

# Troubling Trends in Arizona's College Attainment Rate

---

By George W. Hammond, Ph.D  
Associate Director and Research Professor  
Economic and Business Research Center  
Eller College  
University of Arizona

September 2013

Page intentionally left blank

## **Contents**

Introduction.....	1
College Attainment in 2011 .....	3
State Results.....	3
County Results .....	7
Long-run Trends in College Attainment: 1940-2010 .....	10
State Trends .....	10
County Trends.....	16
Conclusion .....	17
References.....	22

Page intentionally left blank

## Introduction

Education is a crucial determinant of long-run income growth. This assertion seems obviously true for individuals, where increases in education lead to higher salaries over time. However, something similar is also true for nations, states, counties, metropolitan areas, and nonmetropolitan areas.<sup>1</sup> High concentrations of highly educated residents in a region, particularly those with a Bachelor's degree or better, leads to stronger income growth in the region in the long run. Further, it is not just highly educated workers that benefit. Less educated workers also earn more in cities with high concentrations of the highly educated.

Thus, the college attainment rate is one critical determinant of Arizona's economic success. Unfortunately, while the state rate has risen rapidly during the past 70 years, its growth has not kept pace with the nation. In fact, Arizona's college attainment rate was below the national level in 2011.

The U.S. Census Bureau estimated that there were 1,119,198 Arizona residents age 25 and older with a bachelor's degree or better in 2011. That translated into a college attainment rate of 26.6%, which was 1.9 percentage points below the national average of 28.5%, and ranked the state 27th in the nation. If we narrow the population down to residents age 25 to 64, Arizona's college attainment rank falls to 35<sup>th</sup> in the nation, which indicates that retirees have tended to bring relatively high education levels to the state.

The state has gradually lost ground to the nation during the past 70 years. Indeed, the state college attainment rate ranked 4<sup>th</sup> in the nation in 1940, compared to 27<sup>th</sup> in 2011. Arizona posted slow growth relative to the nation in part because of strong gains in the Hispanic population, which tends to have low college attainment rates both in Arizona and nationally. Further, Hispanic college attainment in Arizona has been below the national average since at least 1980.<sup>2</sup> Compounding the problem, the Non-Hispanic population in Arizona has posted below average growth in college attainment since at least 1980.

It is important that Arizona not fall behind in the race to build human capital. There is evidence that metropolitan areas that began with higher levels of college attainment were able to attract more college graduates during the ensuing decades than were regions that started with fewer college graduates. This sets the stage for increasing geographic inequality in human capital and ultimately in income.<sup>3</sup>

Raising Arizona's college attainment rate will contribute to more rapid income growth. For instance, the Milken Institute (2013) has recently estimated that adding one extra year to the

---

<sup>1</sup> For examples: see Barro and Sala-i-Martin (1999) for nations; Bauer, Schweitzer, and Shane (2012) for states; Higgins, Levy, and Young (2006) for counties; Glaeser and Saiz (2004) for metropolitan areas; and Hammond and Thompson (2008) for nonmetropolitan areas.

<sup>2</sup> See Hart and Hager (2012) for an in-depth analysis of these issues.

<sup>3</sup> For more on this point see Glaeser and Berry (2005), Hammond and Thompson (2010), and Moretti (2012).

average years of schooling of the employed in a metropolitan area can increase real GDP per capita by 10.5% and real wages per worker by 8.4%. Further, Hoffman and Rex (2012) concluded that increasing the state's educational attainment, particularly for younger workers, would have significant positive impacts on state income.

However, increasing Arizona's college attainment rate will not be straight forward. There is no silver bullet solution to the problem. More research is needed to determine which approaches might yield the best results. This research should focus on policies that will strengthen both the supply of and demand for college graduates. On the supply side, the state needs to improve education outcomes and strive to improve access to higher education. Strengthening PK-12 education will increase the overall quality of the workforce and improve the performance of local students enrolling in college. Then the higher education system can focus on generating high quality college graduates and world-class research, as well as service to the state. The multifaceted contribution of the universities and colleges is a key part of their role in an ecosystem that generates job growth for college-educated workers.<sup>4</sup>

But this cannot be the only response, since education also increases worker mobility. Thus, college graduates will leave the state if there are not enough job opportunities locally. State policymakers need to focus on building a diversified industry and employment mix that generates ample employment opportunities for Arizona college graduates, as well as those with lower levels of attainment. No state has this completely figured out yet, but local leaders around the country are increasingly aware that whoever wins the battle to attract college graduates will also win the battle for improved income growth and standards of living.

---

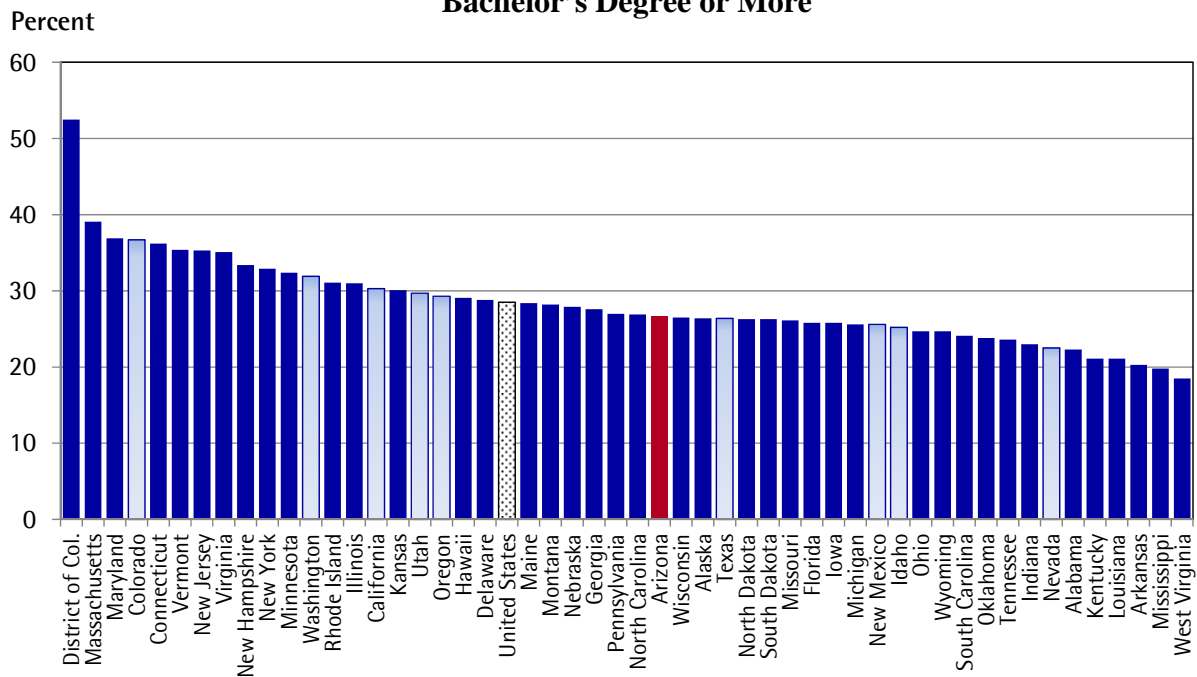
<sup>4</sup> For more on these issues, see Goldin and Katz (2008).

## College Attainment in 2011

### State Results

The U.S. Census Bureau estimated that there were 1,119,198 Arizona residents age 25 and older with a bachelor’s degree or better in 2011. That translated into a college attainment rate of 26.6%, which was 1.9 percentage points below the national average of 28.5%, and ranked the state 27th in the nation. As Figure 1 shows, Arizona’s college attainment rate was well below that of several western states, including Colorado, Washington, California, Utah, and Oregon. Nevada, Idaho, New Mexico, and Texas posted lower college attainment rates than Arizona in 2011.

