

College Affordability in SREB States

Technical Guide

Data Definitions and Sources for SREB's State and Regional College Affordability Profiles

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Introduction

This technical guide was prepared for SREB's 2017 state and regional college affordability profiles. The guide includes descriptions of each data indicator in the state and regional reports. Each indicator includes the following information:

- **Sources:** where the raw data used to calculate the indicator can be found
- **Description:** definition of the indicator
- **Notes:** includes a detailed methodology section for those indicators that require additional explanation
- **Availability:** how to find the data used to calculate the indicator

It is our intent that others be able to replicate the analysis undertaken for SREB's state and regional College Affordability Profiles. Please contact us with questions or clarifications concerning the analysis.

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Net Price as a Percent of Income

Sources

IPEDS Student financial aid data files, 2008-2014

<http://nces.ed.gov/ipeds/datacenter/data/SFA1415.zip>

<http://nces.ed.gov/ipeds/datacenter/data/SFA1314.zip>

<http://nces.ed.gov/ipeds/datacenter/data/SFA1213.zip>

<http://nces.ed.gov/ipeds/datacenter/data/SFA1112.zip>

<http://nces.ed.gov/ipeds/datacenter/data/SFA1011.zip>

<http://nces.ed.gov/ipeds/datacenter/data/SFA0910.zip>

<http://nces.ed.gov/ipeds/datacenter/data/SFA0809.zip>

IPEDS Instructional activity data files, 2008-2014

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2015.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2014.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2013.zip>

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<http://nces.ed.gov/ipeds/datacenter/data/EFIA2010.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2009.zip>

IPEDS Directory information

<http://nces.ed.gov/ipeds/datacenter/data/HD2014.zip>

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<http://nces.ed.gov/ipeds/datacenter/data/HD2009.zip>

<http://nces.ed.gov/ipeds/datacenter/data/HD2008.zip>

American Community Survey data files, 2008-2014 5-year averages

http://www2.census.gov/programs-surveys/acs/data/pums/2014/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2013/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2012/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2011/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2010/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2009/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2008/5-Year/csv_hus.zip

Description

Family ability to pay is defined as the ratio of net price, after deducting federal, state, and institutional grant aid, to family income. These calculations are conducted by family income level, then averaged across family incomes for the final figure reported. Sources and definitions for each are defined below.

- Numerator: net price for students in each sector
- Denominator: family income

Notes

The descriptions below cover data and methods for both the overall ability to pay measures and the tables in each state profile.

Net Price

Net price data is taken from the IPEDS student financial aid survey, completed by all Title IV eligible institutions. The National Center for Education Statistics (NCES) defines average net price as the amount that full-time, first-time degree/certificate-seeking undergraduates who receive Title IV federal student aid pay for in-state or in-district tuition. Title IV federal student aid includes federal grants or federal student loans.

Average net price is generated by subtracting the average amount of federal, state or local government, or institutional grant and scholarship aid from the total cost of attendance.

Total cost of attendance is the sum of published tuition and required fees (lower of in-district or in-state), books and supplies, and the weighted average room and board and other expenses.

The weighted average for room and board and other expenses is generated as follows:

(amount for on-campus room, board and other expenses X # of students living on-campus
+ amount for off-campus (with family) room, board and other expenses X # of students living off-campus with family
+ amount for off-campus (not with family) room, board and other expenses X # of students living off-campus not with family)
divided by the total # of students.

Students whose living arrangements are unknown are excluded from the calculation. For some institutions the number of students by living arrangement will be known, but dollar amounts will not be known. In this case the number of students with no corresponding dollar amount will be excluded from the denominator.

These calculations apply to public institutions with standard calendar systems (semester, quarter, trimester, 4-1-4) that report financial aid data for students enrolled for the fall and received aid anytime during the full aid year.

Student Title IV aid includes grant aid, work study aid, and loan aid. These include: Federal Pell Grant, Federal Supplemental Educational Opportunity Grant (FSEOG), Academic Competitiveness Grant (ACG), National Science and Mathematics Access to Retain Talent Grant (National SMART Grant), Teacher Education Assistance for College and Higher Education (TEACH) Grant, Federal Work-Study, Federal Perkins Loan, Subsidized Direct or FFEL Stafford Loan, and Unsubsidized Direct or FFEL Stafford Loan.

Full-time, first-time degree/certificate-seeking undergraduates are those students enrolled in a four- or five-year bachelor's degree program, an associate's degree program, or a vocational or technical program below the baccalaureate level, who have no prior postsecondary experience and are enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term.

