

THE FINANCING OF PUBLIC EDUCATION IN ARIZONA: 2021 UPDATE

A Report from the Office of the University Economist

June 2021

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PREFACE

This paper updates the August 2017 Office of the University Economist paper “The Financing of Public Education in Arizona: Update,” <https://wpcarey.asu.edu/sites/default/files/edfund08-17.pdf>. Other recent papers to address education finance include

- “Declines Relative to the Nation in Arizona’s Government Finance, Educational Attainment, and Economic Performance,” January 2020, <https://wpcarey.asu.edu/sites/default/files/taxeducon01-20.pdf>.
- “An Examination of Public Education in Arizona Compared to the Nation,” October 2018, <https://wpcarey.asu.edu/sites/default/files/pubeduc10-18.pdf>.
- “The Relationship Between Government Finance, Educational Attainment, and Economic Performance,” September 2018, <https://wpcarey.asu.edu/sites/default/files/taxeducon09-18.pdf>.

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SUMMARY

For per student state and local government funding for public education — elementary, secondary, and higher education combined — to reach the national average in Arizona, additional state and local government revenue of more than \$5 billion is needed, even after considering Arizona’s below-average cost of living.

Higher Education

State and local government appropriations per full-time-equivalent (FTE) student for universities and community colleges combined were 31 percent less than the national average in Arizona in fiscal year (FY) 2020, after adjusting for the cost of living in each state. Arizona ranked 46th among the 50 states. For appropriations per FTE student in Arizona to have equaled the U.S. average in FY 2020, additional state and local government funding of \$940 million was needed.

Historically, state and local government support for higher education in Arizona was much stronger relative to the rest of the nation. Without adjusting for the cost of living, state and local government higher education appropriations per FTE student in Arizona averaged 7 percent less than the national average from FY 1980 (the earliest data) through FY 2007, with an average rank among the states of 28th. In FY 2020, Arizona ranked 48th at 35 percent below average.

In contrast, tuition for higher education increased substantially in Arizona relative to the rest of the nation. Net tuition — tuition and fees paid by students, minus financial aid from state and institutional sources and student waivers and discounts — per FTE student in Arizona was on average 4 percent less than the U.S. average between FYs 1980 and 2006, with an average rank of 31st. In FY 2020, net tuition in Arizona was 23 percent above the U.S. average and ranked 19th.

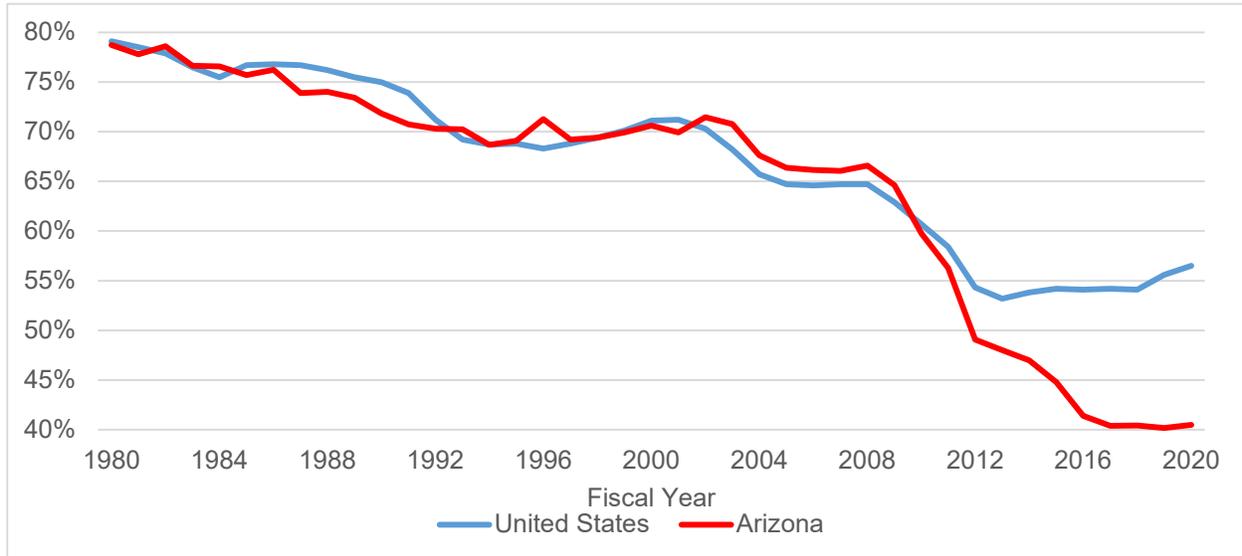
As seen in Chart S-1, the share of total higher educational revenue from state and local government appropriations has diverged sharply since FY 2010 in Arizona relative to the U.S. average. Historically, the share of total revenue from appropriations of state and local governments was similar in Arizona to the national average; the share was more than 75 percent in the early 1980s. In FY 2020, the appropriations share was barely more than 40 percent in Arizona, 16 percentage points lower than the national share. Between FY 2009 and FY 2020 as a percentage of the national average, per FTE student state and local appropriations in Arizona plunged 43 percentage points, while per FTE student tuition rose 16 percentage points. Total revenue per FTE student fell 16 percentage points.

Elementary and Secondary Education

State and local government appropriations per student for public elementary and secondary (K-12) education were 35 percent less than the national average in Arizona in FY 2019 (the latest data), after adjusting for the cost of living. Arizona ranked 50th among the 50 states and the District of Columbia; only Idaho was lower. For appropriations per student in Arizona to have equaled the U.S. average in FY 2019, additional state and local government funding of \$4.7 billion was needed.

The FY 2019 state and local government revenue for K-12 education of \$8.4 billion in Arizona includes \$1.1 billion from programs implemented in the last 21 years:

**CHART S-1
EDUCATIONAL APPROPRIATIONS AS A SHARE OF TOTAL EDUCATIONAL
REVENUE FOR PUBLIC HIGHER EDUCATION**



Source: Calculated from State Higher Education Executive Officers Association.

- Proposition 301, passed by voters in November 2000, increased the sales tax rate by 0.6 percentage points, with the additional revenue dedicated to education.
- Proposition 123, passed by voters in May 2016, caused additional revenue to be distributed from the permanent state school fund.
- A plan to raise teacher salaries by 20 percent over three years was passed by the Arizona Legislature in April 2018. Related to this plan, funding increased by \$306 million in FY 2019, with an additional funding increase in FYs 2020 and 2021 totaling \$339 million.

The additional funding in FYs 2020 and 2021 from the plan to raise teacher salaries represents less than 8 percent of the amount needed in FY 2019 to bring per student state and local government appropriations up to the national average.

Historically, state and local government support for K-12 education in Arizona was much stronger relative to the rest of the nation. Without adjusting for the cost of living, state and local government appropriations per student in Arizona exceeded the national average prior to 1967 and were only 5 percent less than the U.S. average in the late 1980s. Arizona ranked in the middle of the states in the late 1980s. Following a long decline in funding relative to the nation, Arizona ranked 49th at 38 percent below average in FY 2019.

K-12 expenditures per student on current operations — which exclude capital outlays and interest payments on debt — was 33 percent less than the national average in Arizona in FY 2019 after adjusting for living costs. Arizona ranked 49th, ahead of only Idaho and Utah.

Expenditures per student for current operations were much higher in Arizona relative to the national average historically. Without adjusting for the cost of living, per student current operations spending averaged 11 percent less than the U.S. average in Arizona in the late 1970s

and 1980s, with an average rank among the states of 33rd. In FY 2019, Arizona ranked 49th at 35 percent below average.

Chart S-2 shows the historical record relative to the U.S. average of unadjusted per student state and local government K-12 appropriations and per student expenditures for current operations.

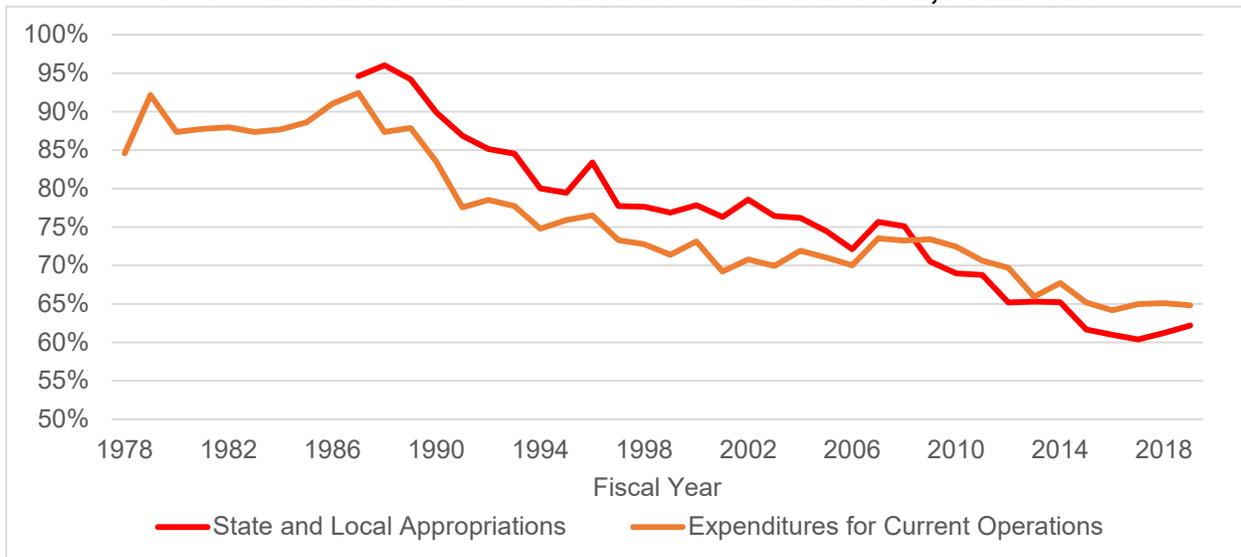
The decrease over time relative to the nation in per student current operations spending in Arizona occurred in each of the two major categories of current operations, and the per student figure in FY 2019 was below the U.S. average in each category:

- Instruction: Arizona fell from 14 percent below average in FY 1987 to 42 percent below average in FY 2019, with the rank dropping from 34th to 50th.
- Support services: Arizona decreased from 5 percent above average in FY 1987 to 26 percent below average in FY 2019, with the rank declining from 17th to 44th.

In each of the seven subcategories of support services, per student spending in Arizona in FY 2019 was below the national average and ranked below the middle of the states, adjusted for the cost of living:

- Pupil support: -8 percent, rank of 30th.
- Instructional staff support: -24 percent, rank of 40th.
- General (school district) administration: -39 percent, rank of 43rd.
- School administration: -43 percent, lowest in the nation.
- Plant operations and maintenance: -14 percent, rank of 40th.
- Pupil transportation: -26 percent, rank of 41st.
- Other: -28 percent, rank of 33rd.

**CHART S-2
PUBLIC ELEMENTARY AND SECONDARY EDUCATION FINANCE PER STUDENT
AS A PERCENTAGE OF THE NATIONAL AVERAGE, ARIZONA**



Source: Calculated from U.S. Department of Commerce, Census Bureau.

HIGHER EDUCATION

Annual Data From SHEEO

The State Higher Education Executive Officers Association (SHEEO) produces an annual report on “State Higher Education Finance” (<https://sheeo.org/project/state-higher-education-finance/>). The time series runs from fiscal year (FY) 1980 through FY 2020. By state, finance and enrollment data from all public universities and public community colleges are combined.¹ Data for the District of Columbia are not available for the entire time period and have been excluded from this analysis. Thus, the national data are for the sum of the 50 states. In this paper, Arizona is compared to the nation and to a group of 10 western states: Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah, and Washington.

The SHEEO report focuses on the sources of funding for higher education; it does not provide information on how those funds are used (expended). SHEEO does not include revenue from all sources. Five categories of revenue are examined in this paper:

- State Support for Public Higher Education: State government appropriations (plus American Recovery and Reinvestment Act monies in FYs 2009 and 2010).
- Local Support for Public Higher Education: Local government funding; in Arizona, only community colleges receive local funding.
- Educational Appropriations for Public Higher Education: The sum of state support and local support, minus appropriations for special purposes, research, and medical programs.
- Net Tuition for Public Higher Education: Tuition and fees paid by students, minus financial aid from state and institutional sources, student waivers and discounts, and medical student tuition and fees.
- Total Educational Revenue for Public Higher Education: The sum of the educational appropriations category and the net tuition category, minus tuition revenue used for capital outlays or debt service.

Standardization of Data

In order to compare states, the data must be standardized to account for differences in size. For education finance, the adjustment for size and changes in size over time is accomplished by expressing the data on a per student basis. SHEEO reports a measure of full-time-equivalent (FTE) enrollment by state that does not include medical students.

Analyses over time of dollar measures must account for inflation, which is measured by the gross domestic product implicit price deflator (GDP deflator) produced by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA).²

In addition to the adjustments for size and inflation, dollar figures used to compare states generally should be adjusted for geographic cost-of-living differences. The regional price parity (RPP) estimates produced by the BEA — which are expressed as percentages of the national

¹ Figures are not available separately for community colleges and universities. In some states, the distinction between community colleges and universities is becoming blurred as community colleges are increasingly being allowed to offer some bachelor’s degrees.

² See Table 1.1.9 at <https://apps.bea.gov/iTable/iTable.cfm?reqid=19&step=2#reqid=19&step=2&isuri=1&1921=survey> .

average — are used to measure the cost of living.³ The regional price parity estimates are available only for calendar years 2008 through 2019. For this paper, fiscal year RPPs were estimated as the average of two calendar years. Since the RPPs are not yet available for 2020, the FY 2020 SHEEO revenue data are adjusted by the calendar year 2019 RPPs. Similarly, FY 2008 revenue data are adjusted by calendar year 2008 RPPs. The RPPs change only slowly over time, so these estimated values have little practical effect.

The adjustment for the cost of living does not make a significant difference in Arizona’s dollar figures relative to the nation since the state’s RPP has been close to the national average. Arizona’s RPP in calendar year 2008 was 100.6 (0.6 percent higher than the national average). The state’s RPP declined over the following few years; it was between 95.8 and 96.5 from 2013 through 2019. In contrast, adjusting for the cost of living has a large impact in some states and can cause a noticeable difference in Arizona’s rank among the states.

An alternative adjustment is sometimes made to public revenue data to reflect the “ability to pay.” Typically, personal income is used to make this adjustment; in the case of education data that are expressed per student, per capita personal income is used for the adjustment.⁴ This adjustment causes a larger difference in Arizona’s higher education revenue figures relative to the nation since the state’s per capita personal income is well below the national average, with the differential increasing over time. Arizona’s per capita personal income dropped from 4.9 percent below average in FY 1980 to 18.4 percent below average in FY 2020 (not adjusted for the cost of living). Arizona ranked 43rd among the 50 states and the District of Columbia in FY 2020. Adjusted for the cost of living, per capita personal income in Arizona slipped from 12.0 percent below average in FY 2008 to 15.2 percent below average in FY 2020. Though Arizona’s adjusted figure was not as far below the U.S. average as its unadjusted figure, its adjusted rank was lower at 49th (higher than only Mississippi and New Mexico).

Higher Education Revenue in Fiscal Year 2020

Public support for higher education is measured by educational appropriations for public universities and community colleges by state and local governments, less funding targeted for special purposes, research, and medical programs. In Arizona in FY 2020, this amounted to \$1.71 billion. The amount per full-time-equivalent student was \$5,628 after adjustment for the cost of living. This adjusted figure was 30.8 percent less than the national average and ranked 46th among the 50 states and ninth among the 10 western states. The states providing less support were Colorado, New Hampshire, Pennsylvania, and Vermont.

Since the relative responsibility for financing public higher education varies by state between state government and local governments, comparisons across states of state support need to be made cautiously, as do comparisons of local support. Local governments provided funding for higher education in only 31 states in FY 2020.

³ The RPPs are available from <http://www.bea.gov/regional/index.htm>.