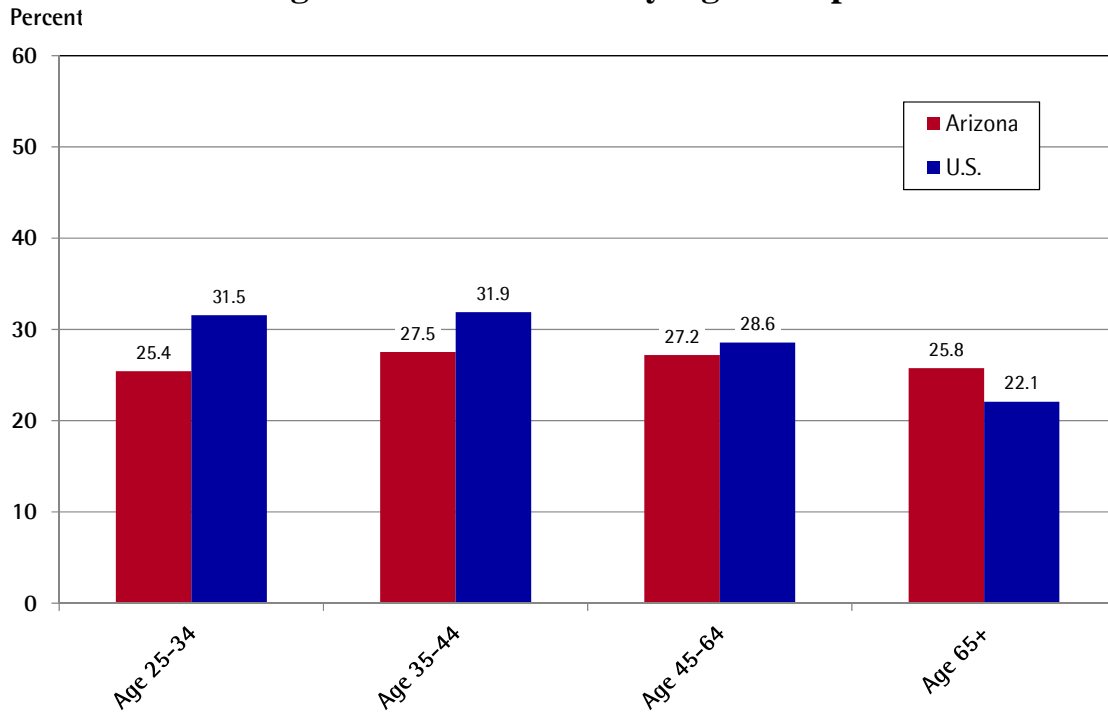
**Figure 1**  
**U.S. State College Attainment Rates in 2011**  
**Percent of the Population Age 25 and Older with a**  
**Bachelor’s Degree or More**



In addition, there are large differences in college attainment across age groups as Figure 2 shows. Note that the percentage point gap between Arizona and the U.S. is largest for the younger age groups (age 25-34 and 35-44). The gap is smaller for the 45-64 age group and state college attainment is above the U.S. for the 65-and-older age group. This suggests that demographic

aging may contribute to a wider gap between Arizona and U.S. college attainment rates in the future.

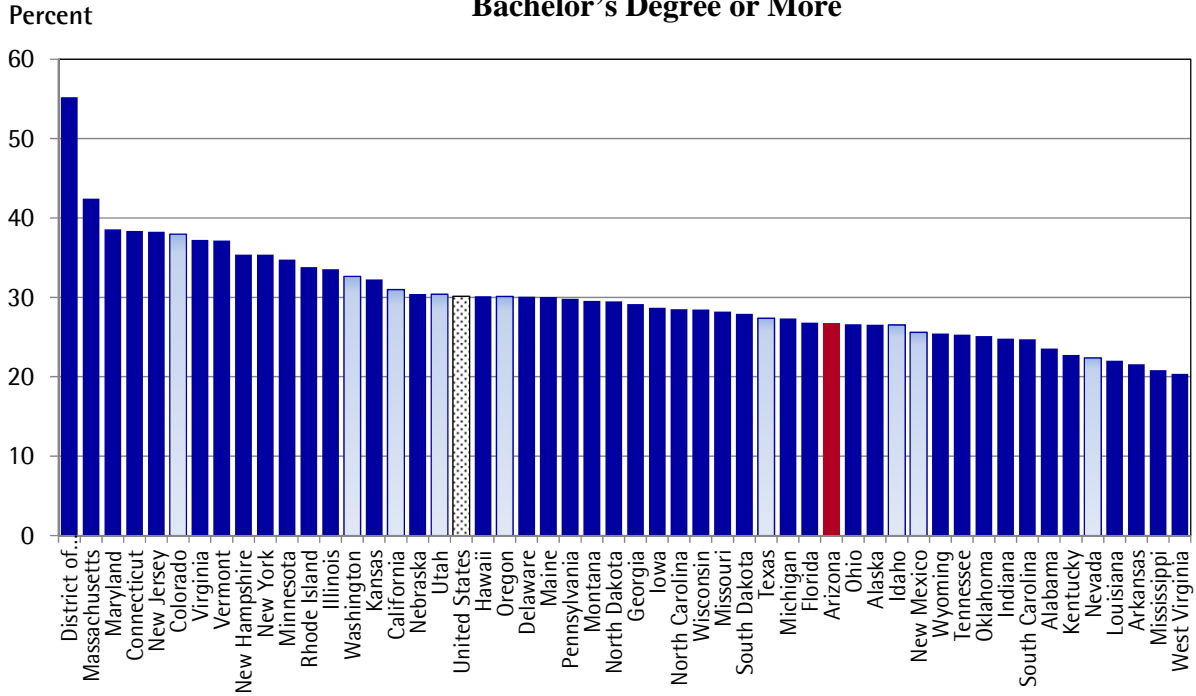
**Figure 2**  
**College Attainment Rates by Age Group in 2011**



Overall the Arizona college attainment rate gap with the nation widens if we focus on workers age 25-64 (prime working age). Indeed, the state college attainment rate for the population age 25-64 was 26.8% in 2011, compared to 30.1% for the nation. As Figure 3 shows, that ranked Arizona 35th in the nation.



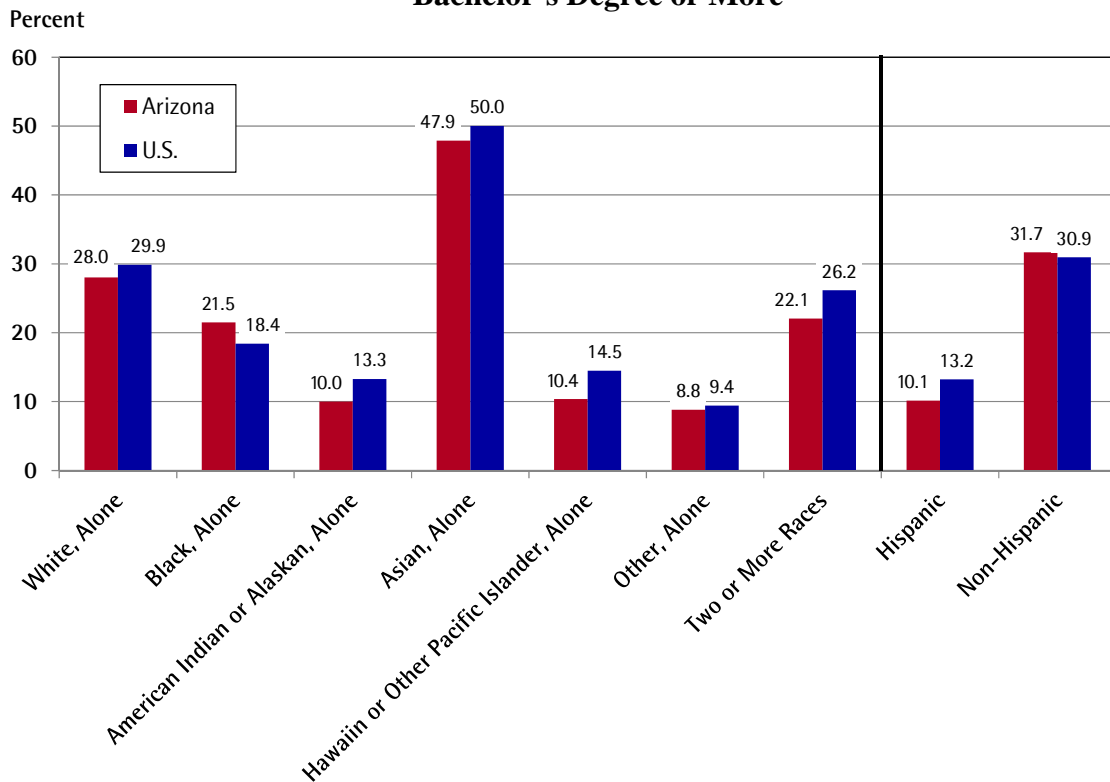
**Figure 2**  
**U.S. State College Attainment Rates in 2011**  
**Percent of the Population Age 25 to 64 with a**  
**Bachelor's Degree or More**



Returning our focus to the population age 25 and older, Figure 3 shows that college attainment rates also tend to vary by race. Asians posted the highest attainment rates in 2011, both in Arizona and the U.S., at 47.9% and 50.0% respectively. Whites posted the next highest rates at 28.0% for Arizona and 29.9% for the U.S. The Other race category reported the lowest college attainment rate, with slightly higher rates reported by American Indian or Alaskan and Hawaiian or other Pacific Islanders.

