



National Center for Higher Education Management Systems

*Closing the College Attainment Gap between the
U.S. and Most Educated Countries, and the
Contributions to be made by the States*

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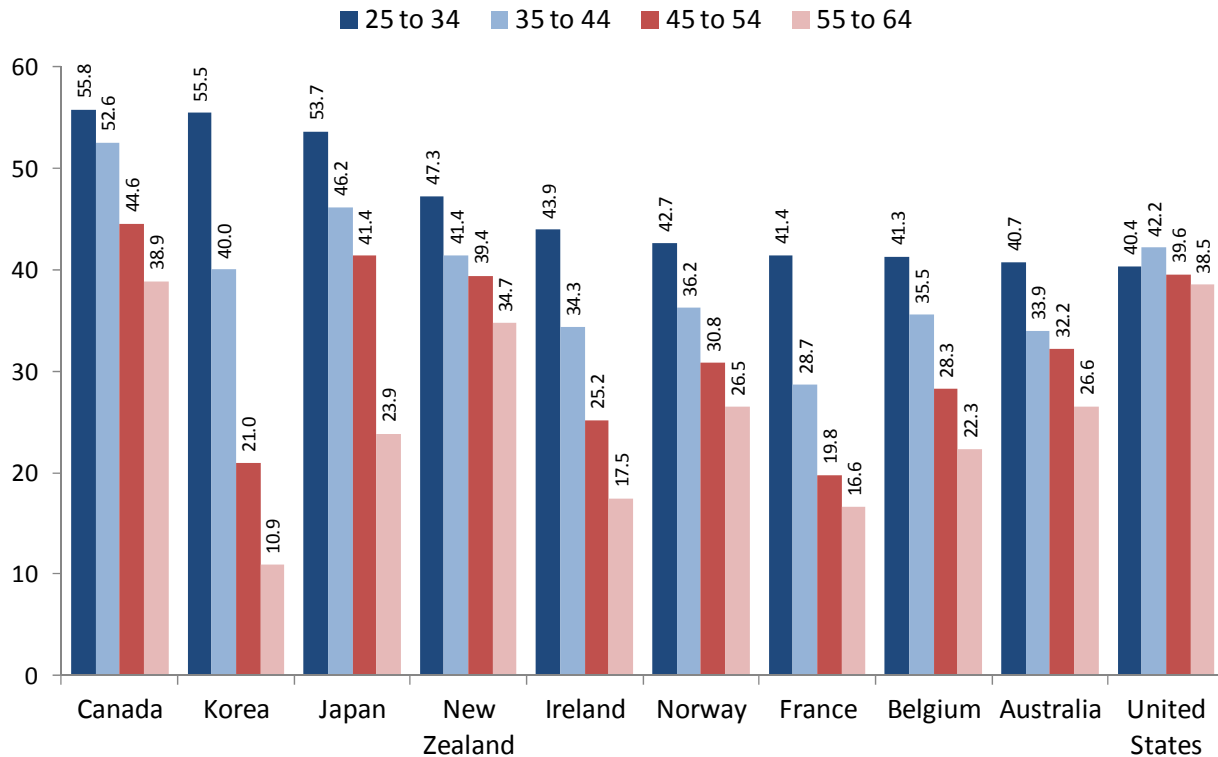
In February 2009, President Barack Obama told a joint session of Congress: *“By 2020, America will once again have the highest proportion of college graduates in the world”*. Higher education policymakers across the country were immediately encouraged by this statement, and a variety of policy organizations quickly set out to calculate the number of degrees needed for the U.S. to meet this ambitious goal. A variety of analyses ensued; each applying different combinations of educational attainment targets, age-groups, and assumptions. But the use of different assumptions and methodologies is resulting in degree production models that run the risk of confusing, rather than clarifying, this important issue. This has prompted efforts to agree upon a common methodology, and to involve key organizations and stakeholders in the process.

