

Trends in Higher Education

# Finance

Legislative Analyst's Office **2024**



# Introduction

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This is the fourth brief in a six-part analytical [series](#) focused on higher education trends. This brief focuses on higher education finance. Earlier briefs in the series covered other major areas of higher education—specifically, student access, college affordability, and student outcomes. The series has two main objectives. The first is to help legislators, staff, and the general public track many of the key changes that higher education has undergone over the past few decades. The second is to help legislators and staff leverage their better understanding of the past to aid them in better navigating the future. To this end, each brief is punctuated by key issues for legislators to consider as they move forward in making higher education policy and budget decisions.

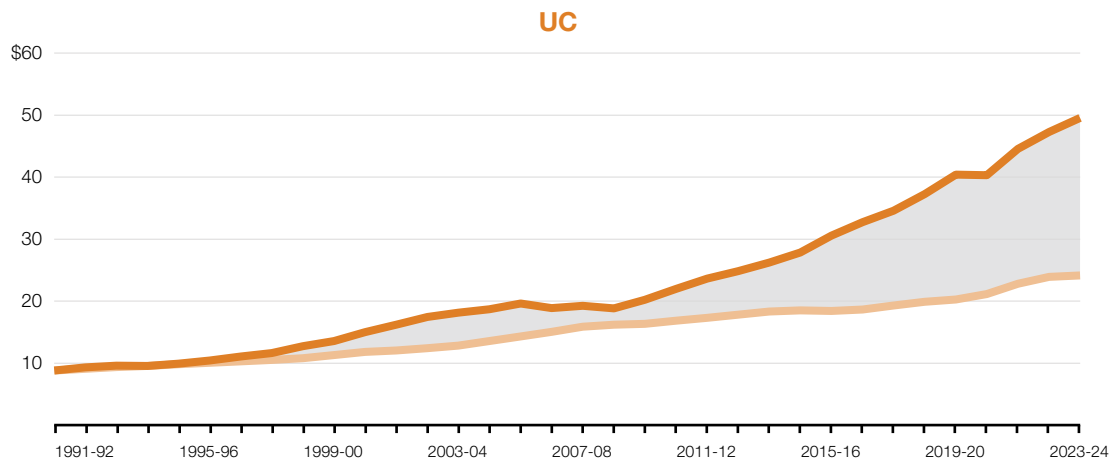
Whereas our earlier brief on college affordability focused on costs from students' point of view, this brief focuses on costs from colleges' point of view. In particular, this brief examines the budgets of the University of California (UC), California State University (CSU), and California Community Colleges (CCC). This brief begins by examining the main fund sources supporting these three public higher education segments. It then turns to examining the segments' expenditures. It concludes by looking at various indicators of the segments' fiscal health, including their debt levels, credit ratings, and reserves.

The three public higher education segments in California rely on a mix of core and noncore funds. Core funds refer mainly to state General Fund and student tuition revenue, and, at the community colleges, local property tax revenue. These core funds support the segments' core academic missions. State General Fund and student tuition revenue tend to be fungible, or interchangeable, meaning the segments use them to cover the same types of costs. For example, the segments use core funds to pay faculty salaries and benefits, cover general campus administration, and provide student support services. Noncore funds refer to various other fund sources, including revenue from auxiliary programs (such as residential and parking programs), revenue from medical centers, federal grants for research, and philanthropic support. While this brief includes some charts on noncore funds, it primarily examines the segments' core budgets, as this is where the Legislature has greatest influence.

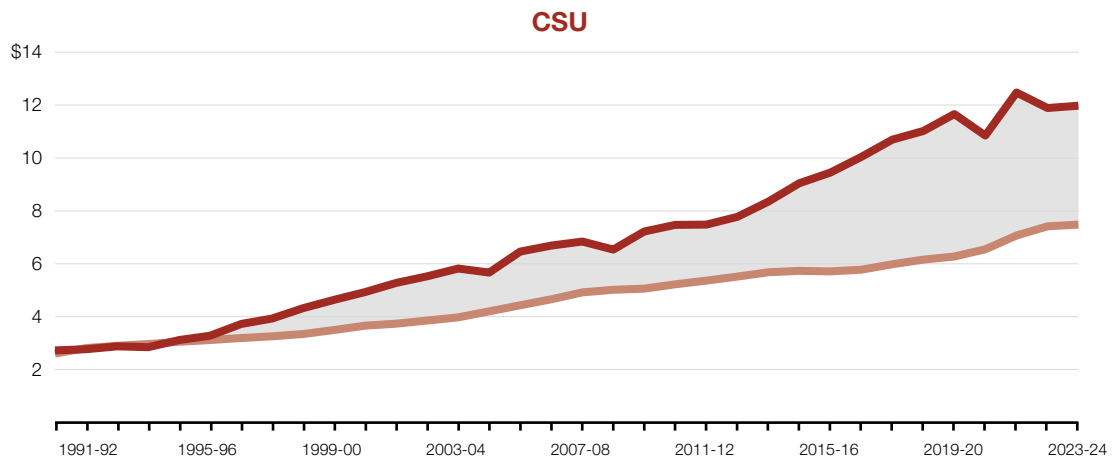
As with the other briefs in this series, this brief contains a set of infographics highlighting trends over time, with data drawn primarily from sources at the federal, state, and segment levels. We tend to provide data for the past few decades, in some cases, back to 1990. We select the exact time period for each chart by considering the availability of the particular data at issue, comparability of the reported data over time, and the most interesting trends emanating from the data.

## Total University Funding Has Outpaced Inflation Over the Past 30 Years

Total Funds (In Billions)



**Technical note:** In each chart, the darker line shows actual funding each year. The lighter line reflects the 1990-91 funding level adjusted for inflation over the period.