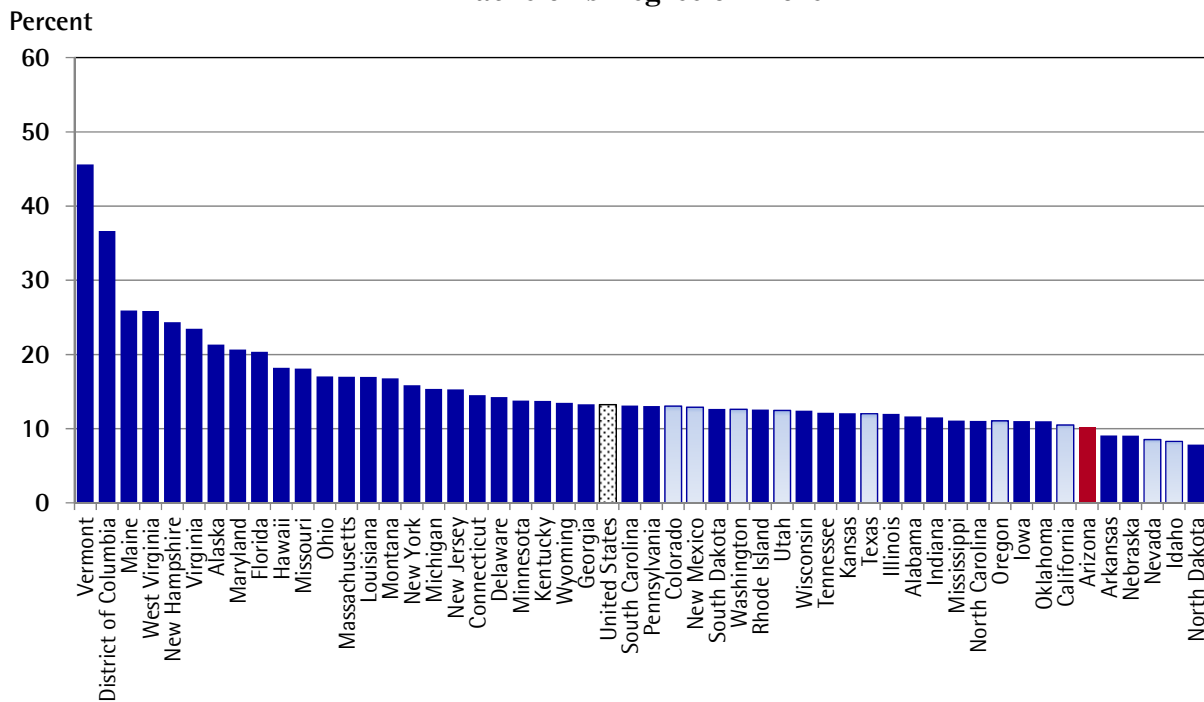
As Figure 3 also shows, the Hispanic college attainment rate was much lower than the Non-Hispanic rate in 2011, for both the state and the nation. However, the gap was larger in Arizona. Indeed, in Arizona, the Hispanic college attainment rate was 68.1% below the Non-Hispanic rate. Nationally, the Hispanic college attainment rate was 57.3% below the Non-Hispanic rate.

**Figure 3**  
**College Attainment Rates by Race and Ethnicity in 2011**  
**Percent of the Population Age 25 and older with a**  
**Bachelor's Degree or More**



As Figure 4 shows, the Arizona Hispanic college attainment rate was not just below the national average, it was one of the lowest in the nation in 2011. Indeed, the state ranked 46<sup>th</sup> in the nation in 2011, above only Arkansas, Nebraska, Nevada, Idaho, and North Dakota.

**Figure 4**  
**Hispanic or Latino College Attainment Rates in 2011**  
**Percent of the Population Age 25 and older with a**  
**Bachelor's Degree or More**

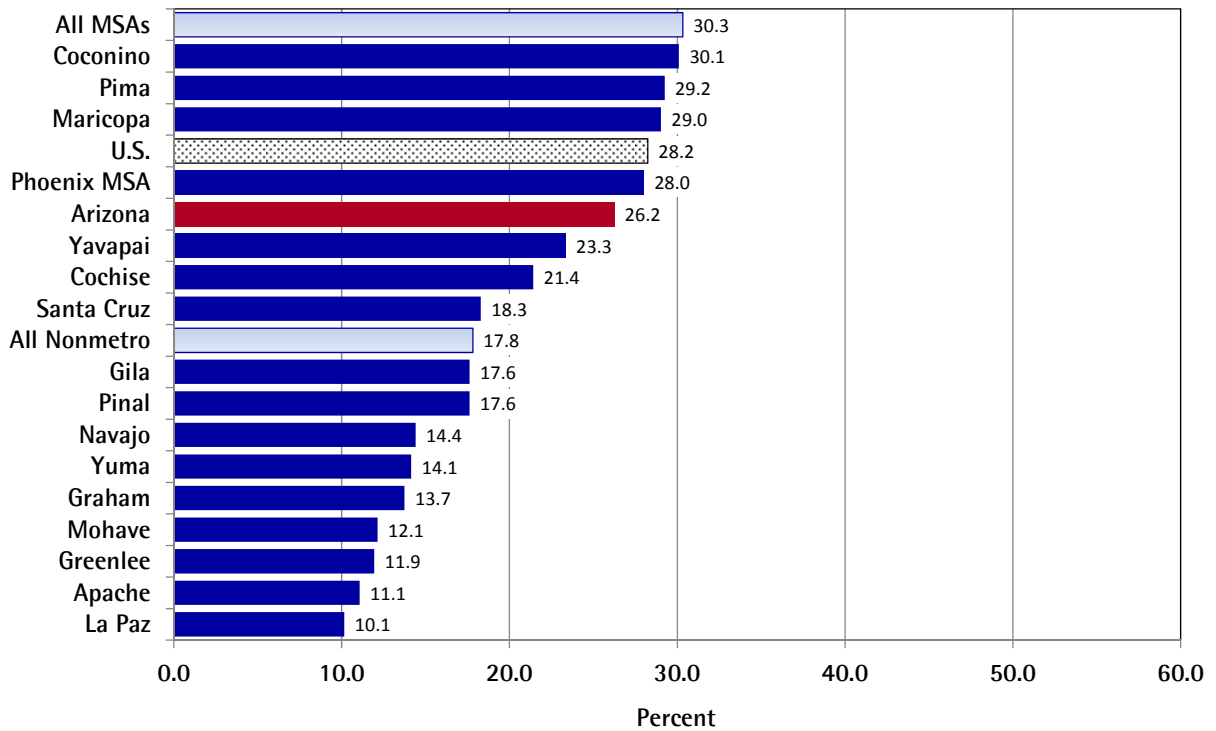


**County Results**

Within Arizona, college attainment rates vary widely across counties, as Figure 5 shows.<sup>5</sup> In 2011, Coconino County posted the highest college attainment rate in the state at 30.1%, followed by Pima County at 29.2%, Maricopa County at 29.0%. The college attainment rates for each of the top three counties exceeded the national average in 2011, but none exceeded the national average for metropolitan counties.

<sup>5</sup> All data are three year estimates from ACS, except for Greenlee County, which is the five year estimate.

**Figure 5**  
**Arizona County College Attainment Rates in 2011**  
**Percent of the Population Age 25 and older with a**  
**Bachelor's Degree or More**



On the other end of the spectrum, La Paz County posted the lowest college attainment rate in the state at 10.1%, with Apache (11.1%), Greenlee (11.9%), Mohave (12.1%), and Graham (13.7%) counties in the bottom five.

Overall, the populous and urban counties tend to post higher college attainment rates than the more rural counties with fewer residents.

