



National Center for Higher Education Management Systems

Tuition-Setting Practices in Colorado's Public Colleges and Universities

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Colorado Department of Higher Education
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Introduction

As part of its contract with the Colorado Department of Higher Education, the National Center for Higher Education Management Systems (NCHEMS) is required to investigate the factors that influence institutional pricing strategies for different kinds of institutions. Among the questions addressed were:

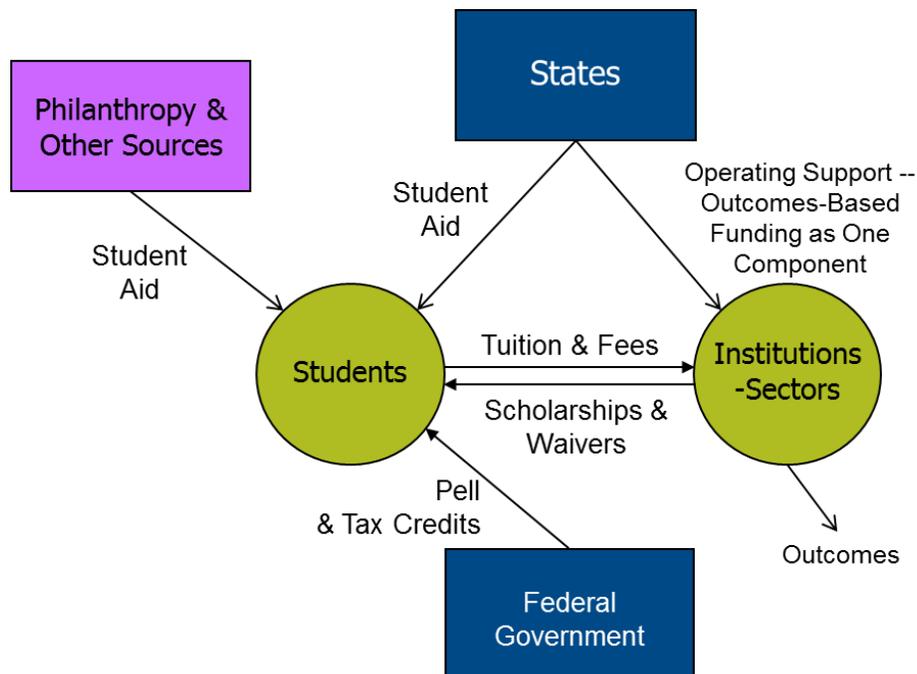
- The extent to which tuition prices are primarily determined as a residual of state appropriations actions.
- Whether or not pricing strategies are explicitly tied to the institution’s strategic plan/goals.
- Ways in which the process varies by different types of institutions.

The information to address these questions was collected through interviews conducted by Dennis Jones with individuals at each of the governing boards. In the main, these individuals were the Chief Financial Officers and their staffs.

The interview questions were framed in the context of the conceptual scheme indicated in Figure 1. This figure indicates that tuition pricing decisions are affected by:

- Institutional resource needs factoring in productivity improvements. This is the point at which cost-drivers analyses intersect with the tuition-setting process.
- The extent to which those needs are met by state appropriations.
- Subsidies students receive from multiple sources (including institutions) in the form of grant aid or tuition waivers/price discounts.

Figure 1. The Elements of Finance Policy



The decisions being made by institutions are heavily influenced by the broader financing environment in which they are made. Key elements of this environment are as follows:

1. Colorado's public institutions, of all types, have fewer resources with which to support basic operations than do similar institutions in most other states (see Figures 2, 3, and 4). These data include revenues available to institutions that can be used at their discretion. This relatively low level of funding is particularly notable at the baccalaureate and masters institutions and at the community colleges. This low level of funding means that Colorado institutions are less able to absorb revenue shortfalls through productivity enhancements and finding further efficiencies.
2. The level of funding per FTE student provided by the state is lower in Colorado than in all but two other states (Figure 5). This means that students are providing the lion's share of funding for the general operation of the institutions (Figure 6). This is a dramatic change from the situation a dozen years ago (Figure 7).
3. This heavy reliance on tuition means that affordability to students becomes a major consideration. Figures 8 and 9 show that
 - Net cost of attendance as a percent of median family income is above the national level at four-year institutions.
 - For the lowest income families this cost is below the national average; but for these families the net cost of attendance is still nearly 70% of family income (versus 22% for median income families).

It is important to note that tuition and fees are 45 percent of total cost of attendance at public four-year institutions and 23 percent at public two-year institutions. Room and board and books and supplies make up the additional amount.

In these calculations, net cost of attendance is the stated tuition (the sticker price) plus room and board less grant aid from all sources. Figures 10 and 11 indicate that over the past 5 years net cost of attendance relative to family income has increased faster in Colorado than most other states.

Net cost of attendance is below the national average at two year institutions (Figures 12 and 13). However, the increases have been such over the past five years that, if continued, they will close and surpass the gap over the next few years (Figures 14 & 15).

Tuition-Setting Process in Colorado Institutions

Dennis Jones of the NCHEMS staff interviewed designated representatives of each of the governing boards regarding the process used to set tuition each year. The overall findings from that set of interviews can be generally summarized as follows:

1. The factors considered by institutions in setting tuition are essentially the same for all institutions although the weights accorded those factors vary from institution to institution. These factors are as follows:
 - a. An estimate of the next year's current services budget including
 - Mandatory/nondiscretionary costs – most institutions use this language but what is included varies. Typically included are classified staff salary increases, utilities, and health insurance. Salary increases for non-classified staff are

usually not treated as mandatory, but institutions often try to at least match classified staff increases.

- Discretionary increases (e.g., salaries for non-classified staff)
- b. Investments in quality enhancement and initiatives derived from the institution's strategic plan.
 - c. Estimates of cost savings generated through efficiencies.
 - d. Enrollment numbers, and the mix of students, in-state, out-of-state, international, graduate versus undergraduate.
 - e. Constraints on price increases
 - Legislative caps
 - Competitive pressures
 - Public opinion
 - Directives from Boards. These, too, vary widely reflecting low tuition philosophies on one end of the spectrum and high tuition/high aid philosophies on the other.
 - Concerns about price increases leading to revenue decreases (because of enrollment decreases)
2. In most of the institutions the calculus of tuition-setting is generally as follows:
- a. Develop the estimated operating budget for the coming year including discretionary, nondiscretionary and improvement/investment expenditures. [Note: for institutions in systems, this estimate is created at the campus level within parameters established at the system level).
 - b. Deduct an amount for the estimated level of the state appropriation. The remainder is the calculated level of tuition revenue required to balance the budget.
 - c. Desired/allowable tuition rates are chosen – reflecting the constraints mentioned above.
 - d. Enrollments are estimated by categories of students (e.g., in-state and out-of-state). In some institutions these estimates are made using very sophisticated tools. In others, estimates are made assuming no change from the previous year or reflecting recent year-to-year changes. The resulting enrollment estimates are multiplied by these tuition rates to determine the revenue stream from tuition.
 - e. An iterative process of matching expenditure requirements with revenue estimates is undertaken. The variables that are considered for modification during this balancing act include:
 - Number of in-state students
 - Number of out-of-state/international students
 - Tuition rates – both in-state and out-of-state