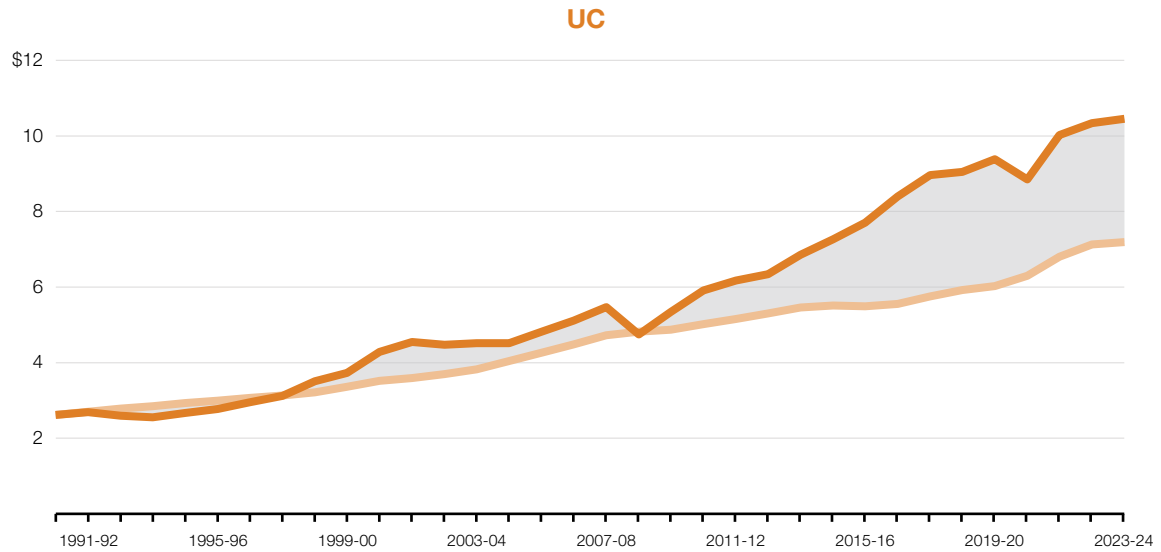


Since 1990, total funding (after controlling for inflation) has more than doubled at UC and increased 60 percent at CSU. Though the trend is more pronounced in California, higher education funding nationally also has tended to outpace inflation. Both demand and supply factors could be at work. For example, on the demand side, as the differential between the earnings of high school and college graduates widens, people likely are willing to pay more for a college education. On the supply side, higher education is more people-intensive than some other sectors of the economy (including manufacturing), such that advances in technology and equipment do not tend to yield the same extent of associated cost reductions. Other sectors experiencing productivity gains can raise wages without raising prices, yet these wage gains can have ripple effects for higher education—generating pressure to raise faculty and staff wages even if offsetting efficiencies are not being realized.

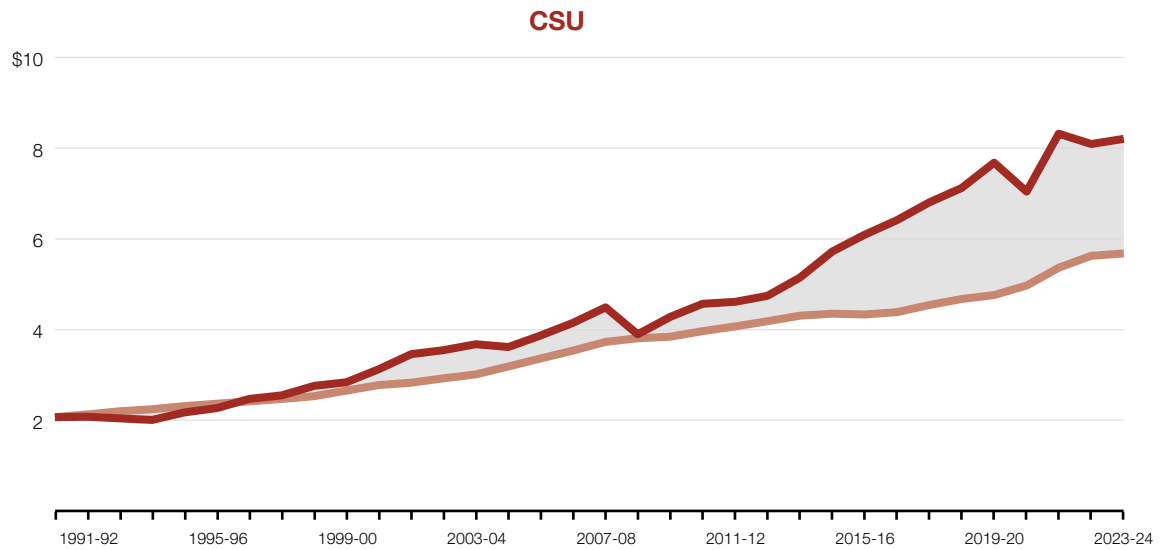
Core funds come mainly from the state General Fund and student tuition revenue. The universities use their core funding to support their core operations, including instruction.