Most Arizona metropolitan areas were slightly below the average for all 97 Western metropolitan areas in 2011 (29.7%), as Table 1 shows. Indeed, only Flagstaff posted a higher college attainment rate in 2011. The top five metropolitan areas in 2011 in the Western states were Boulder, CO; Corvallis, OR; San Jose, CA; San Francisco, CA; and Fort Collins, CO. Each of these metropolitan areas had college attainment rates above 40% in 2011, with the Boulder, CO college attainment rate at 58.3%.

One Arizona metropolitan area was included in the bottom five Western metropolitan areas in 2011, with Lake Havasu City-Kingman at 12.1%. Rounding out the bottom five were Odessa, TX; Hanford, CA; Visalia, CA; and Merced, CA.

**Table 1**  
**College Attainment Rates for Western Metropolitan Areas In 2011**  
**Percent of the Population Age 25 and Older**

<b>Metropolitan Area</b>	<b>College Attainment Rate</b>	<b>Rank</b>
Boulder, CO	58.3	1 Top 5
Corvallis, OR	48.1	2
San Jose-Sunnyvale-Santa Clara, CA	44.8	3
San Francisco-Oakland-Fremont, CA	43.7	4
Fort Collins-Loveland, CO	43.5	5
Flagstaff, AZ	30.1	26
Tucson, AZ	29.2	31
Phoenix-Mesa-Glendale, AZ	28.0	37
Prescott, AZ	23.3	54
Yuma, AZ	14.1	90
Odessa, TX	13.0	93 Bottom 5
Hanford-Corcoran, CA	13.0	94
Visalia-Porterville, CA	12.8	95
Lake Havasu City-Kingman, AZ	12.1	96
Merced, CA	11.8	97
Western Metro Average	29.7	--

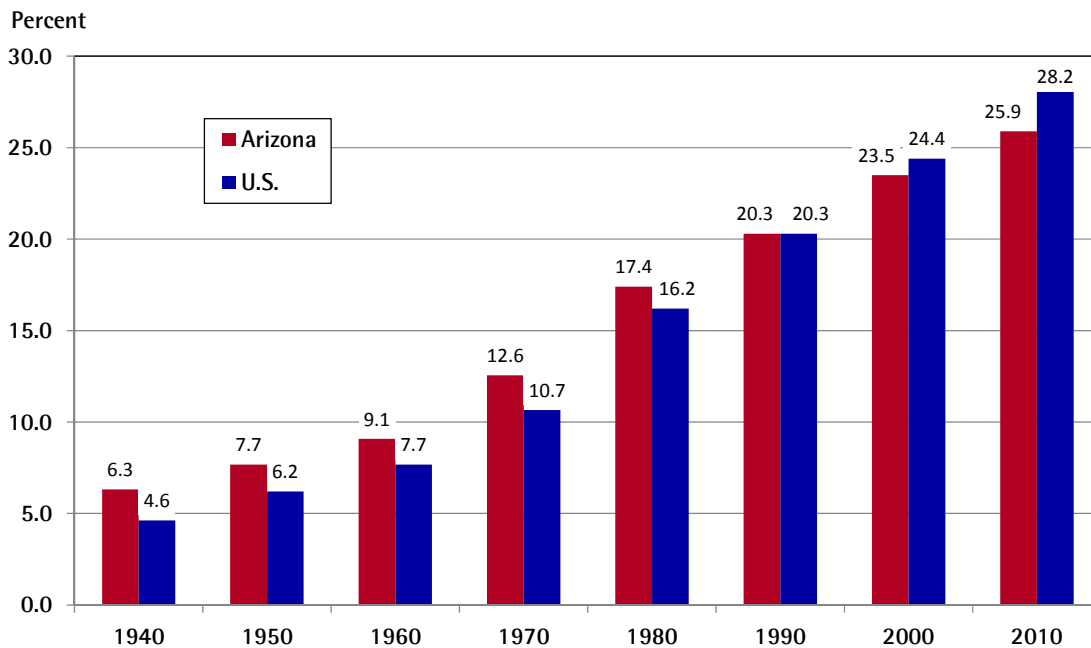
ACS data, three year estimates. Western states include Arizona, California, Colorado, Idaho, New Mexico, Nevada, Oregon, Texas, Utah, and Washington

## Long-run Trends in College Attainment: 1940-2010

### State Trends

The Arizona college attainment rate has increased significantly since 1940, more than quadrupling during the 70 year period. Indeed, the state rate was 6.3% in 1940, compared to 25.9% in 2010 and 26.6% in 2011. Think about it this way: in 1940 roughly 6 out of every 100 state residents age 25 and older had college-level attainment, compared to 26 out of 100 today. However, all states have experienced significant gains in college attainment during the past 70 years, as Table 2 at the end of this report shows.

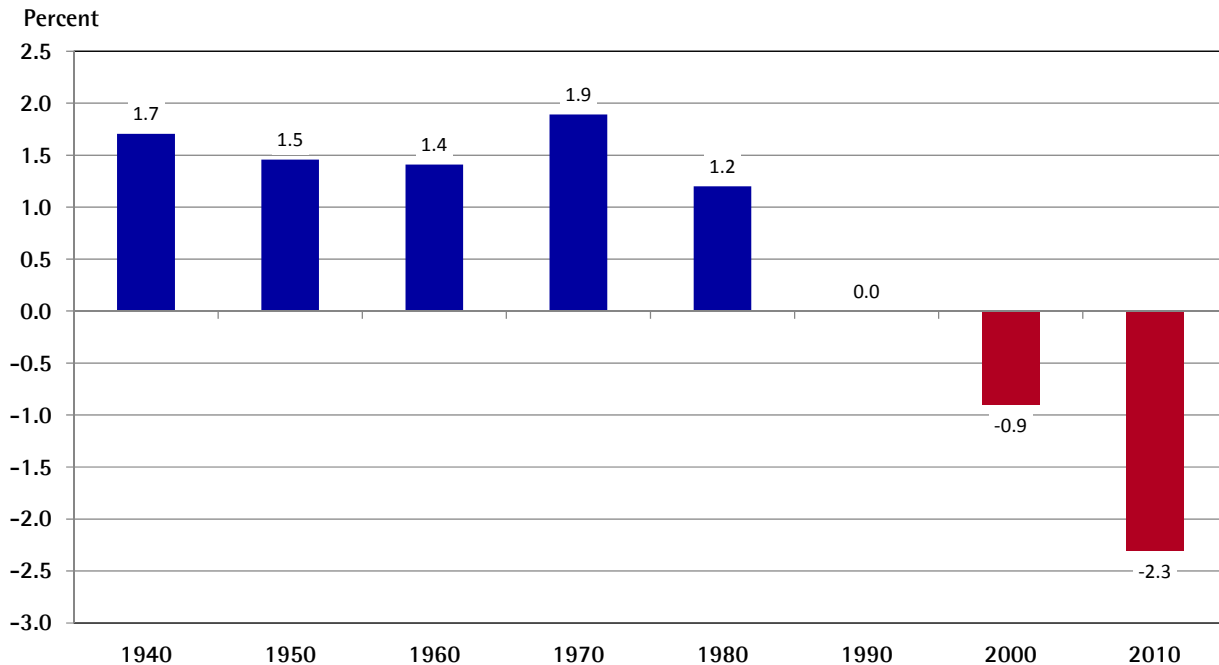
**Figure 6**  
**Arizona and U.S. College Attainment Rates**  
**Percent of the Population Age 25 and Older**  
**Four or More Years of College: 1940-1980**  
**Bachelor's Degree or More: 1990-2010**



As the Figure also shows, Arizona’s lead gradually declined during the next five decades, until 1990 when the nation equaled the state rate at 20.3%. During the next 20 years, the state gradually fell further behind the nation. In 2010, the national college attainment rate hit 28.2%, compared to 25.9% for Arizona, which ranked the state 32<sup>nd</sup> in the U.S. To sum up, during the 70 year period beginning in 1940, Arizona’s college attainment rank fell from 4<sup>th</sup> in the nation to 32<sup>nd</sup>. Arizona has lost ground on a crucial competitive dimension.

Figure 7 shows that Arizona began to fall behind the U.S. during the 1970s, when the college attainment gap fell from +1.9 percentage points in 1970 to +1.2 percentage points in 1980. Arizona may have lost more ground during the 1980s, but it’s important not to place too much emphasis on this due to the change in measurement between the 1980 and 1990 Census counts.<sup>6</sup> Arizona lost much more ground during the 1990s and 2000s, with the college gap expanding from zero in 1990 to -2.3 percentage points by 2010.