In-state tuition is the tuition charged by institutions to those students who meet the state's or institution's residency requirements.

In-district tuition is the tuition charged by the institution to those students residing in the locality in which they attend school; in-district tuition may be a lower rate than in-state tuition if offered by the institution.

Source: IPEDS Student Financial Aid Data Dictionary. The variables used are: NPIS412, NPIS422, NPIS432, NPIS442, NPIS452 for public institutions. Source Document:
http://nces.ed.gov/ipeds/datacenter/data/SFA1314_Dict.zip

For more information on net price, see the IPEDS FAQ on net price:
https://nces.ed.gov/ipeds/Section/Institutional_net_price

Enrollment

Net price is averaged at the sector level within each state. These averages are weighted by full-time undergraduate enrollment in order to reflect enrollment patterns. Full-time equivalent (FTE) enrollment for undergraduates comes from the IPEDS instructional activity website. The variable used is estimated full-time-equivalent undergraduate enrollment (variable name *fteug*), defined as follows by IPEDS:

For institutions with a semester, trimester, or 4-1-4 plan, the number of FTE undergraduates is the sum of undergraduate credit hours divided by 30 and contact hours divided by 900. For institutions with a quarter plan, FTE is undergraduate credit hours divided by 45 and contact hours divided by 900. For institutions with continuous enrollment over a 12-month period, FTE is undergraduate credit hours divided by 30 and contact hours divided by 900.

Source: http://nces.ed.gov/ipeds/datacenter/data/EFIA2012_Dict.zip

Income Levels

For the state-level tables, IPEDS defines net price data in five income levels: families with yearly incomes less than \$30,000, from \$30,000 to \$48,000, from \$48,000 to \$75,000, from \$75,000 to \$110,000, and \$110,000 and above. The variables used are: *NPIS412*, *NPIS422*, *NPIS432*, *NPIS442*, *NPIS452*.

Family Income

The American Community Survey is the source for calculating family income averages at the state level. For each state, average family income is calculated, both overall and for each of the income groups as defined by IPEDS (0-\$30,000, \$30,000 to \$48,000, \$48,000 to \$75,000, \$75,000 to \$110,000, and above \$110,000). In the American Community Survey, family income is defined by the Census Bureau:

In compiling statistics on family income, the incomes of all members 15 years old and over related to the householder are summed and treated as a single amount. Although the family income statistics cover the past 12 months, the characteristics of individuals and the composition of families refer to the time of interview. Thus, the income of the family does not include amounts received by individuals who were members of the family during all or part of the past 12 months if these individuals no longer resided with the family at the time of interview. Similarly, income amounts reported by individuals who did not reside with the family during the past 12 months but who were members of the family at the time of interview are included. However, the composition of most families was the same during the past 12 months as at the time of interview.

Source: https://www.sociaexplorer.com/data/ACS2013_3yr/documentation/e850479e-e5c9-437b-b5b0-44d831f59e5c

Variables used are: *FINCP* (family income) and *WGTP* (family weight).

Institutional Sectors

SREB groups higher education institutions into four sectors, based on SREB institutional categories:

Public Four-Year Type 1 institutions include SREB four-year Type 1 or four-year Type 2 institutions, defined as institutions awarding at least 30 doctoral degrees that are distributed among at least five CIP categories (2-digit classification).

Four-Year Type 2 institutions include all other SREB four-year institutions.

Public Two-Year institutions include all SREB two-year colleges.

Technical Colleges include all SREB technical colleges or institutes. Data for this sector are reported when more than 5 percent of FTE attend these institutions.

Source: <http://www.sreb.org/criteria-and-definitions>

Please note: These calculations exclude service academies and the Community College of the Air Force.

Sector Averages

Sector level averages are calculated as the simple average across all income levels for that sector. Weighted averages are not used for this calculation because accurate overall information about enrollment patterns by income across institutions is not available.

Availability

The authors downloaded IPEDS data files directly from the IPEDS dataset and conducted data organization and calculations. Similarly, American Community Survey data were downloaded from the Census Bureau, with calculations conducted by the authors. Code available upon request.

State Grant Funding

Need-based grants per student and other grants per student

Sources

Grants: National Association of State Student Grant & Aid Programs (NASSGAP), personal communication from NASSGAP staff drawn from 2014, 2007, and 2004 Annual Surveys. The survey includes total state grant dollars for undergraduate students at public higher education institutions. The survey contains five different types of aid: need-based only, need-based and non-need based (grants that have a need and a non-need component), non-need based only, special purpose grants, and uncategorized grants. For this analysis, the authors use two categories: need-based and all other forms of financial aid.