### Core University Funding Has Outpaced Inflation Over the Past 15 Years

Core Funds (In Billions)



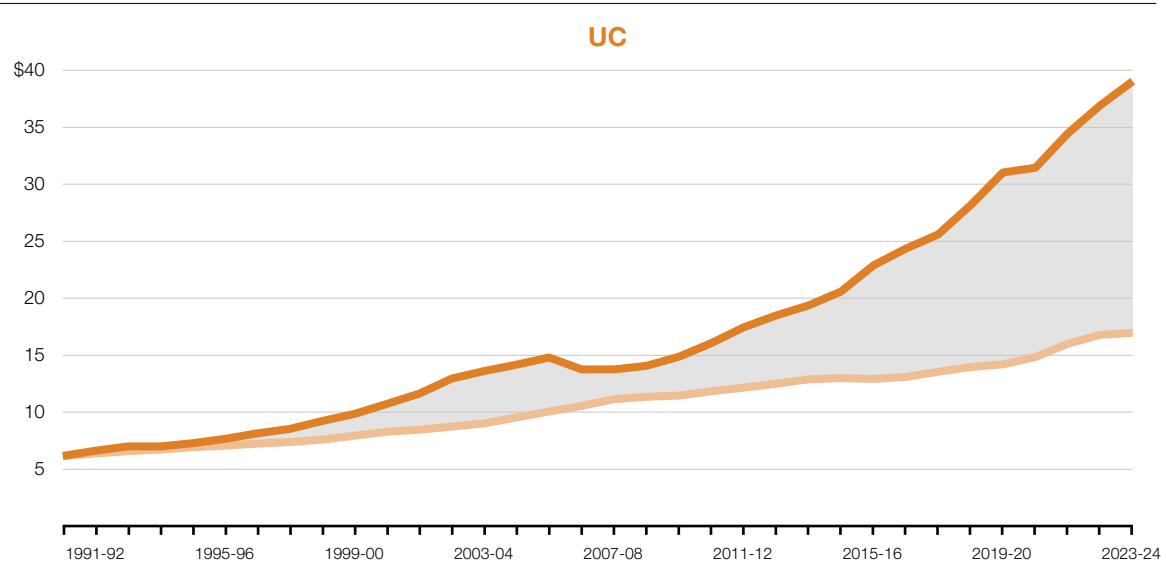
**Technical note:** In each chart, the darker line shows actual funding each year. The lighter line reflects the 1990-91 funding level adjusted for inflation over the period.



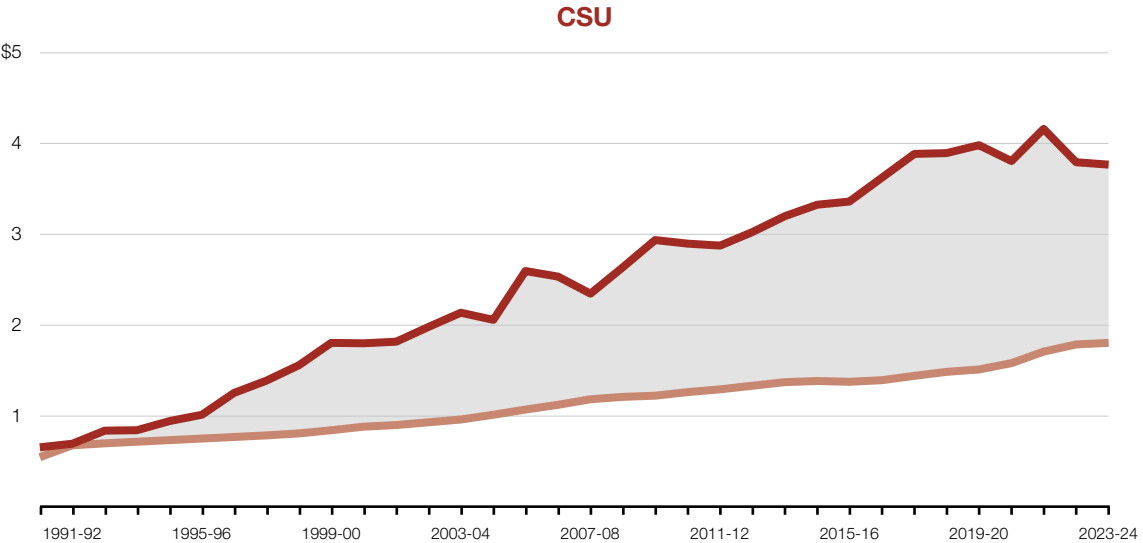
Noncore funds are generated from several sources, including sales and services; fees assessed for housing, dining, parking, and other self-supporting programs; federal grants for specific purposes, such as research; and philanthropic support. At UC, substantial noncore funds also are derived from patient services at its medical centers.

### Noncore University Funding Has Outpaced Inflation Over the Past 30 Years

Noncore Funds (In Billions)

