College Opportunity Risk Assessment
Technical Guide

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Category and Indicator Rankings and Methodology

Indicators and Categories

There are 17 indicators that collectively describe the risk that a state will not be able to provide higher education opportunities sufficient to meet the economy's need for credentialed workers.

The 17 indicators are divided into four categories based on common themes: 'educational performance', 'educational equity', 'higher education funding and productivity', and 'state economy and finances'.

Indicator Ranks: Ranking state performance on each indicator

Each state is ranked from 1-50 for each of the 17 indicators, with a rank of 1 indicating that it has the lowest risk amongst states, and a rank of 50 indicating that it has the highest. For example, the state with the lowest percentage of 18-24 year olds enrolled in higher education would be ranked 50th on this indicator.

Category Ranks: Summing rankings for each indicator to create a rank for each category

A state's rank for each indictor within a category is summed to produce an overall indicator rank within the category. For example, there are four indicators in the educational equity category. If a state ranked 10th, 20th, 30th and 40th, on these indicators respectively, its total indicator rank would total 100 (10+20+30+40=100).

States then receive a category rank of 1-50 based on this number. For example, if an indicator rank total of 100 was the 10th lowest amongst states within the educational equity category, then the state would receive a category rank of 10 for this category. This provides a category rank of 1-50 for each of the four categories. The best-ranked state in each category is the state that accumulated the lowest total of indicator ranks.

Overall Risk: Summing the four 'category ranks' to provide an overall summary of risk

The four 'category ranks' are added together to produce each state's overall risk score. This can be as high as 200, for a state that ranked 50th in each of the four categories (50+50+50+50=200), to as low as 4 for a state that ranked 1st in each of the four categories (1+1+1+1=4).

Limitations and Caveats

For the 'geographic equity' indicator, which describes the average distance from each county center to the closest in-state degree granting education institution, three states had missing data. The geographic equity indicator lies within the 'educational equity' category. In order to produce a category rank for the states with missing data, their rank for the geographic equity indicator was imputed based on the average rank for these three states amongst the other three indicators within this category.

Within the 'educational performance' category, there are four indicators that contribute to a state's category rank: 'preparation', 'participation', 'completion', and 'affordability'. The 'affordability' indicator is a single data point: the average percent of family income needed

to pay the costs of attending college. However, the preparation, participation and completion indicators are calculated from multiple data points as described below:

- Preparation:
  - % of 4th Graders proficient and above in NAEP (sum of percentages proficient in reading and mathematics).
  - % of 8th Graders proficient and above in NAEP (sum of percentages proficient in reading and mathematics).
  - % of students who graduate from high school.
  - % of students taking AP who score 3 or higher.
- Participation:
  - % of 18-24 year olds enrolled in educational programs beyond high school.
  - % of 25-64 year olds enrolled in educational programs beyond high school.
- Completion:
  - % of community college students who earn an associate's degree within three years.
  - % of students enrolled in four-year institutions who earn their bachelor's degree within six years.

In order to produce one indicator rank for each of the preparation, participation and completion indicators, states were ranked from 1-50 for each individual data point within each indicator. These ranks were totaled, and states were then ranked from 1-50 based on the total of the data point ranks within each indicator.

For example, if a state ranked 10th for the percent of 18-24 year olds enrolled in educational programs beyond high school, and it ranked 20th for the percent of 25-64 year olds enrolled in educational programs beyond high school, its total of ranks within the indicator would be 30 (10+20=30). The state would receive a final 'participation' indicator rank based on where the total of '30' ranked amongst states.

Each data point within each indicator in the education performance category, as well as each state's ranking for each data point, are reported in the state reports as part of this publication. However, only the indicator ranks count towards the education performance category rank.

CONTEXT

Projected Need

This variable shows the percentage of adults aged 25-64 in each state that has attained any form of education beyond high school in 2016. This includes certificates, Associate's degrees, Bachelor's degrees, and graduate or professional degrees. However, it does not include those who started college but dropped out without attaining at least a certificate.

This variable also identifies the "degree shortfall" by calculating the number of adults aged 25-64 who would need to earn a degree by 2025 to meet the national attainment benchmark of 60%, and the number of adults aged 25-64 who will earn a degree by 2025 given status quo attainment percentages as of 2016. The difference between the current state percentage of attainment and the national benchmark for attainment is the degree shortfall that a state must make up to reach the level of attainment and skills availability required by the modern economy.

The 21st century has ushered in a rapidly changing 'knowledge' economy, which demands workers with advanced skills and advanced degrees. The work of A.P. Carnevale at the Georgetown University Center on Education and the Workforce has informed the target highlighted by the Lumina Foundation's 'A Stronger Nation' report: that 60% of adults aged 25-64 should have education beyond high school by 2025 in order for each state's economy to be adequately supplied with skilled, educated workers. The scale of the shortfall between current and desired attainment summarizes the scale of the challenge facing each state to educate its workforce.

Source(s)

Attainment data: '*A Stronger Nation*' report by the Lumina Foundation, 2018 (http://strongernation.luminafoundation.org/report/2018/#page/downloads). Population projections for 2025: University of Virginia Weldon Cooper Center for Public Service Demographics Research Group, 'Projections for the 50 states and D.C, *Age by Sex'* (https://demographics.coopercenter.org/national-population-projections).

Methodology and Analysis

Step 1: Identifying the percentage of adults aged 25-64 in each state with at least a certificate attained in education beyond high school. The 'A Stronger Nation' report provides this data for each state, with percentages ranging from a low of 34.7% in West Virginia to a high of 56.2% in Massachusetts. Data is for 2016, the most recent year of published data at the time of 'A Stronger Nation's' publication.

Step 2. Finding the number of 25-64 year olds who are projected to reside in each state by 2025. The Weldon Cooper Center projects population by age and state for 2020 and 2030, but not for 2025. To calculate a population projection for 2025, the difference between the 2020 and 2030 population projections is divided by two, and then added onto the projection for 2020. This mid-point provides an estimate for a population projection for 2025.

Step 3. Calculating the number of 25-64 year olds in each state who would need to have a certificate or higher by 2025 in order for 60% of 25-64 year olds to have a certificate or

higher. The estimated population projection for 2025 for each state (calculated in step 2) is multiplied by 60%.

