

# ARIZONA ECONOMIC ENVIRONMENT

The Arizona Department of Administration (ADOA), Office of Employment and Populations Statistics (EPS) produces demographic, labor force, and economic information for Arizona, and submitted the following summary of economic highlights for program year (PY) 2015.

Arizona's economy consists of a wide range of industries offering opportunities for individuals seeking employment of all types. Since the end of the Great Recession in calendar year (CY) 2009, employment growth has rebounded in a majority of sectors, while CY 2015 personal income levels and state gross domestic product (GDP) both increased over CY 2014 levels. Other indicators of economic importance also show positive improvements for the Arizona economy:

- Population levels continue to increase across the state as individuals abroad seek increased economic opportunities in Arizona.
- Unemployment levels among Arizona residents have declined, while more people joined the labor force in CY 2014 and CY 2015.
- State and local housing sectors continue to improve with gradually rising levels of building construction permits, construction starts, and housing prices.
- Total employment is projected to increase by 2.8% from CY 2015 to CY 2017; however these gains will not be shared equally among all industry supersectors.
- Arizona gained 81,400 nonfarm jobs in PY 2015.
- The State Coincident Index for Arizona, an indicator for measuring economic activity, has increased and nearly exceeded its prior peak in July of 2007.
- Per capita personal income growth in Arizona still lags behind the national average, but it is growing.

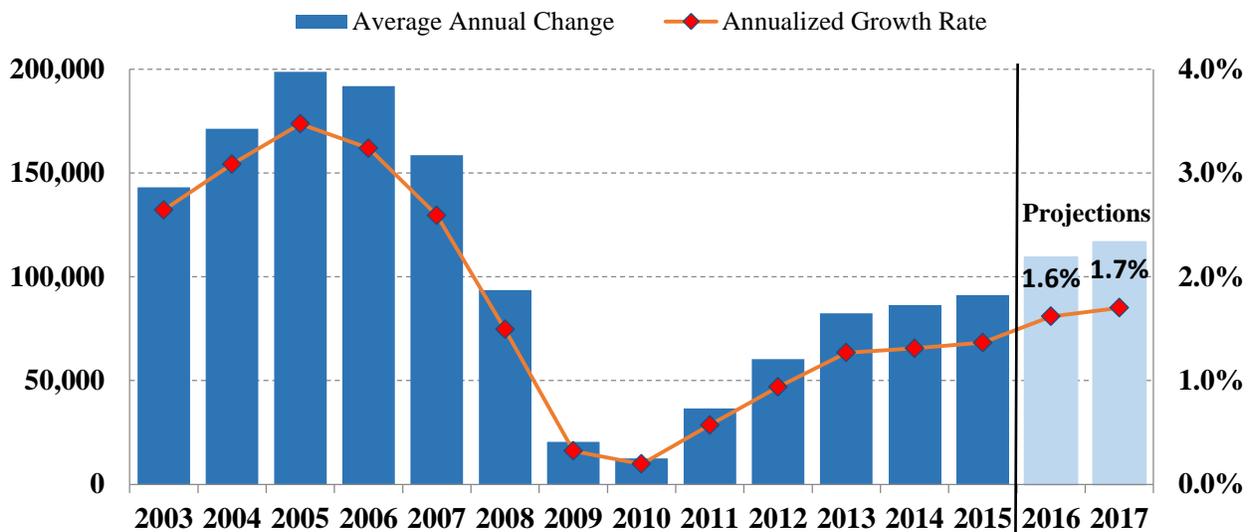
This section summarizes labor market and workforce trends occurring within the Arizona economy to help address and manage future workforce challenges.

<b>Figure 1: Arizona Population Projections: 2015 Medium Series</b>						
Year	Population	Population Change	Population % Change	Natural Change (Births-Deaths)	Total Net Migration (Inflows-Outflows)	Special Population Change
2015	6,758,251	-----	-----	34,323	56,685	-----
2016	6,867,641	109,390	1.6%	36,061	72,335	995
2017	6,984,412	116,771	1.7%	36,153	79,599	1,020

Source: ADOA Office of Employment and Population Statistics

Population growth in Arizona is anticipated to increase 1.6 percent (109,390 individuals) in CY 2016. Roughly 1/3 of this growth is attributed to natural change (more births than deaths), while 2/3 are attributed to net migration (more individuals moving into Arizona than leaving). Special population changes are related to the temporary residencies caused by university students.