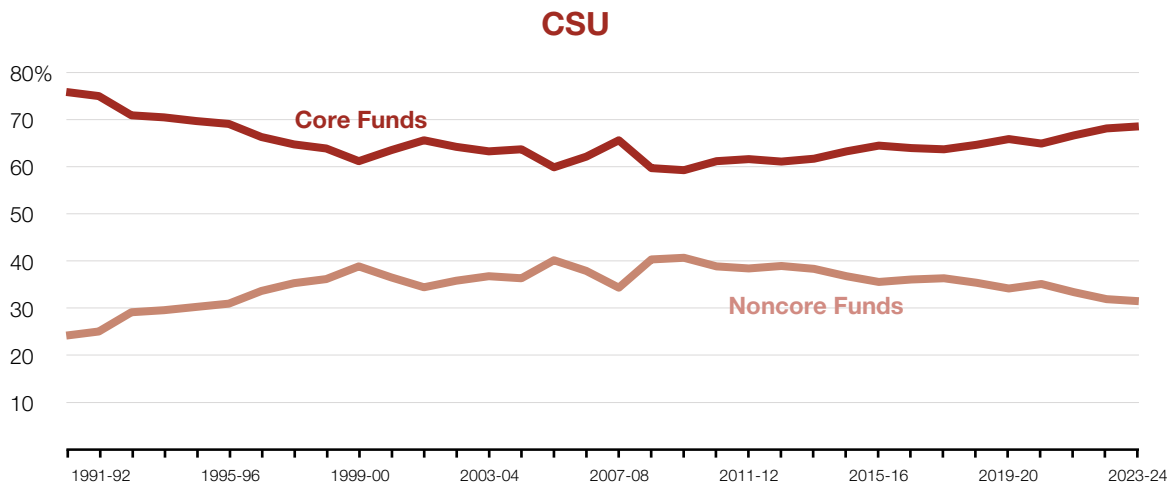
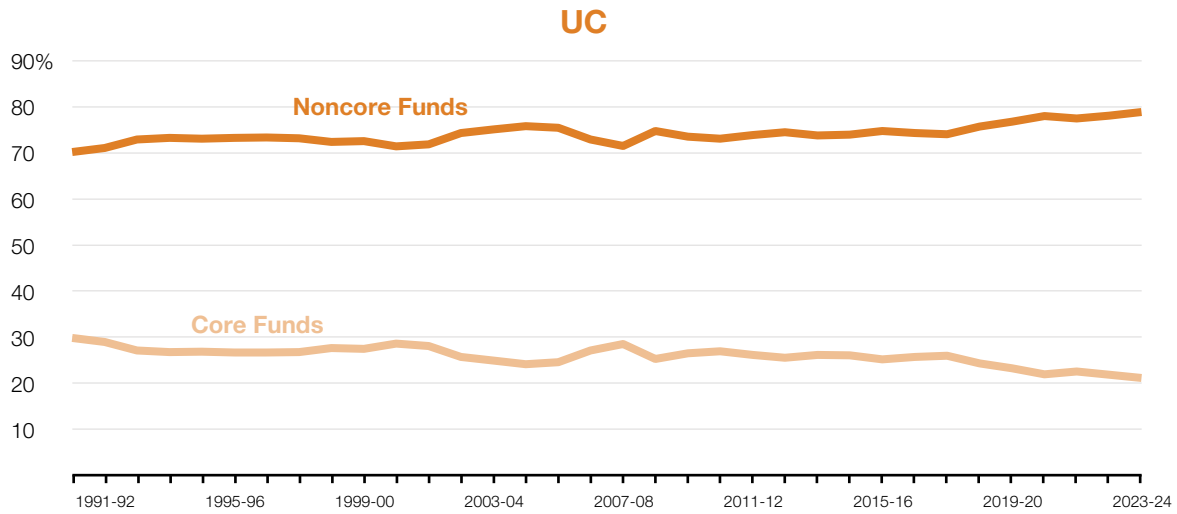


**Technical note:** In each chart, the darker line shows actual funding each year. The lighter line reflects the 1990-91 funding level adjusted for inflation over the period.



## Core Funding as a Share of Total University Funding Is Lower Than 30 Years Ago

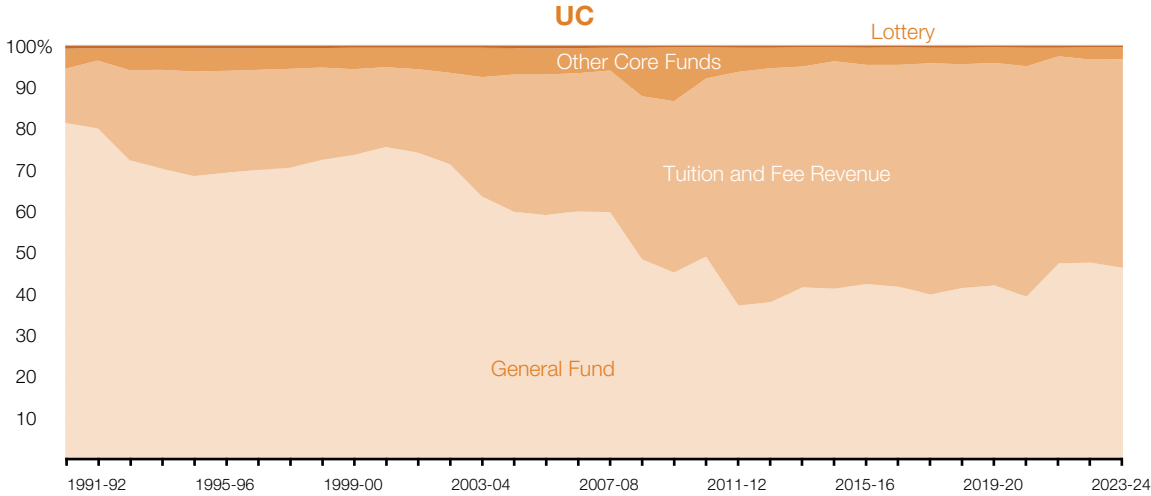
Core and Noncore Funds as a Share of Total Funds



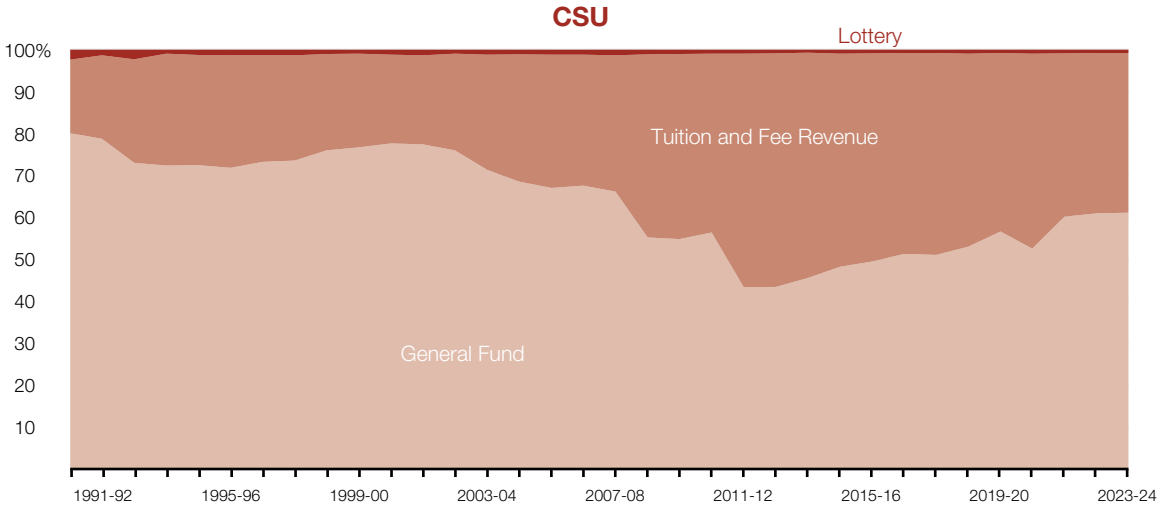
**Technical note:** The CSU chart excludes core funding provided for retiree health benefits, as corresponding data are not available for the entire period shown.