Step 4: Calculating the number of 25-64 year olds in each state who would hold a certificate or higher if attainment remains at 2016 levels, given the 2025 population projection. The estimated population for 2025 for each state (calculated in step 2) is multiplied by the 2016 percentage of 25-64 year olds with a certificate or higher for each state.

Step 5. Calculating the 'shortfall' in educated workers that each state must make up in order to reach the goal of 60% of adults aged 25-64 with attainment beyond high school by 2025. The number of adults aged 25-64 who will have a certificate or higher given 2025 population projections and current attainment (calculated in step 4) is subtracted from the number of adults aged 25-64 that will need a certificate or higher by 2025 for the 60% goal to be met (calculated in step 3). The difference between these two figures is the 'shortfall'. No state currently has attainment of 60% or higher.

Limitations

Data for the number of people who attended college, dropped out, but attained a certificate before doing so, is not published. Instead, national and state attainment data simply includes a category of 'some college', which encompasses both those who dropped out of college without a certificate, and those who left with a certificate. Since the goal of the 'A Stronger Nation' report it to identify adults with attainment beyond high school, its authors needed to measure the number of people who left college with a certificate. To do this, they sourced estimates of the percentage of residents in each state who earned 'high-value' certificates from labor market experts at Georgetown university's Center on Education and the Workforce.

The estimated projection of the population of adults aged 25-64 in each state by 2025 is not a projection in itself. Rather, it is the mid-point between projections for 2020 and 2030, and so is likely to have a margin of error. No population projections by age and state for the year 2025 were available to the authors of this paper.

Example (with hypothetical numbers)

A state has 40% of adults aged 25-64 with a certificate or higher in 2016, and a population projection of 5,250,000 25-64 year olds by 2025.

For 60% of these adults to have a certificate or higher by 2025, 3,150,000 adults must be educated to this level. If the state does not improve its current 40% percentage attainment level, in 2025 only 2,100,000 adults aged 25-64 will have a certificate or higher.

This means the state will face a shortfall (3,150,000 – 2,100,000) of 1,050,000 educated workers in 2025 if attainment does not improve by then.

Data availability

Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL PERFORMANCE

Preparation

This indicator of preparation is divided into four distinct scores:

1. 4th Grade NAEP Mathematics & Reading Scores (proficient or higher)
2. 8th Grade NAEP Mathematics & Reading Scores (proficient or higher)
3. High School Graduation Rates
4. AP High Test Scores (3+)

We define 'preparation' as the state's 4th and 8th grade student percent proficiency (or above) scores on NAEP mathematics and reading exams, high school graduation percentages per annum, and AP high test scores (earning 3 or above on the AP exam). These variables are highly correlated to a student's ability to successfully engage in college-level coursework once they leave high school. A significant component of state investment in higher education rests in state investment in PK-12 schooling, where students gain necessary skills, mindsets, and college-and-career competencies that will help lay a foundation of success in postsecondary endeavors.

High school graduation rates are taken from the National Center for Educational Statistics, as measured by the Adjusted Cohort Graduation Rate (ACGR). This method identifies the "cohort" of first-time 9th-graders in a school year and then adjusts the cohort by adding student who transfer in and subtracting students who transfer out for a variety of reasons. The ACGR is the total percentage of these students who graduate and earn a high school diploma within four years.

Source(s)

These data are from Education Week Research Center's *Quality Counts 2017: Building on ESSA's K-12 Foundation* findings for "K-12 Achievement" https://secure.edweek.org/media/k12-achievement-education-week-quality-counts-2016.pdf.

Methodology and Analysis

A state's score in each of these four variables is derived directly from the *Quality Counts 2017* publication, listed above in sources.

4th Grade NAEP is the sum of percent proficiency or above for reading and mathematics. In our State Reports, we show 4th Grade NAEP reading and 4th Grade NAEP mathematics as separate indicators, but they are combined into a single sum for the purposes of reporting 4th Grade NAEP as a component of the Preparation indicator for all states.

8th Grade NAEP is the sum of percent proficiency or above for reading and mathematics. In our State Reports, we show 8th Grade NAEP reading and 8th Grade NAEP mathematics as separate indicators, but they are combined into a single sum for the purposes of reporting 8th Grade NAEP as a component of the Preparation indicator for all states.

High School Graduation is the percentage of students who graduate high school.

AP High Test Scores is the number of high AP scores (3+) per 100 students in Grades 11 and 12.

NAEP mathematics and reading scores are provided for each state, both in 4th Grade and 8th Grade. For each grade separately, percentage proficient in mathematics is added to percentage proficient in reading to gain a combined measure that is then ranked. For example, Massachusetts 4th graders have 53.4 percent proficiency in NAEP mathematics and 49.7 percent proficiency in NAEP reading, so the 4th Grade NAEP score for the state is 53.4+49.7 = 103.1. This sum is compared to the same calculation among all other states to identify the ranking of 4th Grade NAEP score in comparison to other states.

Calculating score for Preparation:

In this indicator are four data points: 4th Grade combined NAEP proficiency, 8th Grade combined NAEP proficiency, high school graduation rate, and AP test scores. The state's rankings along the 50-state distribution (for all four of these variables) are summed to produce a single value. This sum's ranking among the states is the state's rank for Preparation.

For example, Massachusetts has a combined 4th Grade NAEP value of 103.6, a combined 8th Grade NAEP value of 96.5, a high school graduation rate of 86%, and an AP Test value of 39.7. Among the states these values rank 1st, 1st, 12th, and 4th, respectively. The sum of these rankings is 18. The sum 18 is lowest among the states, so Massachusetts ranks 1st in Preparation.

Data Availability
Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL PERFORMANCE

Participation of Population aged 18-24

This indicator shows the percentage of 18-24 year olds in each state who are enrolled as undergraduates in degree-granting, Title IV eligible, public and private institutions. All students pursuing certificates, associate's and bachelor's degrees are counted as undergraduates. States with low levels of population enrolling in college face a limited supply of educated workers to their economies, and therefore increased risk to future economic growth.

Source(s)

Enrollment data:
IPEDS Statistical Tables generator (see methods below for specific variables used) 2013 and 2015 - https://nces.ed.gov/IPEDS/datacenter/login.aspx?gotoReportId=3.