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- Expenditures on institutional aid to students (a device for influencing enrollment numbers)
 - Reductions in planned investments
 - Identification of additional efficiency savings
- f. Final recommendations taken to Boards for approval and subsequent implementation
3. While this calculus is presented as a set of linear steps, in reality it is an iterative series of cycles repeated until equilibrium between revenue streams based on specified tuition rates and budgeted expenditures is reached.
 4. Most, but not all, institutions utilize an inclusive decision-making process to arrive at the tuition setting decisions, involving faculty, staff, and students throughout the process. The objective is to have consensus on the recommendation taken to the board.
 5. Boards are kept informed at multiple steps along the way so that there are no surprises when final action is required.
 6. Timing of the tuition rate decision varies across institutions. In a few, the decision is made in February so that students have this information early in their own decision-making process. The majority wait until April when the state appropriation amount is much more certain.
 7. All institutions have some mechanism for adjusting if enrollment projections aren't met or if expected state appropriations aren't forthcoming in the fall. These mechanisms are designed for relatively small variations, not sudden, major revenue shortfalls.
 8. The sophistication of the analytic tools utilized by institutions in this process (especially in projecting enrollments) varies enormously across the institutions.
 9. Institutions are using large amounts of their own funds for institutional student financial aid.
 10. All institutions are mindful of the affordability of their institutions and consider students' ability to pay in the determination of their tuition rates. However, no institution utilizes an affordability metric (such as net tuition relative to household income) that is regularly calculated and made a formal part of the decision-making process.
 11. Given the instability and unpredictability of state funding, institutions are setting tuition with an eye to the future. In many cases, they try to normalize tuition increases rather than create dramatic swings, in order to try to maintain predictability for students.

Some Observations

1. Tuition rate decisions in Colorado are particularly high stakes decisions because:
 - So much of the institutions' revenue comes from tuition. Set too low and the institutions' ability to invest in quality and initiatives designed to further goal achievement is jeopardized. Set too high and enrollment numbers could be negatively affected.
 - Colorado institutions are already operating with comparatively few general operating funds. Revenue shortfalls engender major changes not easily found through additional efficiencies.

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2. Enrollment numbers (and the in-state/out-of-state mix) play an extraordinarily important role in determining the fiscal stability and health of Colorado institutions. Ability to grow helps keep tuition rates down. It is those institutions who can't grow that face the most difficult budget squeezes. For them, increases in state funding are particularly important. Colorado School of Mines, because of its decision to maintain a stable enrollment level, faces this same set of issues.
 3. Those institutions competing for student on a national/international scale are particularly sensitive to competitors' prices. Their price-setting is more outward looking than institutions whose market is much more local.
 4. Caps or limits expressed as percentages are particularly insensitive to institutional situations. The bases to which these percentages are applied vary substantially from one institution to another, even among institutions of a similar nature (e.g., CU versus CSU).
 5. Application of the same percentage to all institutions is also insensitive to institutional differences. Given the varying abilities of students in different institutions to pay higher levels of tuition, it may well make sense for some institutions to be expected to raise tuition more than others.
 6. Tuition decisions and policies are strongly tied to state funding levels but state student aid funding and policy are not well integrated into this mix.

Tuition Policy on the National Scene

There are several ideas being explored in other states and at the national level that bear watching – but not implementing – at this time. These ideas include:

- The Tennessee Promise program that offers free community college tuition to students that meet a set of (not stringent) conditions. This program is limited to recent high school graduates, pays for tuition only, not full cost of attendance, and is a last-dollar-in scholarship. This means that those students getting full Pell are not eligible for this grant. Oregon investigated implementing a similar program including expanding eligibility to all community college students and paying the last dollar in using cost of attendance as the base. That investigation led to a conclusion that Oregon's resources would better serve students if funneled through the state's need-based aid program.
- President Obama's free community college proposal. The specifics of this proposed program aren't fully developed. It is based on cost of attendance, but the price tag (60+ billion over 10 years) will provide a major barrier to enactment.
- Pay it Forward (PIF) schemes. Under this scheme, students would pay no tuition – costs would be borne by the state and in return students would repay the state through a tax on future earnings. This idea, too, is being considered in Oregon although the enormous front end costs and the difficulties of ensuring repayment by students who have left the state made implementation on a large scale infeasible. A very small (2,000 student) pilot test has been proposed.
- Tying tuition-setting limits to performance on outcomes metrics. This has been implemented in Louisiana and is being proposed in Texas. The Louisiana initiative (through its GRAD Act) has so many flaws that it cannot be viewed as a good model. Something similar is being discussed in Wisconsin. The Louisiana idea was devised as a way of loosening very tight legislative control on tuition rates – control that requires a 2/3's vote of the legislature to

raise tuition more than 3% per year. The Texas initiative is intended as a way to ensure moderation in price increases after very large tuition increases occurred when institutions were given tuition-setting authority. The Wisconsin idea is intended to give institutions more flexibility and to forestall the kind of large increases that were experienced in Texas when tuition-setting authority was given to institutions. While the Wisconsin decision has not yet been made by the legislature, a favored proposal would

- Require reporting of a specified set of outcomes metrics
- Cap tuition increases at 6% per year
- Lower the tuition cap in the event that performance does not improve

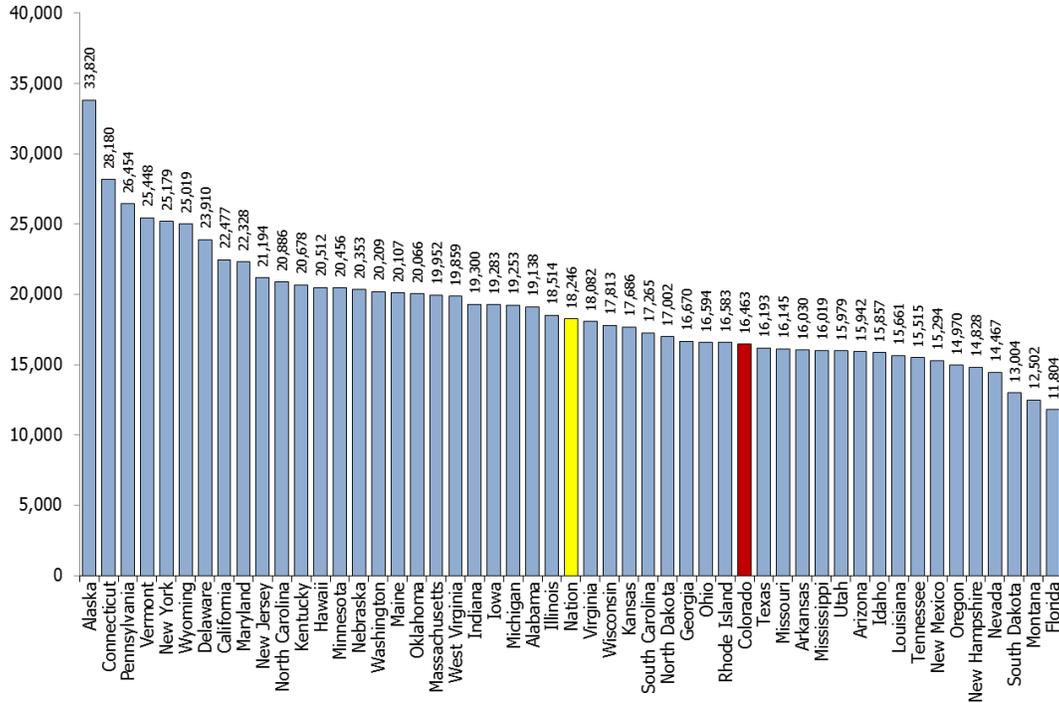
Conclusions

From these findings it can be concluded that it is not the type of institution that distinguishes differences in approach to tuition-setting; rather it is the circumstances which institutions are confronting that makes the difference. In particular:

1. Institutions pay particular attention to prices being charged by competitors. This plays a major role in constraining price increases. For the research universities, the comparisons are national, for other four-year institutions, the comparisons are mostly with in-state competitors.
2. The extent to which they are faced with no-growth or declining growth influences their decisions. The attempt to maximize revenues using a combination of higher tuition offset by higher institutional aid is more prevalent.
3. Decisions are made with an eye to the future. If competition will allow, institutions are more prone to raise tuition to the caps recently established believing that state support will not be forthcoming in future years. Given the high reliance on tuition and the uncertainty of state funding – both levels and patterns of distribution stemming from the outcomes-based funding model – will likely increase tuitions to levels constrained only by competitive pressure (including pressures to maintain affordability).
4. Affordability is a constant concern, but no formal metrics are in place that directly influence tuition-setting practices. The open access institutions are particularly concerned with affordability and have been pricing themselves with low income students in mind.

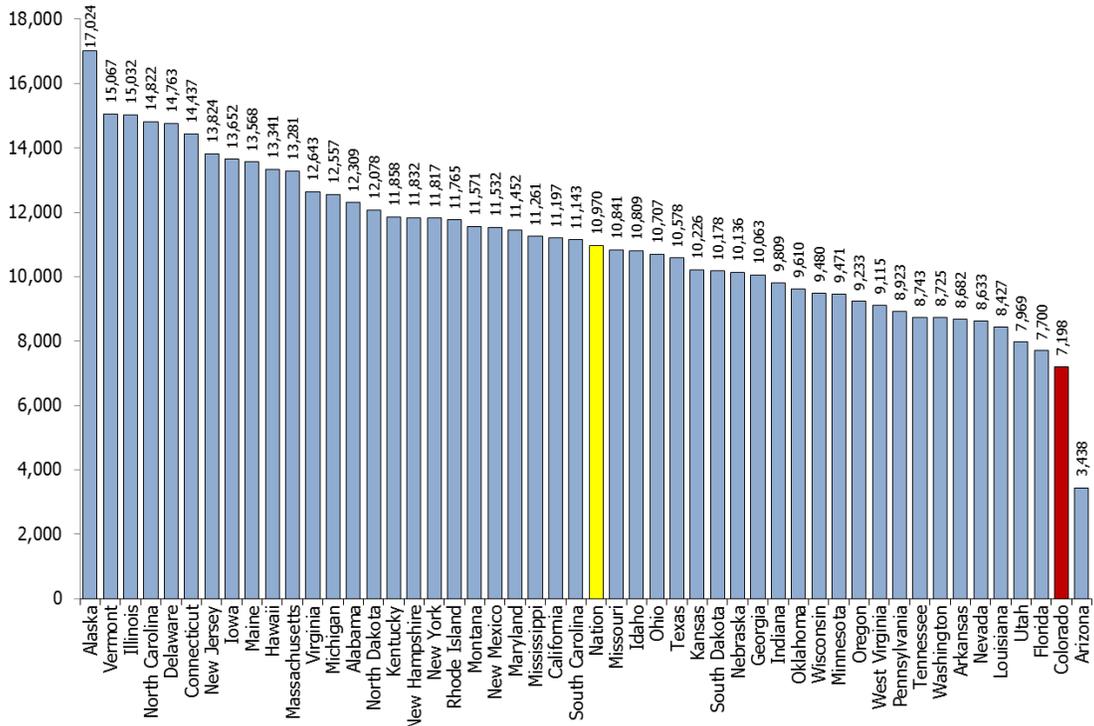
Figures

Figure 2. Funding from Tuition & Fees and State Appropriations per FTE, Public Research (Includes Medical), 2012-13



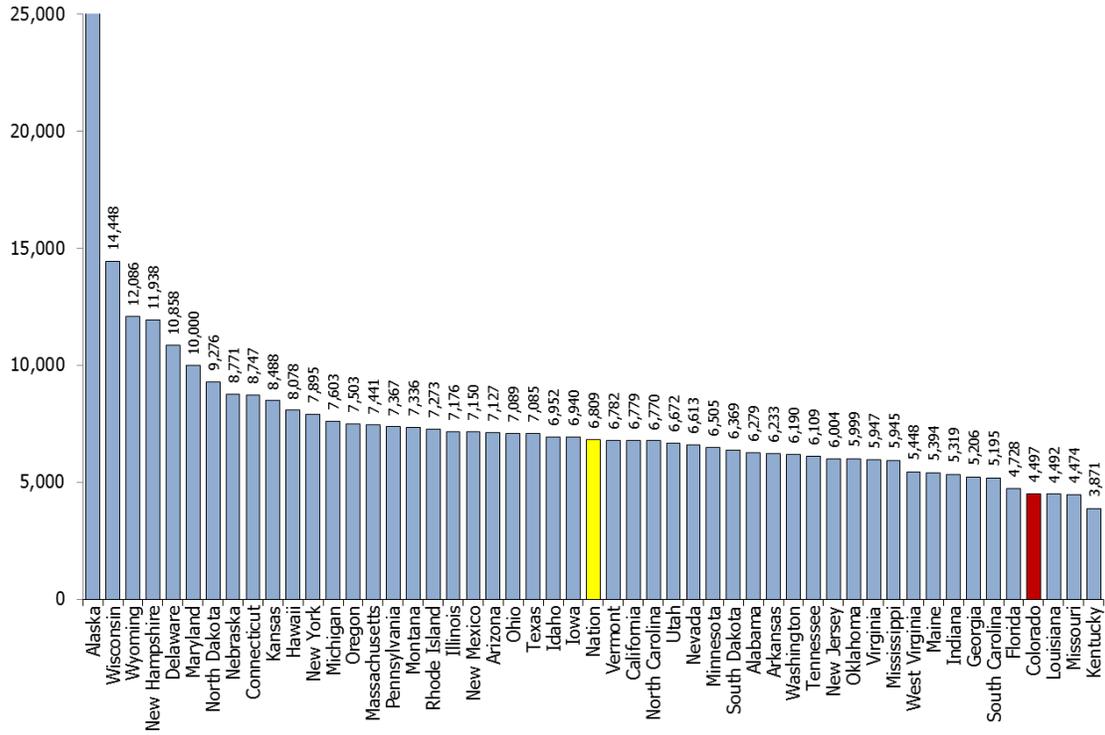
Sources: NCES, IPEDS 2012-13 Provisional Release Finance Files; f1213_f1a, f1213_f2 GASB & FASB Finance Files; NCES, IPEDS 2012-13 Instructional Activity File; efa2013 Provisional Release Data File; NCES, IPEDS 2013-14 Institutional Characteristics File; hd2013 Provisional Release Data File. Colorado institutions included in the calculation include University of Colorado Denver, University of Colorado Boulder, Colorado School of Mines, Colorado State University Fort Collins, and University of Northern Colorado.