**Figure 7**  
**Arizona College Attainment Gap**  
 Arizona minus U.S.



<sup>6</sup> Before 1990, Census measured educational attainment by years of schooling completed. For this period, I include all those reporting that they completed four or more years of college. Beginning in 1990, Census measures the highest degree completed. I include all those with a Bachelor’s degree or more.

However, Arizona is not the only state to lose ground during the past 20 years. Figure 8 shows how college attainment rates relative to the U.S. have changed during the past 20 years for all states. States with positive change relative to the U.S. are growing concentrations of college attainment and states with negative changes are falling behind.

For instance, the college attainment rate for the District of Columbia was 13.0 percentage points above the national average in 1990. By 2010, the District's college attainment rate was 21.9 percentage points above the national average, which resulted in a change in college attainment relative to the U.S. of 8.9 percentage points.

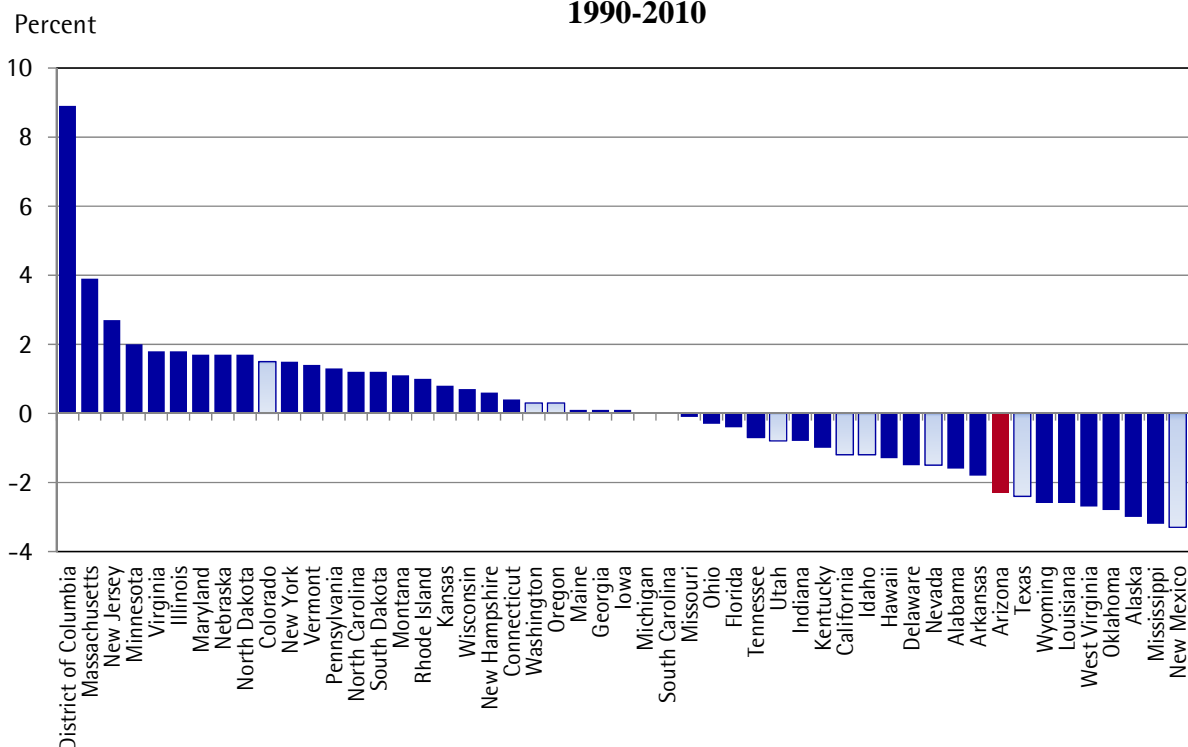
Massachusetts, New Jersey, Minnesota, and Virginia round out the top five states in college attainment growth relative to the U.S. Overall, states that pulled further away from the U.S. average tended to be in the East and Midwest.

On the other end of the spectrum, New Mexico's college attainment rate fell from 0.1 percentage point above the national average in 1990 to 3.2 percentage points below the U.S. by 2010, which resulted in a 3.3 percentage point decline, as Figure 8 shows. Mississippi, Alaska, Oklahoma, and West Virginia rounded out the bottom five. Arizona posted the 9<sup>th</sup> largest drop during the 20 year period. Note also that many western states experienced declines, including Utah, California, Idaho, Hawaii, Nevada, Arizona, Wyoming, Alaska, and New Mexico. Further, all states sharing a border with Mexico posted declines.

Finally, it is important to note that all but two of the states in the top 10 had higher college attainment rates than the U.S. in 1990. On the other end of the spectrum, 9 of the bottom 10 states had college attainment rates that were roughly equal to or below the U.S. average in 1990. This suggests that regions that start with high levels of college attainment tend to experience more college attainment growth, which is recipe for diverging levels of human capital.

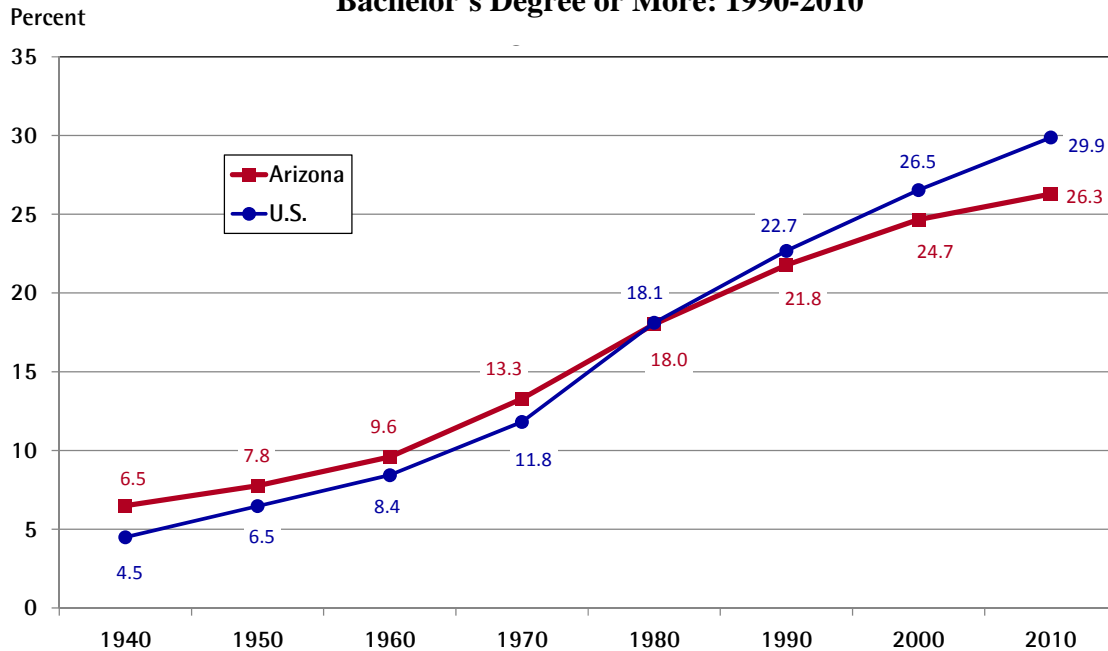


**Figure 8**  
**Change in College Attainment Relative to U.S.**  
**1990-2010**



The relatively slow growth in Arizona’s college attainment rate was not driven by retiree migration into Arizona during the period. Figure 9 shows college attainment rates for Arizona and the U.S. for residents in the 25-64 age group. As the Figure shows, the overall trend is similar. Arizona college attainment was above the national average in 1940, but by 1980 the national college attainment was slightly above the state and by 2010 state college attainment was 3.6 percentage points below the nation. The gap in 2010 is a bit larger for this younger age group than it was for the 25 and older population, which reflects the fact that retirees tend to be better educated.