The following brief contains the methodology and calculations proposed by NCHEMS, with input from staffs of the U.S. Department of Education and the White House’s Council of Economic Advisers, the National Center for Education Statistics, and the Delta Project on Postsecondary Costs, Productivity, and Accountability. It briefly describes: (1) the rationale for determining the college attainment goal for the U.S., (2) the calculations used to derive the number of additional college degrees the U.S. needs by 2020, (3) an estimate of the additional degrees each state should produce in order to contribute to the nation’s goal, and (4) several assumptions and limitations associated with the approach.

The 2020 U.S. College Attainment Goal: **60 Percent** of Adults Aged 25 to 34 with College Degrees

A driving force behind the President’s statement are data published annually by the Organisation for Economic Cooperation and Development (OECD), which reveal that the U.S. recently ranked 10th among developed countries in the percentage of its young adults ages 25 to 34 with college degrees (associate and higher). More than half of the young adults in the leading countries (Canada, South Korea, and Japan) have earned college degrees compared to less than 40 percent in the U.S. (Figure 1 below)

**Figure 1: Percent of Adults with College Degrees (Associate and Higher)
The U.S. and OECD Countries (2007)**



Source: OECD, Education at a Glance (2009)

There is some skepticism about the comparability of educational attainment reporting across OECD countries, owing to inconsistencies in the labor force survey data upon which the reporting is based. Even if issues associated with measurement error were resolved, yielding a smaller gap in educational attainment, the generational trends associated with the leading OECD countries are striking. The attainment rate in the U.S. has largely leveled off, while substantial progress is being made by these countries. If the trends continue, it is reasonable to estimate that the leading countries will be approaching college attainment rates of 60 percent in their young adult populations by the year 2020. To be well-positioned, the U.S. should aspire to the same rate.

By targeting younger adults, policy attention will inevitably focus on preparing the next generation of U.S. workers. These young populations deserve focus because they offer the greatest leverage for change in the overall education level of our workforce; and they also provide the greatest returns on our educational investments because of the long work-lives they have ahead. But older adults should not be ignored. We should continue to develop more successful strategies (primarily in the nation's community colleges) to advance their careers, life circumstances, and their levels of productivity in the workforce. It is also important to note that states with declining high school and young adult populations will need to rely more heavily on retraining their older adult populations in order to meet workforce demands.

Calculating the Degree Gap for 25 to 34 Year Olds

When estimating the additional degrees the U.S. will need to close the gap, current degree production and population growth must first be taken into account. The following calculations show how the U.S. “degree gap” (associate and bachelor’s) was derived.

1. Current % of Adults Aged 25 to 34 with College Degrees ¹ (2008)	37.8%
2. Average Annual % Change from 2000 to 2008	0.34%
3. 2020 % with Average Annual Change Applied to 2008 base	41.9%
4. Projected 25 to 34 Year Olds in 2020 ²	45,065,697
5. Additional Degrees Needed to Meet Goal = (60.0 - 41.9%)*45,065,697	8,165,954
6. Current Production of Associate and Bachelors (2007-08)	2,313,233
7. Annual Percent Increase Needed	4.2%

- In 2008, **37.8 percent** of adults aged 25 to 34 in the U.S. had college degrees¹ – associate and higher (source: 2008 American Community Survey).
- From 2000 to 2008, the college attainment rate in the U.S. improved 0.34 percentage points annually. When this is applied annually from 2010 to 2020, the U.S. is projected to have an attainment rate of **41.9 percent in 2020**. This may be an overestimate, however, because there has been no increase in attainment over the most recent four years – from 2005 to 2008. (sources: 2000 Decennial Census and 2005-2008 American Community Surveys).
- The latest population projections from the U.S. Census Bureau estimate there will be 45,065,697 residents² aged 25 to 34 in 2020 (for the 50 states and the District of Columbia). The 2020 degree gap is calculated as the degree goal minus the projected attainment rate, times the projected young adult population: (60.0 percent minus 41.9 percent) times 45,065,697. This yields a **degree gap of nearly 8.2 million** – the additional number of young adults with college degrees needed to close the gap between 41.9 and 60 percent.
- The U.S. currently produces more than 2.3 million associate and bachelor’s degrees annually (2007-08 NCES, IPEDS Completions Survey). To make consistent progress toward the target, using a compound interest approach, U.S. degree production needs to increase **4.2 percent annually**.