Figure 3. Funding from Tuition & Fees and State Appropriations per FTE, Public Masters, Bachelors, Other 4-Year, 2012-13



Sources: NCES, IPEDS 2012-13 Provisional Release Finance Files; f1213_f1a, f1213_f2 GASB & FASB Finance Files; NCES, IPEDS 2012-13 Instructional Activity File; efaia2013 Provisional Release Data File; NCES, IPEDS 2013-14 Institutional Characteristics File; hd2013 Provisional Release Data File. Colorado institutions in this category are Adams State University, University of Colorado – Colorado Springs, Fort Lewis College, Colorado Mesa University, Metropolitan State University of Denver, Colorado State University – Pueblo, Western State Colorado University.

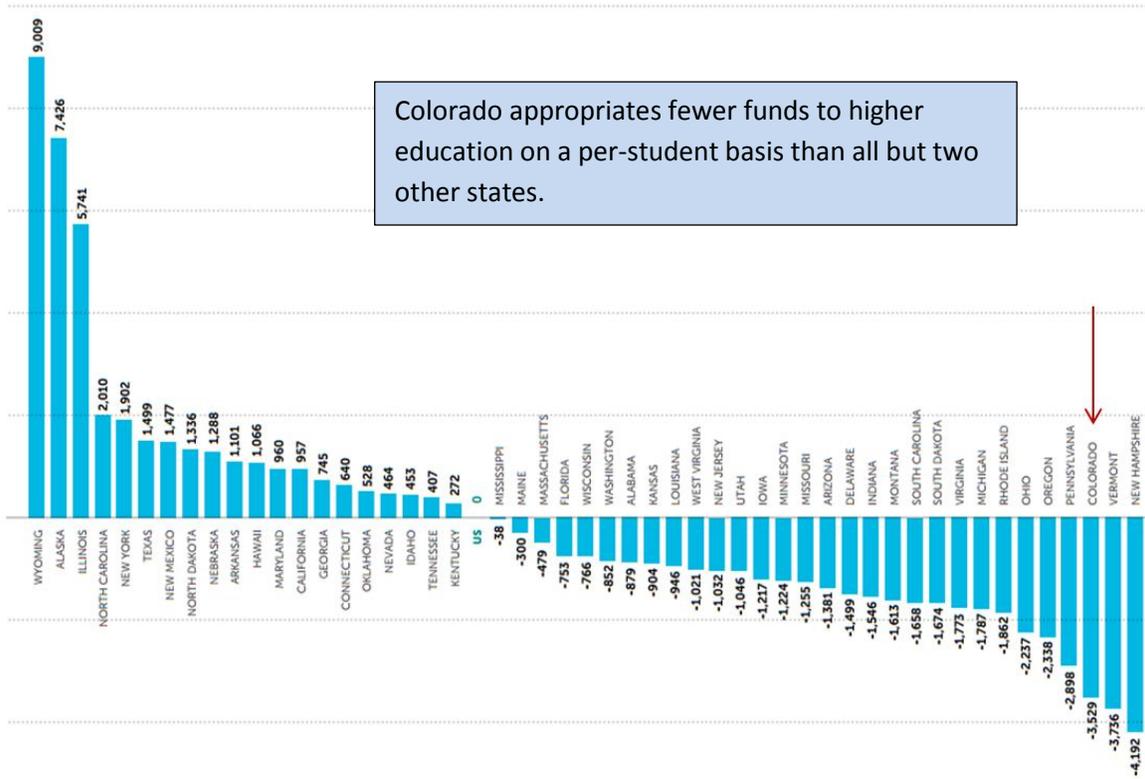
Figure 4. Funding from Tuition & Fees and State Appropriations per FTE, Public Associates and Other 2-Year, 2012-13



Sources: NCES, IPEDS 2012-13 Provisional Release Finance Files; f1213_f1a, f1213_f2 GASB & FASB Finance Files; NCES, IPEDS 2012-13 Instructional Activity File; efa2013 Provisional Release Data File; NCES, IPEDS 2013-14 Institutional Characteristics File; hd2013 Provisional Release Data File. **Note:** Aims Community College and Colorado Mountain College are excluded from Colorado's figures but included in the National total. Colorado institutions in this category are Colorado Northwestern Community College, Community College of Aurora, Community College of Denver, Front Range Community College, Lamar Community College, Morgan Community College, Northeastern Junior College, Otero Junior College, Pikes Peak Community College, Pueblo Community College, Red Rocks Community College, Trinidad State Junior College.

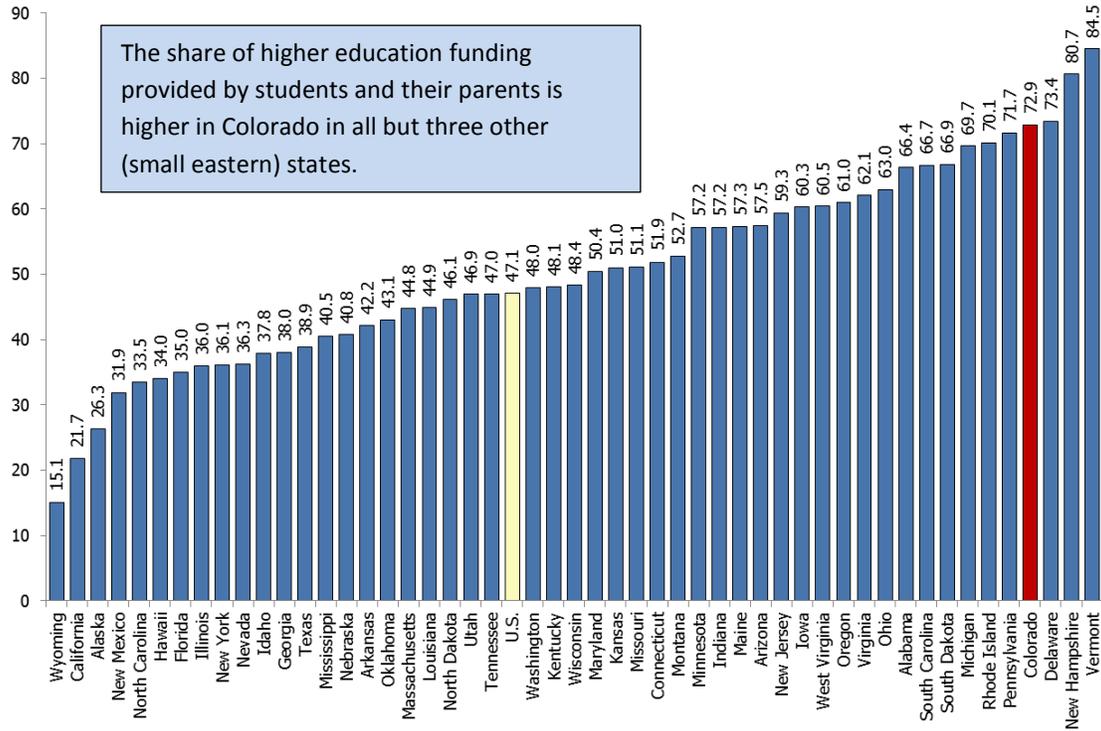
Figures 2, 3, and 4 indicate that Colorado institutions of all types are funded at levels well below similar institutions in most other states. Funds included in the calculation include both tuition and fees and state appropriations.