Population data:
ACS 1-year estimates, table B15001: 'sex by age by educational attainment for the population aged 18 years and over', 2015. Accessed through American Fact Finder: https://factfinder.census.gov/.

Methodology and Analysis

The following criteria were selected in the IPEDS Statistical Tables generator when defining the scope of enrollment data:

Selecting institutions:

Enrollment data for the two most-recent years for which all institutions were mandated to record data by the age category of students – 2013 and 2015 – were selected.

Only institutions classified as being in the 'first-look universe', as title IV-eligible, and in the US were included. The first-look universe ensures that non-title IV-eligible institutions that send data to IPEDS are excluded from the analysis. Only degree-granting institutions were included. And institutions offering degrees and/or certificates exclusively through distance learning were excluded, since students are counted in the state in which their institution resides, meaning that online-only institutions could skew the data for certain states.

For two year institutions, public 2-year, private not-for-profit 2-year, and private for-profit 2-year institutions were counted

For four year institutions public 4-year or above, private not-for-profit 4-year or above and private for-profit 4-year and above institutions were counted.

Selecting variables:

Fall enrollment data was analyzed.

In the variable 'age category, gender, attendance status and level of student', select the appropriate year (2013 or 2015), select level of student = undergraduate, select age category = age under 25, select grand total.

Data were analyzed as follows:
Numerator: the number of undergraduates enrolled in each state aged 24 or less
Denominator: the number of 18-24 year olds in the population in each state

The number of students enrolled was averaged between the figures for 2013 and 2015. This is to guard against the possibility of any sudden changes in enrollment in one given year. 2013 and 2015 were the two most recent years for which colleges were mandated to provide enrollment information that included the age of students. Population data were taken for 2015 only, because population is a more static measure and less prone to volatility from year-to-year.

The number of undergraduates in each state was divided by the 18-24 year-old population in each state for the two categories of college: 4-year and 2-year. The proportions for each college type were added to reach the total percentage of 18-24 year-olds enrolled as undergraduates in each state.

Limitations
The IPEDS data provides the number of undergraduates aged under 25 enrolled, and this is compared to the population aged 18-24. Therefore, there will be some undergraduates aged under 18 who are included in the numerator of the equation, skewing the percentage slightly higher than the reality.

Example
There were 527,949 people aged 18-24 in Colorado in 2015. The average of people aged under 25 who were enrolled as undergraduates in degree-granting institutions in 2013 and 2015 was 183,517 (56,025 in 2-year college and 127,492 in 4-year college). This means that 34.8% of 18-24 year-olds in Colorado are calculated as being enrolled in college at undergraduate level. This could include seeking a certificate, Associate's or Bachelor's degree.

Data availability
Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL PERFORMANCE

Participation of population aged 25-64

This indicator shows the percentage of 25-64 year olds without an Associate's Degree or higher in each state who are enrolled as undergraduates in degree-granting, Title IV eligible, public and private institutions. All students pursuing certificates, associate's and bachelor's degrees are counted as undergraduates.
States with low levels of population enrolling in college face a limited supply of educated workers to their economies, and therefore increased risk to future economic growth.

Source(s)

Enrollment data: IPEDS Statistical Tables generator (see methods below for specific variables used) 2013 and 2015 - https://nces.ed.gov/IPEDS/datacenter/login.aspx?gotoReportId=3.
Population data: ACS 1-year estimates, table B15001: 'sex by age by educational attainment for the population aged 18 years and over', 2015. Accessed through American Fact Finder: https://factfinder.census.gov/.

Methodology and Analysis

The following criteria were selected in the IPEDS Statistical Tables generator when defining the scope of enrollment data:

Selecting institutions:

Enrollment data for the two most-recent years for which all institutions were mandated to record data by the age category of students – 2013 and 2015 – were selected.

Only institutions classified as being in the 'first-look universe', as title IV-eligible, and in the US were included. The first-look universe ensures that non-title IV-eligible institutions that send data to IPEDS are excluded from the analysis. Only degree-granting institutions were included. And institutions offering degrees exclusively through distance learning were excluded, since students are counted in the state in which their institution resides, meaning that online-only institutions could skew the data for certain states.

For two year institutions, public 2-year, private not-for-profit 2 year, and private for-profit 2 year institutions were counted

For four year institutions public 4-year or above, private not-for-profit 4 year or above and private for-profit 4-year and above institutions were counted.

Selecting variables:

Fall enrollment data was analyzed.

In the variable 'age category, gender, attendance status and level of student', select the appropriate year (2013 or 2015), select level of student = undergraduate, select age category = 25+, select full-time total and part-time total.

Data were analyzed as follows:
Numerator: the number of undergraduates enrolled in each state aged 25 or older
Denominator: the number of 25-64 year olds in the population in each state without an Associate's degree or higher

The number of students enrolled was averaged between the figures for 2013 and 2015. This is to guard against the possibility of any sudden changes in enrollment in one given year. 2013 and 2015 were the two most recent years for which colleges were mandated to provide enrollment information that included the age of students. Population data were taken for 2015 only, because population is a more static measure and less prone to volatility from year-to-year.

We then divided the number of undergraduates aged 25+ in each state by the 25-64-year-old population without an Associate's degree or higher in each state for the two categories of college: 4-year, and 2-year. We added the proportions for each college type to reach the total percentage of 25-64 year olds enrolled as undergraduates in each state.

Limitations
IPEDS only allows for the age of students enrolled in college to be split by those aged 18-24 and those aged 25+. In contrast, the number of undergraduates aged 25+ is divided by the number of people in the population aged 25-64. This means that the percentage of population enrolled may be slightly over-stated, since there will be a minority of people aged 65+ enrolled as undergraduates, and population data is capped at 64 year-olds. Enrollment data was not divided by the whole population aged 25+, since we are most interested in the proportion of working-age adults enrolled in education.

Example
There were 520,562 people aged 25-64 in Idaho without an Associate's degree or higher in 2015. The average of people aged 25 and above in Idaho enrolled as undergraduates in degree-granting institutions in 2013 and 2015 was 38,202. This means that 7.3% of 25-64 year olds without an Associate's degree or higher in Idaho are calculated as being enrolled in college at undergraduate level. This could include seeking a certificate, Associate's or Bachelor's degree.