¹ It is important to note that the American Community Survey (ACS) is used here instead of the Current Population Survey (CPS). The CPS is what is reported to OECD, which yields a higher college attainment rate (40.4% vs. 37.8%). But the ACS is a much more robust sample than the CPS – roughly three million households vs. 150,000. And, because of its larger sample size, the ACS is the only reliable source for state-level data.

² The data provided by NCES do not include completions by age. Therefore, the assumption is the vast majority of additional undergraduate associate and bachelor’s degrees will be awarded to adults under the age of 35.

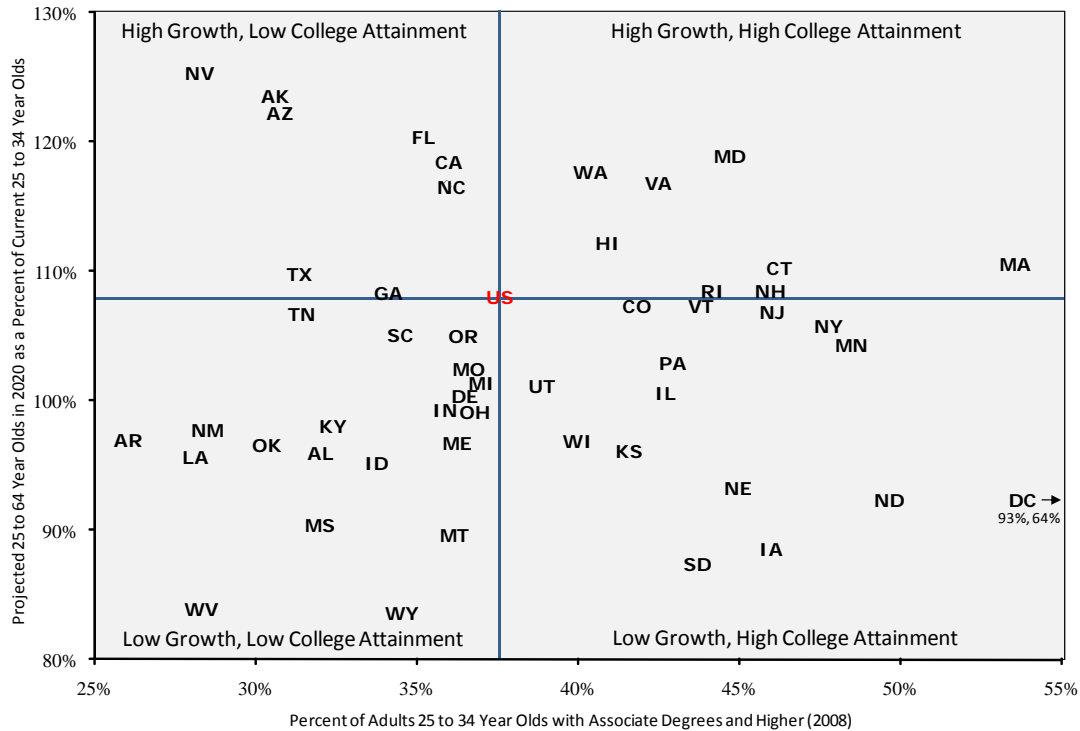
Estimating State Contributions Needed to Achieve the Nation's Goal

For the U.S. to achieve its attainment goal, state policymakers must adopt the national goal and develop state-specific strategies for improving college completion. Recently adopted federal student aid initiatives (SAFRA) and proposed reforms to K-12 education (through ESEA reauthorization) will contribute also to gains in attainment. However, the majority of policy levers in public postsecondary education are at the state level – where policymakers are often responsible for financing the enterprise, regulating tuition and fees, developing systems of accountability, setting goals for the state, defining the roles and missions of institutions, etc. In the end, achieving the national goal of a 60 percent college attainment rate for young adults will be the result of 50 different strategies.