Figure 5. State Appropriations for Operating Purposes Per FTE Student: State Differences from U.S. Average, Fiscal 2014



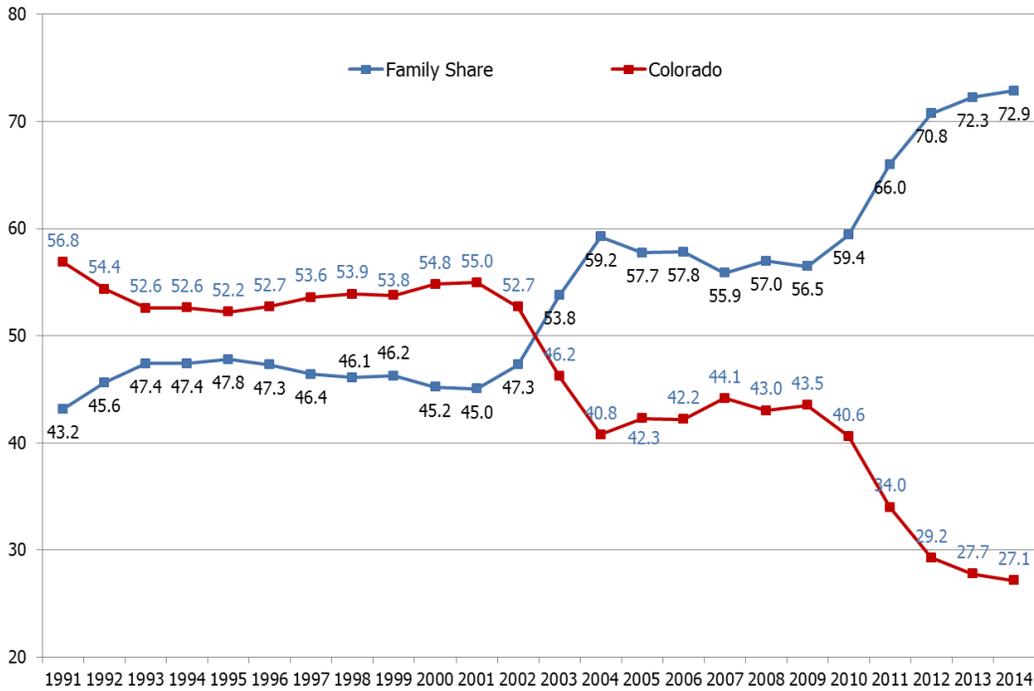
Source: SHEEO SHEF FY 2014

Figure 6. Net Tuition Revenue as a Percent of Public Higher Education Total Educational Revenue by State, FY 2014



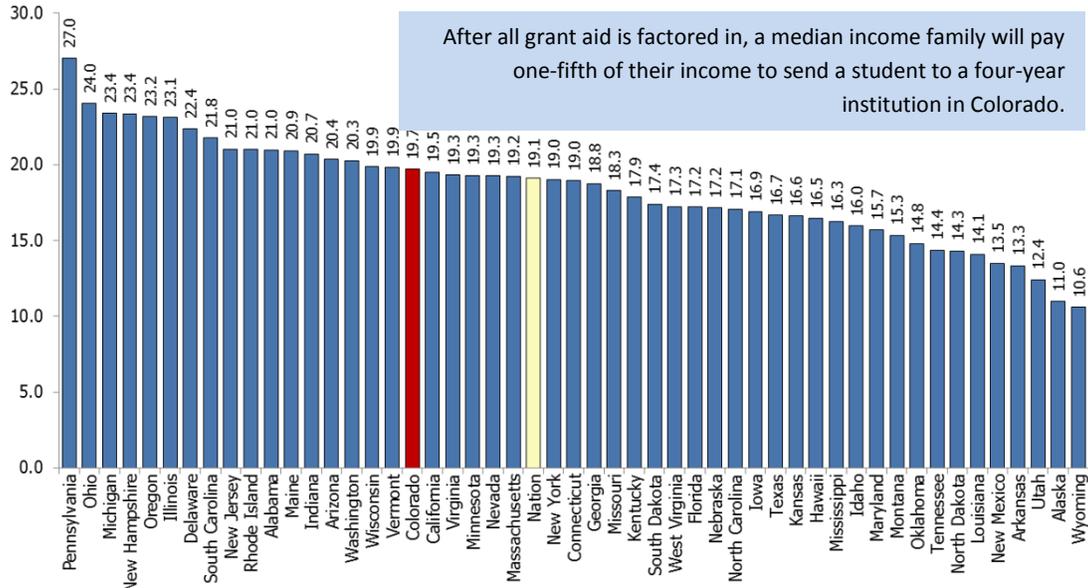
Source: SHEEO SHEF FY 2014

Figure 7. Family Share of Public Higher Education Operating Revenues



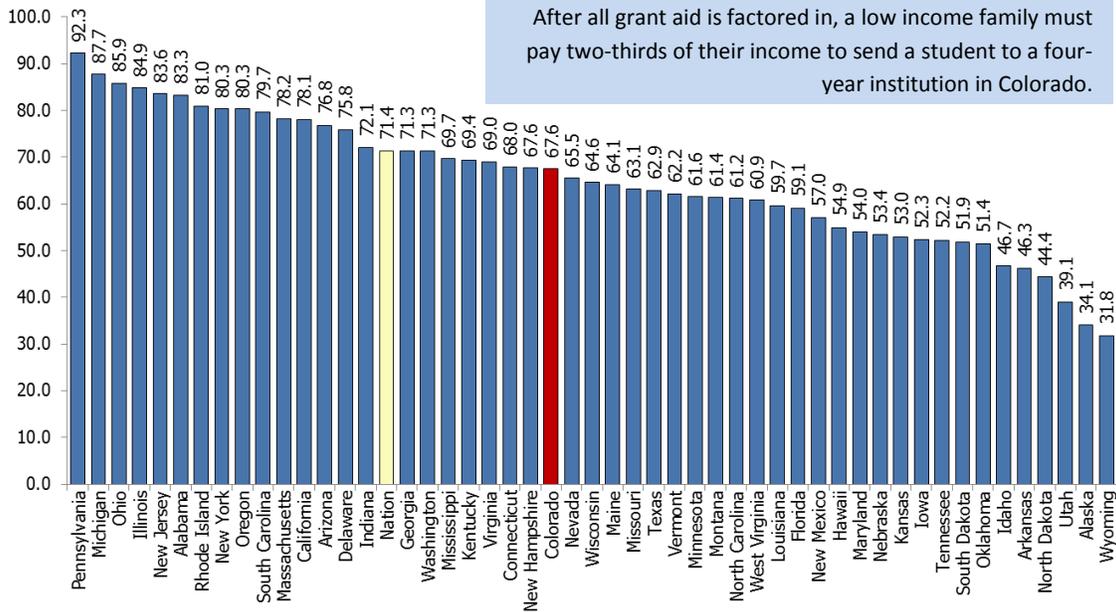
Source: SHEEO SHEF FY 2014

Figure 8. Net Cost of Attendance as a Percent of Median Family Income, 4-Year Institutions, 2012-13