In 2023-24, core funding as a share of total funding was 9 percentage points lower at UC and 7 percentage points lower at CSU than in 1990-91.

**UC's and CSU's Reliance on Tuition Revenue Has Increased Notably Since 1990**  
Core Funds by Source as a Share of Total Core Funds



**Technical note:** "Other Core Funds" at UC includes a portion of overhead funding on federal and state grants and a portion of patent royalty income.



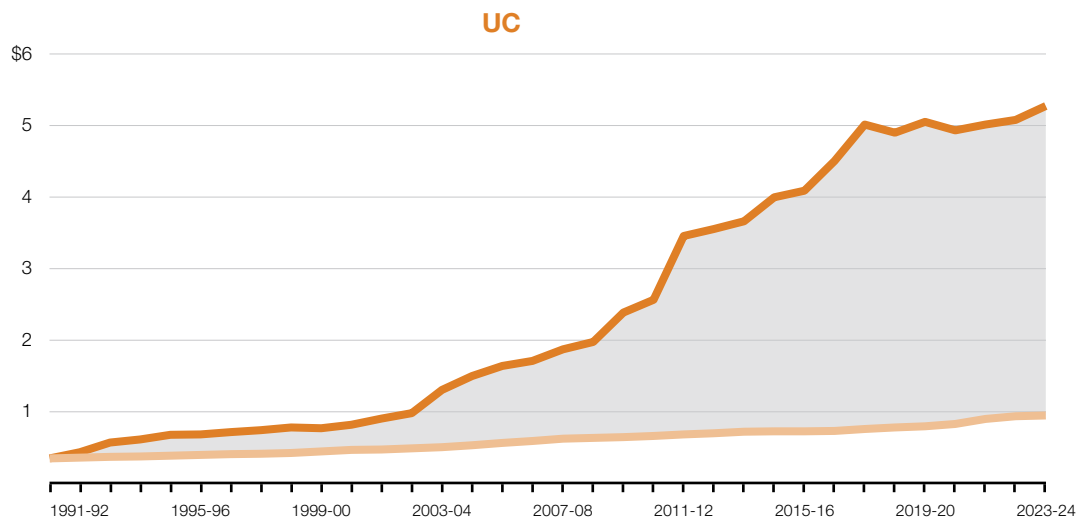
**Technical note:** The CSU chart excludes General Fund provided for retiree health benefits, as corresponding data are not available for the entire period shown.

Whereas tuition revenue comprised less than 20 percent of core funds at UC and CSU in 1990-91, it comprised nearly 60 percent by 2011-12. Since 2011-12, tuition revenue as a share of core funds has been trending downward, particularly at CSU. In 2023-24, tuition revenue comprised 50 percent of core funds at UC and 38 percent of core funds at CSU.

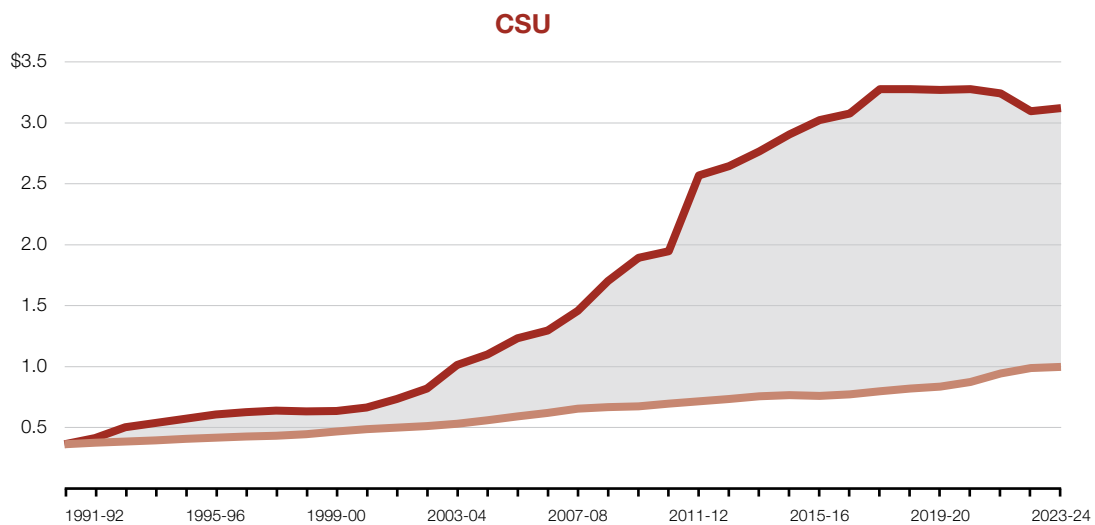


## Tuition Revenue Outpaced Inflation for Decades, but Not Over Past Several Years

Systemwide Tuition and Fee Revenue (In Billions)



**Technical note:** In each chart, the darker line shows actual revenue per year. The lighter line reflects the 1990-91 revenue level adjusted for inflation over the period.