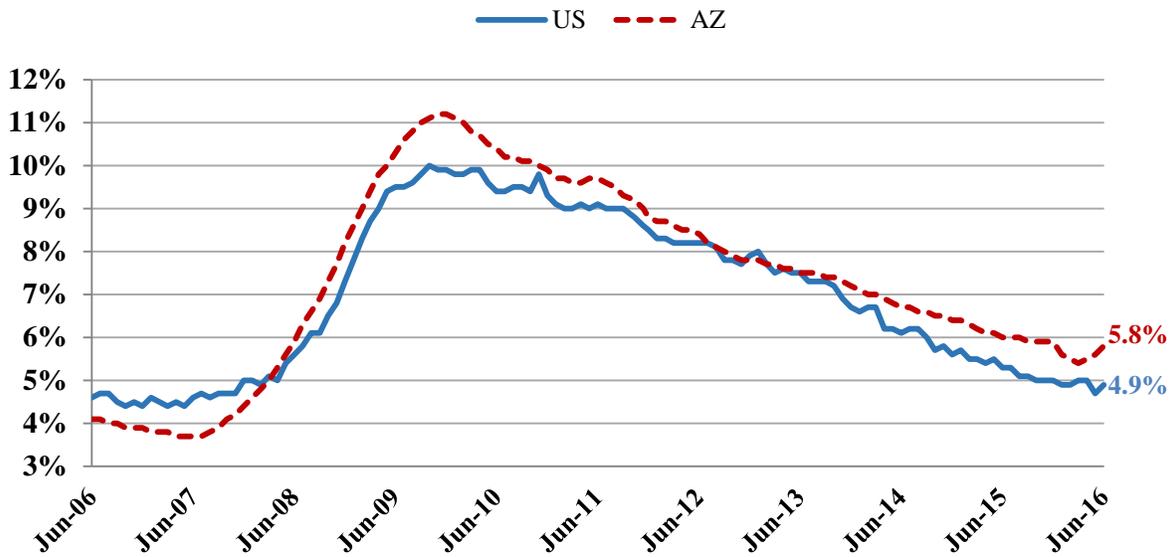
**Figure 2: Arizona's Population Growth (2003-2017)**



Source: ADOA Office of Employment and Population Statistics

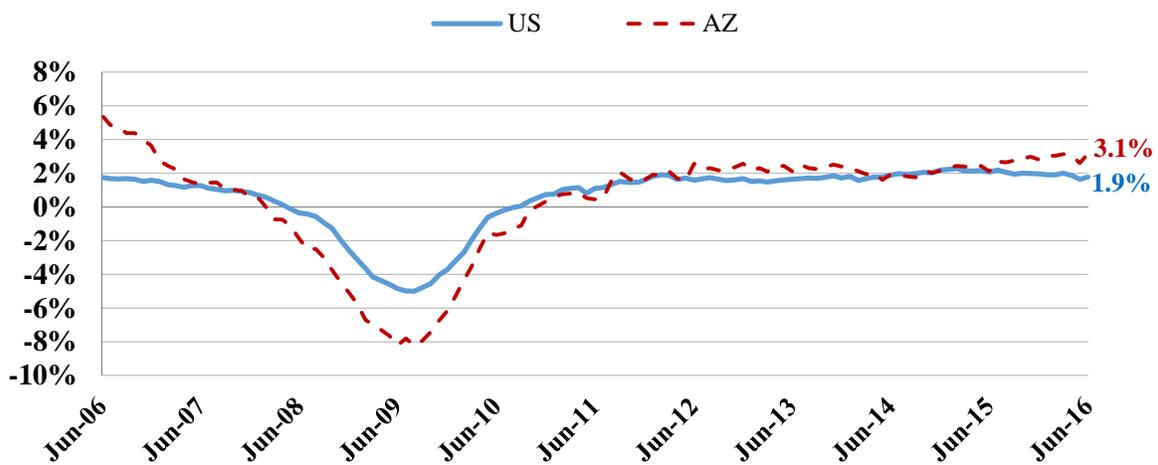
Arizona's population growth rate has increased every year since CY 2010 (see figure 2). CY 2009 and CY 2010 had particularly low population growth rates due to the impacts of the Great Recession. The employment levels in Arizona declined during these years, and as employment opportunity is a major driver of population increases, net migration declined as well. As the state recovered, net migration began to increase. This population growth can, in turn, fuel additional economic growth through the infusion of new consumers demanding goods and services.

