

INDICATOR INSIGHT

ECONOMICS <•> AN EXPERT'S INSIGHT ON THE ISSUE IN ARIZONA

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Arizona Continues to Slip Relative to the Nation on Educational Attainment

Workforce quality and availability has become the most important location factor determining a region's economic competitiveness/business climate. The relative significance of the workforce has increased over time as the U.S. economy transitions from the 20th century's manufacturing-dominated economy to an economy driven more by technology and innovation.

Educational attainment is a key measure of workforce quality. Historically, Arizona compared favorably relative to the nation on the educational attainment of its residents, but it is now below average, with a large shortfall among young adults in the percentage with at least a bachelor's degree.

Educational attainment is reported annually by the U.S. Census Bureau, based on the American Community Survey (ACS). Educational attainment data generally are presented for the entire population of age 25 and older. Limited information is available for more-narrow age groups. The Census Bureau also provides the educational attainment of those in the workforce, between the ages of 25 and 64.

On the Arizona Indicators website (<http://www.arizonaindicators.org/>), the latest data on educational attainment are included in the demographics category. Annual data are limited to the nation and Arizona. Small samples preclude the publication of annual data for less-populous areas and reduce the reliability of the annual data that are published. To reduce sampling error, county data are presented for a five-year period, with the latest data for the 2009-through-2013 period.

Arizona

The latest data on educational attainment in Arizona and the nation is displayed in Chart 1. A larger-than-average share of Arizonans have attended college but not received a bachelor's degree. Lower-than-average shares have received bachelor's degrees and advanced degrees (including master's degrees, doctorates, and professional specialty degrees such as law school).

As seen in Chart 2, the state's educational attainment relative to the nation is much different today than the historical norm. Though relative attainment in Arizona had already fallen by 1970, the state was still well positioned then, with the percentages with at least a high school diploma and with at least a bachelor's degree well above the national average. Since then, attainment in Arizona has steadily declined relative to the national average, particularly as measured by a bachelor's degree or more.

In 2013, among those 25 and older, Arizona ranked 35th among the 51 'states' (including the

Maximum Educational Attainment of Those 25 or Older, 2013

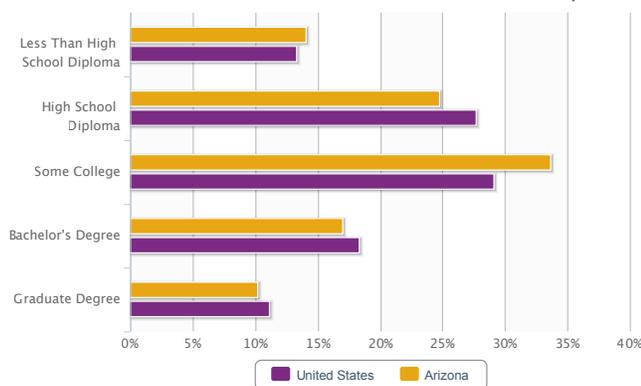


Chart 1 - Educational Attainment in Arizona as a Ratio to the National Average, Age 25 and Older, 2013. Source: U.S. Department of Commerce, Census Bureau, American Community Survey, 2013.



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arizonaindicators.org

Arizona Indicators is an online information resource and analysis tool that centralizes data about the state and its communities. Arizona Indicators presents interactive visualizations, clear data descriptions, and public opinion data in a broad range of content areas.

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District of Columbia) on the share with at least a high school diploma and 30th on the share with at least a bachelor's degree. Looking more narrowly at 10 western states, Arizona ranked sixth on the share with at least a high school diploma and seventh on the share with at least a bachelor's degree. Nevada and New Mexico had lesser shares on both measures; California and Texas had lower figures based on the measure of high school diploma or more; and Idaho had a lower share on the measure of bachelor's degree or more.

Over time, Arizona's ranks among the states have dropped significantly for educational attainment. In 1940, Arizona ranked tied for 11th on the percentage with at least a high school diploma and fourth on the share with at least a bachelor's degree. While each of the 10 western states have experienced a deterioration in their educational attainment relative to the nation, only Nevada (and California on the measure of high school diploma or more) has had a relative decline greater than in Arizona. Florida and Oklahoma are the only other states with a significant drop in ranks. In contrast, educational attainment relative to other states improved significantly in several states, with the greatest gain in Minnesota.

