

## **Job Growth: Why Increasing Educational Attainment is so Important for Creating Jobs**

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A key to Washington's economic prosperity over the past 20 years has been a thriving employment sector for workers who have high levels of education in fields related to biological, physical, computer and health sciences, engineering, and mathematics. Washington has met the demands of its knowledge-driven economy by producing and attracting one of the best-educated workforces in the nation.

A resulting bonus for the state economy during the recession has been that demand for highly educated workers has remained relatively stable. Our research shows that while demand for workers in most educational levels has declined, demand for those with bachelor's degrees has actually continued to increase during the recession.

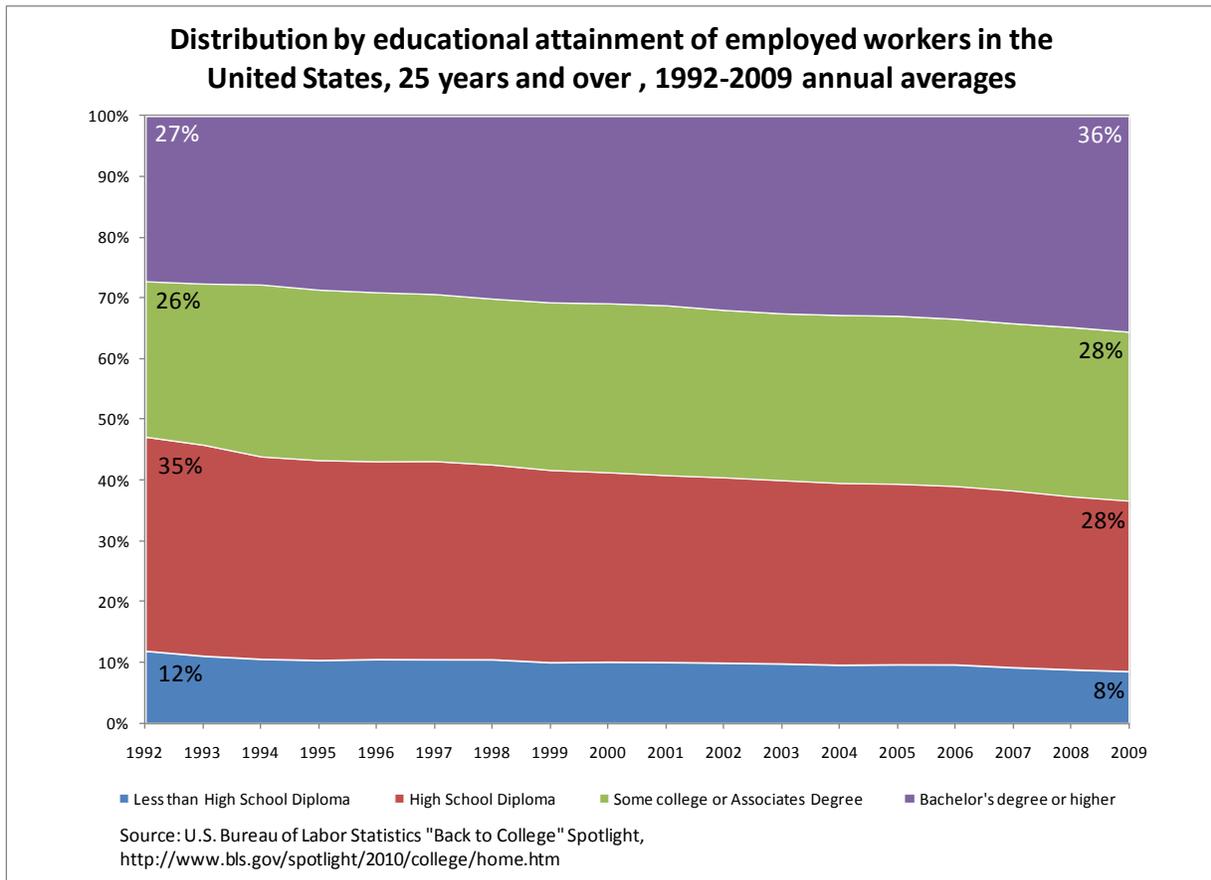
There is cause for concern, however. This research brief suggests that Washington is at risk of losing its elite status as one of the nation's most educated states. This has serious implications for the state's future efforts to attract knowledge-based enterprises and retain the ones already here.