**Figure 9**  
**College Educational Attainment: Population Age 25-64**  
**Four or More Years of College: 1940-1980**  
**Bachelor's Degree or More: 1990-2010**



Returning our focus to the population age 25 and older, Figure 10 shows the evolution of Hispanic and Non-Hispanic educational attainment rates from 1980 to 2010. As the Figure shows, college attainment rates have risen during the past 30 years for Hispanics and Non-Hispanics, both in Arizona and nationally. In fact, the college attainment rate for Arizona Hispanics rose faster than the national rate, with the state posting an 82.0% increase compared to 70.7% for the nation. Thus, the state has made some progress in closing the percentage gap in the college attainment rate for Hispanics. Keep in mind however, that the state rate for Hispanics remains roughly 20% below the national rate. Table 3 shows college attainment trends from 1980-2011 for all states.

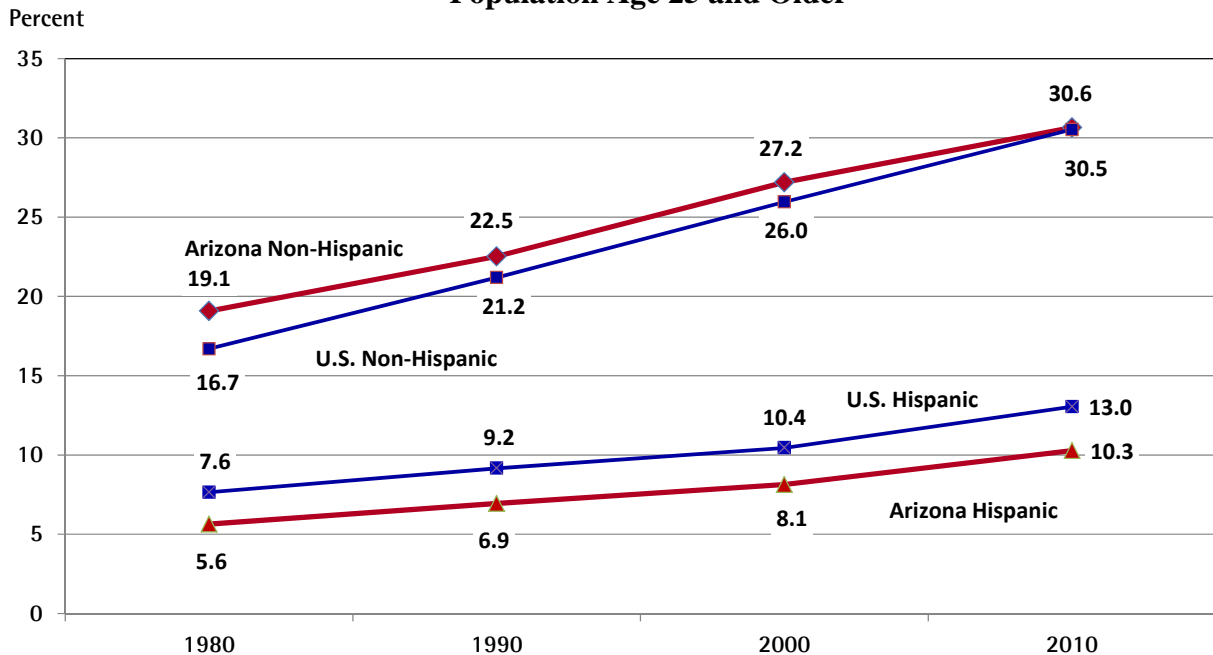
In contrast, the state college attainment rate for Non-Hispanics increased less rapidly than the national rate during the 1980 to 2010 period. The college attainment rate for Non-Hispanics in Arizona rose by 60.7% during the 30 year period, compared to 82.9% for the nation. Thus, as

Figure 10 shows, the state Non-Hispanic college attainment rate declined from 14.3% above the national rate in 1980 to just barely above the national rate by 2010.

Overall, the state college attainment rate grew less rapidly than the nation from 1980 to 2010, at 48.7% compared to 73.7% for the nation. In part, this is related to strong population growth the Hispanic population in Arizona, whose population share (age 25 and older) rose from 12.4% in 1980 to 23.3% in 2010. The national Hispanic population share (age 25 and older) rose rapidly, from 5.1% to 13.4% during the same period. That tended to slow gains in college attainment because the Hispanic college attainment rate was lower than the rate for Non-Hispanics, both nationally and in the state, and because the Hispanic college attainment rate in Arizona was lower than the nation.

Another factor contributing to slow growth in Arizona’s college attainment rate was the relatively slow growth in the Non-Hispanic college attainment rate. Indeed, if in 2010 Arizona had exactly the same Hispanic population share and college attainment rate as the nation, the state rate would be essentially equal to the national rate.

**Figure 10**  
**Hispanic and Non-Hispanic College Attainment Rates**  
**Population Age 25 and Older**



## County Trends

Figure 11 shows growth rates of college attainment rates for Arizona counties during the 1950-2010 period. Coconino, Navajo, Maricopa, and Cochise counties registered the most rapid increases. The college attainment rate in the Phoenix MSA also rose very rapidly. However, only Coconino County beat the national growth rate during the period. Arizona county college attainment rates from 1950 to 2011 are presented in Table 4.

**Figure 11**  
**Arizona County College Attainment Rate Growth**  
**1950-2010**

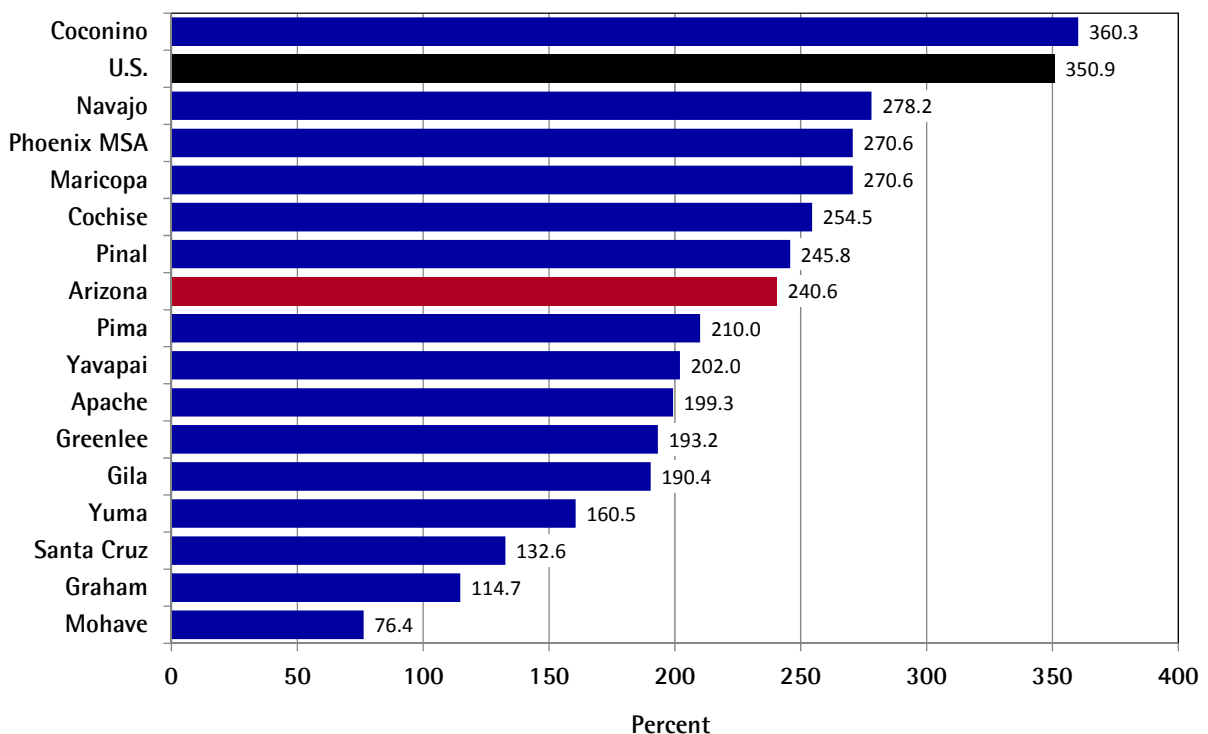
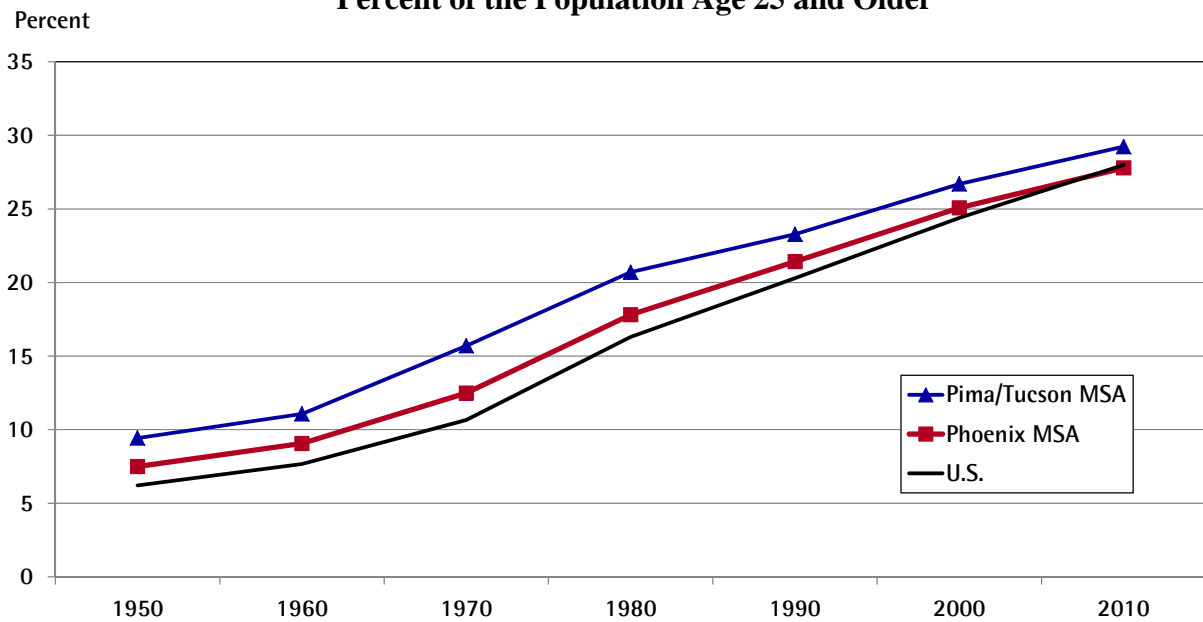