⁴ Quarterly estimates of per capita personal income were used in this analysis to calculate fiscal year averages. Gross product sometimes is used instead of personal income in the ability-to-pay analysis. The BEA produces estimates of both indicators, available from <http://www.bea.gov/regional/index.htm>.

State government appropriations for public higher education — without subtracting monies intended for special purposes, research, and medical programs — totaled \$1.003 billion in Arizona in FY 2020. Expenditures per FTE student were \$3,309 after adjusting for the cost of living — 60.4 percent less than the national average and the lowest among the states. In contrast, local support adjusted for the cost of living was the highest in the country in Arizona at \$3,030 per FTE student, which was 2.96 times higher than the national average. Local support in Arizona, which is limited to community colleges, totaled \$919 million in FY 2020 (without subtracting monies intended for special purposes, research, and medical programs).

Student tuition and fees is another significant source of higher education revenue. In Arizona in FY 2020, net tuition — tuition and fees paid by students, minus financial aid from state and institutional sources, student waivers and discounts, and medical student tuition and fees — provided \$2.61 billion. This amount was 53 percent higher than the funding from educational appropriations. Per FTE student adjusted for the cost of living, net tuition in Arizona amounted to \$8,624, which was 23.5 percent higher than the national average and ranked 21st nationally and third in the West (the figure was higher in Colorado and Oregon).

Total educational revenue for higher education is the sum of (1) state and local government educational appropriations (total appropriations less those for special purposes, research, and medical programs), and (2) net tuition less any tuition used for capital outlays or debt service. Total educational revenue in Arizona in FY 2020 was \$4.21 billion. Per FTE student adjusted for the cost of living, the figure was \$13,896 — 7.6 percent less than the national average. Arizona ranked 42nd nationally and sixth among the western states (higher than California, Idaho, Nevada, and Texas). The data for FY 2020 are summarized in Table 1 for each of the categories of higher education revenue.

In fiscal year 2020, educational appropriations by state and local governments accounted for 56.5 percent of total educational revenue nationally. The share contributed by state and local funding was considerably lower in Arizona at 40.5 percent. Arizona's share ranked 39th nationally and ninth of 10 western states (only Colorado was lower). Thus, relative to most states, Arizona places a higher share of the cost of higher education on students than on society as a whole.

Revenue from Arizona's educational appropriation (state and local) for higher education as of FY 2020 was considerably below the amount needed to equal the nation's per FTE student average, after adjusting for the cost of living. The state and local appropriation needed to be \$730 million higher for Arizona to rank in the middle of the 50 states and \$940 million higher for Arizona to equal the U.S. adjusted per student average. Adjusting for per capita personal income as well as the cost of living, Arizona's shortfall was between \$400-and-500 million relative to the middle of the states and the national average.

Change in Higher Education Revenue Over Time

The change over time in higher education revenue is examined in three ways in this section:

**TABLE 1
PUBLIC HIGHER EDUCATION REVENUE PER FULL-TIME-EQUIVALENT
STUDENT, ARIZONA, FISCAL YEAR 2020**

	Dollars	Percentage of Nation [^]	Rank: Nation [^]	Rank: West ^{^^}
Total Educational Revenue*	13,382	88.9	41	7
Adjusted by Cost of Living	13,896	92.4	42	6
Adjusted by Per Capita Personal Income	281	105.5	26	4
Net Tuition	8,305	122.7	19	3
Adjusted by Cost of Living	8,624	123.5	21	3
Adjusted by Per Capita Personal Income	175	145.5	13	2
State and Local Government Support**	5,419	64.8	48	10
Adjusted by Cost of Living	5,628	69.2	46	9
Adjusted by Per Capita Personal Income	114	76.9	43	9
State Government Support	\$3,186	37.2%	50	10
Adjusted by Cost of Living	3,309	39.6	50	10
Adjusted by Per Capita Personal Income	67	44.1	50	10
Local Government Support	2,918	280.1	1	1
Adjusted by Cost of Living	3,030	295.6	1	1
Adjusted by Per Capita Personal Income	61	332.2	1	1

* State and local government support plus net tuition, less tuition revenue used for capital outlays or debt service.

** Less appropriations for special purposes, research, and medical programs.

[^] The nation consists of the 50 states. A rank of 1 represents the highest revenue.

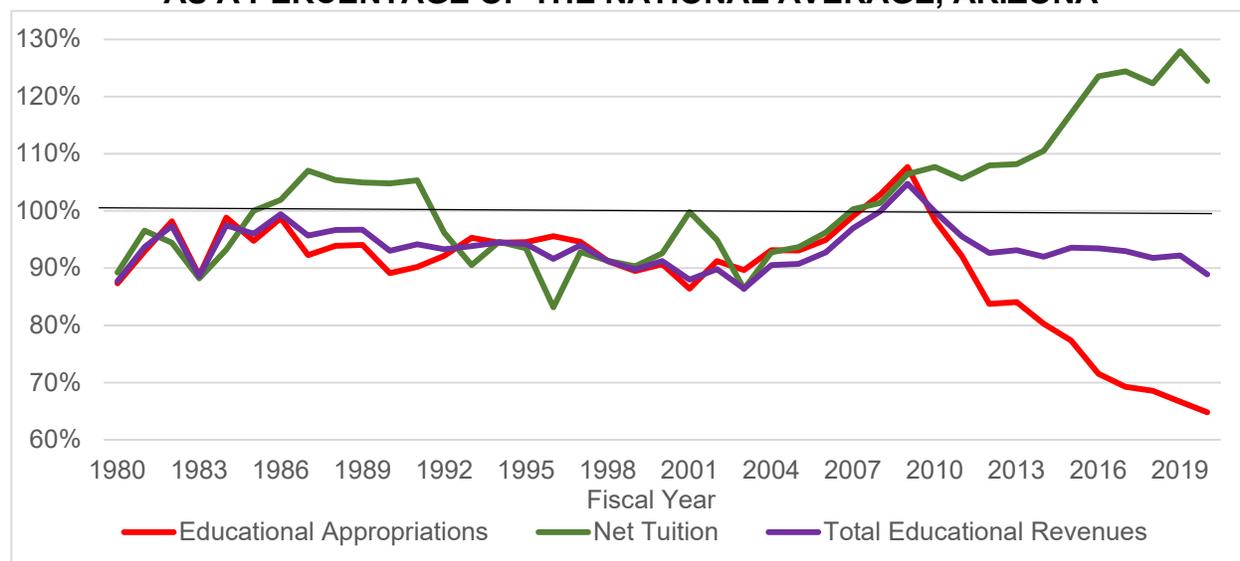
^{^^} The West includes 10 western states: Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah, and Washington. A rank of 1 represents the highest revenue.

Sources: State Higher Education Executive Officers Association (revenues and enrollment), and U.S. Department of Commerce, Bureau of Economic Analysis (regional price parity and per capita personal income).

- Per FTE student adjusted for inflation but not for the cost of living, for the time period from FY 1980 through FY 2020. The dollar figures are expressed in inflation-adjusted FY 2020 dollars.
- Per FTE student adjusted by per capita personal income for FY 1980 through FY 2020.
- Per FTE student adjusted for inflation and for the cost of living, for FYs 2008 through 2020. The dollar figures are expressed in inflation-adjusted FY 2020 dollars.

Adjusted for inflation but not for living costs. Educational appropriations by state and local governments for public higher education per FTE student peaked in Arizona in FY 2008, but the percentage of the national average did not peak until the following year. Before FY 2008, Arizona's figure ranged from 1-to-14 percent less than the national average (see Chart 1). In FYs 2008 and 2009, Arizona's figure exceeded the national average. After FY 2009, the state's figure relative to the U.S. average dropped precipitously to 35.2 percent below average in FY 2020. Arizona ranked between 21st and 37th between FYs 1980 and 2007. The rank improved to 15th in FY 2009 but then dropped, reaching 48th in FY 2020.

**CHART 1
PUBLIC HIGHER EDUCATION REVENUE PER FULL-TIME-EQUIVALENT STUDENT
AS A PERCENTAGE OF THE NATIONAL AVERAGE, ARIZONA**



Source: Calculated from State Higher Education Executive Officers Association.

The trend in state funding for public higher education was considerably different from that of local funding. State support per FTE student in real terms peaked at \$7,085 in FY 1986, but the FY 2008 figure was only 1.9 percent less than this peak. Between FY 2008 and FY 2020, the figure decreased 54.2 percent. As a percentage of the national average, Arizona’s state support per FTE student ranged from 72-to-83 percent from FY 1980 through FY 1997. It was below the historical range from FYs 1998 through 2007, dropping as low as 65 percent of the U.S. average. The percentage returned to the historical range in FYs 2008 and 2009, but then plunged; it was only 37.2 percent of the national average in FY 2020. Historically, the state’s rank ranged from 42nd to 49th. From FYs 2012 through 2015, Arizona ranked 49th; from FYs 2016 through 2020, Arizona’s state support per FTE student was the lowest in the nation.

In contrast, local support for higher education (only community colleges in Arizona) per FTE student increased from the early 1980s through FY 2009. The decline from FY 2009 through FY 2020 of 14 percent was much less than the decrease in state support. Even in FY 2020, the proportion of the U.S. average (2.8 times higher) was within the historical range.

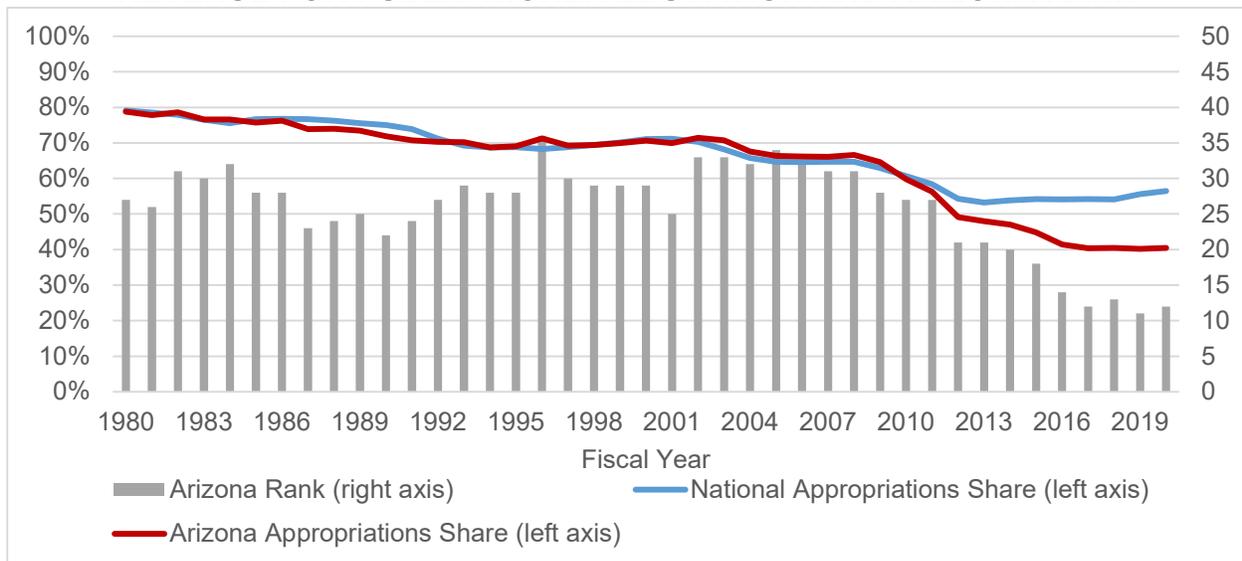
Net tuition per FTE student has increased in Arizona in most years on an inflation-adjusted basis. In FY 2003, the figure was 2.2 times higher than in FY 1980. This was followed by a period of more rapid increases; in FY 2017, the figure was 2.5 times higher than in FY 2003. However, the FY 2020 figure was lower than in FY 2017. As a percentage of the U.S. average, net tuition per FTE student in Arizona was less than the U.S. average from FYs 1980 through 1984, more than the U.S. average from FYs 1986 through 1991, and generally from 4-to-10 percent below average during the next 15 years. Arizona’s figure increased from 4 percent below average in FY 2006 to 28 percent above the U.S. average in FY 2019. As seen in Chart 1, per FTE student educational appropriations and net tuition generally were similar as a percentage of the national

average through FY 2009. They have dispersed widely since then. In FY 2020, per FTE student educational appropriations were 35 percent below average while per FTE student net tuition was 23 percent above average.

Total educational revenue for higher education on an inflation-adjusted per FTE student basis increased in Arizona by 88 percent between FYs 1980 and 2009. After dropping through FY 2012, the figure rose but in FY 2020 remained below the FY 2009 amount. From FY 1980 through FY 2007, total educational revenue for higher education per FTE student in Arizona ranged from 1-to-12 percent below the U.S. average. After exceeding the national average in FY 2009, Arizona’s figure returned to the historical range. In FY 2020, Arizona’s figure was 11 percent below average. Arizona’s rank historically ranged from 27th to 44th. After reaching 24th in FY 2009, the rank returned to the historical range. It was 41st in FY 2020.

The share of total educational revenue coming from educational appropriations made by state and local governments has declined over time nationally, from close to 80 percent in the early 1980s to approximately 55 percent in recent years. The appropriations share in Arizona was quite close to the national average through FY 2010, but has diverged since then, with Arizona’s share barely above 40 percent in recent years (see Chart 2). Similarly, Arizona’s rank on the appropriations share has declined from the middle of the states to the 12th-lowest share in FY 2020.

**CHART 2
EDUCATIONAL APPROPRIATIONS AS A SHARE OF TOTAL EDUCATIONAL REVENUE FOR PUBLIC HIGHER EDUCATION AND ARIZONA RANK**



Note: A rank of 50th represents the highest share among the states.

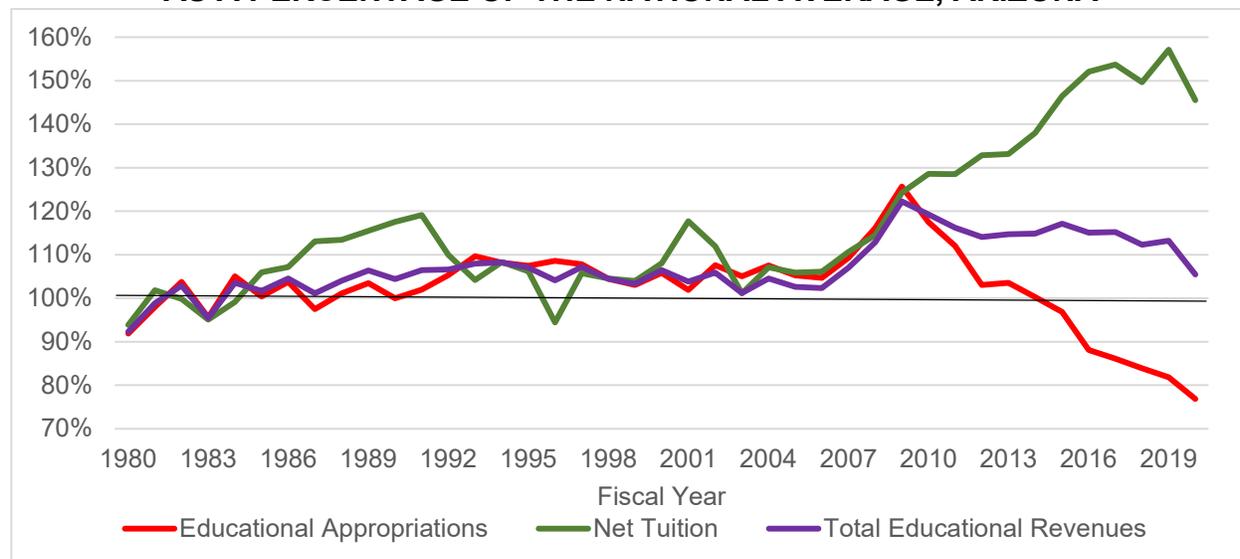
Source: Calculated from State Higher Education Executive Officers Association.

Thus, students nationally are being asked to pay an increasing share of the cost of higher education. This trend is particularly present in Arizona, especially relative to other western states. In FY 2020, among the 10 western states, only in Colorado was the appropriations share lower than in Arizona.