**Figure 3: Arizona & US Unemployment Rate Seasonally Adjusted**



Source: ADOA Office of Employment and Population Statistics

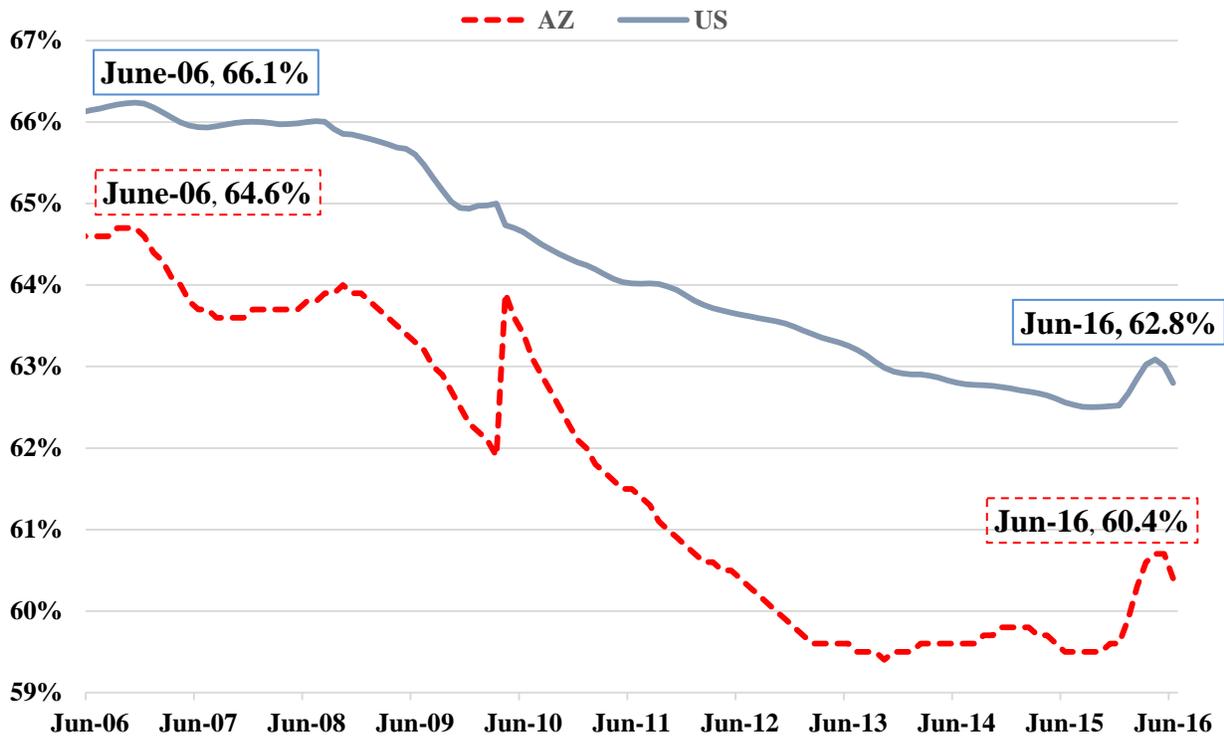
**Figure 4: Arizona & U.S. Nonfarm Employment Year-to-Year Percent Change**



Source: ADOA Office of Employment and Population Statistics

Since the Great Recession, Arizona’s unemployment rate and Arizona’s labor force participation rates have generally trended downward. These trends mirror the national trends, as is illustrated in Figures 3 and 4. The seasonally-adjusted unemployment rate for Arizona in PY 2015 started at 6.0 percent, and declined to 5.8 percent at the conclusion of PY 2015. The United States began PY 2015 with a seasonally-adjusted unemployment rate of 5.3 percent that subsequently declined to 4.9 percent by the end of PY 2015.

**Figure 5: Labor Force Participation Rates  
United States and Arizona (2006-2016)**



Source: U.S. Bureau of Labor Statistics LAUS Program

The unemployment rate is only one factor to consider regarding labor underutilization. It is also important to understand the number of individuals participating or not participating in the labor force, and if they are not participating, what the potential reasons for this decision are. Figure 5 compares monthly labor force participation rates between the United States and Arizona. The downward trend for the labor force participation rate in both the United States, as well as Arizona, began before the Great Recession. During PY 2015, however, the labor force participation rate began trending upwards in both Arizona and the United States.

Traditional measures of unemployment do not capture all idle segments of the workforce. Some job seekers leave the civilian labor force because they are discouraged. Others working part time would ideally like to be employed full-time. These individuals are not included in the traditional unemployment rate, because they are either employed, though only part time, or are not in the labor force at all. The Alternative Measures of Labor Underutilization estimates, produced by the US Bureau of Labor Statistics, identify these workers as Discouraged, Marginally Attached, or Involuntary Part-time Employed. The most recent data published (annual average ending 2016 Quarter 1) show that all three categories have been declining when compared to levels one year ago (figure 6).