Data availability
Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL PERFORMANCE

Completion Rates (150%) for Associates Students

Completion refers to the percentage of students graduating from degree-granting institutions with 150% time. For associates programs, this is the graduation rate within three years of a student's first-time, full-time enrollment. Students who are able to complete their degree programs within 150% time are able to enter the workforce more quickly and will have fewer loans than students who take longer to complete. Thus, completion is a useful indicator to help state policymakers assess how rapidly their citizens are successfully persisting through postsecondary training or schooling and into the labor market.

Source(s)

Data for this indicator were provided by NCHEMS Information Center for Higher Education Policymaking and Analysis. NCHEMS retrieved this data from the NCES, IPEDS 2016 Graduation Rate Survey.

Methodology and Analysis

All the data was taken from NCHEMS and reflects the year 2016. The data reflects the percentage of students who graduate within 150% time of enrolling as a first-time, full-time student.

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL PERFORMANCE

Completion Rates (150%) for Bachelor's Students

Completion refers to the percentage of students graduating from degree-granting institutions with 150% time. For bachelor's programs, this is the graduation rate within six years of a student's first-time, full-time enrollment. Students who are able to complete their degree programs within 150% time are able to enter the workforce more quickly and will have fewer loans than students who take longer to complete. Thus, completion is a useful indicator to help state policymakers assess how rapidly their citizens are successfully persisting through postsecondary training or schooling and into the labor market.

Source(s)

Data for this indicator were provided by NCHEMS Information Center for Higher Education Policymaking and Analysis. NCHEMS retrieved this data from the NCES, IPEDS 2016 Graduation Rate Survey.

Methodology and Analysis

All the data was taken from NCHEMS and reflects the year 2016. The data reflects the percentage of students who graduate within 150% time of enrolling as a first-time, full-time student.

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL PERFORMANCE

College Affordability

This indicator shows the average percentage of family income needed to pay for college. The percentage of family income needed is weighted by enrollment, meaning that colleges with higher enrollment account for a greater proportion of the calculated percentage of family income. Higher cost of college makes it harder for students to attend, therefore restricting the supply of educated workers to an economy. Higher costs relative to family income therefore equate to higher risk.

Source(s)

The College Affordability Diagnosis from the University of Pennsylvania Institute for Research on Higher Education: https://irhe.gse.upenn.edu/diagnosis. Note that original figures were produced for 2013. These have been updated to show the most current figures possible using available data from 2015, however the methods of analysis and sources used are the same. See the latest iteration of sources linked in the technical report of the College Affordability Diagnosis to identify all of the source data. The technical report can also be found here: https://irhe.gse.upenn.edu/diagnosis.

Methodology and Analysis *(detailed description of methods is available upon request):*
Affordability is defined as the ratio of net price after grant aid to family income. These calculations are conducted by family income level, then averaged across family incomes for the final figure reported.

States are ranked by a single measure of net price as a percent of income. This figure is computed by first calculating net price at each income level for all institutions.

Income levels include:
Less than $30,000; from $30,000 to $48,000; from $48,000 to $75,000; from $75,000 to $110,000; $110,000 and above

Institution types include:
Public two-year colleges; Public non-doctoral four-year institutions; Public research universities; Private non-doctoral four-year institutions; Technical two-year colleges

These net price figures are weighted by Full-Time Equivalent (FTE) enrollment, so that sectors with higher enrollment account for a greater proportion of the price in each state. Net price is then calculated as a percent of income across all five income levels, using statewide measures of family income as described above.

Data reported in the appendix of each state report also show the percent of family income needed to pay the cost of college by institutional sector.The final calculation involves averaging net price as a percent of income across all five income groups. This calculation is weighted using the proportion of families in each income group in the state.

States that are ranked higher have lower net price as a percent of income at each income level, while states that are ranked lower have higher net price as a percent of income at each income level.

Example (all numbers listed below are hypothetical and for this example only):
Step 1: The average net price of public two-year college across income groups is: $0-30k: $6,000, $30k-$48k: $12,000; $48k-$75k: $15,000; $75k-$110k: $18,000; $110,000+: $21,000.

Step 2: The average level of income across the five income groups is: $0-30k: $20k, $30k-$48k: $35k; $48k-$75k: $65k; $75k-$110k: $90k; $110,000+: $130k

Step 3: The % of family income needed to pay for the net price of public two-year college within each income group is therefore: $0-30k: 30% $30k-$48k: 34%; $48k-$75k: 23%; $75k-$110k: 20%; $110,000+: 16%

Step 4: Population within income groups is: $0-30k: 25%, $30k-$48k: 25%; $48k-$75k: 20%; $75k-$110k: 20%; $110,000+: 10%.

Step 5: The average percent of family income needed to pay the net price of public two-year college is: (25%*30%)+(25%*34%)+(20%*23%)+(20%*20%)+(10*16%) = 26% (*Note that this is the sector-level figure reported in the appendix of each state report.)*

Step 6: The average percent of family income needed to pay the net price of all types of college (calculated in the same way as outlined above) is: Public two-year colleges: 26%; Public non-doctoral four-year institutions: 30%; Public research universities: 34%; Private non-doctoral four-year institutions: 37%; Technical two-year colleges: 20%.

Step 7: The percent of students enrolled in each sector is: Public two-year colleges: 30%; Public non-doctoral four-year institutions: 30%; Public research universities: 20%; Private non-doctoral four-year institutions: 30%; Technical two-year colleges: 0%.

Step 8: The final average percent of family income needed to pay the net price of college (weighted by enrollment in each sector), is:
(30%*26%)+(30%*30%)+(20%*34%)+(30%*37%)+(0%*20%) = 32%

Data availability
Data were available for all 50 states. Code and Excel sheet available on request.