Adjusted by per capita personal income. In FY 1980, Arizona’s per capita personal income was 4.9 percent less than the national average. Thus, the effect of adjusting dollar figures for per capita personal income was not substantial. For example, for educational appropriations, the unadjusted per student figure in Arizona was 12.7 percent less than the national average and the state ranked 37th. Adjusting for per capita personal income, the per student amount was 8.1 percent less than the national average; the rank still was 37th.

With the decline over time in Arizona’s per capita personal income relative to the nation, the differential between the unadjusted figures and those adjusted for per capita personal income increased. For state and local government revenue in FY 2020, the unadjusted per student figure in Arizona was 35.2 percent less than the national average and the state ranked 48th. Adjusting for per capita personal income, the per student amount was 23.1 percent below the national average and ranked 43rd. Thus, Arizona’s decline in educational appropriations versus the national average between FYs 1980 and 2020 was not as large after adjusting for per capita personal income, but still was substantial. Even after considering the ability to pay, Arizona’s rank on educational appropriations fell over time; it was 43rd in FY 2020. Chart 3 is the same as Chart 1 except for the revenue figures being adjusted for per capita personal income. The shapes of the revenue lines are similar in the two charts, but the levels are higher in Chart 3.

**CHART 3
PUBLIC HIGHER EDUCATION REVENUE PER FULL-TIME-EQUIVALENT STUDENT
ADJUSTED BY PER CAPITA PERSONAL INCOME
AS A PERCENTAGE OF THE NATIONAL AVERAGE, ARIZONA**



Sources: Calculated from State Higher Education Executive Officers Association (revenues and enrollment) and U.S. Department of Commerce, Bureau of Economic Analysis (personal income).

Adjusted for inflation and the cost of living. Educational appropriations per FTE student adjusted for inflation and living costs totaled \$9,041 in Arizona in FY 2008. The amount dropped for four consecutive years, increased slightly for three straight years, then fell for five consecutive years through FY 2020. In FY 2020, the amount was only \$5,628 — 37.8 percent lower than the figure in FY 2008. Arizona’s figure tumbled from above the national average in FYs 2008 and 2009 to 30.8 percent below average in FY 2020. The state’s rank lowered from 25th in FY 2008 and 20th in FY 2009 to 46th in FY 2020.

State support for higher education per FTE student adjusted for inflation and living costs totaled \$6,912 in Arizona in FY 2008. The amount dropped as low as \$3,243 in FY 2018. In FY 2020, the amount was only \$3,309 — 52.1 percent lower than the figure in FY 2008. Arizona’s figure tumbled from 21.4 percent below the national average in FY 2008 to 61.2 percent below average in FY 2018; the FY 2020 figure was 60.4 percent below average. The state’s rank lowered from 45th in FYs 2008 and 2009 to last in FYs 2018 through 2020.

Local support for higher education per FTE student adjusted for inflation and living costs fluctuated in Arizona between FYs 2008 and 2019 before dipping in FY 2020. The amount in FY 2020 of \$3,030 was 9.6 percent lower than the figure in FY 2008. Arizona’s figure was 3.51-to-3.70 times the national average from FYs 2008 through 2017, but was 2.96 times higher in FY 2020. The state ranked first or second in each year.

Deflated and RPP-adjusted, net tuition per FTE student in Arizona rose from \$4,914 in FY 2008 to \$8,988 in FY 2019 before dropping to \$8,624 in FY 2020. The figure in FY 2020 was 75 percent higher than in FY 2008. Relative to the national average, Arizona went from 0.2 percent lower in FY 2008 to 32.8 percent higher in FY 2017; the FY 2020 figure was 23.5 percent above average. The state’s rank went from 32nd in FY 2008 to 19th in FYs 2016 through 2019; the FY 2020 rank was 21st.

Total educational revenues adjusted for inflation and the cost of living in Arizona dropped from \$13,691 in FY 2009 to \$11,976 in FY 2012, rose to \$14,493 in FY 2017, then dropped to \$13,896 in FY 2020. The figure was 4.4 percent above average in FY 2009 but by FY 2020 dropped to 7.6 percent below average.

The real per FTE student revenue figures adjusted for the cost of living are shown in Chart 4 as a rank and as a percentage of the national average for FYs 2008 through 2020.

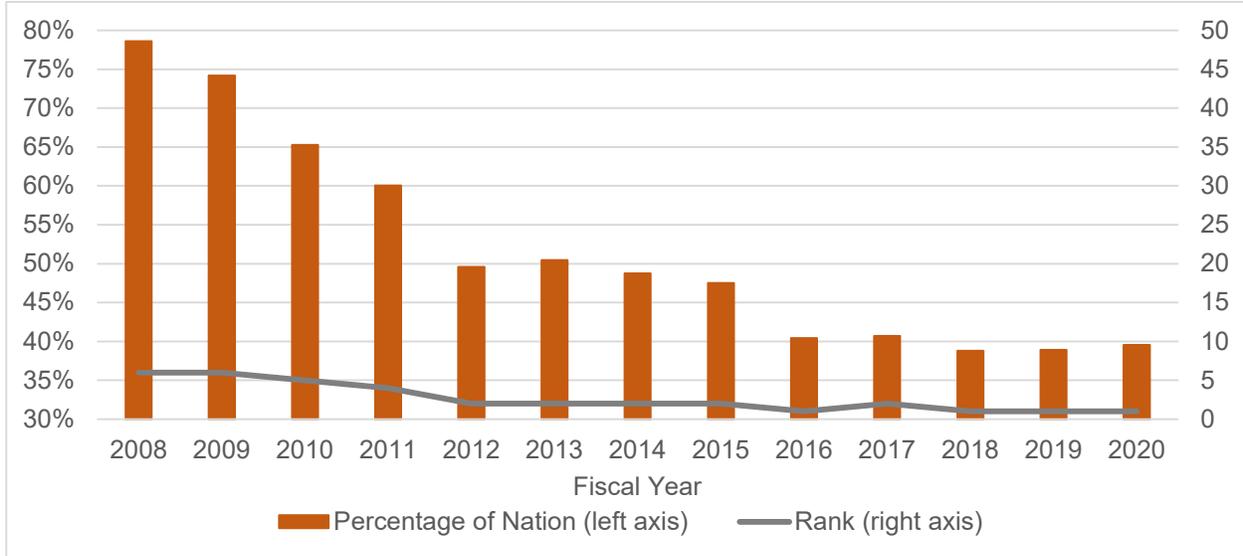
Annual Data From the JLBC

The Arizona Joint Legislative Budget Committee (JLBC) reports state government funding for community colleges and for universities, but state funding represents only a small share of the community college total. JLBC’s data cannot be directly compared to data from other states due to differing accounting systems.

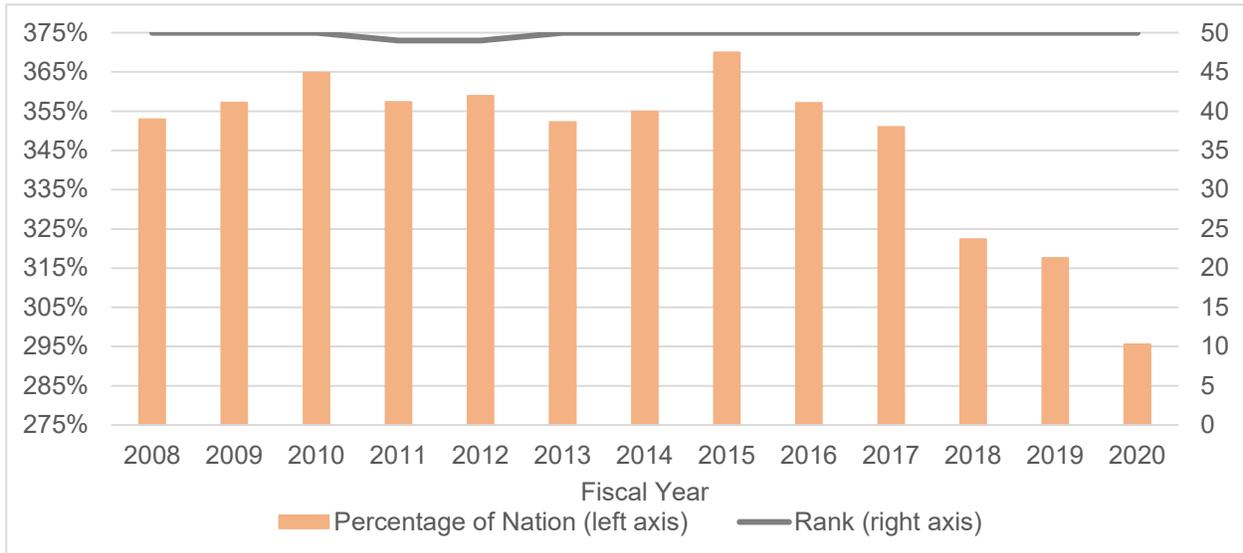
General fund appropriations for the universities, including funding for the Board of Regents, are available back to FY 1979. As seen in Chart 5, university appropriations per \$1,000 of personal income have fallen significantly since the early 1990s; the drop between FY 1990 and FY 2021 was 75 percent. Chart 5 also displays the decline in the universities’ share of general fund

**CHART 4
PUBLIC HIGHER EDUCATION REVENUE PER FULL-TIME-EQUIVALENT STUDENT
ADJUSTED FOR THE COST OF LIVING, ARIZONA RELATIVE TO THE NATION**

STATE GOVERNMENT SUPPORT



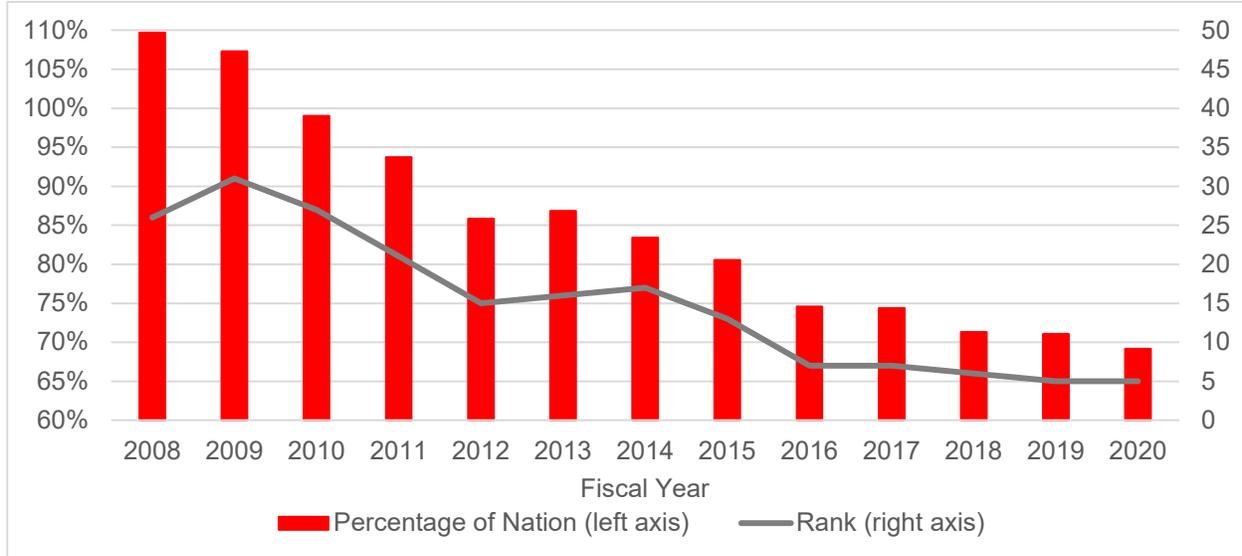
LOCAL GOVERNMENT SUPPORT



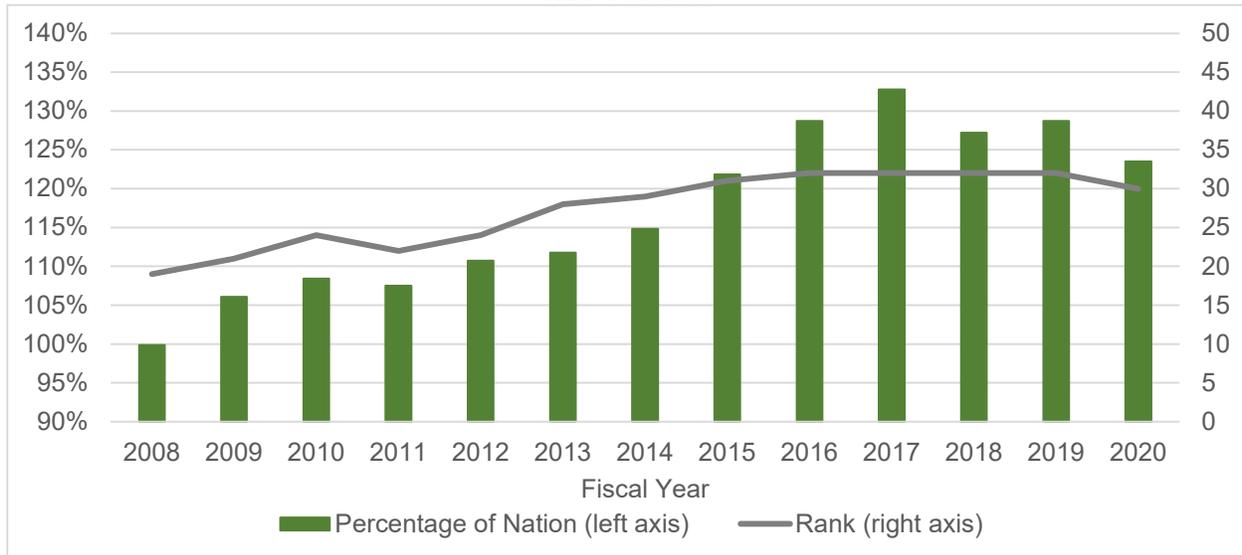
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CHART 4 (continued)
PUBLIC HIGHER EDUCATION REVENUE PER FULL-TIME-EQUIVALENT STUDENT
ADJUSTED FOR THE COST OF LIVING, ARIZONA RELATIVE TO THE NATION

EDUCATIONAL APPROPRIATIONS

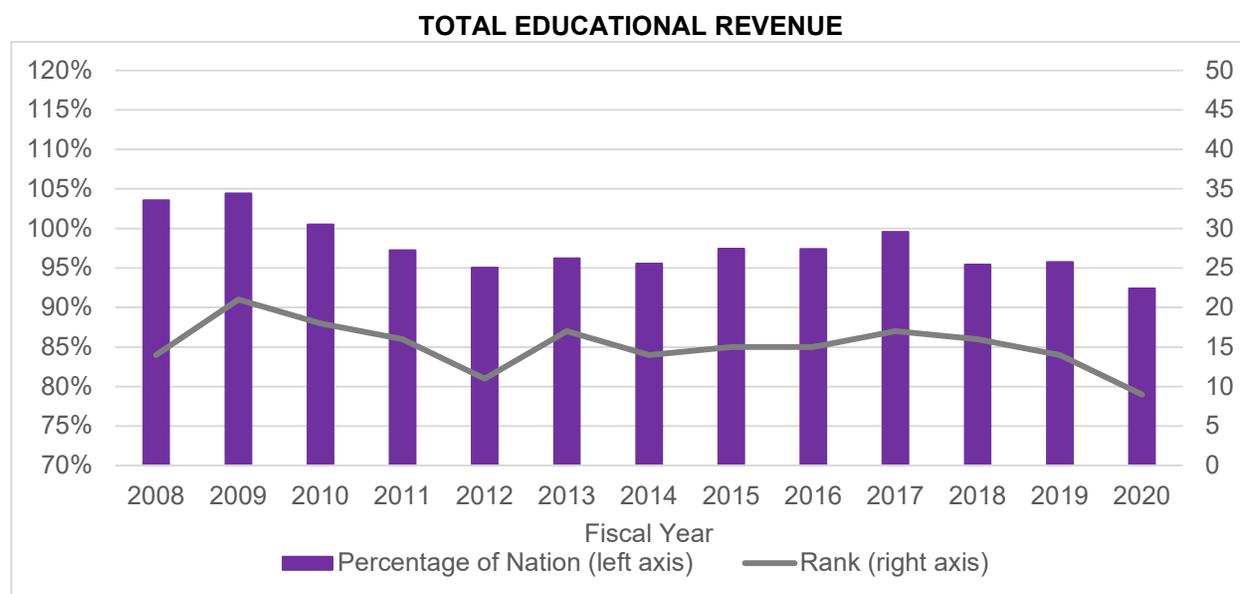


NET TUITION



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CHART 4 (continued)
PUBLIC HIGHER EDUCATION REVENUE PER FULL-TIME-EQUIVALENT STUDENT
ADJUSTED FOR THE COST OF LIVING, ARIZONA RELATIVE TO THE NATION



Notes: The rank is among the 50 states; a rank of 1 represents the highest revenue. Public community colleges and public universities are combined.