### **Jobs and Education: The National Trend**

Data show that jobs requiring higher levels of education increased substantially prior to the recession, and, that jobs requiring lower levels of education have borne the brunt of the recession's job losses.

According to a recent report by the Bureau of Labor Statistics, all employment growth in the nation over the last two decades has been among workers with at least some college experience, or a college degree or certificate. As Figure 1 shows, between 1992 and 2009, the percentage of employed workers with some college experience or a degree grew from 53 percent of the employed workforce to 64 percent.

*Figure 1*



In real numbers, the employed workforce with some college or a degree grew from 53 million to 78 million, and held fairly steady during the recession (2008 and 2009). The number of employed workers with high school diplomas or less shrank from 37 million to 34 million, after peaking at 39 million in 2006.

Growth in the size of the employed, college-educated workforce also is reflected in unemployment rates. Among workers with bachelor’s degrees or higher, the unemployment rate in 2009 was 4.9 percent (a rate close to what economists consider “normal”), while the unemployment rate for workers without a high school diploma was nearly 15 percent.

Looking forward, there is reason to believe that these trends will continue. A recent report from the Georgetown Center on Education and the Workforce forecasts that by 2018 (just eight years from now) the number of jobs in the U.S. economy will grow from 154 million to 166 million, and the percentage of those jobs requiring an Associate Degree or higher will grow from 42 percent to 45 percent.<sup>1</sup>

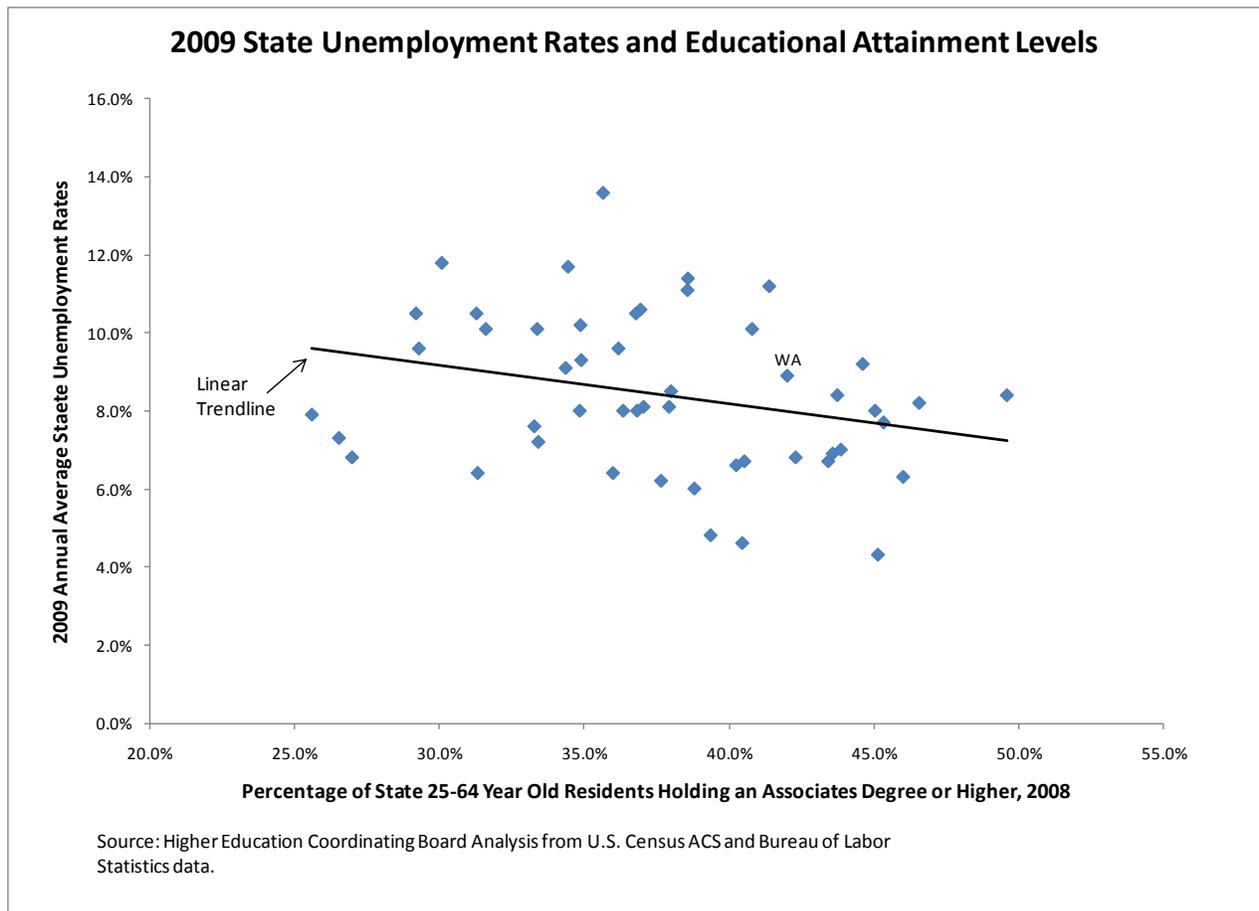
<sup>1</sup> Carnevale, Anthony P., et al. (2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Georgetown Center on Education and the Workforce, Washington, D.C. See <http://cew.georgetown.edu/JOBS2018/>