Several states have already begun to set ambitious goals for increasing the numbers of college graduates. Examples include: Kentucky's and Tennessee's goals to reach the U.S. average in educational attainment, Virginia's and Texas' goals to meet the level of the best-performing countries, and Mississippi's goal to reach the average of the southern states. Given the push at the federal level to substantially improve the competitiveness of the nation's workforce, states will likely want to ensure that their goals are aligned with the national goal. Therefore, it is useful to provide some indication – at least a starting point – of the magnitude of improvement needed in each state in order for the U.S. to meet the goal.

Because of the vast disparities in current educational attainment across the 50 states, it is unreasonable to expect each state should reach the 60 percent attainment goal by 2020. It is also unreasonable to suggest that each state should improve its college degree production at the same rate. The percentage of young adults with college degrees ranges from 25.9 percent in Arkansas to 53.4 percent in Massachusetts. States where the population is poorly educated should be able to make a larger contribution to meeting the national goal, simply because there is much more room for improvement relative to more educated states. Population growth is another important consideration. Rapidly growing states such as Arizona and Nevada must accelerate their degree production at higher rates on the basis of population growth alone, while North Dakota and Iowa face the difficult challenge of producing more college graduates from shrinking college-aged populations. Figure 2 below displays the relationship between current levels of educational attainment and projected population growth among young adult residents in each of the states.

Figure 2: Projected Population Growth and College Attainment of Young Adults (Aged 25 to 34) by State



Sources: U.S. Census Bureau; 2008 American Community Survey and Population Projections

Current education levels and population projections are both taken into account when estimating the additional college graduates each state should produce in order to meet the national attainment goal. Nevada, Arizona, and Alaska should be able to contribute higher proportions of the additional college graduates needed to fill the nation’s gap, because they have relatively low levels of educational attainment and fast-growing young adult populations. Conversely, North Dakota, Iowa and Minnesota will likely contribute less because they already have relatively high levels of educational attainment and the numbers of young adult residents are decreasing.

The following calculations are made to determine the degree production needed by each state to close the nation’s gap of 8.2 million degrees by 2020 (using Alabama as an Example). The calculations are based on each state’s current share of degree production, and then adjusted for different educational attainment levels and population projections:

1. Alabama currently produces **1.4 percent** of the nation’s associate and bachelor’s degrees (NCES, IPEDS Completions Survey 2007-08)
2. Prior to any adjustment, if Alabama were to maintain its current proportion of the nation’s degree production, it will produce **115,148** additional degrees – over and above current production – by 2020 (1.4% times 8.2 million)

3. Two index scores are created for each state in order to adjust their contribution to the national goal, given their projected population growth and current levels of educational attainment:
 - Population Growth Adjustment Index: projected 25 to 34 year olds in 2020 as a percent of the state's current 24 to 34 year olds, divided by the same calculation for the U.S. (Alabama 97%/U.S. 108% = **0.89**). Alabama's young adult population is projected to grow at a slower rate than the U.S. average. States that are projected to grow faster than the U.S. have index scores that are greater than 1.0.
 - Educational Attainment Adjusted Index: percent of 25 to 34 year olds with an associate degree or higher in the U.S. divided by the same percentage for the state (U.S. 37.8%/Alabama 31.8% = **1.19**). Alabama's young adult population is less educated than the U.S. average, which yields an index value greater than 1.0. States that have young adults who are more educated than the U.S. have index scores that are less than 1.0.
4. The adjustments for the state contribution to the national goal are then applied to the baseline degree production estimate from step 2; so Alabama's proportion of the U.S. 8.2 million degree gap is calculated as the baseline degree production (115,148) times the population growth index (0.89) times the educational attainment index (1.19) = **121,812 additional degrees** to be produced by Alabama by 2020.
5. Alabama currently produces 32,619 associate and bachelor's degrees annually (2007-08 NCES, IPEDS Completions Survey). To make consistent progress toward the target, using a compound interest approach, Alabama degree production needs to increase **4.4 percent annually**.

The calculations for each state are shown in Table 1. The average annual percentage increases in degree production needed range from 3.0 percent in North Dakota to 5.9 percent in Nevada.