Affordability Data by Sector – Percent of Family Income Required to Attend College

State	% Family Income	Public 2-Year	Public 4-Year	Public Doctoral	Private 4-Year	Private Doctoral
Alabama	**32%**	16.1%	32.7%	42.6%	49.4%	
Alaska	**24%**	26.8%	25.9%	19.8%	33.9%	
Arizona	**22%**	16.5%	26.0%	28.4%	63.1%	
Arkansas	**25%**	17.5%	25.6%	31.4%	36.6%	
California	**20%**	15.6%	20.7%	27.3%	57.9%	46.4%
Colorado	**31%**	21.2%	32.5%	36.6%	43.6%	50.6%
Connecticut	**34%**	14.3%	32.4%	33.7%	60.2%	40.6%
Delaware	**29%**	17.4%	40.4%	30.7%	47.2%	34.9%
Florida	**26%**	17.1%	18.3%	26.8%	53.2%	56.9%

Georgia	**27%**	13.2%	29.9%	27.6%	58.0%	49.5%
Hawaii	**22%**	14.1%	22.4%	27.6%	41.2%	
Idaho	**23%**	16.8%	29.2%	33.1%	18.5%	
Illinois	**26%**	14.2%	34.2%	33.2%	45.7%	49.0%
Indiana	**24%**	15.5%	20.4%	21.1%	45.0%	30.0%
Iowa	**28%**	21.5%	31.6%	24.3%	45.6%	
Kansas	**27%**	18.8%	25.0%	36.0%	42.3%	
Kentucky	**24%**	14.6%	23.3%	34.2%	39.0%	
Louisiana	**25%**	21.0%	26.6%	22.9%	42.9%	47.8%
Maine	**31%**	21.8%	28.4%	31.7%	41.6%	
Maryland	**28%**	19.4%	33.1%	29.1%	54.4%	32.3%
Massachusetts	**38%**	18.3%	35.3%	29.2%	58.6%	39.7%
Michigan	**23%**	12.7%	26.1%	25.3%	41.1%	41.8%
Minnesota	**28%**	24.9%	27.5%	23.3%	39.8%	51.8%
Mississippi	**24%**	13.1%	31.6%	32.5%	38.3%	
Missouri	**30%**	16.2%	25.9%	29.9%	47.5%	43.5%
Montana	**31%**	21.3%	27.2%	33.6%	41.9%	
Nebraska	**27%**	15.5%	27.2%	32.6%	42.0%	
Nevada	**23%**	20.5%	19.4%	26.5%	56.4%	
New Hampshire	**61%**	37.6%	36.5%	44.0%	76.4%	23.2%
New Jersey	**30%**	18.4%	38.9%	34.4%	43.4%	40.0%
New Mexico	**19%**	13.4%	21.1%	27.4%	46.0%	
New York	**32%**	17.3%	24.0%	32.2%	48.5%	55.8%
North Carolina	**25%**	17.9%	25.7%	23.7%	50.2%	23.3%
North Dakota	**26%**	21.1%	19.4%	28.6%	31.2%	
Ohio	**30%**	14.8%	25.2%	36.4%	45.5%	54.0%
Oklahoma	**25%**	18.5%	22.4%	30.2%	42.3%	48.0%
Oregon	**29%**	19.2%	27.7%	35.7%	53.2%	
Pennsylvania	**39%**	18.2%	39.2%	49.1%	47.7%	49.2%
Rhode Island	**40%**	16.4%	21.1%	36.5%	62.2%	24.2%
South Carolina	**28%**	15.6%	33.2%	35.8%	42.3%	
South Dakota	**35%**	26.1%	31.1%	40.2%	39.0%	
Tennessee	**27%**	14.6%	26.4%	31.2%	41.6%	15.9%
Texas	**22%**	15.8%	21.9%	28.1%	43.4%	54.7%
Utah	**26%**	20.0%	21.4%	27.4%	33.5%	24.6%
Vermont	**35%**	23.0%	32.0%	28.7%	47.0%	
Virginia	**32%**	18.4%	35.0%	34.0%	52.4%	
Washington	**22%**	16.5%	20.6%	25.0%	54.9%	
West Virginia	**22%**	16.8%	21.0%	21.8%	38.8%	
Wisconsin	**28%**	21.5%	26.5%	29.8%	43.2%	50.7%
Wyoming	**17%**	13.5%	24.3%		113.1%	

EDUCATIONAL EQUITY

High School Completion Equity

This indicator measures the gap between high school graduation rates of white students and minority students in each state. The graduation rates of Black, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native students were combined, weighted by enrollment, and subtracted from the graduation rate of white students to identify the gap in graduation rates.

Source(s)

All data is from the National Center for Education Statistics (NCES) Digest of Education Statistics. Calculations are based on the public high school 4-year adjusted cohort graduation rate (ACGR).

High school graduation rates:
https://nces.ed.gov/ccd/tables/ACGR_RE_and_characteristics_2015-16.asp

High school graduates by race/ethnicity:
https://nces.ed.gov/programs/digest/d16/tables/dt16_219.32.asp

Methodology and Analysis

The graduation rates for student subgroups were determined from NCES numbers of public high school graduates by race/ethnicity. The combined graduation rate of racial and ethnic minority students is a weighted average of the groups' ACGR measures. A weighted average of all minority student groups' graduation rates was calculated, and then subtracted from the graduation rate of white students to determine the gap.

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL EQUITY

Postsecondary Participation Equity

This indicator shows the proportion of minority populations aged 18-24 that enroll in college as undergraduates subtracted from the proportion of the white population aged 18-24 that enroll as undergraduates. The higher the resulting number, the more equitable a state is. Undergraduates includes all students enrolled in not-for-profit, degree-granting, Title IV eligible, public and private institutions. All students pursuing certificates, associate's and bachelor's degrees at these institutions are counted as undergraduates.

States with a higher gap in enrollment between those from ethnic minorities and the white population are more likely to face a restricted supply of educated workers to the economy, thereby posing a risk to future economic growth. This is particularly pertinent in the context of growing ethnic minority populations across many states.

Source(s)

Enrollment data: IPEDS Statistical Tables generator (see methods below for specific variables used) 2013 and 2015: https://nces.ed.gov/IPEDS/use-the-data. Population data: US Census Bureau; population aged 18-24.

Methodology and Analysis

The following criteria were selected in the IPEDS Statistical Tables generator when defining the scope of enrollment data:

Selecting institutions:

Enrollment data for the two most-recent years for which all institutions were mandated to record data by the age category of students – 2013 and 2015.

Only institutions classified as being in the 'first-look universe', as title IV-eligible, and in the US were included. The first-look universe ensures that non-title IV-eligible institutions that send data to IPEDS are excluded from the analysis. Only degree-granting institutions were included. Any institutions offering degrees and/or certificates exclusively through distance learning were excluded, since students are counted in the state in which their institution resides, meaning that online-only institutions could skew the data for certain states.