In real numbers, this means that total jobs requiring some college or more will grow from 88 million to 102 million. The authors note that postsecondary education has become the gate-keeper for access to the middle and upper classes. In 1970, only 26 percent of the middle class had postsecondary education. Today it is 61 percent.

Evidence also exists that higher levels of educational attainment have provided a buffer against job losses in some parts of the country. Obviously, education was not the only factor affecting employment levels. States that were vulnerable to crises in the real estate and financial sectors would likely have experienced greater job losses regardless of their educational attainment levels.

Nevertheless, an inverse relationship between unemployment rates and educational attainment appears to exist. Figure 2 shows a downward trend line in which states with more highly educated populations had lower levels of unemployment during the height of the recession.

*Figure 2*



## Trends in Washington

Over the last decade, we have seen a substantial “upskilling” of the employed Washington workforce. Table 1 shows that since 2000, the percentage of employed Washington workers with high school diplomas or less has declined by 2.3 percentage points, while the percentage with college degrees has increased by 4.7 percentage points. The largest gain has been among graduate/professional degree holders who now make up more than 13 percent of the employed workforce.

*Table 1*

**Percentage of Employed Washington Workers, Age 25-64, by Highest Education Level Achieved**

Education Level	2000 Census (1999 Data)	2006-08 ACS Survey	2000-08 Change
Less than High School	7.9%	6.3%	-1.7%
High School	21.7%	21.2%	-0.6%
Some College	8.9%	7.9%	-1.0%
1 Year College Plus	18.3%	16.9%	-1.5%
Associate Degree	9.7%	11.1%	1.4%
Bachelor's Degree	21.9%	23.4%	1.5%
Grad or Professional	11.5%	13.3%	1.8%

Source: HECB analysis of decennial and American Community Survey census data.

The data indicate that demand for workers with college degrees has been far more stable during the recession than demand for lower-skilled workers. Table 2 shows changes in Washington employment levels for 2007-2009 based on the training requirements of the jobs. The data show that job growth occurred at all training levels between 2006 and 2007. But, by the second quarter of 2008, there was a distinct change – the number of jobs requiring lower levels of education started falling, while jobs requiring higher levels of education continued to increase. By 2009, all job categories were falling except bachelor's degree jobs. It was the only category which continued to expand, even during the height of the recession.

*Table 2*

**Changes in Washington State Employment by Education Requirements**

Education Level	Percent Change from 2006 to 2007	Percent Change from 2007 to 2008	Percent Change from 2008 to 2009	Average Annual Change from 2006 to 2009
Less than High School	2.8%	-0.5%	-6.0%	-1.2%
High School Diploma/GED	0.8%	-0.3%	-4.9%	-1.4%
Sub-Bacc. Credential	1.6%	1.8%	-3.8%	-0.1%
Bachelor's Degree	1.9%	4.4%	0.8%	2.4%
Graduate/Prof. Degree	0.7%	1.1%	-2.5%	-0.2%

Source: 2d Quarter OES Survey Data, Washington Employment Security Dept., LMEA Division.

Note: Data does not include self-employment.