**Figure 6: Alternative Measures of Labor Underutilization**

<u>Period</u>	<u>Discouraged Workers</u> <sup>1</sup>	<u>All Marginally Attached</u> <sup>2</sup>	<u>Involuntary Part-time Employed</u> <sup>3</sup>
2014:II – 2015:I	20,900	53,300	195,700
2015:II – 2016:I	12,300	42,800	147,200
<b>Over-the-Year</b>	<b>-8,600</b>	<b>-10,500</b>	<b>-48,500</b>

Source: Bureau of Labor Statistics

Figure 7 shows nonfarm employment levels and the percentage change from prior program years. The increases in PY 2015 were more robust than prior years. In PY 2015, the total nonfarm employment growth rate exceeded the growth rates of the five prior Program Years at 3.2 percent. It also exceeded the growth rate of the United States (1.8 percent). Most supersectors recorded positive growth in PY 2015, and exceeded growth rates recorded in PY 2014. Construction grew by 7.8 percent in PY 2015 (compared to 1.7 percent in PY 2014). Information grew by 7.3 percent (compared to 2.1 percent), and Financial Activities grew by 6.1 percent (compared to 2.1 percent). The largest rate decrease came from Natural Resources and Mining (-7.8 percent in PY 2015 compared to -3.0 percent in PY 2014), but due to the relatively small size of this supersector, that decrease translates into roughly -1,000 jobs.

<sup>1</sup> Discouraged workers are defined by the US Bureau of Labor Statistics as “Persons not in the labor force who want and are available for a job and who have looked for work sometime in the past 12 months, but who are not currently looking because they believe there are no jobs available or there are none for which they would qualify.”

<sup>2</sup> Marginally attached workers are defined by the US Bureau of Labor Statistics as “Persons not in the labor force who want and are available for work, and who have looked for a job sometime in the prior 12 months, but were not counted as unemployed because they had not searched for work in the 4 weeks preceding the survey. Discouraged workers are a subset of the marginally attached.”

<sup>3</sup> Involuntary part-time workers are defined by the US Bureau of Labor Statistics as “Persons working less than 35 hours per week who want to work full time, are available to do so, and gave an economic reason for working part-time.”