Educational Attainment in Arizona as a Ratio to the National Average, Age 25 and Older

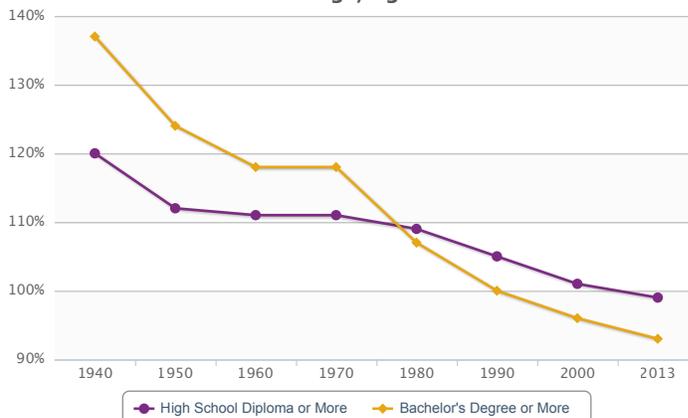


Chart 2 - Educational Attainment in Arizona as a Ratio to the National Average, Age 25 and Older. Source: U.S. Department of Commerce, Census Bureau, decennial census through 2000, and American Community Survey, 2013.

The comparison provided in Chart 2 is misleading from the perspective of the workforce and economic development. As seen in Chart 3, relative to the nation, educational attainment of the population of age 25 and older in Arizona is boosted by those of retirement age. Arizona continues to attract migrants from other states who move after they retire. These migrants have disproportionately high educational attainments. In contrast, educational attainment as measured by the share with at least a bachelor's degree is considerably below the nation among those from 25-to-44 years old in Arizona.

Focusing the analysis on employed individuals between 25 and 64 years of age who have earned at least a bachelor's degree, the share in 2013 was 32.1 percent in Arizona compared to the national figure of 35.7 percent. Arizona ranked 33rd nationally and seventh among 10 western states in 2013. The share was significantly above the national figure in several states along the East Coast and in Colorado. Most of the states with the lowest shares are located in the South, but Nevada ranked last.

Arizona has lost ground in recent years in the educational attainment of workers between 25 and 64 years old, with its 2.8 percentage point increase in share with at least a bachelor's degree between 2005 and 2013 less than the national average of 3.2 percentage points. Arizona ranked 39th nationally and sixth among the 10 western states. However, the differences in the change in the percentage generally were small across the states.

Metropolitan Areas

Many economists contend that the metropolitan area is the best unit of geography for measuring various aspects of the economy. In order to compare educational attainment across metro areas, three years of ACS data were combined, with the 2011-to-2013 period compared to the 2005-to-2007 period. The analysis focuses on the share with at least a bachelor's degree among those 25-to-64 years old who were employed.

The size of the nation's 381 metro areas varies widely. In terms of the number employed between the ages of 25 and 64, values ranged from less than 25,000 to 7.9 million in 2011-13. Size and educational attainment are positively correlated (the highest shares of the workforce with at least a bachelor's degree generally occur in large metro areas). Educational attainment also is related to the presence of universities, measured as the number of students at institutions offering bachelor's degrees and/or advanced degrees as a proportion of the number employed (25-to-64 years old).

Educational Attainment in Arizona as a Ratio to the National Average by Age Group, 2009-13

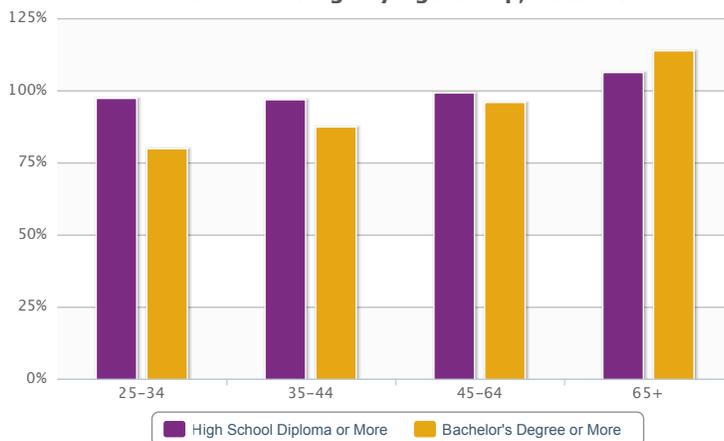


Chart 3 - Educational Attainment in Arizona as a Ratio to the National Average by Age Group, 2009-13. Source: U.S. Department of Commerce, Census Bureau, American Community Survey.