Sources: Calculated from State Higher Education Executive Officers Association (revenues and enrollment) and U.S. Department of Commerce, Bureau of Economic Analysis (regional price parity).

appropriations. The share has declined since the first year of data, dropping from 19.1 percent in FY 1979 to 6.3 percent in FY 2021 — a two-thirds drop in share.

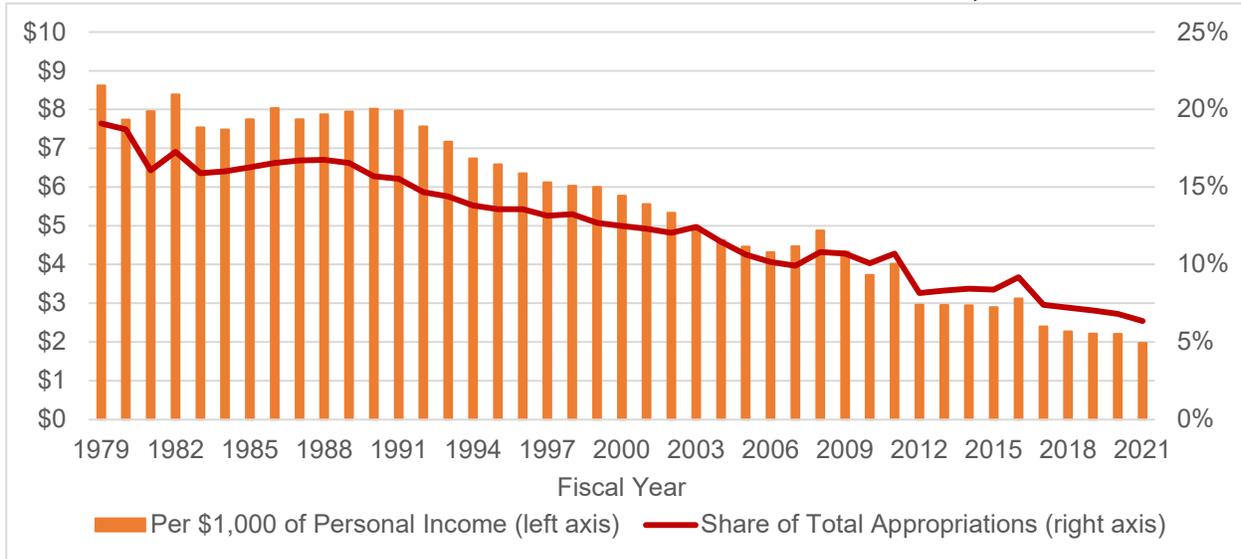
Chart 6 displays general fund appropriations per student adjusted for inflation. The enrollment figures, which come from the National Center for Education Statistics, are not available for the entire time series. Real appropriations per student — measured both as the total number of students and as the full-time-equivalent number — fluctuated from the mid-1980s through FY 2008, but fell sharply thereafter. Between FY 2008 and FY 2018, the per student amount dropped 63 percent and the amount per FTE student fell 62 percent.

Chart 7 displays a broader accounting of expenditures for universities reported by the JLBC. The “other funds” category consists almost entirely of university tuition. “Not appropriated” funding includes federal funding and monies from a variety of other sources other than the state government.

The significant shift over time seen in Charts 1 and 3 between appropriations and tuition as a percentage of the national average is also apparent in Chart 7. Between FY 1989, the first year of data for the not-appropriated category, and FY 2018, the last year of enrollment figures, real funding per student dropped 59 percent from the general fund, but rose 218 percent from tuition and 132 percent from the not-appropriated category. Overall, the increase was 57 percent. Much

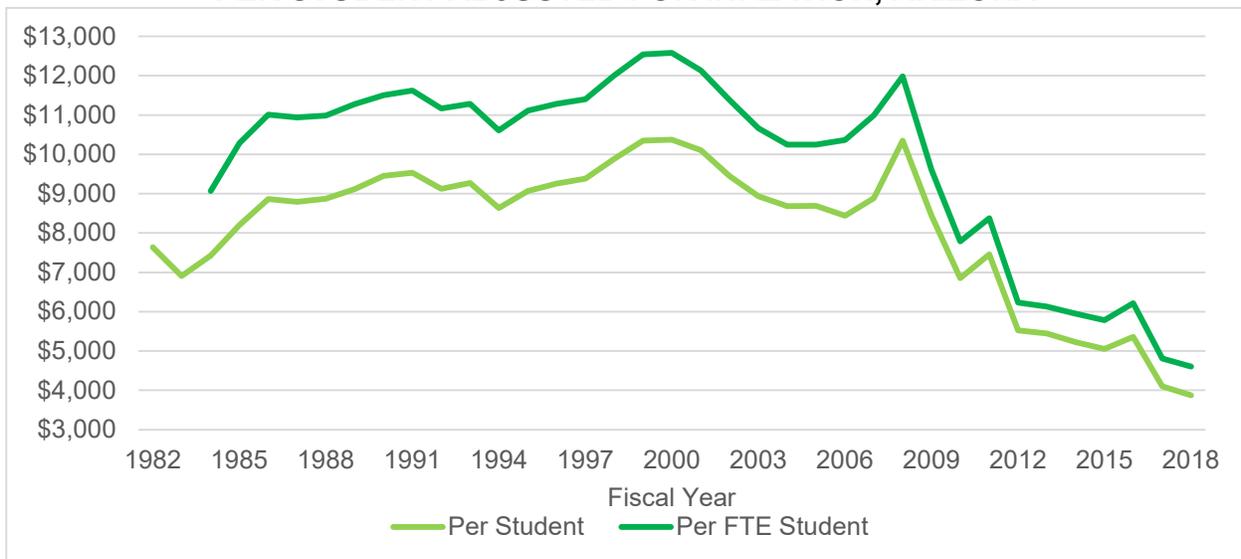
of the not-appropriated funding is greatly restricted in how it can be used and thus cannot be viewed as an offset to the loss in general fund appropriations.

**CHART 5
GENERAL FUND APPROPRIATIONS FOR UNIVERSITIES, ARIZONA**



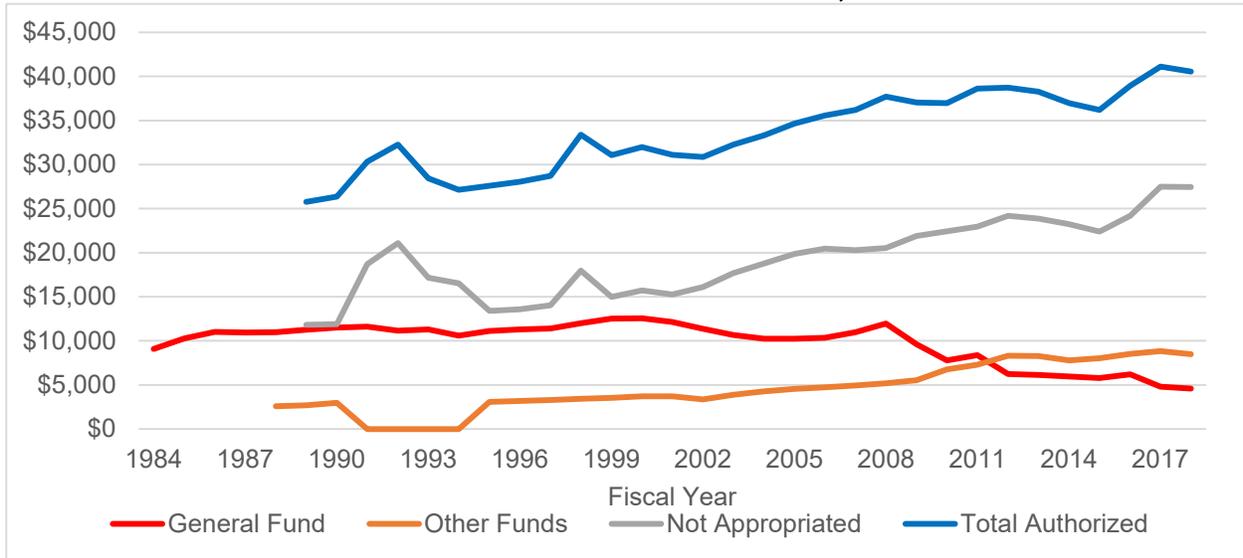
Sources: Calculated from Arizona Joint Legislative Budget Committee (appropriations) and U.S. Department of Commerce, Bureau of Economic Analysis (personal income).

**CHART 6
GENERAL FUND APPROPRIATIONS FOR UNIVERSITIES
PER STUDENT ADJUSTED FOR INFLATION, ARIZONA**



Sources: Calculated from Arizona Joint Legislative Budget Committee (appropriations), U.S. Department of Education, National Center for Education Statistics (enrollment), and U.S. Department of Commerce, Bureau of Economic Analysis (GDP deflator).

**CHART 7
PUBLIC EXPENDITURES FOR UNIVERSITIES PER FULL-TIME-EQUIVALENT
STUDENT ADJUSTED FOR INFLATION, ARIZONA**



Sources: Calculated from Arizona Joint Legislative Budget Committee (expenditures), U.S. Department of Education, National Center for Education Statistics (enrollment), and U.S. Department of Commerce, Bureau of Economic Analysis (GDP deflator).

ELEMENTARY AND SECONDARY EDUCATION

Annual Data From the Census Bureau

The U.S. Census Bureau produces its “Public Education Finances” report annually. Revenues and expenditures by state are reported for public-sector elementary and secondary (K-12) education. Private schools, including charter schools operated by nongovernmental organizations, are not included in the report. Data for fiscal year FY 1992 through FY 2019 are available online at <https://www.census.gov/programs-surveys/school-finances.html>. For a few revenue and expenditure categories, data are available back to FY 1987; a few other expenditure categories extend back to FY 1978.

The Census Bureau reports revenue and expenditure data for a number of categories:

- Total Revenue: Total from the federal, state, and local governments.
 - Revenue From the Federal Government. Includes direct federal aid and federal funds distributed through the state government. Direct federal aid are project grants for programs such as Head Start and magnet schools. Federal funds distributed through the state are formula grants for programs such as special education and child nutrition.
 - Revenue From State Government. In Arizona in FY 2019, more than 95 percent was from general formula assistance.
 - Revenue From Local Governments. In Arizona in FY 2019, nearly 80 percent was from the property tax.
- Total Expenditures: Includes current operations, capital outlays, and other spending.
 - Expenditures for Current Operations. Includes salaries, employee benefits, purchased professional and technical services, purchased property and other services, and supplies. Current operations are divided into instruction, support services, and noninstructional functions:
 - Expenditures for Instruction. Current operations spending for salaries, employee benefits, supplies, materials, and contractual services related to instruction.
 - Expenditures for Support Services. Current operations spending for salaries, employee benefits, supplies, materials, and contractual services related to support services:
 - Expenditures for Pupil Support Services. Current operations spending for attendance record-keeping, social work, student accounting, counseling, student appraisal, record maintenance, and placement services. This category also includes medical, dental, nursing, psychological, and speech services.
 - Expenditures for Instructional Staff Support Services. Current operations spending for supervision of instruction service improvements, curriculum development, instructional staff training, and media, library, audiovisual, television, and computer–assisted instruction.
 - Expenditures for General Administration. Current operations spending for board of education and executive administration (office of the superintendent) — school district administration.
 - Expenditures for School Administration. Current operations spending for the office of principal services — individual school administration.
 - Expenditures for Plant Operations and Maintenance. Current operations spending for building services (heating, electricity, air conditioning, property insurance), care and

upkeep of grounds and equipment, nonstudent transportation vehicle operation and maintenance, and security services.

- Expenditures for Pupil Transportation. Current operations spending for the transportation of public school students including vehicle operation, monitoring riders, and vehicle servicing and maintenance.
- Expenditures for Other Support Services. Current operations spending for business support services and central support services. Included are payments for fiscal services, purchasing, warehousing, supply distribution, printing, duplicating services, planning, research, development, evaluation services, information services, and data processing.
- Expenditures for Other Current Operations. Current spending for other than elementary-secondary education instruction and support services activities. Included in this category are food services, enterprise operations, community services, and adult education expenditures.
- Capital Outlays. Includes construction of buildings, roads, and other improvements; purchases of equipment, land, and existing structures; and payments on capital leases. Includes amounts for additions, replacements, and major alterations to fixed works and structures.
- Other Expenditures. Expenditures for other than current operations and capital outlays, primarily consisting of interest payments on debt.

Like the higher education data, the elementary and secondary education finance data must be standardized. The Census Bureau reports a measure of enrollment that is consistent with its categorization of revenues and expenditures.

As with higher education finance, the adjustment for the ability to pay makes a big difference for Arizona. In FY 2019 without adjusting for the cost of living, Arizona's per capita personal income was 18.6 percent below the national average and ranked 43rd among the 50 states and the District of Columbia. The shortfall from the national average had been 8.3 percent in FY 1978, 5.4 percent in FY 1987, and 12.5 percent in FY 1992.

Considering the cost of living, Arizona's per capita personal income was not quite as far below the national average in FY 2019 at 15.5 percent, but its rank was lower at 49th. Arizona's adjusted per capita personal income had been 12.0 percent below average in FY 2008.

K-12 Revenue in Fiscal Year 2019

Total revenue for public-sector elementary and secondary education in Arizona in fiscal year 2019 totaled \$9.64 billion. This amounted to \$10,314 per student, an amount 34.1 percent below the national average. Only two states — Idaho and Utah — raised less revenue per student for K-12 education. After adjusting for living costs, Arizona still ranked 49th (above Idaho and Utah) at 31.6 percent below the national average. Even after considering the ability to pay — using per student revenue per \$1,000 of per capita personal income — K-12 revenue in Arizona was 19.1 percent below average, ranking 44th nationally and seventh among the 10 western states. The data for FY 2019 are summarized in Table 2 for each of the major categories of elementary and secondary education revenue.

**TABLE 2
PUBLIC ELEMENTARY AND SECONDARY EDUCATION REVENUE
PER STUDENT, ARIZONA, FISCAL YEAR 2019**

	Dollars	Percent of Nation [^]	Rank: Nation [^]	Rank: West ^{^^}
Total Revenue	\$10,314	65.9%	49	8
Adjusted by Cost of Living	10,705	68.4	49	8
Adjusted by Per Capita Personal Income	228	80.9	44	7
Revenue from the Federal Government	1,326	110.0	19	4
Adjusted by Cost of Living	1,376	114.2	16	3
Adjusted by Per Capita Personal Income	29	135.1	12	2
Revenue From State & Local Governments	8,988	61.5	49	9
Adjusted by Cost of Living	9,329	64.6	50	9
Adjusted by Per Capita Personal Income	198	76.4	47	8
Revenue From State Governments	4,371	59.8	49	9
Adjusted by Cost of Living	4,536	62.1	48	9
Adjusted by Per Capita Personal Income	96	73.4	44	9
Revenue From Local Governments	4,618	64.7	34	5
Adjusted by Cost of Living	4,793	67.1	37	5
Adjusted by Per Capita Personal Income	102	79.4	30	4

[^] The nation consists of the 50 states and the District of Columbia. A rank of 1 represents the highest revenue.