<b>Figure 7: Arizona Nonfarm Employment (in thousands)</b>						
	<b>PY 2010</b>	<b>PY 2011</b>	<b>PY 2012</b>	<b>PY 2013</b>	<b>PY 2014</b>	<b>PY 2015</b>
<b>Total Nonfarm</b>	<b>2,362.4</b>	<b>2,423.0</b>	<b>2,474.3</b>	<b>2,521.7</b>	<b>2,575.2</b>	<b>2,656.6</b>
<i>OTY Percentage Change</i>	<i>0.4%</i>	<i>2.6%</i>	<i>2.1%</i>	<i>1.9%</i>	<i>2.1%</i>	<i>3.2%</i>
<b>Natural Resources &amp; Mining</b>	<b>11.6</b>	<b>12.7</b>	<b>13.6</b>	<b>13.3</b>	<b>12.9</b>	<b>11.9</b>
<i>OTY Percentage Change</i>	<i>5.5%</i>	<i>9.5%</i>	<i>7.1%</i>	<i>-2.2%</i>	<i>-3.0%</i>	<i>-7.8%</i>
<b>Construction</b>	<b>112.4</b>	<b>117.0</b>	<b>126.1</b>	<b>125.8</b>	<b>127.9</b>	<b>137.9</b>
<i>OTY Percentage Change</i>	<i>-0.5%</i>	<i>4.1%</i>	<i>7.8%</i>	<i>-0.2%</i>	<i>1.7%</i>	<i>7.8%</i>
<b>Manufacturing</b>	<b>150.4</b>	<b>155.8</b>	<b>155.6</b>	<b>157.2</b>	<b>158.2</b>	<b>160.5</b>
<i>OTY Percentage Change</i>	<i>1.2%</i>	<i>3.6%</i>	<i>-0.1%</i>	<i>1.0%</i>	<i>0.6%</i>	<i>1.5%</i>
<b>Trade, Transportation &amp; Utilities</b>	<b>469.8</b>	<b>472.3</b>	<b>476.1</b>	<b>488.0</b>	<b>500.6</b>	<b>513.0</b>
<i>OTY Percentage Change</i>	<i>0.9%</i>	<i>0.5%</i>	<i>0.8%</i>	<i>2.5%</i>	<i>2.6%</i>	<i>2.5%</i>
<b>Information</b>	<b>37.1</b>	<b>39.9</b>	<b>42.0</b>	<b>44.0</b>	<b>45.3</b>	<b>48.6</b>
<i>OTY Percentage Change</i>	<i>-0.5%</i>	<i>7.5%</i>	<i>5.3%</i>	<i>4.8%</i>	<i>3.0%</i>	<i>7.3%</i>
<b>Financial Activities</b>	<b>171.0</b>	<b>175.5</b>	<b>184.6</b>	<b>189.6</b>	<b>193.6</b>	<b>205.4</b>
<i>OTY Percentage Change</i>	<i>2.6%</i>	<i>2.6%</i>	<i>5.2%</i>	<i>2.7%</i>	<i>2.1%</i>	<i>6.1%</i>
<b>Professional &amp; Business Services</b>	<b>343.1</b>	<b>355.5</b>	<b>373.3</b>	<b>379.7</b>	<b>391.0</b>	<b>406.9</b>
<i>OTY Percentage Change</i>	<i>1.1%</i>	<i>3.6%</i>	<i>5.0%</i>	<i>1.7%</i>	<i>3.0%</i>	<i>4.1%</i>
<b>Education and Health Services</b>	<b>349.5</b>	<b>361.6</b>	<b>366.7</b>	<b>374.5</b>	<b>389.8</b>	<b>411.1</b>
<i>OTY Percentage Change</i>	<i>2.9%</i>	<i>3.5%</i>	<i>1.4%</i>	<i>2.1%</i>	<i>4.1%</i>	<i>5.5%</i>
<b>Leisure &amp; Hospitality</b>	<b>259.0</b>	<b>266.5</b>	<b>273.4</b>	<b>284.4</b>	<b>296.1</b>	<b>303.8</b>
<i>OTY Percentage Change</i>	<i>1.9%</i>	<i>2.9%</i>	<i>2.6%</i>	<i>4.0%</i>	<i>4.1%</i>	<i>2.6%</i>
<b>Other Services</b>	<b>89.2</b>	<b>87.2</b>	<b>87.6</b>	<b>87.9</b>	<b>88.8</b>	<b>88.1</b>
<i>OTY Percentage Change</i>	<i>0.1%</i>	<i>-2.2%</i>	<i>0.5%</i>	<i>0.3%</i>	<i>1.0%</i>	<i>-0.8%</i>
<b>Government</b>	<b>369.3</b>	<b>379.0</b>	<b>375.3</b>	<b>377.3</b>	<b>371.0</b>	<b>369.4</b>
<i>OTY Percentage Change</i>	<i>-4.7%</i>	<i>2.6%</i>	<i>-1.0%</i>	<i>0.5%</i>	<i>-1.7%</i>	<i>-0.4%</i>

Source: ADOA Office of Employment and Population Statistics

During PY2015, 81,400 jobs were added in Arizona. The supersectors that gained jobs in PY 2015 were Education and Health Services (21,300 jobs); Professional and Business Services (15,900 jobs); Trade, Transportation, and Utilities (12,400 jobs); Financial Activities (11,800 jobs); Construction (10,000 jobs); Leisure and Hospitality (7,700 jobs); Information (3,300 jobs); and Manufacturing (2,300 jobs). The supersectors that lost jobs in PY 2015 were Other Services (-700 jobs); Natural Resources and Mining (-1,000 jobs); and Government (-1,600 jobs).