Of the seven metro areas in Arizona, Phoenix is by far the largest, ranking 12th nationally with nearly 1.6 million workers in 2011-13. Its 33.7 percent of workers with at least a bachelor's degree was considerably less than the 41.1 percent average of the metro areas with at least 1 million workers. Of the 21 metros of this size, only Riverside and Tampa had a lower share with at least a bachelor's degree; Phoenix ranked 39th among the 50 largest metros.

The Tucson area is the only other sizable metro area in Arizona, with 331,000 workers in 2011-13. Its educational attainment also was below the average of metros of similar size: 33.1 percent with at least a bachelor's degree versus 36.5 percent. The below-average shares in the Tucson and Phoenix metro areas are inconsistent with the above-average share of university students in each metro area.

Among the five much smaller metro areas in Arizona, the share with at least a bachelor's degree was far below the size norm in Yuma and Lake Havasu City (which had the lowest share of any metro area) and below average in Prescott. In contrast, the share was a little above the size average in Sierra Vista and considerably above the norm in Flagstaff. The high educational attainment in the Flagstaff metro area is consistent with its much above-average share of university students. In contrast, few university students are present in the other four small metro areas.

The change between 2005-07 and 2011-13 in the share with at least a bachelor's degree also was correlated to size across the nation's 381 metro areas, with the largest areas posting the greatest gains. The Phoenix metro area posted a relatively large gain of 3.6 percentage points, above the size class average of 2.9 points. However, among Arizona's other metro areas, only Sierra Vista outpaced the size class average, with the Yuma area close to average. The share hardly changed in the Flagstaff, Lake Havasu City, Prescott, and Tucson metro areas, and was considerably below average.

Counties

Seven of Arizona's 15 counties are not included in a metropolitan area. Large variations in educational attainment among those 25 and older are present by Arizona county, as seen in Chart 4. Based on data for 2009 through 2013, the share with at least a high school diploma was more than 10 percentage points lower than the national average of 86.0 percent in four counties: Apache, La Paz, Santa Cruz, and Yuma. In four metro counties – Coconino, Maricopa, Pima, and Yavapai – the share exceeded the national average.

In most of Arizona's counties, deficiencies in educational attainment are greater when measured as the share with at least a bachelor's degree than as the share with at least a high school diploma. La Paz and Santa Cruz counties are exceptions. As measured by the share with at least a bachelor's degree, the proportion is less than half of the U.S. figure of 28.8 percent in six of the 15 counties; in an additional three counties, the share is more than 10 percentage points lower than the national figure. The proportion exceeds the national average only in the three counties in which a state university is located. The share is highest in Coconino County; it is only 1 percentage point above the U.S. average in Maricopa and Pima counties.

In some counties, the relationship to the national average varies by age group. For example, La Paz County is far below the nation on the share with at least a high school diploma among those 25 to 64, but is a little above average among those 65 and older. More generally, those counties that are destinations for retirement-age migrants compare more favorably in the older age groups than in the younger age groups.

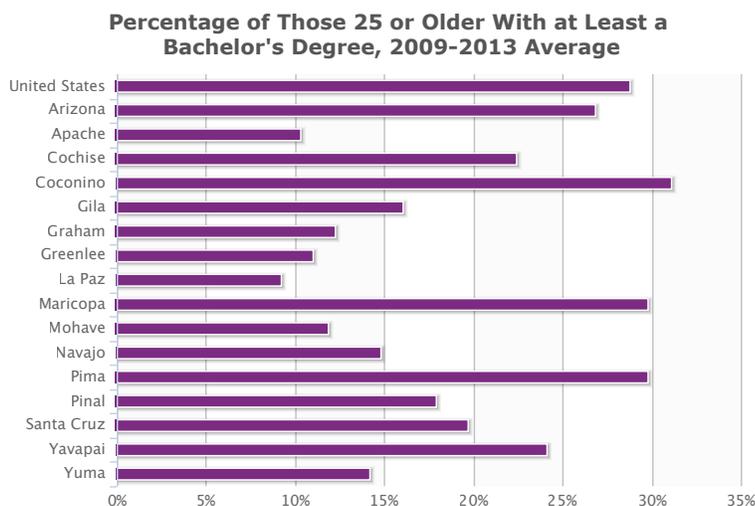


Chart 4 - Percentage of those 25 or Older with at Least a Bachelor's Degree, 2009-2013 Average. Source: U.S. Department of Commerce, Census Bureau, American Community Survey.