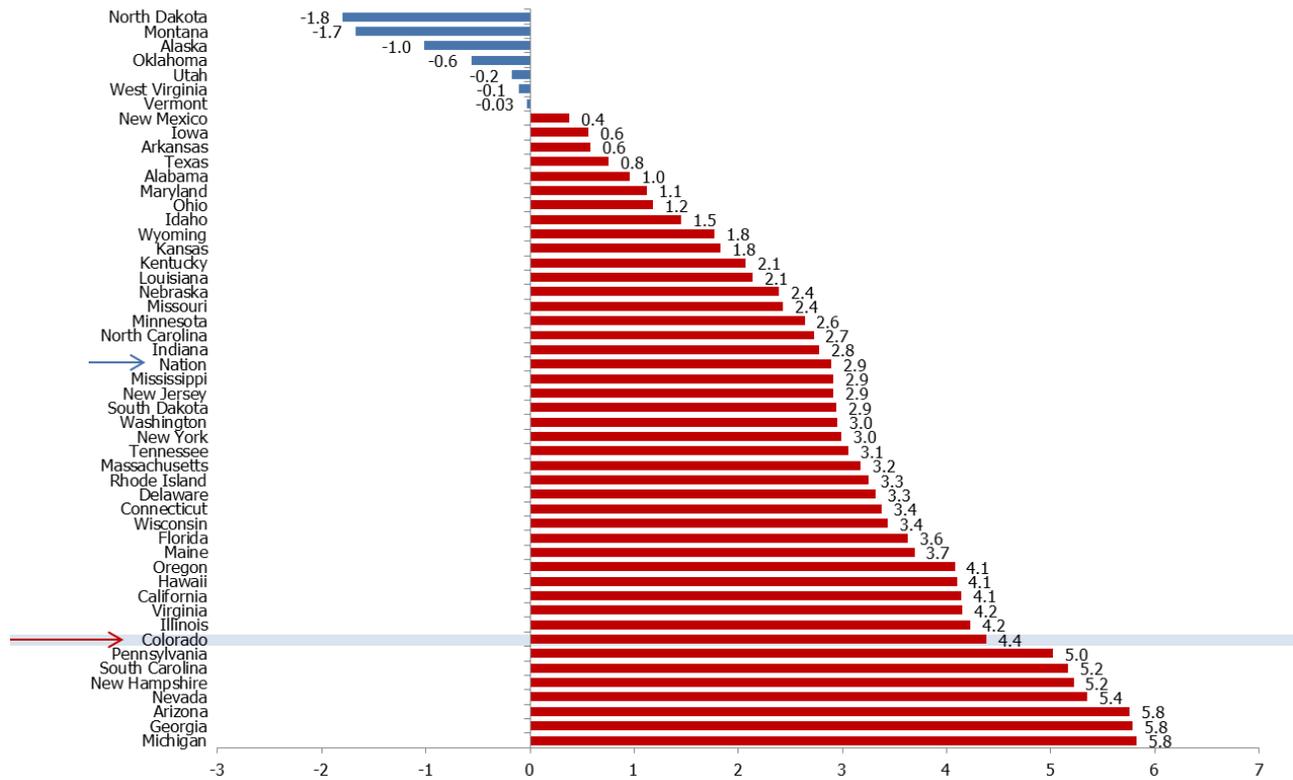
Sources: NCES, IPEDS Institutional Characteristics Files; hd2013 and ic2013_ay Provisional Release Data Files; Fall 2012 Enrollment File; ef2012a Final Release Data File; Academic Year 2012-13 Student Financial Aid File; sfa1213 Provisional Release Data File and U.S. Census Bureau, 2013 American Community Survey (ACS) One-Year PUMS File.

Figure 9. Net Cost of Attendance as a Percent of Lowest Quintile Family Income, 4-Year Institutions, 2012-13



Sources: NCES, IPEDS Institutional Characteristics Files; hd2013 and ic2013_ay Provisional Release Data Files; Fall 2012 Enrollment File; ef2012a Final Release Data File; Academic Year 2012-13 Student Financial Aid File; sfa1213 Provisional Release Data File and U.S. Census Bureau, 2013 American Community Survey (ACS) One-Year PUMS File.

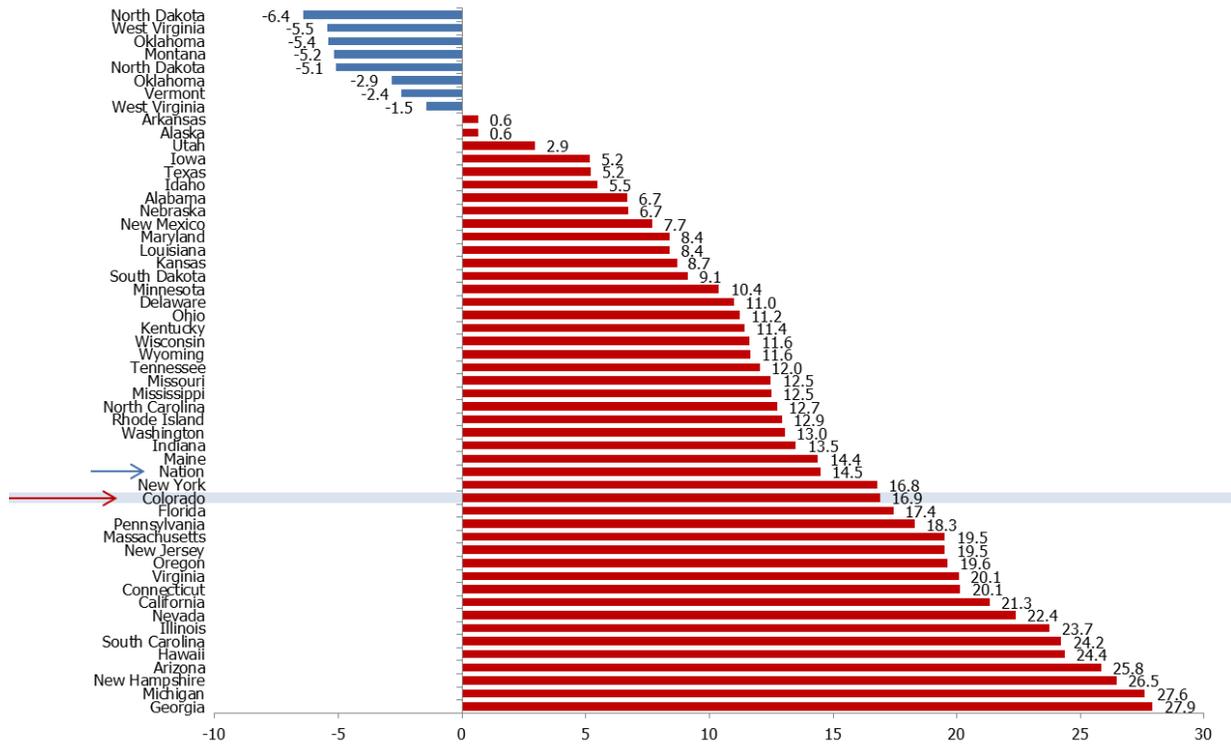
Figure 10. Change in Net Cost of Attendance for First-Time Full-Time Undergraduates as a Percent of Median Family Income, 2006-07 to 2011-12, 4-Year Institutions



Sources: NCES, IPEDS Institutional Characteristics Files; IC2006_ay, hd2012 and ic2012_ay Provisional Release Data Files.; NCES, IPEDS Fall 2006, Fall 2011 Enrollment Files; NCES, IPEDS Academic Year 2006-07, 2011-12 Student Financial Aid Files; U.S. Census Bureau, 2007 & 2012 American Community Survey (ACS) One-Year Public Use Microdata Sample (PUMS) File. 2011-2012 files provisional.