^{^^} The West includes 10 western states: Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah, and Washington. A rank of 1 represents the highest revenue.

Sources: Calculated from U.S. Department of Commerce, Census Bureau (revenues and enrollment) and U.S. Department of Commerce, Bureau of Economic Analysis (regional price parity and per capita personal income).

Arizona received \$1.24 billion from the federal government in FY 2019 for K-12 education, accounting for 12.9 percent of total revenue. This amounted to \$1,326 per student, an amount 10.0 percent above the national average. Arizona ranked 19th nationally and fourth among the 10 western states. Per student after adjustment for the cost of living, Arizona ranked 16th among the states, and third among the western states, at 14.2 percent above the national average. In particular, federal impact aid revenue was well above the norm. Such monies are used for construction and operations in areas affected by federal activities. Arizona was considerably above the national average in the small vocational category, but was considerably below average in the special education category.

Revenue from state and local governments for K-12 education totaled \$8.40 billion in FY 2019 in Arizona, accounting for 87.1 percent of total revenue. This amounted to \$8,988 per student, an amount 37.8 percent below the national average. Only two states — Idaho and Mississippi — raised less revenue per student for K-12 education. Per student after adjustment for the cost of living, Arizona was 35.4 percent below the national figure and ranked 50th among the states, with only Idaho providing less funding.

Per student adjusted for per capita personal income, state and local government funding for elementary and secondary education was 23.6 percent below the national figure in Arizona in FY

2019. Considering the ability to pay did not have much effect on Arizona’s ranks, with the state ranking 47th nationally and eighth among the western states.

Since by design some states rely more heavily on state government to fund K-12 education while other states depend more on local government funding, caution is recommended in comparing Arizona to other states on measures of either state government or local government revenues. State government revenue for K-12 education in Arizona was \$4.08 billion in FY 2019 — 42.4 percent of total funding. Local governments provided \$4.32 billion, 44.8 percent of the total.

Per student adjusted for living costs, funding from the state government in Arizona in FY 2019 was third lowest among the 50 states (Florida and Texas were lower) at 37.9 percent below average. Funding from local governments also was considerably below average in FY 2019 in Arizona. Per student adjusted for living costs, the figure was 32.9 percent below average; Arizona ranked 37th nationally and fifth among the western states. The property tax was the largest of eight categories of local government revenue, accounting for 79 percent of the local funding in Arizona and 65 percent nationally. In Arizona, property tax collections per student adjusted for living costs were 17.5 percent below average in FY 2019, but ranked 26th (seven states do not levy a local property tax and two others use it on a limited basis).

Actions to Increase K-12 Revenue

In the past 21 years, three significant actions have boosted K-12 revenue in Arizona. First, voters approved Proposition 301 in November 2000, which raised the state’s transaction privilege tax (sales tax) by 0.6 percentage points, with the new tax receipts dedicated to education. The original proposition was set to expire in 2021, but has been extended until 2041. Most of the tax collections benefit K-12 education; in FY 2019, the Arizona Department of Education received \$562.9 million due to the proposition, 74.4 percent of the total of \$756.9 million. In FY 2020, Prop 301 receipts totaled \$808.5 million.

Second, additional revenue was distributed from the permanent state school fund due to Proposition 123, which was passed by voters in May 2016. In FY 2015, the distribution had been \$129.2 million; in FY 2021 it reached \$414.8 million. Prop 123 expires in FY 2025.

Third, a plan to raise teacher salaries by 20 percent over three years was passed by the Arizona Legislature in April 2018. Related to this plan, funding increased by \$306 million in FY 2019. Additional funding increases of \$164.7 million in FY 2020 and \$174.5 million in FY 2021 brought the total increase to \$645.2 million.

In FY 2019, these three actions combined to add \$1.1 billion in K-12 revenue. Despite this additional funding, revenue for Arizona’s K-12 education system from state and local governments was far below the amount needed to equal the nation’s per student average from state and local governments, after adjusting for the cost of living. State and local government revenue needed to be \$4.2 billion higher for Arizona to rank 26th among the 51 “states” and \$4.7 billion higher for Arizona to equal the U.S. adjusted per student average. The additional funding in FYs 2020 and 2021 from the plan to raise teacher salaries totaled \$339 million — approximately 8 percent of the total shortfall — but this will be largely offset in four years, when funding will drop by approximately \$300 million as Prop 123 expires.

Taking the ability to pay into consideration as well as the cost of living, additional state and local revenue of approximately \$2.25 billion was needed to equal the U.S. per student average and \$2.825 billion was needed for Arizona to rank 26th in FY 2019.

Change in K-12 Revenue Over Time

The change over time in K-12 education revenue is examined in the same three ways as for higher education.

Adjusted for inflation but not for living costs. In FY 1987, the first year of K-12 revenue data, total K-12 revenue per pupil (not adjusted for living costs) was 2.8 percent below average in Arizona and ranked 23rd. In FY 2019, the figure was 34.1 percent below average; the rank had fallen to 49th (Idaho and Utah were lower).

Declines in K-12 revenue per student in Arizona relative to the national average occurred over time from each level of government (see Chart 8). The changes in rank and in the differential from the national average between FY 1987 and FY 2019 by source of funding follow:

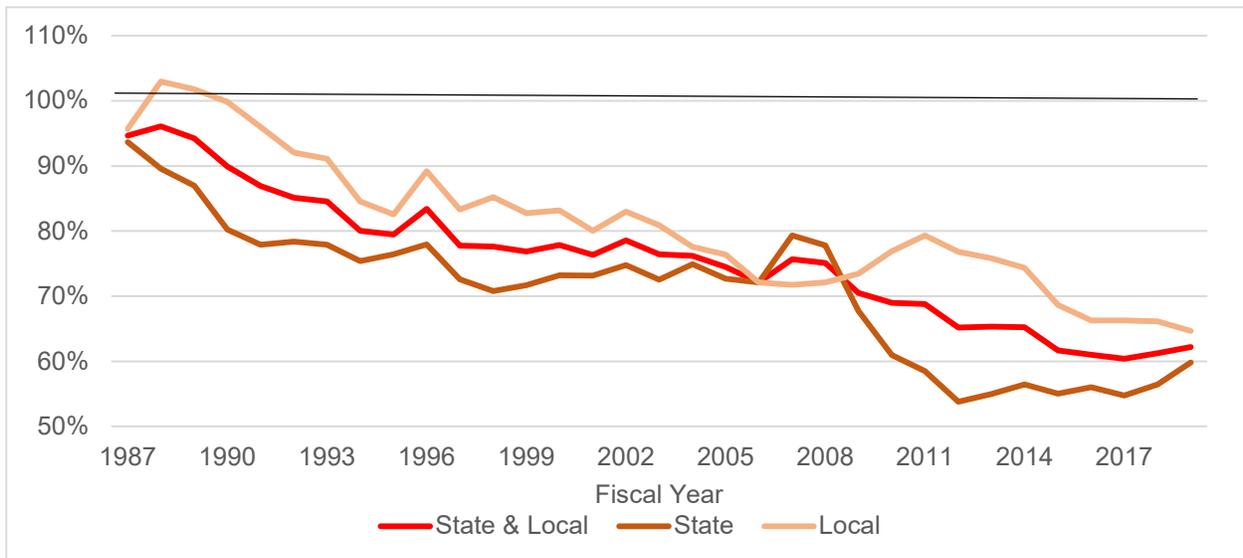
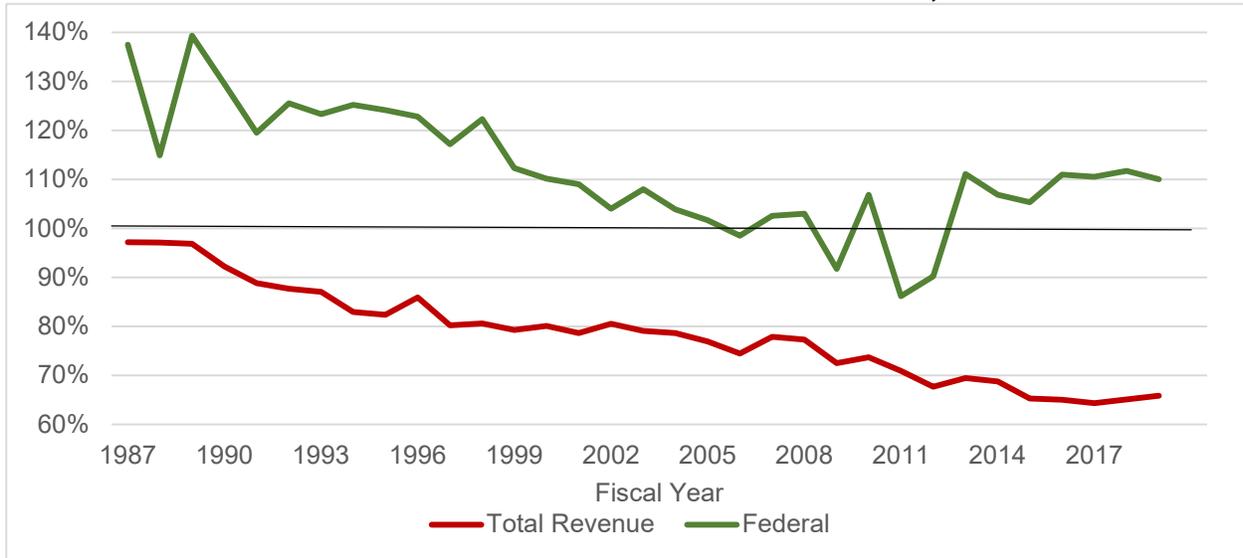
- Federal government: eighth to 19th; +37 percent to +10 percent.
- State and local government: 27th to 49th; -5 percent to -38 percent.
 - State government: 23rd to 47th; -6 percent to -40 percent.
 - Local government: 27th to 34th; -4 percent to -35 percent.

Per student federal funding for Arizona relative to the national average dropped from FY 1989 through FY 2011; a partial recovery has occurred since then. Per student state government funding relative to the national average decreased largely in the late 1980s and early 1990s and from FY 2008 through FY 2012. Per student local government funding relative to the national average decreased between FY 1988 and FY 2007 and between FY 2011 and FY 2019.

Adjusted by per capita personal income. Unadjusted, state and local government revenue per student in FY 1987 in Arizona was 5.4 percent less than the national average and the state ranked 27th. Adjusting for per capita personal income, which also was 5.4 percent below average in Arizona, the per student amount equaled the national average and ranked 25th.

Unadjusted, state and local government revenue per student in FY 2019 in Arizona was 37.8 percent less than the national average and the state ranked 49th. With Arizona's per capita personal income considerably further below average (18.6 percent) in FY 2019, adjusting for per capita personal income substantially improved Arizona's per student revenue figure relative to the nation, though it still was 23.6 percent below average. In contrast, the rank hardly improved, to 47th. Thus, Arizona's decline versus the national average between FYs 1987 and 2019 was not as large after adjusting for per capita personal income, but still was substantial. In FY 2019, Arizona ranked among the bottom of the states even after considering the ability to pay.

**CHART 8
PUBLIC ELEMENTARY AND SECONDARY EDUCATION REVENUE PER STUDENT
AS A PERCENTAGE OF THE NATIONAL AVERAGE, ARIZONA**



Source: Calculated from U.S. Department of Commerce, Census Bureau (revenues and enrollment).

Adjusted for inflation and the cost of living. State government revenue per elementary and secondary student, adjusted for inflation and the cost of living, tumbled 35.0 percent in Arizona between FYs 2008 and 2012. The state's figure shrank from 22.7 percent below the national average to 44.8 percent below average and the state's rank slid from 43rd to 50th. Between FY 2012 and FY 2019, however, Arizona's comparison to the nation modestly improved, with adjusted revenue from the state government 37.9 percent below average and ranked 48th in FY 2019. The Census Bureau's data reflect the revenue increase in FY 2016 from Prop 123 and the increase in FY 2019 due to the plan to increase teacher salaries. The improvement in these years is seen in Chart 9. However, per student state government revenue in FY 2019 still was 15.3 percent below the FY 2008 level after considering inflation and changes in the relative cost of living.

Local government revenue per elementary and secondary student, adjusted for inflation and the cost of living, rose from FY 2008 to FY 2011, fell from FY 2011 through FY 2016, but subsequently rose. The figure was 6.8 percent higher in FY 2019 than in FY 2008. Relative to the nation, Arizona improved from 28.3 percent less in FY 2008 to 19.3 percent less in FY 2011, but has slipped since then despite the rise in adjusted per student revenue. The FY 2019 figure was 32.9 percent below average. The state's rank rose from 35th in FY 2008 to 32nd in FY 2011 but then fell to 37th in FY 2019.

Combined state and local government revenue per elementary and secondary student, adjusted for inflation and the cost of living, decreased 15.5 percent in Arizona between FYs 2008 and 2015 but subsequently rose, though the FY 2019 figure still was 5.2 percent less than the FY 2008 level. Arizona dropped from 25.3 percent below the national average in FY 2008 to 37.0 percent below average in FY 2016 but improved slightly to 35.4 percent below average in FY 2019. The state's rank dipped from 49th in FYs 2008 through 2015 to 51st in FYs 2017 and 2018; it was 50th in FY 2019.

K-12 funding from the federal government to Arizona is somewhat erratic from year to year; it was substantially higher in FY 2010 due to the American Recovery and Reinvestment Act. Federal government revenue per elementary and secondary student, adjusted for inflation and the cost of living, between FYs 2008 and 2019 ranged from 12 percent below average in FY 2011 to 16 percent above average in FY 2018.

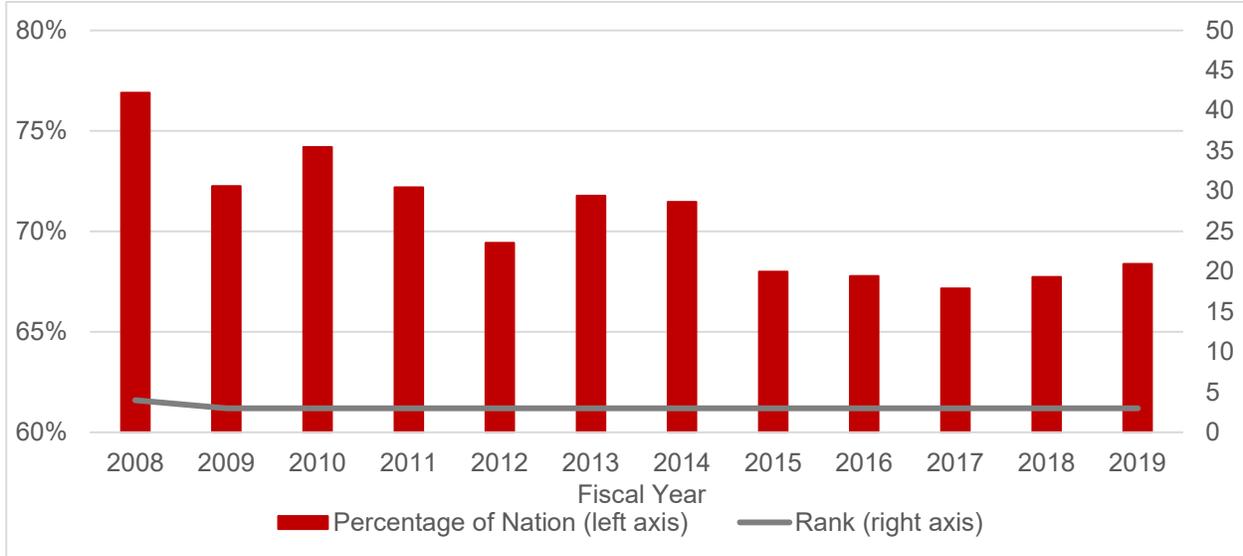
Total revenue per elementary and secondary student, adjusted for inflation and the cost of living, fell 12.9 percent in Arizona between FYs 2008 and 2015. Though it subsequently rose, the FY 2019 figure was 3.0 percent less than the FY 2008 figure. Arizona dropped from 23.1 percent below the national average in FY 2008 to 32.8 percent lower in FY 2017; the shortfall in FY 2019 was 31.6 percent. Arizona's rank was 48th in FY 2008 and 49th in each subsequent year. In Chart 9, the state's rank and percentage of the national average based on the per student measure adjusted for the cost of living is graphed for FYs 2008 through 2019 for each of the major categories of elementary and secondary education revenue.