<b>Figure 8: Arizona Total Nonfarm Gains by Region (in thousands)</b>						
	<b>PY 2010</b>	<b>PY 2011</b>	<b>PY 2012</b>	<b>PY 2013</b>	<b>PY 2014</b>	<b>PY 2015</b>
<b>Arizona</b>	<b>10.5</b>	<b>60.6</b>	<b>51.3</b>	<b>47.4</b>	<b>53.5</b>	<b>81.4</b>
<i>OTY Percentage Change</i>	<i>0.4%</i>	<i>2.6%</i>	<i>2.1%</i>	<i>1.9%</i>	<i>2.1%</i>	<i>3.2%</i>
<b>United States</b>	<b>1,441.0</b>	<b>2,116.0</b>	<b>2,221.0</b>	<b>2,598.0</b>	<b>2,893.0</b>	<b>2,522.0</b>
<i>OTY Percentage Change</i>	<i>1.1%</i>	<i>1.6%</i>	<i>1.6%</i>	<i>1.9%</i>	<i>2.1%</i>	<i>1.8%</i>
<b>Flagstaff MSA</b>	<b>0.2</b>	<b>1.7</b>	<b>1.0</b>	<b>-0.2</b>	<b>1.2</b>	<b>1.0</b>
<i>OTY Percentage Change</i>	<i>0.3%</i>	<i>2.7%</i>	<i>1.6%</i>	<i>-0.3%</i>	<i>1.9%</i>	<i>1.5%</i>
<b>Lake Havasu City-Kingman MSA</b>	<b>-1.0</b>	<b>-0.1</b>	<b>0.4</b>	<b>1.1</b>	<b>0.8</b>	<b>0.2</b>
<i>OTY Percentage Change</i>	<i>-2.2%</i>	<i>-0.2%</i>	<i>0.9%</i>	<i>2.4%</i>	<i>1.7%</i>	<i>0.4%</i>
<b>Phoenix-Mesa-Scottsdale MSA</b>	<b>15.3</b>	<b>47.2</b>	<b>49.7</b>	<b>37.5</b>	<b>54.3</b>	<b>67.3</b>
<i>OTY Percentage Change</i>	<i>0.9%</i>	<i>2.8%</i>	<i>2.9%</i>	<i>2.1%</i>	<i>3.0%</i>	<i>3.6%</i>
<b>Prescott MSA</b>	<b>-0.3</b>	<b>1.1</b>	<b>0.7</b>	<b>2.4</b>	<b>1.8</b>	<b>2.9</b>
<i>OTY Percentage Change</i>	<i>-0.5%</i>	<i>2.0%</i>	<i>1.3%</i>	<i>4.3%</i>	<i>3.1%</i>	<i>4.8%</i>
<b>Sierra Vista-Douglas MSA</b>	<b>-0.7</b>	<b>-0.7</b>	<b>-1.4</b>	<b>-0.2</b>	<b>-0.5</b>	<b>0.4</b>
<i>OTY Percentage Change</i>	<i>-1.9%</i>	<i>-1.9%</i>	<i>-3.9%</i>	<i>-0.6%</i>	<i>-1.5%</i>	<i>1.2%</i>
<b>Tucson MSA</b>	<b>-1.4</b>	<b>7.6</b>	<b>0.7</b>	<b>3.8</b>	<b>-0.7</b>	<b>12.4</b>
<i>OTY Percentage Change</i>	<i>-0.4%</i>	<i>2.2%</i>	<i>0.2%</i>	<i>1.1%</i>	<i>-0.2%</i>	<i>3.5%</i>
<b>Yuma MSA</b>	<b>0.1</b>	<b>1.5</b>	<b>0.1</b>	<b>1.0</b>	<b>-0.1</b>	<b>0.9</b>
<i>OTY Percentage Change</i>	<i>0.2%</i>	<i>3.1%</i>	<i>0.2%</i>	<i>2.0%</i>	<i>-0.2%</i>	<i>1.8%</i>
Source: ADOA Office of Employment and Population Statistics						

The distribution of job growth is predominantly concentrated in the Phoenix Metropolitan Statistical Area (MSA), but all of the MSA's showed positive growth in PY 2015. Prescott MSA, Phoenix MSA, and Tucson MSA all showed job growth that exceeded the rate of Arizona. The other four MSA's showed positive growth that was less than the growth rate for the entire state; however, Yuma MSA grew at a faster rate than the total United States during PY 2015. Figure 9 shows how the composition of Arizona's economy has changed in the past decade. Education and Health Services has increased its share by 4.4 percent since June of 2006. These increases mostly occurred at the expense of Construction jobs, which lost 4.3 percent of its share during this same period. Next, Leisure and Hospitality increased its share by 1.2 percent at the expense of Manufacturing, which lost 1.1 percent. Finally, Financial Activities increased its share by 0.7 percent while Government lost 0.7 percent of its share. These trends show that over a decade, the Arizona economy has changed its employment composition.

**Figure 9: Arizona Total Nonfarm Employment Shares  
June 2006 to June 2016**

<b>Supersector Title</b>	<b>June 2006 Share</b>	<b>June 2016 Share</b>	<b>Share Change</b>	<b>Numeric Change</b>
Education and Health Services	11.1%	15.5%	4.4%	119,600
Leisure & Hospitality	10.2%	11.4%	1.2%	36,200
Financial Activities	7.1%	7.7%	0.7%	20,400
Information	1.7%	1.8%	0.2%	4,600
Professional & Business Services	15.2%	15.3%	0.2%	9,700
Natural Resources and Mining	0.4%	0.4%	0.1%	1,800
Trade, Transportation & Utilities	19.3%	19.3%	0.0%	6,600
Other Services	3.9%	3.3%	-0.6%	-13,500
Government	14.6%	13.9%	-0.7%	-13,100
Manufacturing	7.1%	6.0%	-1.1%	-26,800
Construction	9.4%	5.2%	-4.3%	-109,600
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>	<b>35,900</b>

Source: ADOA Office of Employment and Population Statistics

Figure 10 shows the short-term growth projections for industries in Arizona. With the exception of Natural Resources and Mining, all supersectors are projected to grow in Arizona from 2015-2017. In Arizona, Mining is highly volatile due to global copper prices, so it is a fairly unpredictable supersector. Regardless, it is the smallest of all twelve supersectors, so this volatility does not have tremendous impact on the state as a whole.