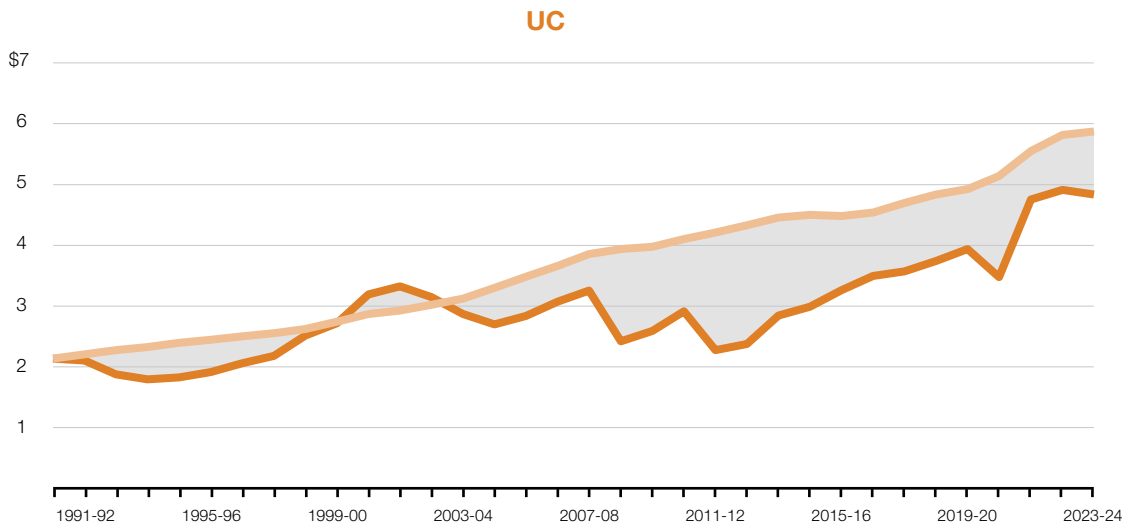
Tuition revenue (after controlling for inflation) is about five times higher at UC and three times higher at CSU in 2023-24 compared to 1990-91. Tuition revenue, however, recently has not kept pace with inflation. After controlling for inflation, tuition revenue has fallen 12 percent at UC and 20 percent at CSU over the past five years.

### Key Issue

Both UC and CSU indicate their new tuition policies (with predictable annual tuition increases) will help them cover projected increases in their operating costs. Moving forward, key legislative decisions will continue to revolve around tracking increases in the universities' operating costs, understanding what is driving those increases, and looking for ways to align those costs with available funding.

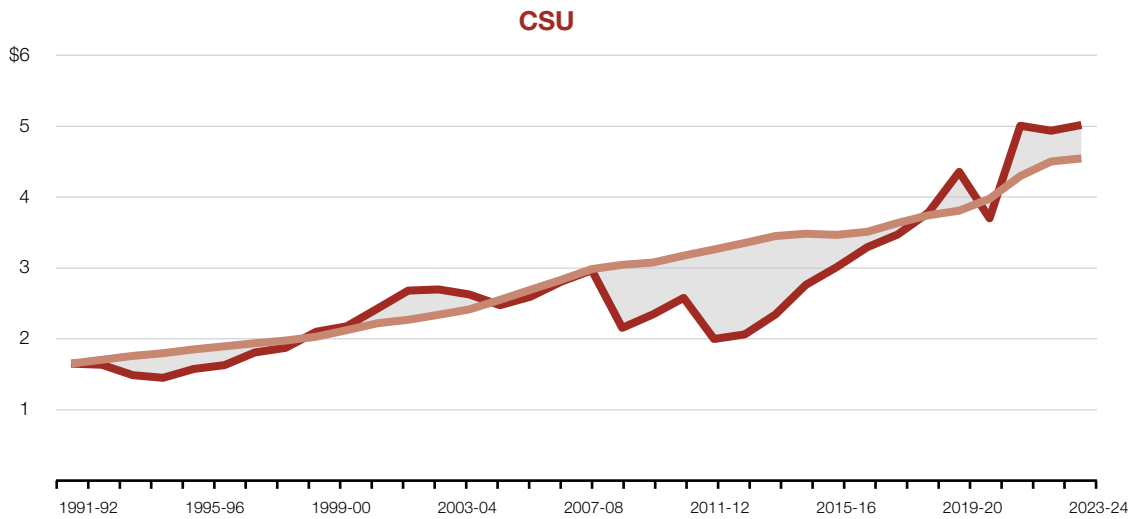
## State Support Generally Has Not Kept Pace With Inflation at UC...

General Fund (In Billions)



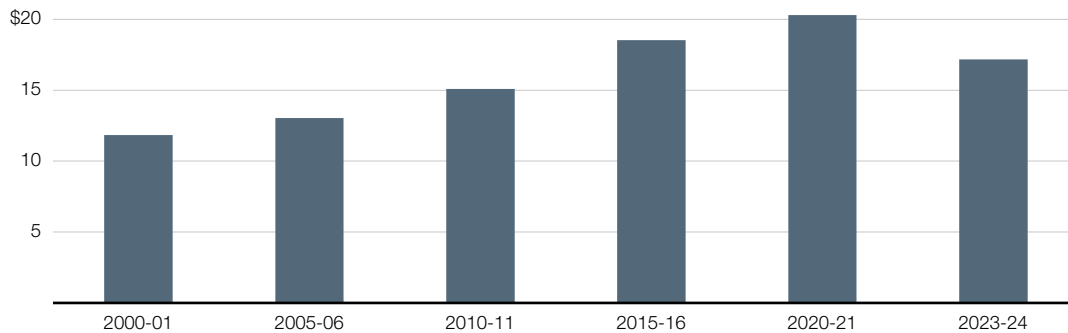
**Technical note:** In each chart, the darker line shows actual state funding per year. The lighter line reflects the 1990-91 state funding level adjusted for inflation over the period.