Note: State Costs are weighted averages of published institution charges for first-time full-time undergraduates.

Figure 11. Change in Net Cost of Attendance for First-Time Full-Time Undergraduates as a Percent of Low Quintile Family Income, 2006-07 to 2011-12, 4-Year Institutions

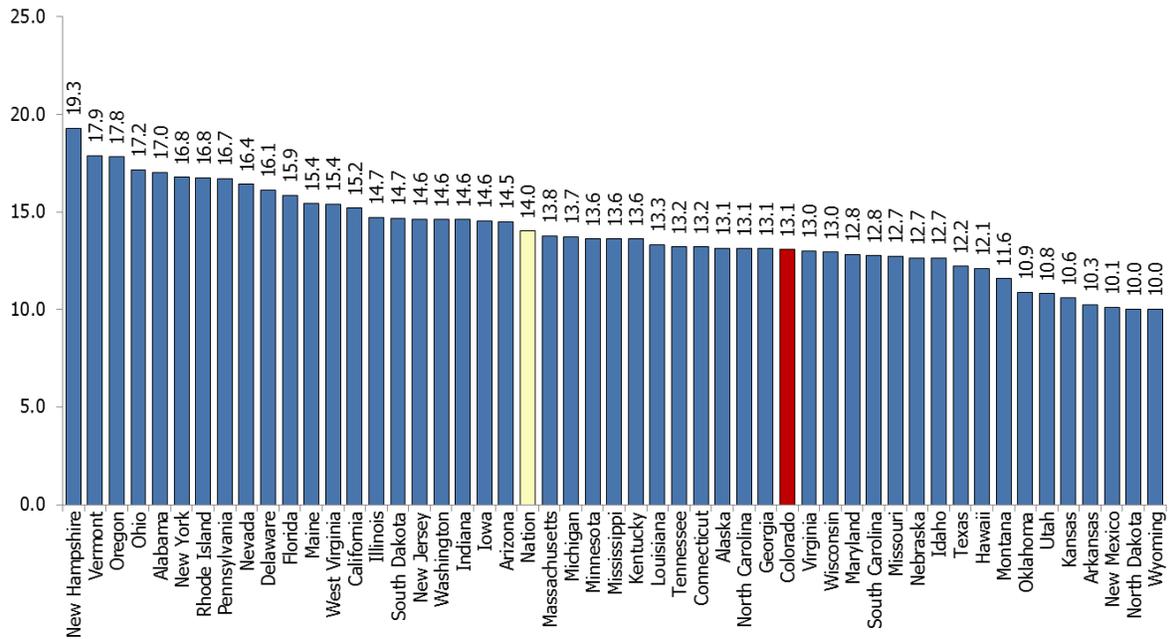


Sources: NCES, IPEDS Institutional Characteristics Files; IC2006_ay, hd2012 and ic2012_ay Provisional Release Data Files.; NCES, IPEDS Fall 2006, Fall 2011 Enrollment Files; NCES, IPEDS Academic Year 2006-07, 2011-12 Student Financial Aid Files; U.S. Census Bureau, 2007 & 2012 American Community Survey (ACS) One-Year Public Use Microdata Sample (PUMS) File. 2011-2012 files provisional.

Note: State Costs are weighted averages of published institution charges for first-time full-time undergraduates.

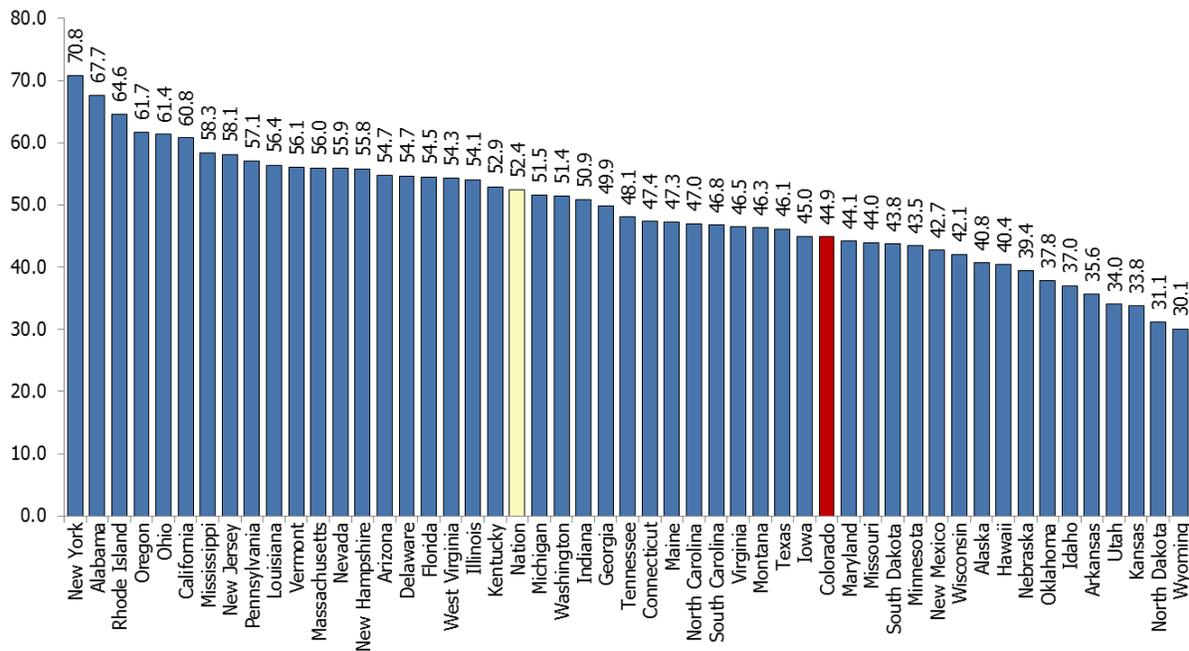
The cost to students of attending colleges has increased more rapidly in Colorado than in most other states.

Figure 12. Net Cost of Attendance as a Percent of Median Family Income, 2-Year Institutions, 2012-13



Sources: NCES, IPEDS Institutional Characteristics Files; hd2013 and ic2013_ay Provisional Release Data Files; Fall 2012 Enrollment File; ef2012a Final Release Data File; Academic Year 2012-13 Student Financial Aid File; sfa1213 Provisional Release Data File and U.S. Census Bureau, 2013 American Community Survey (ACS) One-Year PUMS File.