Most of the twelve supersectors are projected to grow at a rate that exceeds projected population growth. The three largest percentage increases are projected to occur in Construction; Professional and Business Services; and Financial Activities. The largest numeric growth is projected to occur in Professional and Business Services; Education and Health Services; and Financial Activities.

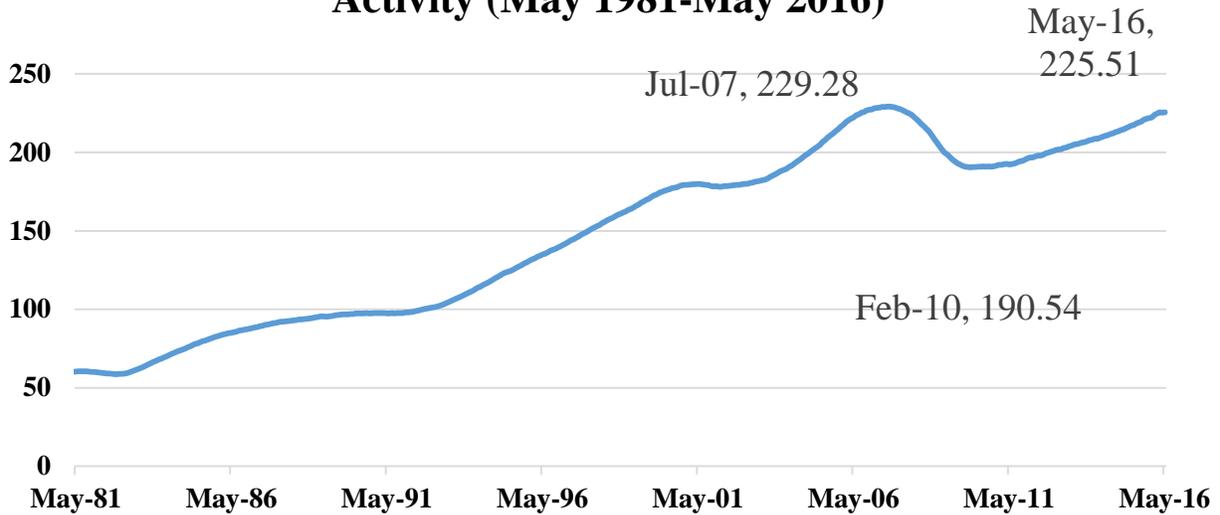
**Figure 10: Short-Term Industry Employment Projections 2015-2017**

<b>Industry Code</b>	<b>Supersector Title</b>	<b>Base Employment 2015 Q2</b>	<b>Projected Employment 2017 Q2</b>	<b>Numeric Change</b>	<b>Percent Change</b>
200000	Construction	128,777	146,509	17,732	6.7%
600000	Professional and Business Services	391,482	426,384	34,902	4.4%
550000	Financial Activities	189,261	203,668	14,407	3.7%
700000	Leisure and Hospitality	320,397	342,991	22,594	3.5%
500000	Information	46,617	49,716	3,099	3.3%
650000	Education and Health Services	565,750	597,178	31,428	2.7%
400000	Trade, Transportation, and Utilities	517,566	540,980	23,414	2.2%
990000	Unclassified	145,056	151,446	6,390	2.2%
800000	Other Services (Except Government)	72,295	74,060	1,765	1.2%
300000	Manufacturing	156,776	158,842	2,066	0.7%
900000	Government	150,867	151,421	554	0.2%
100000	Natural Resources and Mining	33,673	31,852	-1,821	-2.7%
000000	Total	2,718,517	2,875,047	156,530	2.8%

Source: ADOA Office of Employment and Population Statistics

The coincident economic activity index is another economic indicator compiled by the Federal Reserve that tends to correlate with economic growth. Figure 11 shows the changes in the coincident economic activity index over time. As the coincident index increases, economic growth tends to increase. This index combines four variables: total nonfarm employment, average hours worked in manufacturing, the unemployment rate, and wages. Arizona's coincident index peaked in July of 2007 at 229.25, and its lowest point after the recession was February of 2010 at 190.54. In May of 2016, Arizona's coincident index was 225.51, which is an increase over May of 2015's coincident index of 217.54.