## ...While Roughly Tracking With It at CSU



## Total Community College Funding Outpaced Inflation Until Past Few Years

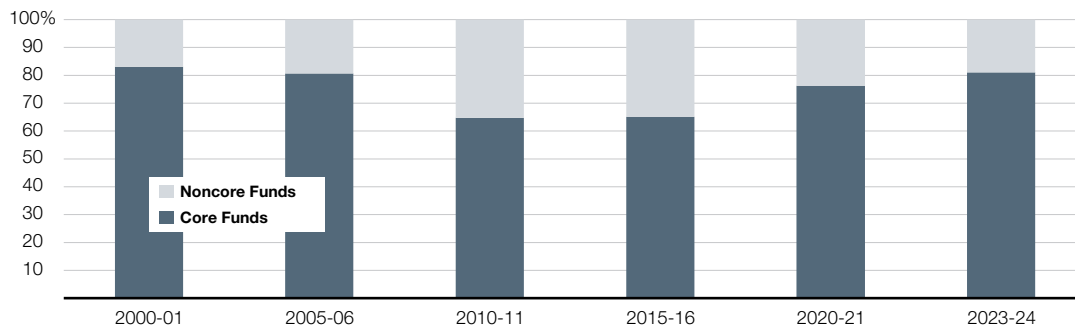
Total Funds, 2023-24 Dollars (in Billions)



Since 2000-01, total CCC funding (after controlling for inflation) has increased 45 percent. From its peak in 2020-21, total CCC funding has fallen 15 percent, reflecting the expiration of federal COVID-19 relief funding, enrollment declines, and historically high inflation. Community colleges across the country generally have experienced similar long-term and near-term trends.

## Noncore Funds Have Fluctuated as a Share of Total Community College Funding

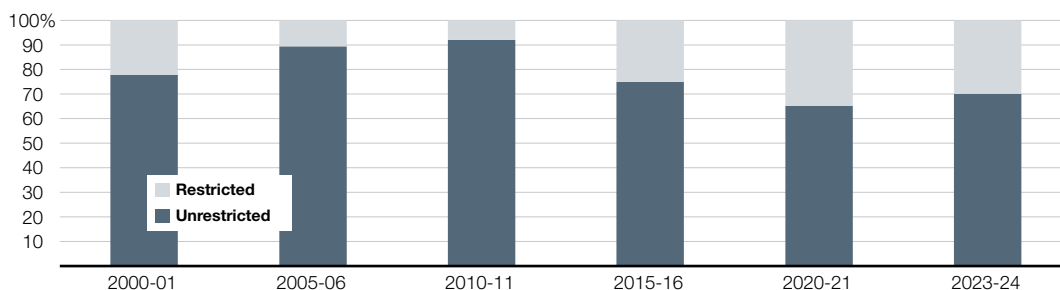
Core and Noncore Funds as a Share of Total Funds



**Technical note:** Core funds are used for core operations, including instruction, whereas noncore funds are used for self-supporting and locally funded programs.

## More Community College Funding Has Become Restricted Over the Last Decade

Unrestricted and Restricted Funds as a Share of Core Funds

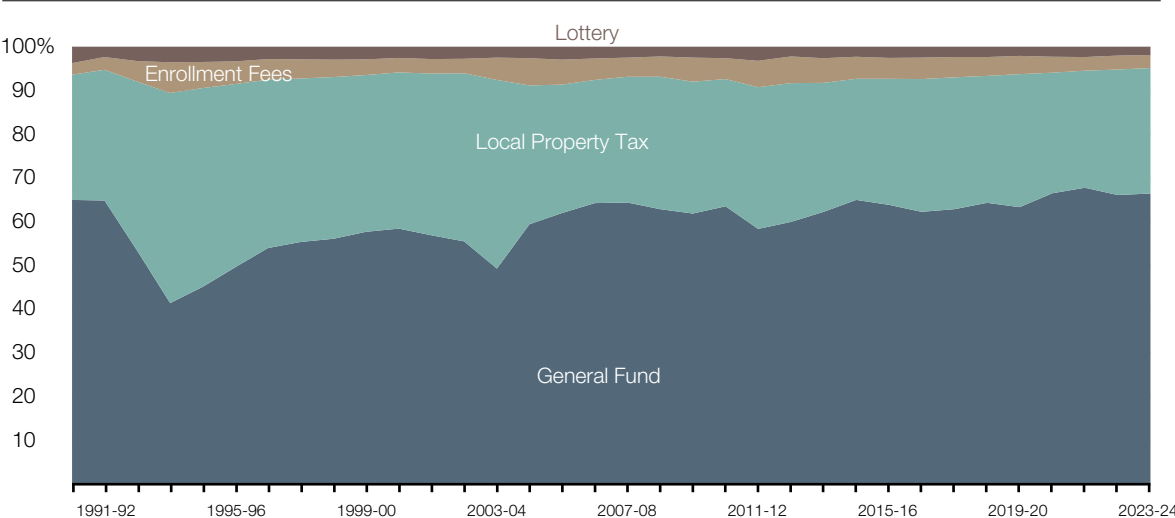


**Technical note:** Community colleges may use apportionment funding (which is unrestricted) for any educational purpose, whereas categorical funding is restricted to specific purposes, such as providing additional support to certain student groups.

Since 2010-11, the state has created many new community college categorical programs, which has resulted in a notably smaller share of CCC core funding being available for general purposes.