Enrollment: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Reported full-time equivalent (FTE) undergraduate and graduate enrollment 2014, 2007, 2004.

Description

This indicator measures states' commitment to provide aid based on need and aid based on other criteria. The indicator is calculated using the following formula for need-based grants per student (a similar calculation is used for the other two types of grant aid):

Numerator: Total amount of grant dollars for need-based financial aid/other financial aid for public and private undergraduate students in the state.

Denominator: Total number of public undergraduate full-time-equivalent students enrolled in the fall.

Availability

Data was generously supplied by NASSGAP. Data available for all SREB states.

Tuition at Lowest-Priced Colleges as a Percentage of Income

Sources

Tuition

IPEDS student charges data files:

https://nces.ed.gov/ipeds/datacenter/data/IC2014_AY.zip

https://nces.ed.gov/ipeds/datacenter/data/IC2008_AY.zip

Institutional Information

IPEDS directory files:

<http://nces.ed.gov/ipeds/datacenter/data/HD2014.zip>

<http://nces.ed.gov/ipeds/datacenter/data/HD2013.zip>

<http://nces.ed.gov/ipeds/datacenter/data/HD2012.zip>

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<http://nces.ed.gov/ipeds/datacenter/data/HD2009.zip>

<http://nces.ed.gov/ipeds/datacenter/data/HD2008.zip>

Income

American Community Survey data files, 2008-2013 5-year averages:

http://www2.census.gov/programs-surveys/acs/data/pums/2014/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2013/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2012/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2011/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2010/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2009/5-Year/csv_hus.zip

http://www2.census.gov/programs-surveys/acs/data/pums/2008/5-Year/csv_hus.zip

Enrollment

IPEDS Instructional activity data files, 2008-2014:

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2015.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2014.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2013.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2012.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2011.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2010.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2009.zip>

Description

Creating and preserving low-priced options for college is an important state strategy to ensure access for low-income students and families who would otherwise be priced out of higher education. This indicator measures this aspect of affordability with the following formula:

- *Numerator:* Average cost of lowest-priced sector by state, weighted by FTE enrollment.
- *Denominator:* Average family income for families in the lowest-income threshold (families making less than \$30,000 per year). These are the same data used in the net price calculation described above.

Institutional Sectors

SREB groups higher education institutions into four sectors, based on SREB institutional categories:

Public Four-Year Type 1 institutions include SREB four-year 1 or four-year Type 2 institutions, defined as institutions awarding at least 30 doctoral degrees that are distributed among at least five CIP categories (2-digit classification).

Four-Year Type 2 institutions include all other SREB four-year institutions.

Public Two-Year institutions include all SREB two-year colleges.

Technical Colleges include all SREB technical colleges or institutes. Data for this sector are reported when more than 5 percent of FTE attend these institutions.

Source: <http://www.sreb.org/criteria-and-definitions>

Only tuition from the lowest-priced sector is included.

Tuition

Variable *TUITION1* is used. Tuition is defined as charges to full-time undergraduate students for the full academic year 2013-14 in-district average tuition.

IN-DISTRICT TUITION - The tuition charged by the institution to those students residing in the locality in which they attend school. This may be a lower rate than in-state tuition if offered by the institution.

TUITION - Amount charged to students for instructional services. Tuition may be charged per term, per course, or per credit.

UNDERGRADUATE - A student enrolled in a 4- or 5-year bachelor's degree program, an associate's degree program, or a vocational or technical program below the baccalaureate.

FULL-TIME STUDENT Undergraduate - A student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term.

ACADEMIC YEAR - The period of time generally extending from September to June; usually equated to 2 semesters or trimesters, 3 quarters, or the period covered by a 4-1-4 plan.

Source: IC 2013 data dictionary, https://nces.ed.gov/ipeds/datacenter/data/IC2013_AY_Dict.zip

Borrowing Among Graduates

Sources

Borrowing

College Scorecard Data, <https://collegescorecard.ed.gov/data/>
(Variable=*grad_dbt_mdn*)

Enrollment

IPEDS Instructional activity data files, 2008-2013:

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2015.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2014.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2013.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2012.zip>

<http://nces.ed.gov/ipeds/datacenter/data/EFIA2011.zip>

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<http://nces.ed.gov/ipeds/datacenter/data/HD2010.zip>

<http://nces.ed.gov/ipeds/datacenter/data/HD2010.zip>

<http://nces.ed.gov/ipeds/datacenter/data/HD2009.zip>

<http://nces.ed.gov/ipeds/datacenter/data/HD2008.zip>

Description

Borrowing among graduates

College scorecard data, "The median debt for students who have completed." Variable used: *GRAD_DEBT_MDN*.