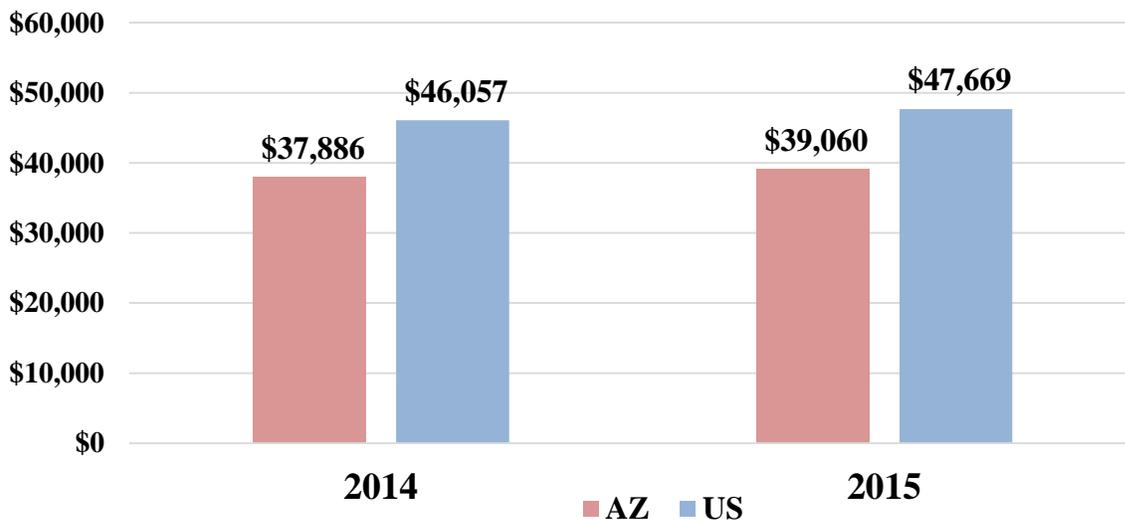
**Figure 11: Arizona Coincident Index of Economic Activity (May 1981-May 2016)**



Source: Federal Reserve Bank of Philadelphia

The income of Arizona residents is also increasing. Arizona’s per capita personal income in 2015 was \$39,060. This is an increase of 3.1 percent from 2014’s per capita personal income of \$37,886 (see figure 12). Over the same period, per capita income in the United States grew by 3.5 percent to \$47,669 in 2015. Relative to the rest of the United States, Arizona ranked 42nd in per capita personal income.

**Figure 12: Per Capita Personal Income Arizona and United States (2014 and 2015)**



Source: Bureau of Economic Analysis

Arizona's economy received a disproportionate share of economic contraction during the Great Recession. It has slowly recovered, and now the Arizona economy is nearly as robust as the prior economy before the recession. Indicators like population growth, employment growth, GDP growth, and unemployment rates have shown broad positive trends. Additional indicators like the coincident index and industry projections all predict positive growth. Arizona is currently on a path of modest, broad growth among almost all segments of the economy.

#### References

- Arizona Department of Administration: Office of Employment and Population Statistics (2015, December 11). *Arizona- Medium Series, 2015-2050 Projections*. Retrieved from <https://population.az.gov/population-projections>
- Arizona Department of Administration: Office of Employment and Population Statistics (2016, July 21). *Employment Report*. Retrieved from <https://laborstats.az.gov/>
- Arizona Department of Administration: Office of Employment and Population Statistics (2016, March 24). *Table: 2015-2017 Industry Projections*. Retrieved from <https://laborstats.az.gov/forecast-reports>
- Federal Reserve Bank of Philadelphia (2016, June 9). *Coincident Economic Activity Index for Arizona*, retrieved from <https://research.stlouisfed.org/fred2/series/AZPHCI>
- US Department of Commerce: Bureau of Economic Analysis (2016, March 23). *BEARFACTS: Personal Income for Arizona*, retrieved from <https://www.bea.gov/regional/bearfacts/action.cfm?geoType=3&fips=04000&areatype=04000>
- US Department of Labor: Bureau of Labor Statistics (2016, April 22). *Local Area Unemployment Statistics: Alternative Measures of Labor Underutilization for States*, retrieved from <http://www.bls.gov/lau/stalt.htm>
- US Department of Labor: Bureaus of Labor Statistics (2016, July 21). *Local Area Unemployment Statistics: Employment Status of The Civilian Noninstitutional Population, Seasonally Adjusted*, retrieved from <http://www.bls.gov/lau/rdsenp16.htm>