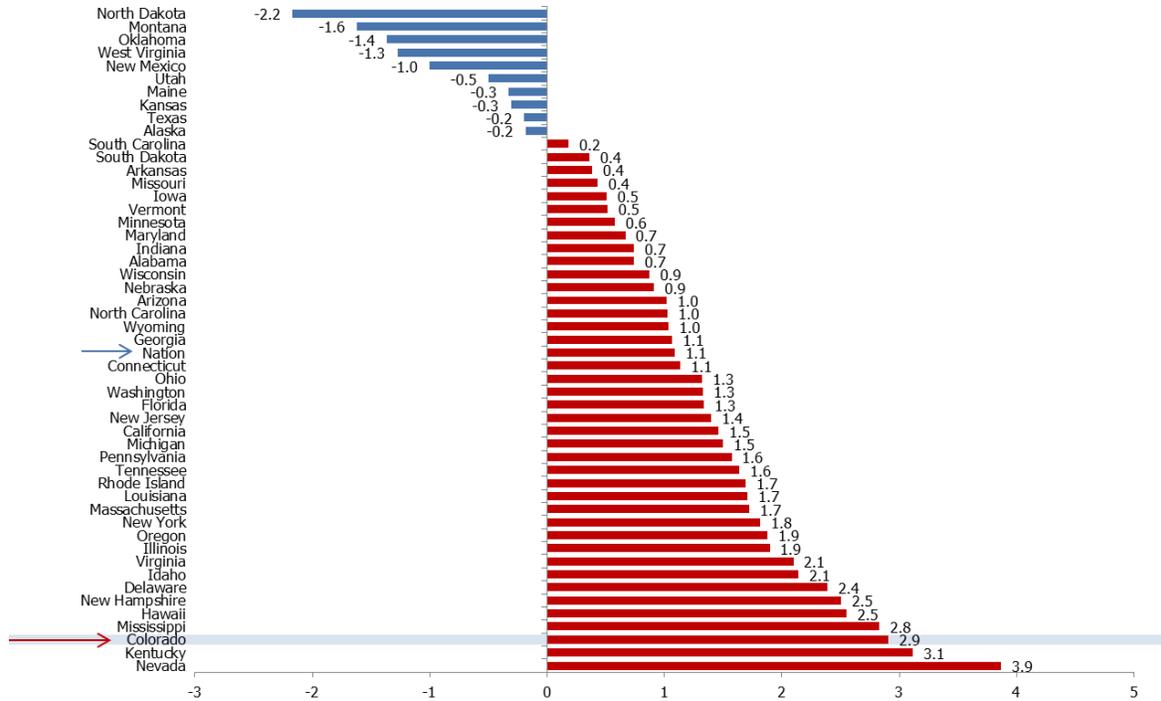
Figure 13. Net Cost of Attendance as a Percent of Lowest Quintile Family Income, 2-Year Institutions, 2012-13



Sources: NCES, IPEDS Institutional Characteristics Files; hd2013 and ic2013_ay Provisional Release Data Files; Fall 2012 Enrollment File; ef2012a Final Release Data File; Academic Year 2012-13 Student Financial Aid File; sfa1213 Provisional Release Data File and U.S. Census Bureau, 2013 American Community Survey (ACS) One-Year PUMS File.

After all grant aid is factored in, a median income family will pay one-eighth of their income to send a student to a two-year institution in Colorado. A low income family must pay nearly one-half of their income to cover these costs.

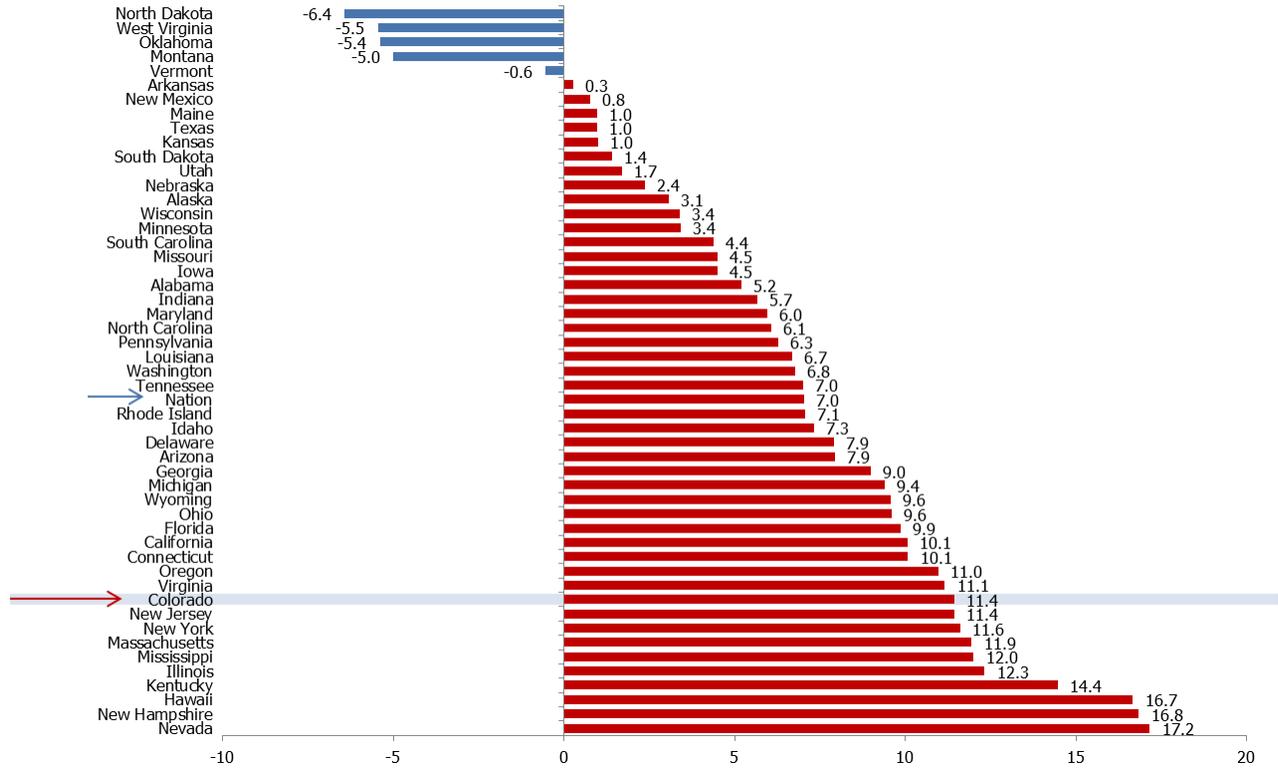
Figure 14. Change in Net Cost of Attendance for First-Time Full-Time Undergraduates as a Percent of Median Family Income, 2006-07 to 2011-12, 2-Year Institutions



Sources: NCES, IPEDS Institutional Characteristics Files; IC2006_ay, hd2012 and ic2012_ay Provisional Release Data Files; NCES, IPEDS Fall 2006, Fall 2011 Enrollment Files; NCES, IPEDS Academic Year 2006-07, 2011-12 Student Financial Aid Files; U.S. Census Bureau, 2007 & 2012 American Community Survey (ACS) One-Year Public Use Microdata Sample (PUMS) File. 2011-2012 files provisional.

Note: State Costs are weighted averages of published institution charges for first-time full-time undergraduates.

Figure 15. Change in Net Cost of Attendance for First-Time Full-Time Undergraduates as a Percent of Low Quintile Family Income, 2006-07 to 2011-12, 2-Year Institutions



Sources: NCES, IPEDS Institutional Characteristics Files; IC2006_ay, hd2012 and ic2012_ay Provisional Release Data Files.; NCES, IPEDS Fall 2006, Fall 2011 Enrollment Files; NCES, IPEDS Academic Year 2006-07, 2011-12 Student Financial Aid Files; U.S. Census Bureau, 2007 & 2012 American Community Survey (ACS) One-Year Public Use Microdata Sample (PUMS) File. 2011-2012 files provisional.

Note: State Costs are weighted averages of published institution charges for first-time full-time undergraduates.

The cost of attending two-year institutions relative to family income is increasing more rapidly in Colorado than in almost all other states.