This is the median loan debt accumulated at the institution by all student borrowers of federal loans who separate (i.e., either graduate or withdraw) in a given fiscal year, measured at the point of separation (*DEBT_MDN*). More specifically, the measure represents the sum of all undergraduate federal loans over students' college education at the institution for which the median debt is reported for — e.g., if a student receives a federal loan for \$2,000 for each of eight semesters at one institution, the cumulative debt is recorded as \$16,000 for that institution.

These data are available for all borrowers at the institution, as well as disaggregated by completion status (*GRAD_DEBT_MDN* for students who completed and *WDRAW_DEBT_MDN* for students who withdrew without completing).

(NB: The state profiles use *GRAD_DEBT_MDN*, cumulative debt for students who completed only. Students who withdrew without completing are not included.)

Source: College Scorecard Documentation Report

<https://collegescorecard.ed.gov/assets/FullDataDocumentation.pdf>

Enrollment

Graduates' debt is averaged at the sector level within each state. These averages are weighted by full-time undergraduate enrollment in order to reflect enrollment patterns within the states. Full-time-equivalent (FTE) enrollment for undergraduates comes from IPEDS' instructional activity website. The variable used for this analysis is estimated full-time-equivalent undergraduate enrollment (variable name *fteug*), defined by IPEDS as follows:

For institutions with a semester, trimester, or 4-1-4 plan, the number of FTE undergraduate is the sum of undergraduate credit hours divided by 30 and contact hours divided by 900. For institutions with a quarter plan, undergraduate credit hours divided by 45 and contact hours divided by 900. For institutions with continuous enrollment over a 12-month period, undergraduate credit hours were divided by 30 and contact hours were divided by 900.

Source: http://nces.ed.gov/ipeds/datacenter/data/EFIA2012_Dict.zip

Contextual Indicators

Percent of Jobs that Will Require Postsecondary Education by 2020

Sources

Carnevale, A., Smith, N., and Strohl, J. (2013, June). Recovery: Job Growth and Education Requirements Through 2020. Center on Education and the Workforce, Georgetown University Public Policy Institute. Detailed data obtained through personal email communication.

Description

This indicator describes how many jobs in each state will require some form of postsecondary education. Calculations were provided by Georgetown University.

Availability

Data were provided by the Georgetown Center on Education and the Workforce. Calculated data available for 50 states.

Changes in Tuition

Sources

CPI is for the South Urban area, Bureau of Labor Statistics; Tuition and Fees are from NCES, Digest of Education Statistics; Median Family Income are from U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements.

CPI data are for the Southern Region from the St. Louis Federal Reserve, Indicator "*CUUR0300SA0*."

U.S. Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers: All items in South urban [CUUR0300SA0], retrieved from FRED, Federal Reserve Bank of St. Louis;

<https://fred.stlouisfed.org/series/CUUR0300SA0>

Family Income data for each state are from St Louis Federal Reserve, Indicator "*MEHOINUS<ST>A672N*."

U.S. Bureau of the Census, Real Median Household Income in Alabama (and other states)

[*MEHOINUSALA672N*], retrieved from FRED, Federal Reserve Bank of St. Louis;

<https://fred.stlouisfed.org/series/MEHOINUSALA672N>

Description

This figure compares changes in average prices (Consumer Price Index—CPI), changes in median family income, and changes in college prices to address whether college price has become less or more affordable for families.

Children in Poverty

Sources:

U.S. Census Bureau, 2009-2014 American Community Survey 5-Year Estimates Table: S1701 Poverty Status in the Past 12 Months.

Description:

This indicator describes the percent of children in the state that are living below the poverty level. By looking at the level of children in poverty, this metric provides a background of the possible income level for incoming college students and the level of financial aid those students are likely to need. This indicator is the percent of the total population under 18 living in poverty. The calculation is provided by the Census Bureau, and reported by the Annie E. Casey Foundation:

<http://datacenter.kidscount.org/data#USA/1/0/char/0>.

Availability:

Data available for 50 states.