Table 1: How Each State Should Contribute to the Goal of Producing 8.2 Million Additional Degrees by 2020 Adjusting for Current Levels of Educational Attainment and Population Growth by State

State	Percentage of U.S. Associate and Bachelors Produced by State	Equal Distribution of State Contribution to Closing the 8.2 Million Gap Between the U.S. and Top Country by 2020	Projected 25 to 34 Year Olds in 2020 as a Percent of Current 25 to 34 Year Olds	Index Value for Population Growth (Higher Value, More Growth)*	Percent of 25 to 34 Year Olds with an Associates Degree or Higher (2008)	Index Value for Educational Attainment (Higher Value, More Educational Need)**	Additional Degrees Needed by 2020 Adjusted for Educational Attainment and Population Growth***	Additional Degrees Needed Annually to Make Linear Progress Twoard Goal	Average Annual Percentage Increase In Degree Production Needed (%)
Alabama	1.4%	115,148	97%	0.89	31.8%	1.19	121,812	1,846	4.4%
Alaska	0.1%	8,928	124%	1.14	30.5%	1.24	12,642	192	5.5%
Arizona	1.9%	159,225	123%	1.14	30.7%	1.23	222,924	3,378	5.4%
Arkansas	0.7%	60,510	97%	0.90	25.9%	1.46	79,098	1,198	5.2%
California	11.1%	902,514	119%	1.10	35.8%	1.05	1,044,231	15,822	4.7%
Colorado	1.8%	146,245	107%	0.99	41.5%	0.91	131,743	1,996	3.9%
Connecticut	1.0%	84,701	110%	1.02	46.3%	0.82	70,157	1,063	3.6%
Delaware	0.3%	23,994	101%	0.93	36.4%	1.04	23,114	350	4.1%
Dist. of Columbia	0.5%	41,595	93%	0.86	63.5%	0.59	21,291	323	2.4%
Florida	6.2%	506,245	121%	1.11	35.3%	1.07	603,724	9,147	4.8%
Georgia	2.3%	186,104	109%	1.00	34.0%	1.11	207,016	3,137	4.6%
Hawaii	0.4%	31,704	112%	1.04	40.9%	0.92	30,430	461	4.1%
Idaho	0.5%	38,252	96%	0.89	34.1%	1.11	37,522	569	4.2%
Illinois	4.5%	365,839	101%	0.93	42.7%	0.88	301,602	4,570	3.6%
Indiana	2.3%	189,175	99%	0.92	36.0%	1.05	182,479	2,765	4.1%
Iowa	1.6%	133,445	89%	0.82	45.9%	0.82	90,002	1,364	3.1%
Kansas	1.1%	89,040	96%	0.89	41.5%	0.91	72,091	1,092	3.6%
Kentucky	1.3%	105,151	99%	0.91	32.2%	1.17	112,309	1,702	4.4%
Louisiana	1.1%	92,348	96%	0.89	28.1%	1.35	110,056	1,668	4.8%
Maine	0.4%	34,553	97%	0.90	36.2%	1.04	32,287	489	4.0%
Maryland	1.6%	134,497	119%	1.10	44.6%	0.85	125,214	1,897	4.0%
Massachusetts	2.6%	213,402	111%	1.02	53.4%	0.71	154,319	2,338	3.2%
Michigan	3.5%	284,007	102%	0.95	35.8%	1.06	283,609	4,297	4.2%
Minnesota	2.0%	165,809	104%	0.96	48.3%	0.78	124,574	1,887	3.3%
Mississippi	0.9%	74,160	90%	0.84	31.7%	1.19	73,786	1,118	4.2%
Missouri	2.2%	177,144	102%	0.94	36.6%	1.03	172,616	2,615	4.1%
Montana	0.3%	24,001	90%	0.83	36.1%	1.05	20,840	316	3.8%
Nebraska	0.7%	60,704	93%	0.86	44.1%	0.86	44,911	680	3.3%
Nevada	0.4%	36,272	126%	1.16	28.2%	1.34	56,411	855	5.9%
New Hampshire	0.5%	41,087	109%	1.00	45.6%	0.83	34,151	517	3.6%
New Jersey	2.2%	178,443	107%	0.99	45.9%	0.82	144,993	2,197	3.6%
New Mexico	0.6%	45,341	98%	0.90	28.5%	1.32	54,257	822	4.8%
New York	7.7%	626,890	106%	0.98	47.7%	0.79	486,171	7,366	3.4%
North Carolina	2.7%	222,658	117%	1.08	36.0%	1.05	251,812	3,815	4.6%
North Dakota	0.3%	27,330	93%	0.85	49.5%	0.76	17,807	270	3.0%
Ohio	3.7%	304,348	99%	0.92	36.4%	1.04	290,111	4,396	4.1%
Oklahoma	1.2%	101,226	97%	0.89	30.3%	1.25	112,917	1,711	4.6%
Oregon	1.1%	91,581	105%	0.97	36.3%	1.04	92,475	1,401	4.3%
Pennsylvania	4.7%	383,747	103%	0.95	42.8%	0.88	322,226	4,882	3.7%
Rhode Island	0.6%	49,270	108%	1.00	43.4%	0.87	42,878	650	3.8%
South Carolina	1.2%	99,549	105%	0.97	34.4%	1.10	106,252	1,610	4.4%
South Dakota	0.3%	24,841	88%	0.81	43.6%	0.87	17,400	264	3.2%
Tennessee	1.6%	131,888	107%	0.99	31.3%	1.21	157,685	2,389	4.8%
Texas	6.2%	508,589	111%	1.02	30.7%	1.23	640,002	9,697	5.0%
Utah	1.3%	108,950	101%	0.94	38.2%	0.99	100,809	1,527	4.0%
Vermont	0.3%	23,225	108%	1.00	43.8%	0.86	19,947	302	3.7%
Virginia	2.5%	207,962	117%	1.08	42.4%	0.89	200,272	3,034	4.1%
Washington	2.2%	179,040	118%	1.09	39.4%	0.96	186,719	2,829	4.4%
West Virginia	0.7%	54,124	84%	0.78	28.2%	1.34	56,192	851	4.3%
Wisconsin	1.9%	159,105	97%	0.90	39.7%	0.95	136,210	2,064	3.7%
Wyoming	0.2%	15,903	84%	0.77	34.3%	1.10	13,564	206	3.7%
Nation	100.0%	8,165,954	108%	1.00	37.8%	1.00	8,165,954	123,727	4.2%