Looking forward, the Georgetown Center forecasts that by 2018, 67 percent of all jobs in Washington will require some postsecondary education (the fifth highest in the nation). That is a 2 percent increase in just ten years.<sup>2</sup> Between now and 2018, the number of Washington jobs requiring postsecondary education will increase by 259,000, while the number requiring a high school diploma or less will increase by just 107,000.

The primary reason higher-skilled jobs are projected to grow relates to our industry mix and the different rates of growth forecast for Washington industries. The industries projected to grow the fastest tend to employ workers in occupations that require postsecondary degrees.

The latest long-range forecasts from the Washington Employment Security Department predict that science, technology, engineering, mathematics, and health occupations will grow at a much higher rate than employment overall, even during the recession years (2008-2013).

**Table 3**  
**Forecast Total Employment Growth in Washington for High Demand Occupations**

Occupational Cluster	Avg. Annual Growth Rate 2008-2013	Avg. Annual Growth Rate 2013-2018
<b>Total, All Occupations</b>	<b>0.3%</b>	<b>1.4%</b>
Computer and Mathematical Occupations	1.5%	2.0%
Architecture and Engineering Occupations	0.3%	0.8%
Life, Physical, and Social Science Occupations	1.4%	1.7%
Education, Training, and Library Occupations	1.0%	1.3%
Healthcare Practitioners and Technical Occupations	2.2%	2.4%

Source: Washington Employment Security Department, LMEA, [www.workforceexplorer.com/admin/uploadedPublications/4960\\_alloccupproj.xls](http://www.workforceexplorer.com/admin/uploadedPublications/4960_alloccupproj.xls)

### **Will Washington Continue to Meet Demand for Educated Workers?**

In the past, Washington enterprises that rely on highly educated workers have been able to fill positions from within the state and by attracting workers from other states or nations. However, Table 4 suggests that changes in the educational attainment levels of the Washington population may make this more difficult in the future.

With thousands of baby boomers included within its ranks, Washington's oldest cohort of working-age adults (45-64) had the highest percentage of residents with associate degrees or higher. Washington's oldest cohort ranked 8th among all states at this level of educational attainment.

<sup>2</sup> Carnevale, Anthony P., et al. (2010), *supra*, see Washington analysis at <http://cew.georgetown.edu/jobs2018/states/>.

**Table 4**  
**Percentage of Residents Holding an Associate Degree or Higher, 2008**

Age Cohort	Washington			Massachusetts			United States	
	Number	% of Cohort	State Rank	Number	% of Cohort	State Rank	Number	% of Cohort
25-34	358,197	39.4%	21	439,226	53.4%	1	15,223,040	37.8%
35-44	400,561	43.2%	13	477,325	50.0%	1	16,885,294	39.5%
45-64	755,932	42.7%	8	833,427	47.6%	1	28,982,990	37.1%
25-64	1,514,690	42.0%	13	1,749,978	49.6%	1	61,091,324	37.9%

Source: <http://www.higheredinfo.org> from Census ACS data, 2008.

The data also show that the youngest cohort (25-34) is not large enough to replace all of the workers who will reach retirement age over the next few years, or as large as the 10-year cohort in front of it. At the same time, this smaller cohort of younger workers has a lower level of educational attainment than the older generation, and has a lower ranking (21st) compared to other states in terms of educational attainment.

By contrast, in another highly educated state, Massachusetts, the youngest workers have the highest educational attainment levels. These numbers suggest that we will likely continue to fall behind the competing states like Massachusetts unless we can get our youngest workers to higher levels of education.

## Conclusion

The data tells us that many of the industries that have grown and will grow the fastest are those that employ highly skilled workers with postsecondary credentials. States that have higher levels of educational attainment have the best opportunity to capture the jobs that these growing industries bring to the nation.

Firms (especially smaller companies) located in states that fail to produce sufficient numbers of degreed workers will be at a disadvantage, since these employers will incur the added expense of recruiting heavily in other states and countries to find their skilled workforce. Citizens of these states will not have access to the jobs their firms are producing. The availability of a skilled workforce at lower cost will continue to be a critical factor in firm location and expansion decisions.

Finally, there is evidence suggesting that having a highly skilled workforce has provided some states with a hedge against the job losses that occurred during the recession, and may provide similar protection in future downturns.