K-12 Expenditures in Fiscal Year 2019

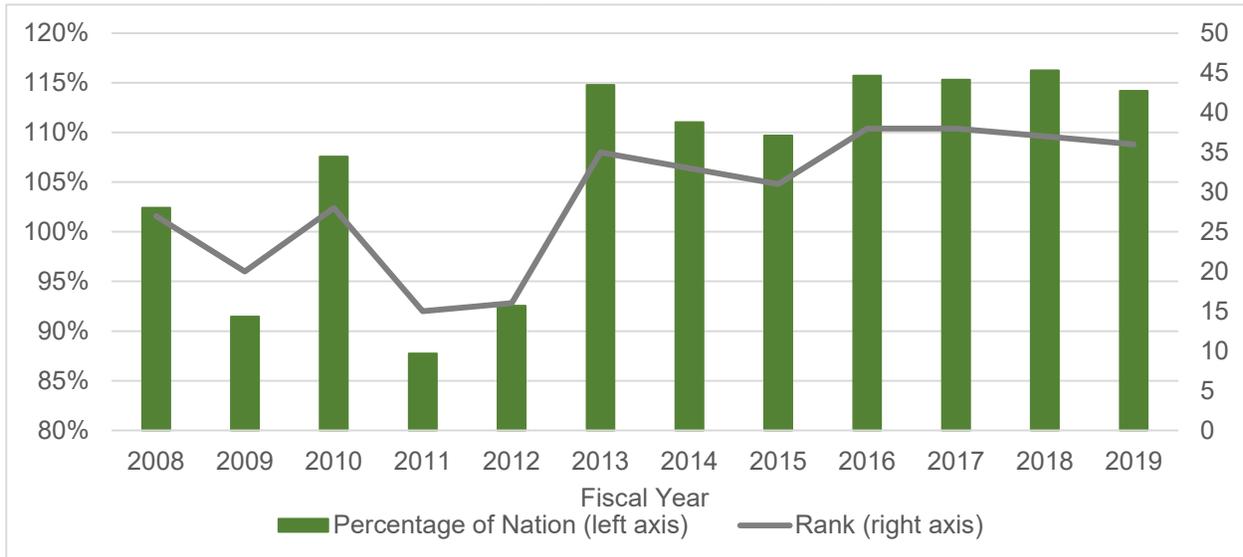
According to the Census Bureau, total expenditures for K-12 education were greater than total revenues in FY 2019 in some states but lower in others. Nationally, revenues were 0.8 percent

**CHART 9
PUBLIC ELEMENTARY AND SECONDARY EDUCATION REVENUE PER STUDENT
ADJUSTED FOR THE COST OF LIVING, ARIZONA RELATIVE TO THE NATION**

TOTAL REVENUE



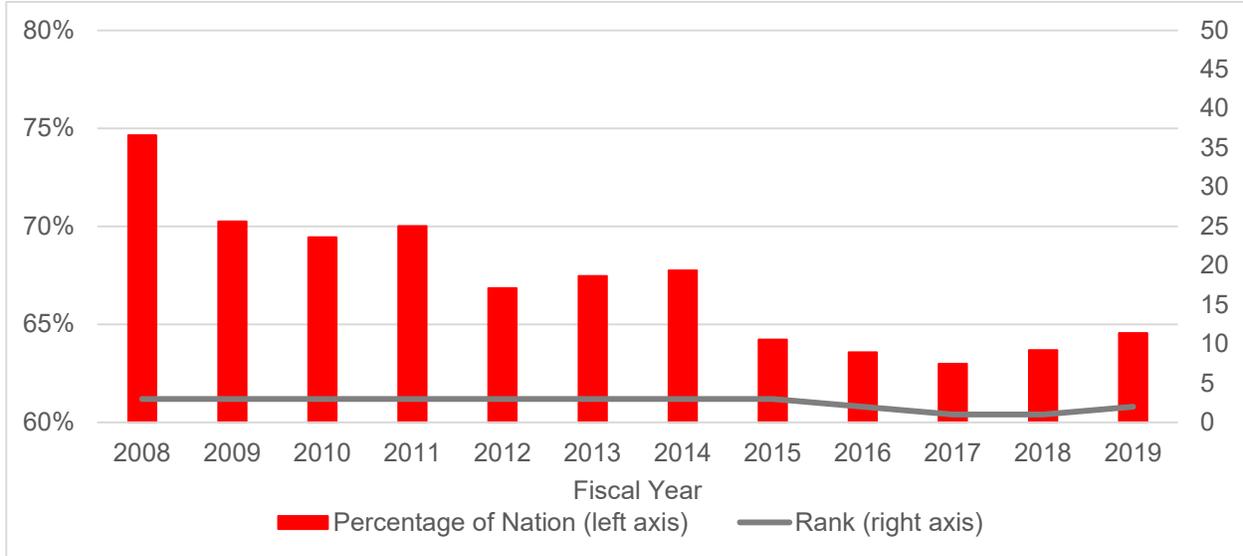
FEDERAL GOVERNMENT REVENUE



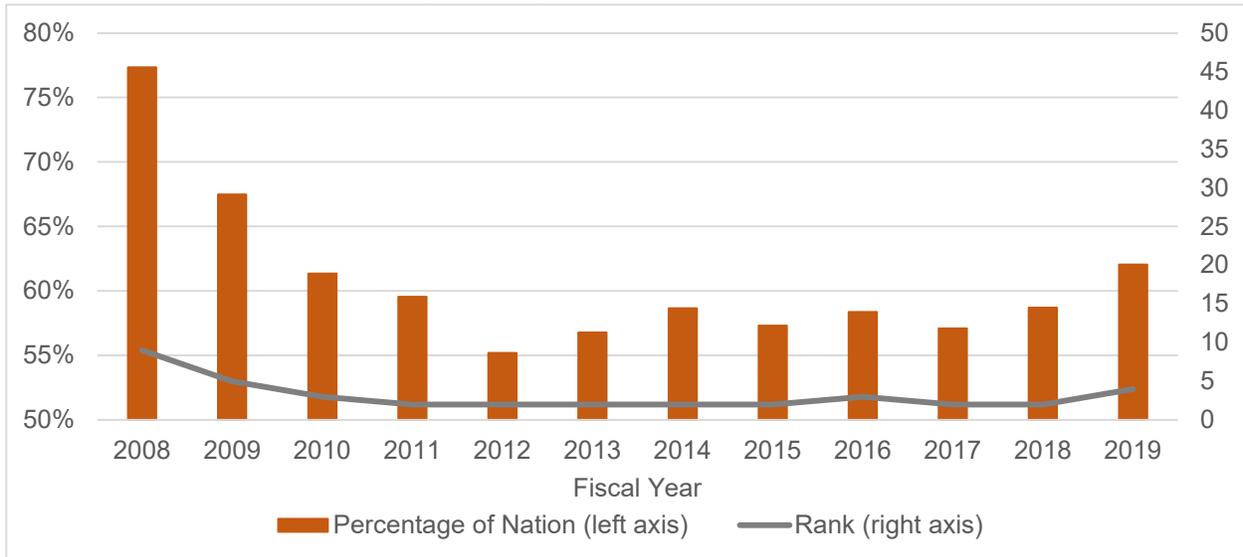
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CHART 9 (continued)
PUBLIC ELEMENTARY AND SECONDARY EDUCATION REVENUE PER STUDENT
ADJUSTED FOR THE COST OF LIVING, ARIZONA RELATIVE TO THE NATION

STATE AND LOCAL GOVERNMENT REVENUE

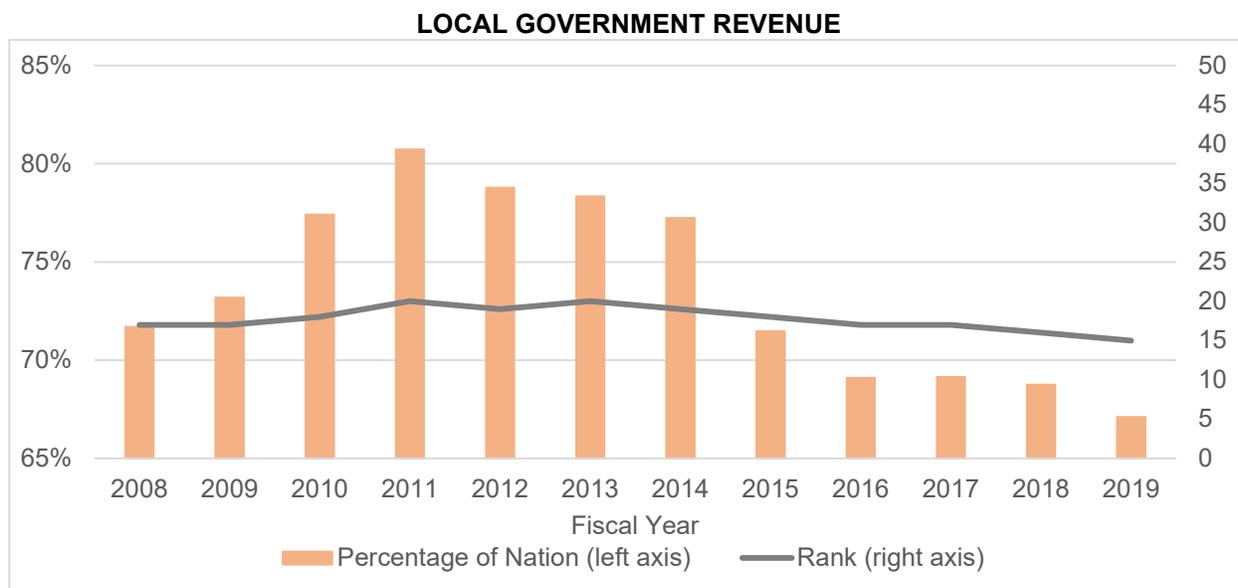


STATE GOVERNMENT REVENUE



(continued)

CHART 9 (continued)
PUBLIC ELEMENTARY AND SECONDARY EDUCATION REVENUE PER STUDENT
ADJUSTED FOR THE COST OF LIVING, ARIZONA RELATIVE TO THE NATION



Sources: Calculated from U.S. Department of Commerce, Census Bureau (revenues and enrollment) and U.S. Department of Commerce, Bureau of Economic Analysis (regional price parity).

lower than expenditures; in Arizona, the differential was 1.5 percent (revenues of \$9.64 billion and expenditures of \$9.79 billion).

Total per student spending was \$10,474 in Arizona in FY 2019, an amount 33.2 percent less than the national average; only Idaho, Mississippi, and Utah spent less. The adjustment for the cost of living lowered Arizona’s rank to 49th in FY 2019, above Idaho and Utah; adjusted expenditures were 30.6 percent below average.

While the personal income adjustment is a conceptually reasonable alternative in analyzing revenue data, it is not appropriate to use for expenditure data since it does not consider need. Further, after adjusting for the cost of living, the cost of providing a public good, such as education, does not vary much by state. Controlling expenditures to the ability to pay generally results in spending less than the need in states with a limited ability to pay (state and local governments are prohibited from running a deficit). If a state with a low ability to pay holds down expenditures, the result is an inferior provision of public goods relative to other states. This tends to perpetuate the state’s inferior prosperity (low per capita personal income).

The most recent study to estimate need by spending category by state was published in 2016.⁵ Considering such factors as the child poverty rate, the per capita — not per student —

⁵ Urban Institute, March 2016, “Assessing Fiscal Capacities of States: A Representative Revenue System-Representative Expenditure System Approach, Fiscal Year 2012,” <http://www.urban.org/research/publication/assessing-fiscal-capacities-states-representative-revenue->

expenditure need for K-12 education in Arizona in FY 2012 was estimated to be 11 percent higher than the national average, fifth highest among the states. Actual per capita spending was 33 percent below average, second lowest.

As discussed earlier, the Census Bureau divides expenditures for K-12 education into three broad categories. Current operations is by far the largest category, accounting for 82.1 percent of the total in Arizona in FY 2019. Capital outlays accounted for 13.6 percent and other expenditures were responsible for 2.3 percent. The data for FY 2019 are summarized in Table 3 for the larger categories of elementary and secondary education expenditures.

Current operations spending typically is the focus of comparisons over time and across states of education spending rather than total expenditures. The amount of capital outlays is in part determined by the growth rate in the number of students and is erratic from year to year. The construction of a new school to accommodate growth does not benefit existing students. Similarly, interest payments do not directly benefit students.

Current operations spending of \$8.23 billion accounted for 84.1 percent of total K-12 education expenditures in Arizona in FY 2019. After adjusting for living costs, \$9,136 per student was expended on current operations, 32.8 percent less than the U.S. average. Only Idaho and Utah spent less.

Current operations are divided into three categories by the Census Bureau: instruction, support services, and other expenses. Spending on instruction totaled \$4.45 billion — 54.1 percent of current operations — in Arizona in FY 2019. Per pupil instructional spending was \$4,942 after adjusting for living costs, 39.8 percent below average and the lowest in the country. Spending on support services totaled \$3.24 billion (39.4 percent of current operations). This amounted to \$3,601 per student after adjusting for living costs, 23.4 percent less than the U.S. average. Arizona ranked 47th nationally and eighth in the West. Other current operations expenses (such as food services and adult education) totaled \$534 million (6.5 percent of current operations), or \$593 per student after adjusting for living costs — 12.1 percent below average, ranking 38th nationally and fourth in the West.

The support services category is in turn divided into seven subcategories. The largest of these is plant operations and maintenance, which includes such functions as the heating/cooling of school buildings. Expenditures in FY 2019 totaled \$931 million in Arizona (28.7 percent of total support services). After adjusting for living costs, this amounted to \$1,034 per student, 14.2 percent below the national average and 40th in the country (fourth in the West).

Expenditures for pupil support — such as counseling, medical services, and student record keeping — totaled \$674 million in Arizona in FY 2019 (20.8 percent of total support services). The per student figure of \$749 after adjustment for the cost of living was 8.4 percent less than the national average, ranking 30th nationally and fifth among the western states. Instructional staff support spending — for items such as training, curriculum development, and alternative types of instruction — totaled \$435 million (13.4 percent of total support services). The adjusted

[system-representative-expenditure-system-approach-fiscal-year-2012](#). Research has found that the cost of educating a child living in poverty is considerably higher than the cost for other children.

per student figure of \$483 was 24.3 percent below average and ranked 40th nationally and seventh in the West.

There are two categories of administration. Expenditures for school administration were \$377 million in Arizona in FY 2019 (11.6 percent of total support services), while spending for general administration (such as at the school district level) was \$142 million (4.4 percent of total support services). Arizona's administrative costs per student after adjusting for the cost of living were \$418 for school administration and \$157 for general administration. Each adjusted per student figure was very low compared to other states. The school administration subcategory was

**TABLE 3
PUBLIC ELEMENTARY AND SECONDARY EDUCATION EXPENDITURES
PER STUDENT, ARIZONA, FISCAL YEAR 2019**

	Dollars	Percentage of Nation [^]	Rank: Nation [^]	Rank: West ^{^^}
TOTAL EXPENDITURES	\$10,474	66.8%	48	8
Adjusted by Cost of Living	10,871	69.4	49	8
CURRENT OPERATIONS	8,803	64.8	49	8
Adjusted by Cost of Living	9,136	67.2	49	8
Instruction	4,761	58.0	50	9
Adjusted by Cost of Living	4,942	60.2	51	10
Total Support Services	3,470	73.8	44	8
Adjusted by Cost of Living	3,601	76.6	47	8
Pupil Support Services	721	88.2	27	5
Adjusted by Cost of Living	749	91.6	30	5
Instructional Staff Support Services	465	72.9	37	7
Adjusted by Cost of Living	483	75.7	40	7
General Administration	152	59.1	43	7
Adjusted by Cost of Living	157	61.4	43	7
School Administration	403	54.6	51	10
Adjusted by Cost of Living	418	56.7	51	10
Plant Operations and Maintenance	997	82.7	38	6
Adjusted by Cost of Living	1,034	85.8	40	4
Pupil Transportation	403	70.8	37	3
Adjusted by Cost of Living	418	73.5	41	3
Other Support Services	330	69.1	31	7
Adjusted by Cost of Living	342	71.8	33	7
Other Current Operations	572	84.7	35	4
Adjusted by Cost of Living	593	87.9	38	4
CAPITAL OUTLAYS	1,428	89.9	28	9
Adjusted by Cost of Living	1,482	93.3	26	9
OTHER EXPENDITURES	243	49.2	29	7
Adjusted by Cost of Living	252	51.1	31	8

[^] The nation consists of the 50 states and the District of Columbia. A rank of 1 represents the highest expenditures.