* State Projected 25 to 34 Year Olds as a Percent of Current 25 to 34 Year Olds / U.S. Projected 25 to 34 Year Olds as a Percent of Current 25 to 34 Year Olds
 ** U.S. Educational Attainment / State Attainment
 *** Column C x Column E x Column G

These calculations do not include undergraduate certificates. Educational attainment data collected by the U.S. Census Bureau data do not include certificates – and they are not in the original OECD estimates. Also, even if the Census Bureau’s surveys did capture certificates, only some – certificates longer than two years in duration – would count as “tertiary education” within the ISCED framework, and thereby boost the U.S. ranking. Efforts are underway to include a number of questions on the Current Population Survey or American Community Survey that will capture the percentage of adults in the population that have earned certificates and possibly industry-recognized certifications. Many higher education policymakers recognize the importance of undergraduate certificates in the employment market, particularly among certain segments of our adult population – e.g. older adults who typically have high dropout rates in traditional degree programs. Certificates and certifications will play an important role in helping to achieve two complementary goals announced by the administration: adding five million community college graduates between now and 2020, and providing all Americans with a year of education or training beyond high school. But they cannot substitute for increased associate and bachelor’s degree production.

Conclusion

The state targets established above can serve as a good starting point for discussions in each state as they plan to increase college degree production. In the end, policymakers in each state will establish their own approaches to setting attainment and degree completion targets – given their unique political environments, mixes of postsecondary institutions, and demographic challenges.

There are other ways to calculate the U.S. and state gaps. Several more complicated approaches have been tried, all yielding similar results. Once the goals are established, the real work begins. How do we create and foster the change needed to make this a reality?