Figure 12 shows the 60 year trend in college attainment rates for the Phoenix and Tucson metropolitan areas, compared to the U.S. As the Figure shows, college attainment rates in Phoenix and Tucson were above the national level in 1950. However, during the next 60 years the national rate rose faster. By 2010, the national rate was slightly above the Phoenix MSA and just 1.2 percentage points below Tucson.

**Figure 12**  
**Arizona College Attainment Trends: 1950-2010**  
**Selected Metropolitan Areas**  
**Percent of the Population Age 25 and Older**



### Conclusion

Overall, the college attainment trends in Arizona during the past 70 years have not been favorable. Even though the state has posted strong growth in the college attainment rate since 1940, other states have added college graduates at a much faster rate.

This is a problem because college attainment is a key driver of economic growth for states and local labor market areas, a result that has been confirmed by many researchers over the years. Indeed, a Milken Institute report released in 2013 estimates that adding an additional year of schooling to employed workers in a metropolitan area increases real GDP per capita by 10.5% and wages per worker by 8.4%.

Future research should address the causes of the slow growth in college attainment in Arizona. This research should focus both on factors that might raise college attainment rates, including factors that influence both the supply and demand for college graduates.

**Table 2**  
**U.S. College Educational Attainment by State: 1940-2011**  
**Percent of the Population Age 25 and Older**

	Four or More Years of College					Bachelor's Degree or More			
	1940	1950	1960	1970	1980	1990	2000	2010	2011
Alabama	2.9	3.9	5.7	7.8	12.2	15.6	19.0	21.9	22.3
Alaska	--	--	9.5	14.1	21.1	23.0	24.7	27.9	26.4
Arizona	6.3	7.7	9.1	12.6	17.4	20.3	23.5	25.9	26.6
Arkansas	2.3	3.2	4.8	6.6	10.8	13.4	16.7	19.5	20.3
California	6.8	8.4	9.8	13.4	19.6	23.4	26.6	30.1	30.3
Colorado	6.0	8.4	10.7	14.9	23.0	27.0	32.7	36.4	36.7
Connecticut	4.9	7.2	9.5	13.6	20.7	27.2	31.4	35.5	36.2
Delaware	5.3	7.5	10.2	13.2	17.5	21.4	25.0	27.8	28.8
District of Columbia	11.1	13.6	14.3	17.7	27.5	33.3	39.1	50.1	52.5
Florida	5.0	6.5	7.8	10.3	14.9	18.3	22.3	25.8	25.8
Georgia	3.3	4.5	6.3	9.2	14.6	19.3	24.3	27.3	27.6
Hawaii	--	--	9.1	14.0	20.3	22.9	26.2	29.5	29.1
Idaho	4.5	5.6	7.1	10.0	15.8	17.7	21.7	24.4	25.2
Illinois	4.5	6.1	7.3	10.3	16.2	21.1	26.1	30.8	31.0
Indiana	3.9	5.3	6.3	8.3	12.5	15.6	19.4	22.7	23.0
Iowa	4.2	5.3	6.4	9.1	13.9	16.9	21.2	24.9	25.8
Kansas	4.6	6.1	8.1	11.3	17.0	21.1	25.8	29.8	30.1
Kentucky	3.0	3.9	4.9	7.2	11.1	13.6	17.1	20.5	21.1
Louisiana	3.5	5.0	6.7	9.1	13.9	16.1	18.7	21.4	21.1
Maine	3.4	4.9	5.4	8.4	14.4	18.8	22.9	26.8	28.4
Maryland	4.9	7.2	9.3	13.9	20.4	26.5	31.4	36.1	36.9
Massachusetts	5.6	7.4	8.8	12.5	20.0	27.2	33.2	39.0	39.1
Michigan	4.1	5.4	6.8	9.4	14.3	17.3	21.8	25.2	25.6
Minnesota	4.2	5.8	7.5	11.1	17.4	21.9	27.4	31.8	32.4
Mississippi	3.1	3.9	5.5	8.1	12.3	14.8	16.9	19.5	19.8
Missouri	3.9	5.1	6.2	9.3	13.9	17.8	21.6	25.6	26.1
Montana	4.8	6.3	7.6	11.0	17.5	19.8	24.4	28.8	28.2
Nebraska	4.3	5.2	6.8	9.7	15.5	19.0	23.7	28.6	27.9
Nevada	6.7	7.6	8.1	10.9	14.4	15.3	18.2	21.7	22.5
New Hampshire	4.3	6.1	7.2	10.8	18.2	24.3	28.7	32.8	33.4
New Jersey	5.1	6.9	8.4	11.8	18.3	24.8	29.8	35.4	35.3
New Mexico	4.5	7.1	9.7	12.7	17.6	20.4	23.5	25.0	25.6
New York	5.6	7.7	8.9	11.9	17.9	23.1	27.4	32.5	32.9
North Carolina	4.1	5.1	6.3	8.5	13.2	17.4	22.5	26.5	26.9
North Dakota	3.6	4.6	5.6	8.5	14.8	18.0	22.0	27.6	26.3
Ohio	4.5	5.8	7.0	9.3	13.7	17.0	21.1	24.6	24.7
Oklahoma	4.8	6.4	7.8	10.0	15.1	17.8	20.3	22.9	23.8
Oregon	5.5	6.8	8.4	11.8	17.9	20.6	25.1	28.8	29.3
Pennsylvania	4.2	5.5	6.4	8.7	13.6	17.9	22.4	27.1	27.0
Rhode Island	4.5	6.0	6.6	9.4	15.4	21.3	25.6	30.2	31.1
South Carolina	4.7	5.5	6.9	9.0	13.4	16.6	20.4	24.5	24.1
South Dakota	3.8	5.0	5.8	8.6	14.0	17.2	21.5	26.3	26.3
Tennessee	3.1	4.1	5.5	7.9	12.6	15.9	19.6	23.1	23.6
Texas	4.4	6.2	8.0	10.9	16.9	20.4	23.2	25.9	26.4
Utah	6.2	7.8	10.3	14.0	19.9	22.2	26.1	29.3	29.7
Vermont	4.1	5.9	7.5	12.4	19.0	24.3	29.4	33.6	35.4
Virginia	4.5	6.7	8.4	12.3	19.1	24.5	29.5	34.2	35.1
Washington	5.6	7.4	9.3	12.7	19.0	22.9	27.7	31.1	31.9
West Virginia	3.4	4.4	5.2	6.8	10.4	12.3	14.8	17.5	18.5
Wisconsin	3.9	5.5	6.7	9.7	14.8	17.7	22.4	26.3	26.5
Wyoming	5.1	7.3	8.6	11.9	17.2	18.8	21.9	24.1	24.7
United States	4.6	6.2	7.7	10.7	16.2	20.3	24.4	28.2	28.5

Sources: U.S. Census of Population, 1940-2000. American Community Survey: 2010-2011, one year estimates.