^{^^} The West includes 10 western states: Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah, and Washington. A rank of 1 represents the highest expenditures.

Sources: Calculated from U.S. Department of Commerce, Census Bureau (expenditures and enrollment) and U.S. Department of Commerce, Bureau of Economic Analysis (regional price parity).

43.3 percent below average, the lowest in the country. In the general administration category, Arizona ranked 43rd nationally and seventh in the West at 38.6 percent below average.

Pupil transportation expenses in Arizona in FY 2019 were \$376 million (11.6 percent of total support services). Adjusted for the cost of living, this amounted to \$418 per pupil: 26.5 percent below the national average, ranked 41st nationally but third in the West. In the other support services subcategory, spending totaled \$308 million (9.5 percent of total support services), or \$342 per student adjusted for the cost of living: 28.2 percent below average, ranking 33rd nationally and seventh among the western states.

Though per pupil spending in Arizona in FY 2019 was considerably less than the national norm for support services and for current operations other than instruction and support services, these categories still made up a disproportionate share of all current operations expenditures. Spending in the instruction category accounted for 54.1 percent of total current operations spending in Arizona in FY 2019, the third lowest share in the nation (Alaska and the District of Columbia were lower).

One possible explanation for the low instructional share in Arizona is that fixed costs for other types of current operations become a disproportionate issue when overall funding is so far below average. Such fixed costs are more of a limit in some of the support services than in instruction. For example, if pupil transportation is provided, buses must be maintained and fueled, drivers must be paid, and a bus cannot transport more students than it was designed for. Thus, substantial reductions in overall funding may of necessity disproportionately reduce expenditures in the instructional category.

Capital outlays in Arizona in FY 2019 for K-12 education totaled \$1.33 billion, 13.6 percent of total expenditures. Per student adjusted for living costs, capital outlays amounted to \$1,482 — 6.7 percent less than the national average, ranking 26th nationally and ninth among the western states.

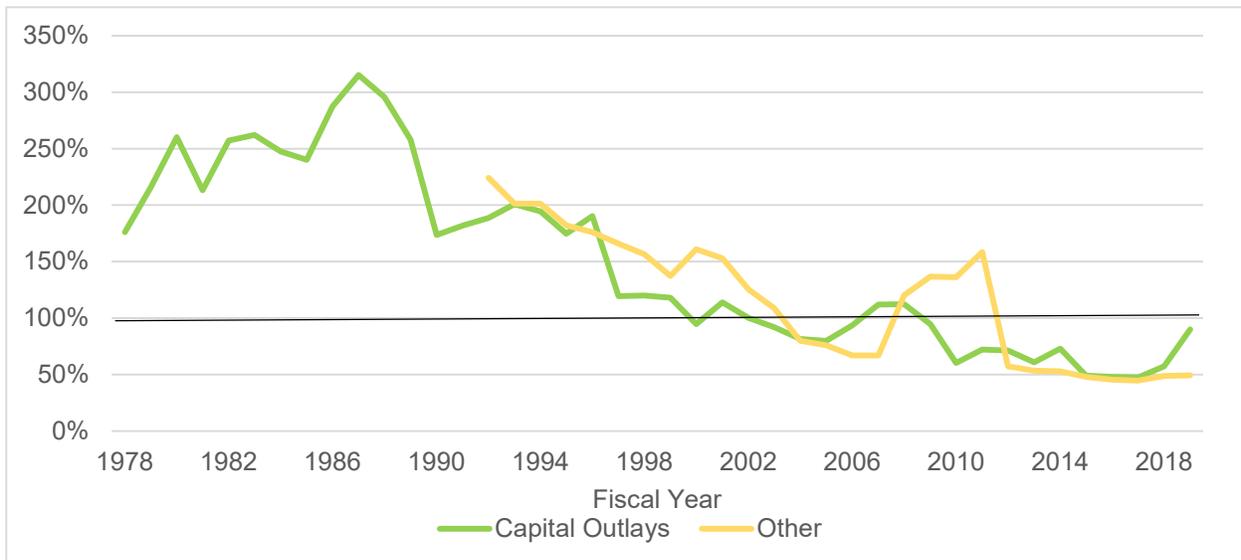
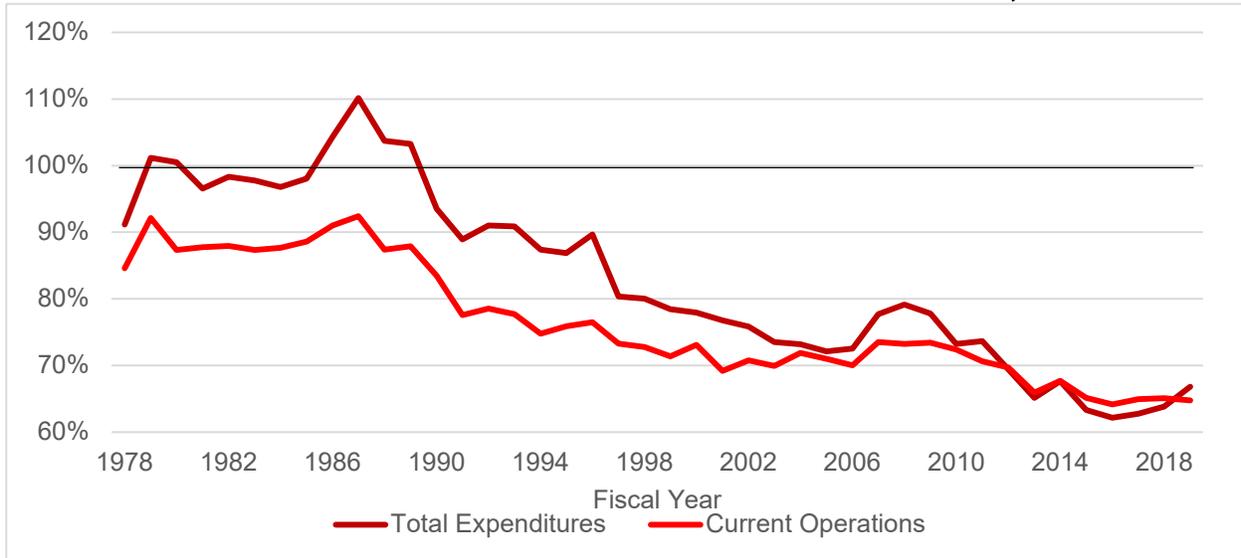
Other educational expenditures — largely interest payments — totaled \$227 million in Arizona in FY 2019, 2.3 percent of all expenditures. This amounted to \$252 per student after adjusting for living costs — 48.9 percent less than the national average, ranking 31st nationally and eighth among the western states.

Change in K-12 Expenditures Over Time

The examination of the change in expenditures over time uses data not adjusted for the cost of living for the long time period through FY 2019. For the major categories, the earliest year of data is either FY 1978 or FY 1987. Data adjusted for the cost of living are examined for FYs 2008 through 2019.

Total per student expenditures for K-12 education not adjusted for the cost of living fell substantially in Arizona relative to the national average between FYs 1978 and 2019. In FY 1978, the figure was 8.8 percent below average and ranked 31st. In FY 2019, the figure was 33.2 percent below average and ranked 48th. As seen in Chart 10, substantial declines began in FY 1990. Other than small upticks during economic expansions, as in FYs 2017 through 2019, the

**CHART 10
PUBLIC ELEMENTARY AND SECONDARY EDUCATION EXPENDITURES PER
STUDENT AS A PERCENTAGE OF THE NATIONAL AVERAGE, ARIZONA**



Source: Calculated from U.S. Department of Commerce, Census Bureau (expenditures and enrollment).

downtrend has continued. Between FYs 2008 and 2019, after adjusting for the cost of living, Arizona decreased from 21.3 percent below average to 30.6 percent below average. The state ranked 49th in each year from FY 2008 through FY 2019.

The contraction between FYs 1978 and 2019 in current operations spending in Arizona relative to the nation was not as great as for total expenditures due to a large decrease in capital outlays. In FY 1978, per student current operations expenditures were 15.4 percent below average, ranked 33rd. In FY 2019, the state ranked 49th at 35.2 percent below average. The slide occurred primarily during the 1990s and again after FY 2009. Adjusted for the cost of living, the state went from 27.2 percent below average in FY 2008 to 32.8 percent below average in FY 2019. Arizona ranked 49th in each year from FY 2008 through FY 2019.

The decline relative to the national average in noncapital expenditures per student that has occurred since the 1990s is a continuation of a downtrend that began in the late 1960s. Per pupil K-12 noncapital expenditures had been at least 10 percent higher than the national average in Arizona in nearly every year from 1930 through 1967.⁶

The reduction in Arizona's per student spending relative to the nation was much greater for capital outlays and other expenditures than for current operations (see Chart 10). Historically, per student capital outlays in Arizona were substantially above the national average, due in large part to the state's rapid population growth that created the need for the construction of new schools. The amount of capital outlays varies widely by year. After running close to, or more than, double the national average from FYs 1978 through 1996, per student capital outlays fell to less than half the U.S. average from FY 2015 through FY 2017. In FY 2019, per student capital outlays increased to 90 percent of the U.S. average.

A similarly large decline occurred in the other expenditures category, which largely consists of interest payments tied to construction projects. The per student amount was more than twice the U.S. average in the early 1990s but less than half as much from FY 2015 through FY 2019.

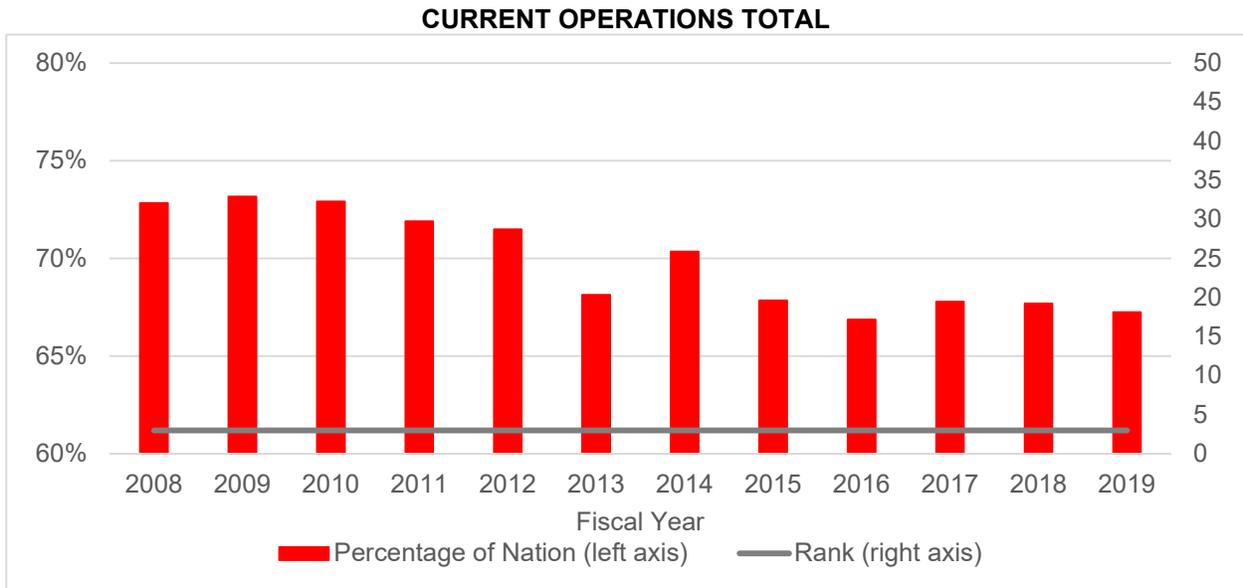
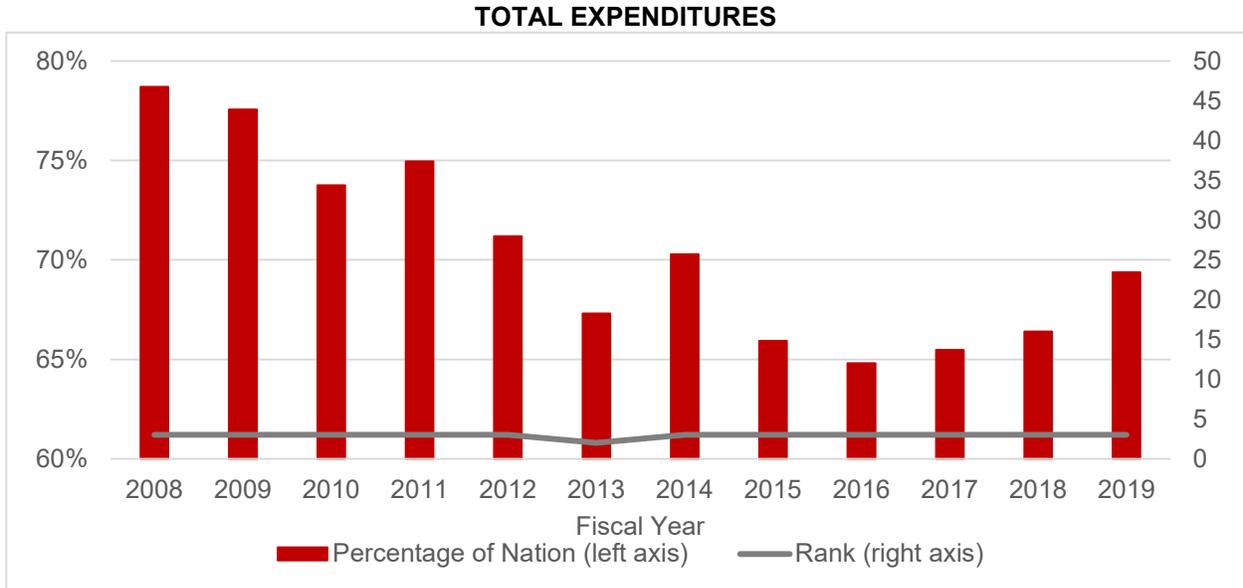
Arizona's rank among the states and its percentage difference from the national average based on cost-of-living-adjusted data are shown in Chart 11 for the major categories of K-12 expenditures for the FY 2008-through-2019 period.

In Chart 12, the same information as in Chart 10 is presented for the three major categories of current operations spending. Relative decreases in Arizona occurred between FYs 1987 and 2019 in the current operations categories of instruction and support services. In the other current operations category, per student spending in Arizona as a percentage of the national average is erratic from year to year but was below average in each year since the earliest data in FY 1992.