Selecting variables:

Fall enrollment data was analyzed.

In the variable 'race/ethnicity, gender, attendance status, and level of student', select the appropriate year (2013 or 2015), select 'undergraduate degree/ certificate-seeking total', select the grand total, and the totals for each category of ethnicity. Those classified as 'unknown' and 'nonresidents' are excluded from the analysis, since their ethnicity is not known.

Methodology and Analysis

Numerator: The number of undergraduates enrolled in college in each state.
Split by the total made up of white residents and the total made up of residents from all other minority groups.

Denominator: The number of 18-24 year-olds in the population in each state.
Split by the total made up of white residents and the total made up of residents from all other minority groups.

The resulting proportion of population enrolled in college for the minority population is subtracted from the proportion of the white population enrolled to reach the final figure reported.

The number of students enrolled was averaged between the figures for 2013 and 2015. This is to guard against the possibility of any sudden changes in enrollment in one given year. Population data were taken for 2015 only, because population is a more static measure and less prone to volatility from year-to-year.

We divided the number of undergraduates from minority groups in each state by the 18-24-year-old population consisting of minority groups in each state to determine the proportion of people from minorities enrolled in college. And we divided the number of white undergraduates in each state by the 18-24-year-old white population in each state to determine the proportion of white people enrolled in college. We then subtracted the percentage of minorities enrolled from the percentage of white people enrolled to reach the final measure.

Limitations
The number of undergraduates is compared to the population aged 18-24 to determine the participation in college of different ethnic groups. There will be a small proportion of undergraduates aged 25 and above who will be included in this comparison. Therefore, overall participation levels will be slightly over-stated. Furthermore, if there are a disproportionate number of undergraduates aged 25+ who are either white or from minority groups, the participation in college by ethnic group may be slightly over or under-stated.

Unfortunately, it is not possible to download data from IPEDS by ethnic group and age category at the same time. This means that there is no way to distinguish the 18-24 undergraduate population from the 25-64 population when analyzing data using ethnicity as a categorical variable.

Note: More recent data for 2015 and 2016 is available. However, 2013 and 2015 were selected to ensure consistency of reporting with the variables assessing participation by age group in the educational performance category.

Example
In a state where 40% of white 18-24 year olds are enrolled, and 30% of 18-24 year olds from minorities are enrolled, 30% is subtracted from 40% to give a result of -10%. The higher the resulting number, the higher the risk. In this example, the state has a considerably higher proportion of the white population enrolled than the minority population.

Data availability
Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL EQUITY

Postsecondary Completion Equity

This indicator measures the gap between postsecondary on-time (150% of time to degree: 6 years for 4-year degrees and 3 years for 2-year degrees) graduation rates of white students and minority students in each state. The graduation rates of Black, Hispanic, Asian, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander, and 2 or more students were combined, weighted by enrollment, and subtracted from the graduation rate of white students to identify the gap in graduation rates.

While the Enrollment Equity measure focuses on student representation as compared to the population as a whole, the Completion Equity measure considers comparative student performance once students are enrolled.

Source(s)

All data is from the Integrated Postsecondary Education Data System (IPEDS), compiled by the College Scorecard. Calculations are based on completion rates within 150% of the estimated time to degree (3 years for 2-year programs and 6 years for 4-year programs).

On-Time Completion Rates
https://ed-public-download.app.cloud.gov/downloads/Most-Recent-Cohorts-All-Data-Elements.csv

Variables used:
C150_4_WHITE
C150_4_BLACK
C150_4_HISP
C150_4_ASIAN
C150_4_AIAN
C150_4_NHPI
C150_4_2MOR
C150_L4_WHITE
C150_L4_BLACK
C150_L4_HISP
C150_L4_ASIAN
C150_L4_AIAN
C150_L4_NHPI
C150_L4_2MOR

The combined graduation rate of minority group populations is a weighted average of the groups' on-time completion measures at each institution. Students classified as "other," or "unknown" were excluded from this analysis due to the inability to assign their graduation rates to a specific group. The numbers of students falling into these categories were negligible.

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

EDUCATIONAL EQUITY

Geographic Equity

The average distance to a degree-granting institution is the distance (in miles) the average student living in each state will need to travel to get to a degree-granting institution. The distance measure for each state is the distance from the geographic center of each county to the nearest institution, weighted by population of 18-24 year olds in the county. This indicator shows one element of the accessibility of higher education in each state. If students live far from any degree-granting institution, they must travel further from home to access postsecondary education opportunities. States with higher average distances to the closest in-state degree-granting institution are at higher risk because these institutions are less accessible to students.

Source(s)

Data on the distance from each county center to the closest in-state degree-granting higher education institution was compiled by Benjamin Skinner using institution location data from IPEDS and county location data from the U.S. Census Bureau. Data can be accessed here: https://www.btskinner.me/data/spatial-data-and-scripts/

Population data is from the U.S. Census Bureau, American Community Survey, 2016 5-Year Estimates, Table S0101 – Age and Sex.

Table of population estimates available here:
https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15_5YR/S0101/0100000US.05000.003

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

HIGHER EDUCATION FUNDING AND PRODUCTIVITY

Postsecondary Productivity

This is the amount of state investment in higher education per undergraduate degree and certificate produced at public institutions in the state. States with higher costs per degree produced are at higher risk because they will require more financial resources to produce additional degrees or certificates. As every state needs to increase degree production to meet job market needs, states that require fewer resources to add more degree holders to the market are at the lowest risk on this indicator.

Source(s)

Data for this indicator comes from IPEDS and the State Higher Education Finance (SHEF) report from the State Higher Education Executive Officers (SHEEO) Association. IPEDS data on degree completion is used to calculate numbers of credentials awarded at institutions in each state and SHEF data on state fiscal investment in higher education is used to determine the monetary investment in postsecondary education made by each state.

This indicator is impacted both by how much a state chooses to invest in higher education and by the makeup of their higher education system. In states that have particularly large private higher education sectors, this indicator may be skewed toward a lower investment per degree and certificate produced.

