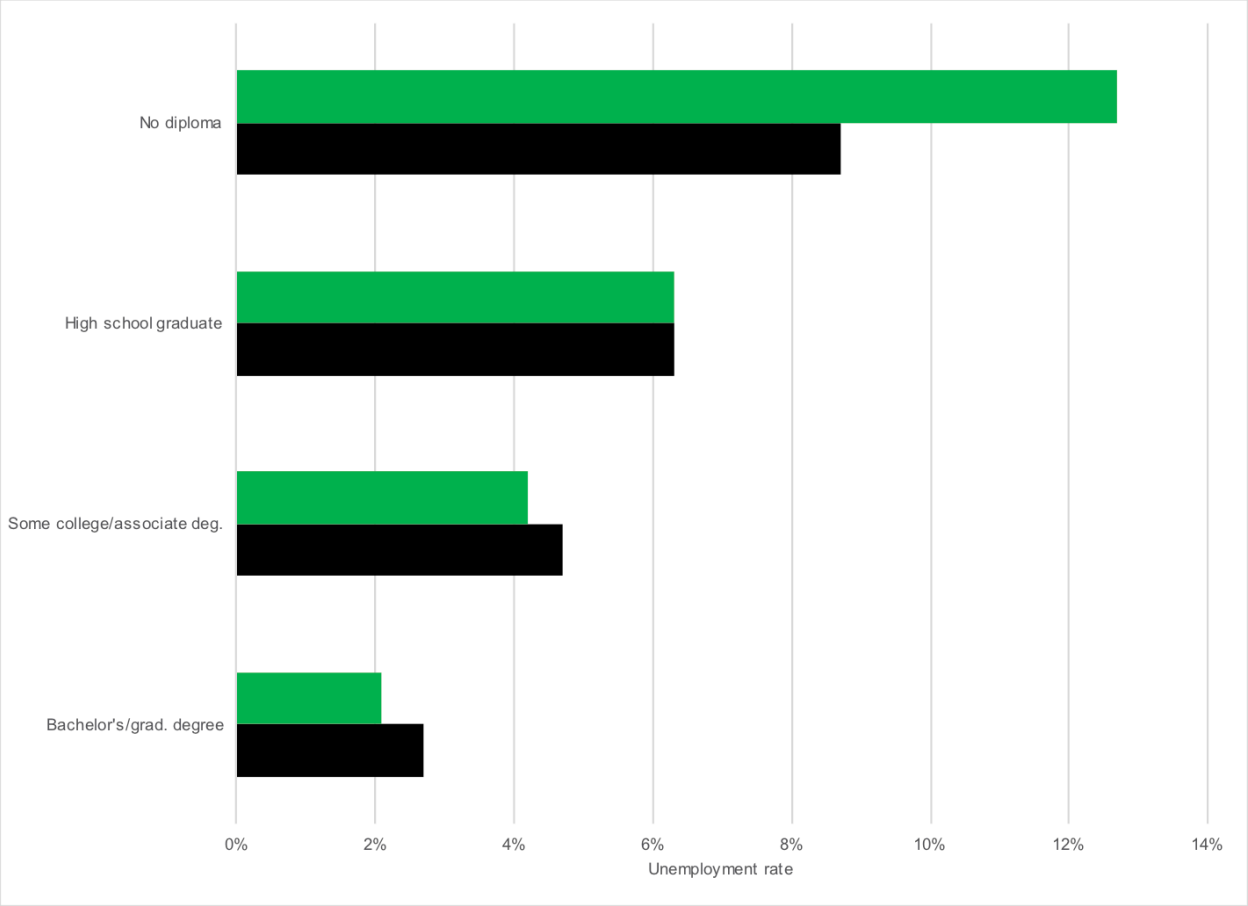
Figure 11
Participation Rates by Educational Attainment, Ohio and U.S., 2016



Source: American Community Survey, 2016 One-Year Estimates.

Figure 12 displays education-dependent unemployment rates, which decline steadily as educational attainment increases. Individuals with no diploma faced a 2016 unemployment rate of 12.7 percent, compared to 4.6 percent for the total Ohio labor market. It is significantly greater than the 8.7 percent national average. The fact that a higher-than-average percentage of non-degree holders are in the labor market is one explanation for the difference. In contrast, only 2.1 percent of Ohioans with bachelors or graduate degrees were unemployed. This is significantly less than the 2.7 percent national average. Both rates are below the three to four percent that is generally considered to represent full employment, so this low rate suggests a significant shortage of workers with college degrees. Previous issues of *On the Money* have commented on the fact that the percentage of Ohio adults with college degrees is less than average. Because employment is more likely in Ohio than elsewhere, the returns to college degrees in this sense may be greater in Ohio than in other states.

Figure 12
Unemployment Rates by Educational Attainment, Ohio and U.S., 2016



Source: American Community Survey, One-Year Estimates.