Per student, instructional expenditures dropped from 13.7 percent less than the national average and a rank of 34th in FY 1987 to 42.0 percent below average and a rank of 50th in FY 2019. Much of this reduction occurred prior to FY 2000, but further declines were registered after the mid-2000s. Adjusted for living costs, per student instructional expenditures were 32.0 percent

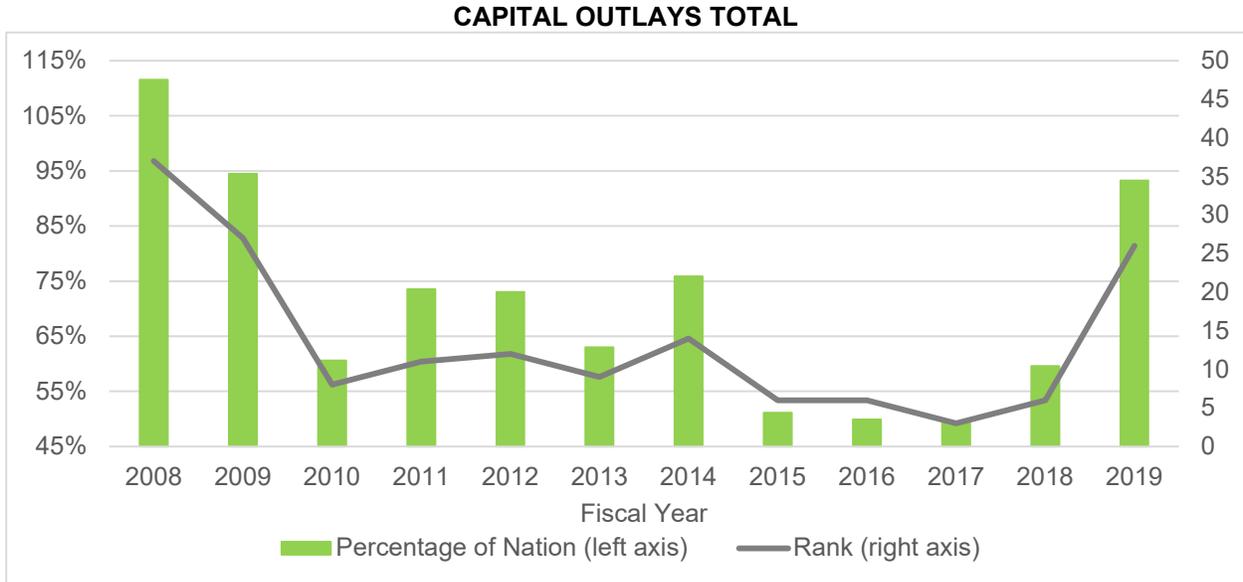
⁶ See page 35 of the Office of the University Economist report "Arizona Constitution: Specified Duties of State Government," November 2010, available from <https://economist.asu.edu/public-finance>.

**CHART 11
PUBLIC ELEMENTARY AND SECONDARY EDUCATION EXPENDITURES
PER STUDENT ADJUSTED FOR THE COST OF LIVING,
ARIZONA RELATIVE TO THE NATION**



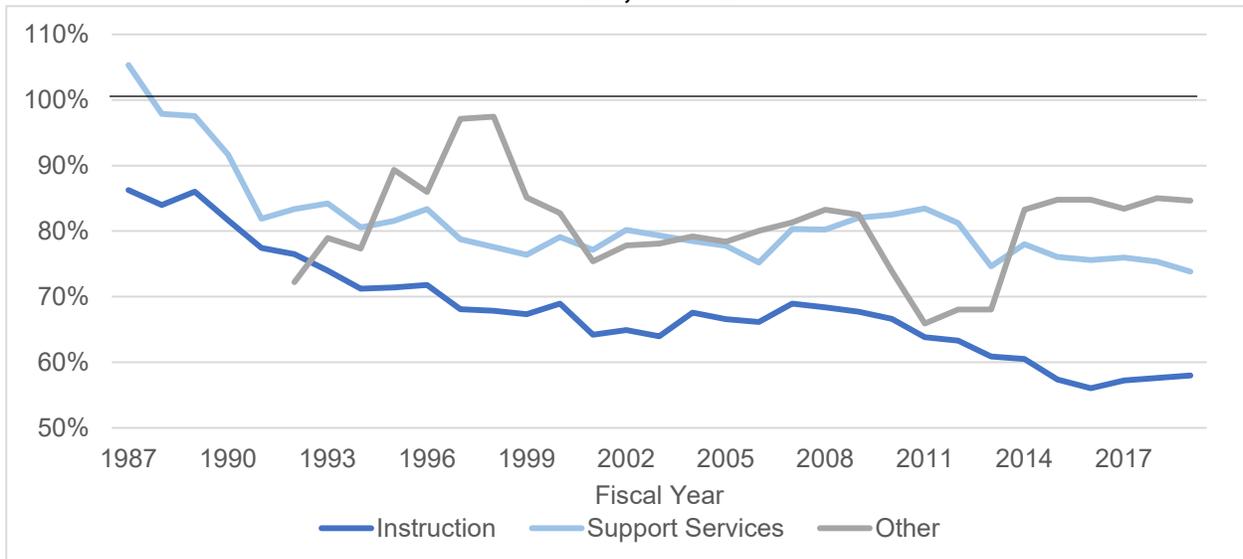
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CHART 11 (continued)
PUBLIC ELEMENTARY AND SECONDARY EDUCATION EXPENDITURES
PER STUDENT ADJUSTED FOR THE COST OF LIVING,
ARIZONA RELATIVE TO THE NATION



Sources: Calculated from U.S. Department of Commerce, Census Bureau (expenditures and enrollment) and U.S. Department of Commerce, Bureau of Economic Analysis (regional price parity).

CHART 12
PUBLIC ELEMENTARY AND SECONDARY EDUCATION CURRENT OPERATIONS
EXPENDITURES PER STUDENT AS A PERCENTAGE OF THE NATIONAL
AVERAGE, ARIZONA



Source: Calculated from U.S. Department of Commerce, Census Bureau (expenditures and enrollment).

below average and ranked 50th in FY 2008. Despite some improvement between FY 2016 and FY 2019, Arizona's figure in FY 2019 was 39.8 percent below average and ranked last.

Expenditures per student for support services were above the U.S. average in FY 1987 and ranked 17th. In FY 2019, they were 26.2 percent below average and ranked 44th. Adjusted for living costs, per student support services spending rose versus the nation between FYs 2008 and 2011, but then fell (see Chart 13). The rank was 47th in both FY 2008 and FY 2019, but Arizona dropped from 20.3-to-23.4 percent below average.

For the seven subcategories of support services, annual data (the earliest are for FY 1992) have been erratic, suggesting inconsistencies in the reporting of support services expenditures by subcategory. However, the trend is obvious in the two subcategories of administrative costs. Per student spending on general administration in Arizona fell from above average in some years of the 1990s to more than 35 percent below average. In the school administration subcategory, Arizona was 20 percent below average in the early 1990s but more than 40 percent below average from FY 2010 through FY 2019. A lesser reduction relative to the nation occurred in the plant operations and maintenance subcategory, from an above-average figure in some years of the 1990s to more than 10 percent below average from FY 2010 through FY 2019.

Relative to the nation, per student spending in Arizona for instructional staff support fell considerably in the late 1990s but recovered after FY 2012 to about the same level as in the early 1990s. In the pupil transportation subcategory, the percentage of the national average has not varied much. In contrast, in the pupil support subcategory, Arizona's percentage of the U.S. average has been higher in recent years than in the 1990s.

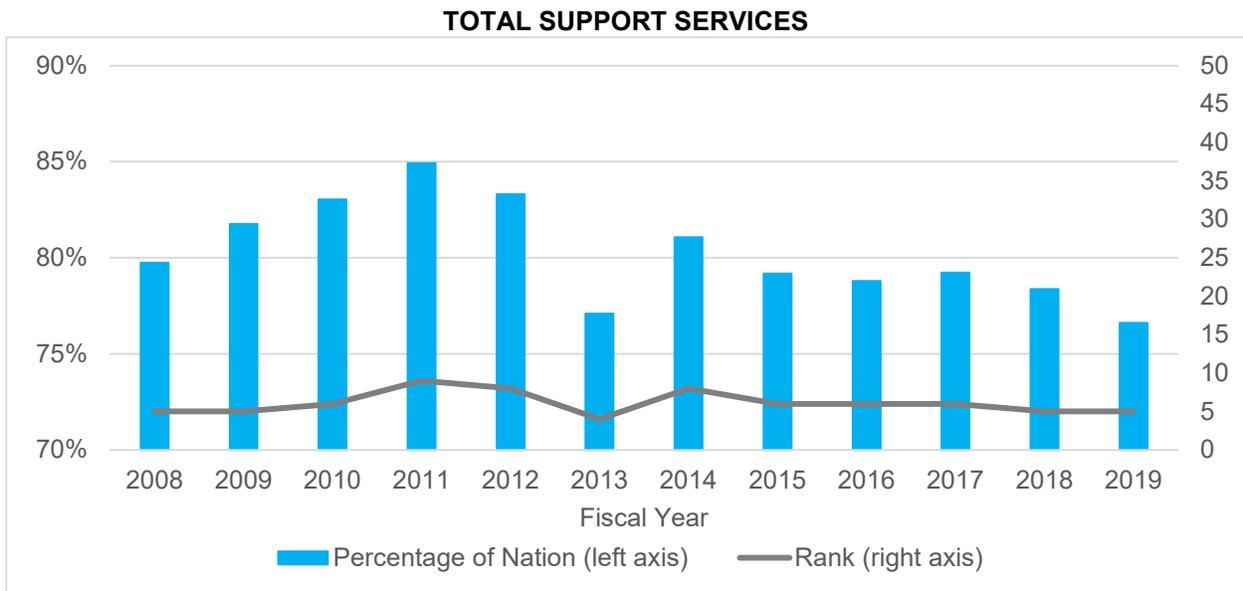
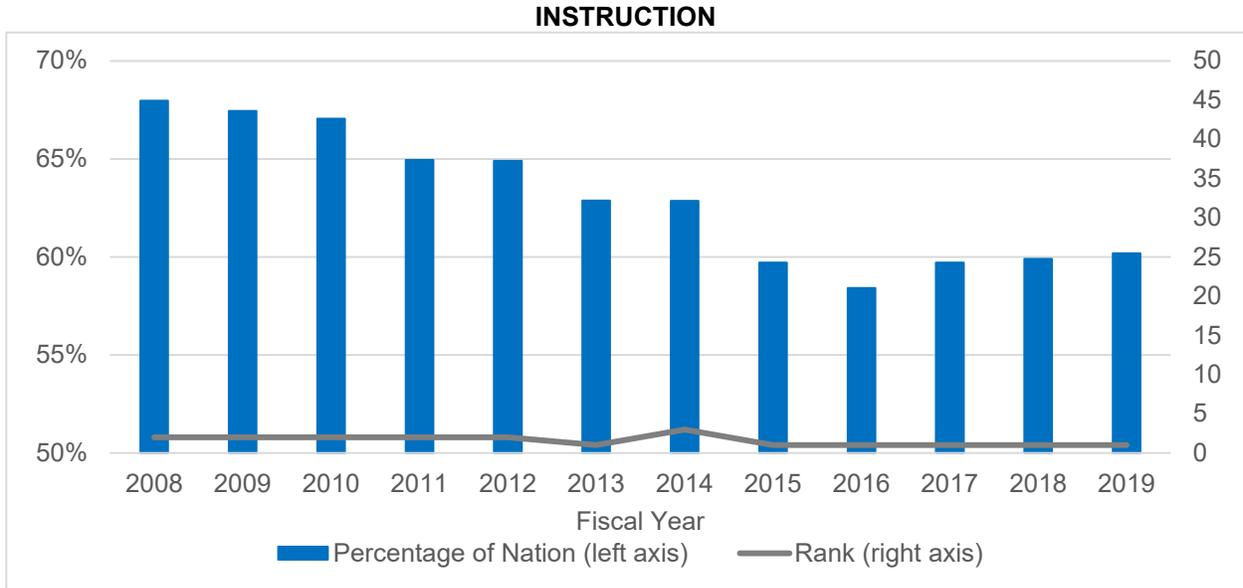
Annual Data From the JLBC

The JLBC reports state government funding for the Arizona Department of Education, which administers the public K-12 education system. Appropriations are made from the state government's general fund and from a variety of specialized funds. Not-appropriated funding, such as revenue from the federal government, also is reported.

General fund appropriations for K-12 education are available back to FY 1979. As seen in Chart 14, K-12 appropriations per \$1,000 of personal income have fallen significantly since the early 1980s, with the drop occurring in two periods: a 25 percent decrease between FYs 1981 and 1989 and a 27 percent decline between FYs 2007 and 2018. Between FYs 2018 and 2021, an increase of 9 percent occurred. Chart 14 also displays the K-12 share of total general fund appropriations. Unlike universities, the share in FY 2021 was similar to the shares early in the time series.

Chart 15 displays K-12 funding per student from various sources. The enrollment figures, which come from the National Center for Education Statistics, are not available for the entire time series. General fund appropriations per student have gradually increased over time on an inflation-adjusted basis, despite a significant drop between FYs 2007 and 2010. Real not-appropriated funding per student also has increased; the amount from other funds is only a small share of the total (4 percent in FY 2021).

**CHART 13
PUBLIC ELEMENTARY AND SECONDARY EDUCATION CURRENT OPERATIONS
EXPENDITURES PER STUDENT ADJUSTED FOR THE COST OF LIVING,
ARIZONA RELATIVE TO THE NATION**



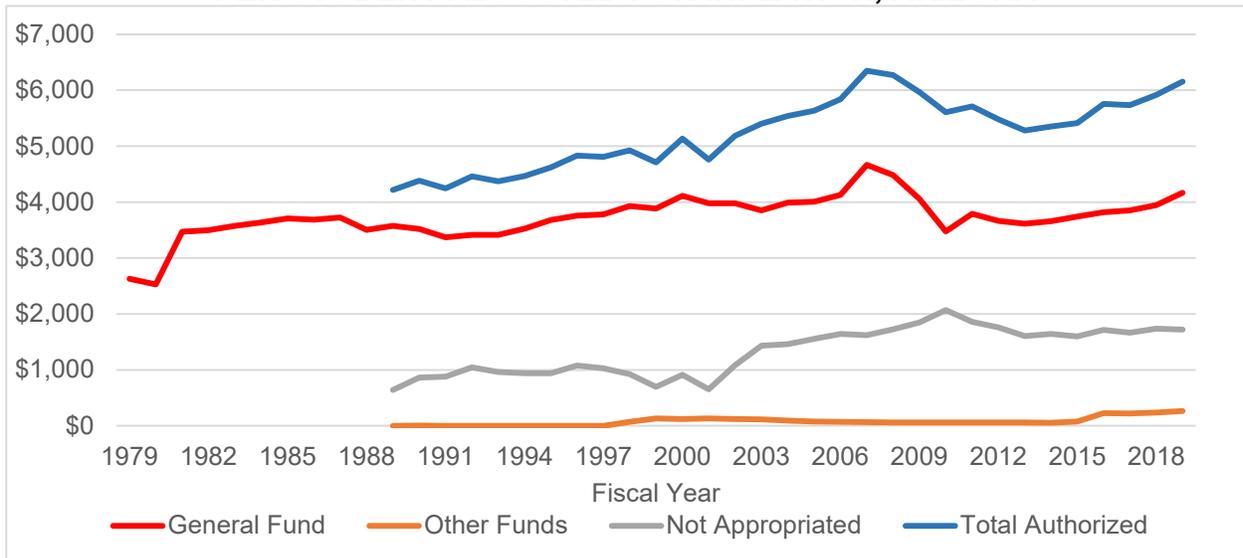
Sources: Calculated from U.S. Department of Commerce, Census Bureau (expenditures and enrollment) and U.S. Department of Commerce, Bureau of Economic Analysis (regional price parity).

**CHART 14
GENERAL FUND APPROPRIATIONS FOR ELEMENTARY AND SECONDARY
EDUCATION, ARIZONA**



Sources: Calculated from Arizona Joint Legislative Budget Committee (appropriations) and U.S. Department of Commerce, Bureau of Economic Analysis (personal income).

**CHART 15
PUBLIC EXPENDITURES FOR ELEMENTARY AND SECONDARY EDUCATION
PER STUDENT ADJUSTED FOR INFLATION, ARIZONA**



Sources: Calculated from Arizona Joint Legislative Budget Committee (expenditures), U.S. Department of Education, National Center for Education Statistics (enrollment), and U.S. Department of Commerce, Bureau of Economic Analysis (GDP deflator).