**Table 3**  
**U.S. Hispanic or Latino College Educational Attainment by**  
**State: 1980-2011**  
**Percent of the Population Age 25 and Older**

	1980*	1990	2000	2010	2011
Alabama	10.1	20.1	14.6	10.9	11.6
Alaska	14.8	14.6	15.3	19.3	21.3
Arizona	5.6	6.9	8.1	10.3	10.1
Arkansas	8.6	11.1	7.1	9.6	9.1
California	6.4	7.1	7.7	10.5	10.5
Colorado	6.9	8.6	10.4	12.0	13.0
Connecticut	8.8	12.1	11.3	13.9	14.5
Delaware	17.0	16.5	13.5	14.5	14.3
District of Columbia	25.1	24.0	24.8	33.6	36.6
Florida	13.4	14.2	17.5	20.5	20.4
Georgia	14.9	20.5	13.6	13.2	13.3
Hawaii	8.9	10.3	13.3	16.5	18.2
Idaho	5.5	6.6	6.6	7.0	8.3
Illinois	6.5	8.0	9.1	12.2	12.0
Indiana	8.0	10.8	11.3	12.8	11.5
Iowa	11.1	13.7	11.0	9.5	11.0
Kansas	8.7	10.1	9.7	11.1	12.1
Kentucky	9.9	18.9	13.0	14.4	13.7
Louisiana	14.2	16.6	19.5	18.1	17.0
Maine	12.9	23.6	21.6	19.9	25.9
Maryland	25.2	25.2	21.4	17.4	20.7
Massachusetts	12.1	13.6	14.1	16.6	17.0
Michigan	9.7	11.6	12.9	14.8	15.3
Minnesota	13.8	17.2	14.0	14.4	13.8
Mississippi	9.7	17.1	12.1	12.0	11.1
Missouri	13.6	18.0	16.1	17.4	18.1
Montana	10.7	10.9	15.4	18.7	16.8
Nebraska	7.1	9.4	8.5	11.7	9.1
Nevada	7.3	7.0	6.4	8.3	8.5
New Hampshire	16.4	25.5	22.7	24.7	24.4
New Jersey	8.2	10.8	12.5	15.7	15.3
New Mexico	7.0	8.7	10.8	12.7	12.9
New York	6.8	9.3	11.5	15.6	15.9
North Carolina	11.1	17.9	10.5	11.5	11.1
North Dakota	10.9	15.9	16.3	22.9	7.9
Ohio	10.3	14.2	15.2	17.2	17.0
Oklahoma	10.3	10.5	9.6	8.7	11.0
Oregon	11.3	10.1	9.6	11.1	11.1
Pennsylvania	10.9	11.8	12.0	13.3	13.1
Rhode Island	7.2	8.9	8.6	9.6	12.6
South Carolina	8.3	19.8	14.1	13.2	13.1
South Dakota	18.1	13.4	11.7	19.1	12.7
Tennessee	10.6	21.9	14.1	12.0	12.1
Texas	5.6	7.3	8.9	11.6	12.0
Utah	7.9	9.1	9.8	10.7	12.4
Vermont	21.6	28.2	36.8	39.2	45.6
Virginia	21.5	22.4	20.7	21.3	23.5
Washington	10.8	11.0	11.1	11.7	12.6
West Virginia	11.6	17.6	19.7	20.6	25.9
Wisconsin	9.7	10.0	11.5	11.0	12.4
Wyoming	3.9	4.8	7.8	13.3	13.5
United States	7.6	9.2	10.4	13.0	13.2

Sources: U.S. Census of Population, 1980-2000. American Community Survey: 2010-2011, one year estimates. \*Four or more years of college



**Table 4**  
**Arizona County College Attainment Rates: 1950-2011**  
**Percent of the Population Age 25 and Older**

<b>County/MSA</b>	<b>1950</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>	<b>2011</b>
Apache	3.3	6.2	8.2	10.4	8.5	11.3	10.0	11.1
Cochise	6.4	7.8	10.7	13.8	16.1	18.8	22.7	21.4
Coconino/Flagstaff MSA	6.6	8.8	16.1	23.2	24.6	29.9	30.2	30.1
Gila	5.7	5.7	6.3	7.8	9.7	13.9	16.5	17.6
Graham	5.8	7.9	9.2	10.0	11.3	11.8	12.4	13.7
Greenlee	4.6	5.4	6.4	9.9	10.4	12.2	13.4	11.9
La Paz	--	--	--	--	8.5	8.7	12.4	10.1
Maricopa	7.8	9.3	12.8	18.3	22.1	25.9	28.8	29.0
Mohave/Lake Havasu City-Kingman MSA	7.0	5.6	7.0	8.8	10.3	9.9	12.4	12.1
Navajo	3.9	5.8	6.9	11.2	10.0	12.3	14.8	14.4
Pima/Tucson MSA	9.4	11.1	15.7	20.7	23.3	26.7	29.2	29.2
Pinal	5.1	5.7	7.7	9.3	8.2	11.9	17.7	17.6
Santa Cruz	7.5	9.2	9.1	13.2	10.8	15.2	17.5	18.3
Yavapai/Prescott MSA	7.7	8.5	11.3	16.2	17.7	21.1	23.3	23.3
Yuma/Yuma MSA	5.4	6.7	8.7	10.9	12.7	11.8	14.1	14.1
Phoenix MSA	7.5	9.1	12.5	17.8	21.4	25.1	27.8	28.0
Arizona	7.7	9.1	12.6	17.4	20.3	23.5	26.1	26.2
U.S.	6.2	7.7	10.7	16.3	20.3	24.4	28.0	28.2

Sources: U.S. Census of Population, 1950-2000. American Community Survey 2010-2011, three year estimates for all except Greenlee (five year estimate).

## References

- Bauer, Paul W., Mark E. Schweitzer, and Scott A. Shane. 2012. "Knowledge Matters: The Long-Run Determinants of State Income Growth," *Journal of Regional Science*, 52(2), 240-255.
- Barro, Robert J. and Xavier Sala-i-Martin. 1995. *Economic Growth*. Cambridge: MIT Press.
- DeVol, Ross C., I-Ling Shen, Armen Bedroussian, and Nan Zhang. 2013. "A Matter of Degrees," Milken Institute.
- Glaeser, Edward L. and Christopher R. Berry. 2005. "The Divergence of Human Capital Levels Across Cities," *Papers in Regional Science*, 84(3), 407-444.
- Glaeser, Edward L. and Albert Saiz. 2004. "The Rise of the Skilled City," *Brookings-Wharton Papers on Urban Affairs*, 5, 47-94.
- Goldin, Claudia and Lawrence F. Katz. 2008. *The Race Between Education and Technology*. Cambridge: Harvard University Press.
- Hammond, George W. and Eric C. Thompson. 2010. "Divergence and Mobility in College Attainment Across U.S. Labor Market Areas: 1970-2000," *International Regional Science Review*, 33(4), 397-420.
- Hammond, George W. and Eric C. Thompson. 2008. "Determinants of Income Growth in Metropolitan and Nonmetropolitan Labor Markets," *American Journal of Agricultural Economics*, 90(3), 783-793.
- Hart, Bill and C.J. Eisenbarth Hager. 2012. "Dropped? Latino Education and Arizona's Economic Future," Morrison Institute for Public Policy, April 2012.
- Higgins, Matthew J., Daniel Levy, and Andrew T. Young. 2006. "Growth and Convergence Across the U.S.: Evidence from County-Level Data," *Review of Economics and Statistics*, 88(4), 671-681.
- Hoffman, Dennis and Tom R. Rex. 2012. "Benefits from Improving Educational Attainment in Arizona," Productivity and Prosperity Project, W.P. Carey School of Business, Arizona State University.
- Moretti, Enrico. 2012. *The New Geography of Jobs*. New York: Houghton Mifflin Harcourt.