SHEF data is available here:
http://www.sheeo.org/projects/shef-%E2%80%94-state-higher-education-finance

SHEF data defines the state investment in higher education ("Educational Appropriations") as State Support for Public Higher Education, plus Local Support for Higher Education, minus Special-Purpose, Research, and Medical (RAM) Appropriations. This number is adjusted by Cost of Living and Enrollment Mix adjustment factors provided by SHEF.

Methodology and Analysis

Number of undergraduate degrees and certificates was calculated from IPEDS data by adding together from each institution:
Number of students receiving an Associate's degree
Number of students receiving a Bachelor's degree
Number of students receiving a certificate of less than 1-year
Number of students receiving a certificate of more than 1 but less than 4-years

Institutions included in this indicator are U.S. only, public, degree-granting institutions that are not exclusively online.

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

HIGHER EDUCATION FUNDING AND PRODUCTIVITY

Degrees and Certificates Awarded

This indicator is the number of degrees and certificates awarded per 100 full-time equivalent (FTE) undergraduate students in each state. States with lower numbers of degrees and certificates awarded per 100 FTE students are at the most risk because these states see more difficulty gaining more students with postsecondary credentials.

Source(s)

All data for this indicator are from IPEDS. FTE enrollment data is from the IPEDS 12-Month Enrollment survey and number of degrees and certificates awarded comes from the IPEDS Completion survey.

Methodology and Analysis

Number of undergraduate degrees and certificates was calculated from IPEDS data by adding together from each institution:
Number of students receiving an Associate's degree
Number of students receiving a Bachelor's degree
Number of students receiving a certificate of less than 1-year
Number of students receiving a certificate of more than 1 but less than 4-years

Institutions included in this indicator are U.S. only, degree-granting institutions that are not exclusively online.

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

HIGHER EDUCATION FUNDING AND PRODUCTIVITY

Volatility of Higher Education Appropriations

Volatility of higher education appropriations per capita evaluates the stability of the funding stream from the state to institutions and students. Our volatility calculation is the average absolute percentage change year-to-year. We are intentional not to include special purpose funding (such as research hospitals) in our appropriations numbers, as this funding largely does not serve the education of students or general operations of the institution.

Source(s)

SHEEO (2017). "Unadjusted nominal data set." *State Higher Education Finance: FY 2015.* Accessible here.

U.S. Census Bureau (n.d.). "Intercensal Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2010." Accessible here.

U.S. Census Bureau (n.d.) "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2017." Accessible here.

Methodology and Analysis

In SHEEO's unadjusted nominal data set, divide Column L by Columns C, D, and E to convert appropriations values to 2015 constant dollars. Algebraically, this is ((L/C)/D)/E.

Divide the appropriations by state population (2000 to 2015) to obtain appropriations per capita, then calculate the year-to-year percentage changes in appropriations per capita.

Our final value for this indicator is the average absolute year-to-year percentage change for each state.

Note: We use appropriations data for the years FY 2000 through FY 2015. A more current version of the data set contains data for FY 2016, but it does not offer Illinois data. Therefore, we opt for the timeframe of FY 2000-2015 for our analysis.

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

STATE ECONOMY AND FINANCES

Volatility of General Fund Expenditures

Volatility of general fund expenditures per capita evaluates the stability of the state's general operations, of which education is a large part. Our volatility calculation is the average absolute percentage change year-to-year.

Source(s)

U.S. Census Bureau (2002-2017). Annual surveys of state finances. Accessible here: 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015. We use the "General expenditure" data.

U.S. Census Bureau (n.d.). "Intercensal Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2010." Accessible here. This is the same source as for volatility of higher education appropriations.

U.S. Census Bureau (n.d.) "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2017." Accessible here. This is the same source as for volatility of higher education appropriations.

U.S. Bureau of Labor Statistics. (2018). CPI Inflation calendar. Accessible here.

Methodology and Analysis

Use CPI inflation calendar to adjust for inflation. In our calculations we use July 2017 as the reference point to July of the year being compared. Divide general expenditures by state population to obtain expenditures per capita, then calculate the year-to-year percentage changes in expenditures per capita.

Our final value for this indicator is the average absolute year-to-year percentage change for each state.

Note: The U.S. Census Bureau's most recent state finance data reflects the year 2015.

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

STATE ECONOMY AND FINANCES

State Gross Domestic Product

Gross Domestic Product (GDP) is the value of goods and services produced by the capital or a state. This indicator is based on the aggregate GDP across all industries in Fiscal Year 2016. State GDP provides a useful proxy to examine how much money the state takes in every year, not including taxation as a source of revenue, and to compare across other states.

Source(s)

The data is from the Bureau of Economic Analysis (2016) Regional Data page https://www.bea.gov/iTable/index_regional.cfm.

(Regional Data → "Begin using the data" → "Annual Gross Domestic Product (GDP) by State" → "Per capita real GDP" → All Industry Total → All Areas (states) → 2016) https://www.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=10&isuri=1&7003=1000&7035=-1&7004=naics&7005=1&7006=xx&7036=-1&7001=11000&7002=1&7090=70&7007=2016&7093=levels

Methodology and Analysis

We take GDP and divide by the state population to understand how state income can be distributed among state residents.
Per capital real GDP:

Numerator: State GDP
Denominator: State population

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

STATE ECONOMY AND FINANCES

New Economy Index

The New Economy Index, developed by the Information Technology and Innovation Foundation (ITIF) is a composite indicator that represents how well the structure of each state's economy aligns with the ideal structure of the New Economy. The indicator is split into five broad categories: knowledge jobs; globalization; economic dynamism; the digital economy; and innovation capacity. Important because states well-positioned to participate in the New Economy will be in a better position to produce educated workers and fill workforce gaps in the future.

Twenty-five different measures make up the New Economy Index indicator. Measures come from a variety of sources and are weighted to create a composite indicator. Weights for each variable are indicated below.

Source(s)

https://itif.org/publications/2017/11/06/2017-state-new-economy-index

Methodology and Analysis

Variables for the "Knowledge Jobs" category are: (1) information technology jobs [0.75]; (2) managerial, professional, and technical jobs [0.75]; (3) workforce education [1.00]; (4) immigration of knowledge workers [0.50]; (5) migration of U.S. knowledge workers [0.50]; (6) manufacturing value-added [0.75]; and (7) high-wage traded services [0.75].

Variables for the "Globalization" category are: (1) foreign direct investment [1.00]; and (2) export focus of manufacturing and services [1.00].

Variables for the "Economic Dynamism" category are: (1) job churning [1.00], (2) fast-growing firms [0.75]; (3) initial public offerings [0.50]; (4) entrepreneurial activity [0.75]; and (5) inventor patents [0.50].

Variables for the "Digital Economy" category are: (1) online agriculture [0.50]; (2) e-government [0.50]; (3) broadband telecommunications [1.00]; and (4) health IT [0.50].

Variables for the "Innovation Capacity" category are: (1) high-tech jobs [0.75]; (2) scientists and engineers [0.75]; (3) patents [0.75]; (4) industry investment in R&D [1.00]; (5) non-industry investment in R&D [0.50]; (6) movement toward a clean energy economy [0.50]; and (7) venture capital [0.75]

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

STATE ECONOMY AND FINANCES

State Reserves

The rainy day fund balance indicator is the average percentage of annual expenditures in each state that could be covered by its rainy day fund from FY2016 - FY2018. The rainy day fund balance in a state is a reserve for times of fiscal distress. States with a large rainy day fund balance will be better able to cover budget shortfalls than states with small or no rainy day fund balances.

This indicator is based on data compiled by the National Association of State Budget Officers (NASBO).

Source(s)

This indicator is based on data compiled by the National Association of State Budget Officers (NASBO).

Data used can be found in the report below on Table 32 (p. 67):
https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750ofca152d64c2/UploadedImages/Fiscal%20Survey/NASBO_Fall_2017_Fiscal_Survey__S_.pdf

Methodology and Analysis

The "Rainy Day Fund Balance" indicator was created by averaging each state's rainy day fund balance as a share of annual expenditures for Fiscal Years 2016-2018. Averaging the three years of data should provide a general picture of the health of each state's rainy day fund.

Data Availability

Data were available for all 50 states, though some states were missing values for some years. In these cases, missing data was excluded from the average. The missing values are: Arkansas (FY16), Georgia (FY17 and FY18), Kansas (FY16), Montana (FY16), and Oklahoma (FY18). Excel analysis sheets available upon request.

STATE ECONOMY AND FINANCES

State Debt and Unfunded Liabilities

This indicator compares the state's unfunded liabilities (debt, pensions, and retiree health care costs) with its typical tax revenue. If a state's unfunded liabilities total $400 million and its typical tax revenue is $800 million, its value for this indicator is 0.5 or 50%. Unfunded liabilities data reflects 2013. Rather than 2013 tax revenue, we use the average of 2012, 2013, and 2014 tax revenue to better capture a typical tax revenue amount for states.

Source(s)

Pew Research Center. (2016). "Debt and unfunded retirement costs." *Pew Fiscal 50*. Accessible here. Data can be downloaded from the page linked above. The second tab in the downloaded spreadsheet contains 2013 data.

US Census Bureau. (2015). *2012 Annual Survey of State Finances.* Accessible here. Download the two files under "State & Local Summary Tables by Level of Government." From Row 23 ("Taxes"), collect "State Government Amount." This is the state tax revenue for 2012. Perform the above steps for the 2013 and 2014 Annual Surveys of State Finances.

Methodology and Analysis

This indicator is the state's sum of its unfunded liabilities divided by its annual tax revenue. If debt = A, pensions = B, retiree health care costs = C, 2012 tax revenue = D, 2013 tax revenue = E, and 2014 tax revenue = F, then the final indicator is (A+B+C)/((⅓)(D+E+F)).

Data Availability

Data were available for all 50 states. Excel analysis sheets available upon request.

STATE ECONOMY AND FINANCES

Income Inequality

The American Community Survey defines family income based on the incomes of all members 15 years old or over related to the householder. The sum of these incomes is treated as a single amount. Income inequality shows the difference between families who are in the highest income level compared to those families who earn incomes in the lowest level. We have included this indicator in our assessment because states that have significant inequity among family income will likely experience greater challenges in providing equitable opportunities for higher education for all residents, particularly those from the lowest income groups. Further, the impact of state policies will vary for families depending on their income, and states with a greater ratio of inequitable family income may find it more challenging to establish policies that serve the needs of all their residents.

The College Affordability Diagnosis from the University of Pennsylvania Institute for Research on Higher Education: https://irhe.gse.upenn.edu/diagnosis. Note that original figures were produced for 2013. These have been updated to show the most current figures possible using available data from 2015, however the methods of analysis and sources used are the same. See the latest iteration of sources linked in the technical report of the College Affordability Diagnosis to identify all of the source data. The technical report can also be found in the above link.

Income Levels:

IPEDS defined five income levels, which are also used by the College Affordability Diagnosis. These annual family income levels are as follows: less than $30,000; between $30,000 and $48,000; between $48,000 and $75,000; between $75,000 and $110,000; and $110,000 and above. According to the College Affordability Diagnosis Technical Guide, the variables used are NPIS412, NPIS422, NPIS432, NPIS442, NPIS452, and NPT412, NPT422, NPT432, NPT442, NPT452.

Family Income:

This indicator compares the gap of the median family incomes of families within the highest income level and those in the lowest income level, as defined by IPEDS. These averages were calculated with data from the American Community Survey that we received from William Doyle, Associate Professor of Public Policy and Higher Education at Vanderbilt University.

Source(s)

Data has been updated for 2016 using the American Community Survey 5-Year Estimates:https://www.socialexplorer.com/data/ACS2016_5yr_COMP/documentation/27ca004e-d1ea-4c55-b4e2-68ce533d712d

Methodology and Analysis

The updated calculation of median family income for each of the five income groups was completed and shared by Vanderbilt University Peabody College of Education, using 2016 ACS survey data. The original data file was from The College Affordability Diagnosis from the University of Pennsylvania Institute for Research on Higher Education: https://irhe.gse.upenn.edu/diagnosis. Note that original figures were produced for 2013.

These have been updated to show the most current figures possible using available data from 2015, however the methods of analysis and sources used are the same. See the latest iteration of sources linked in the technical report of the College Affordability Diagnosis to identify all of the source data. The technical report can also be found in the above link.

Data Availability

Data generously supplied by Vanderbilt University Peabody College of Education.
Data were available for all 50 states. Excel analysis sheets available upon request.