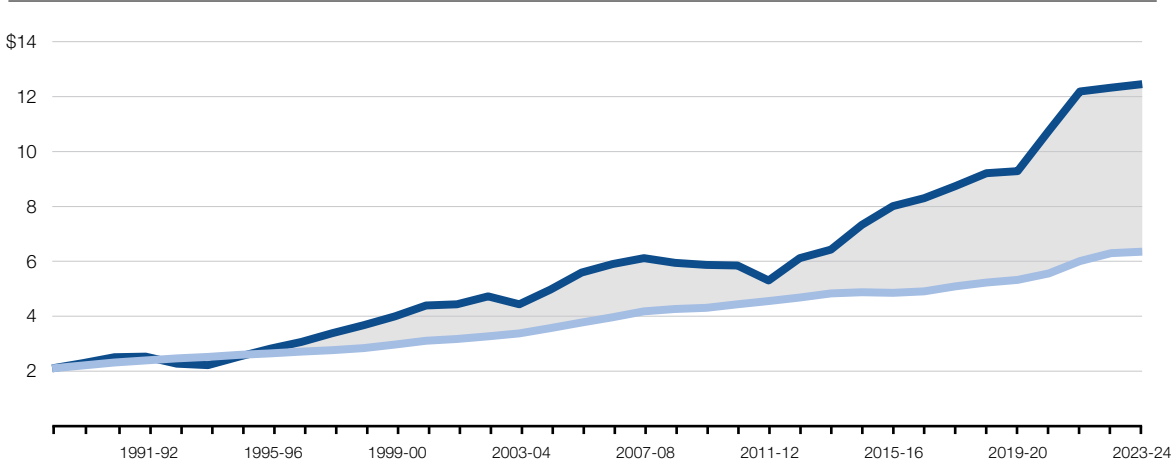
**State General Fund Continues to Comprise About Two-Thirds of CCC Core Funds**

Core Funds by Source as a Share of Total Core Funds



**Proposition 98 CCC Funds Have Increased Markedly Over Time**

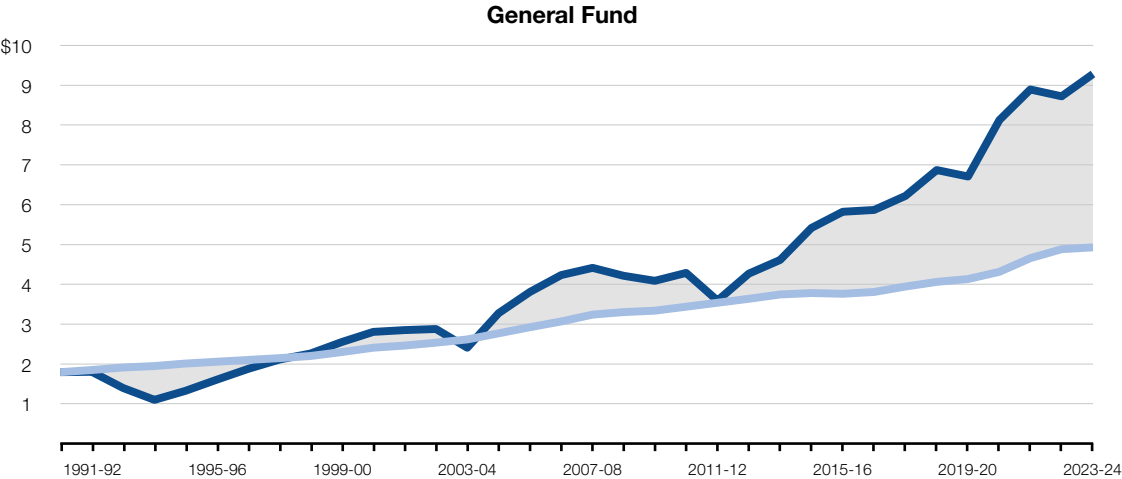
Proposition 98 Funds (In Billions)



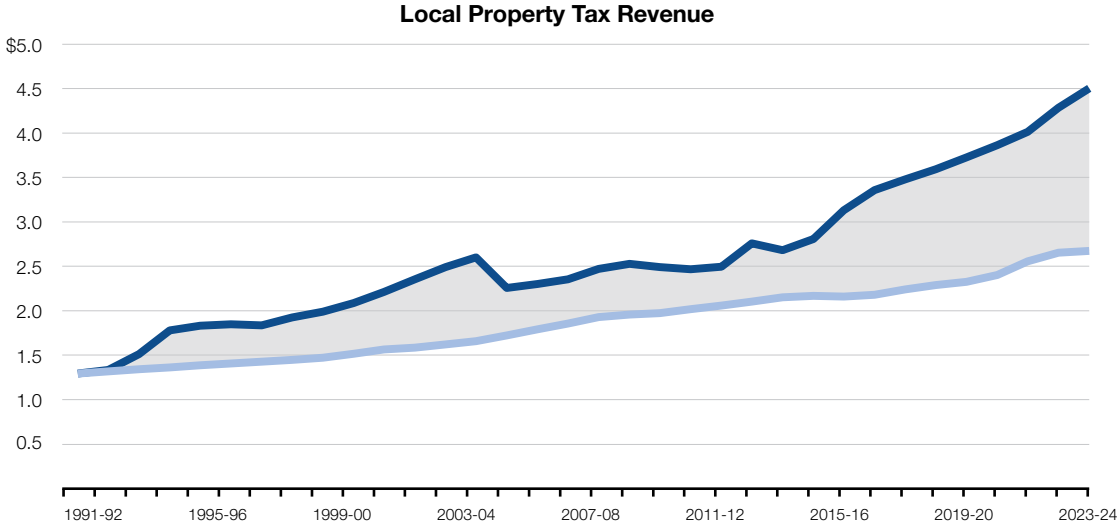
**Technical note:** The darker line shows actual funding each year. The lighter line reflects the 1988-89 funding level adjusted for inflation over the period. Proposition 98 funds consist of state General Fund provided for certain purposes, together with local property tax revenue.

Since 1988-89, Proposition 98 CCC funding (after controlling for inflation) has increased 96 percent. In the last ten years, it has increased 30 percent.

**Each of CCC's Main Fund Sources Have Grown Substantially Over the Past Decade**  
Core Funds by Source (In Billions)



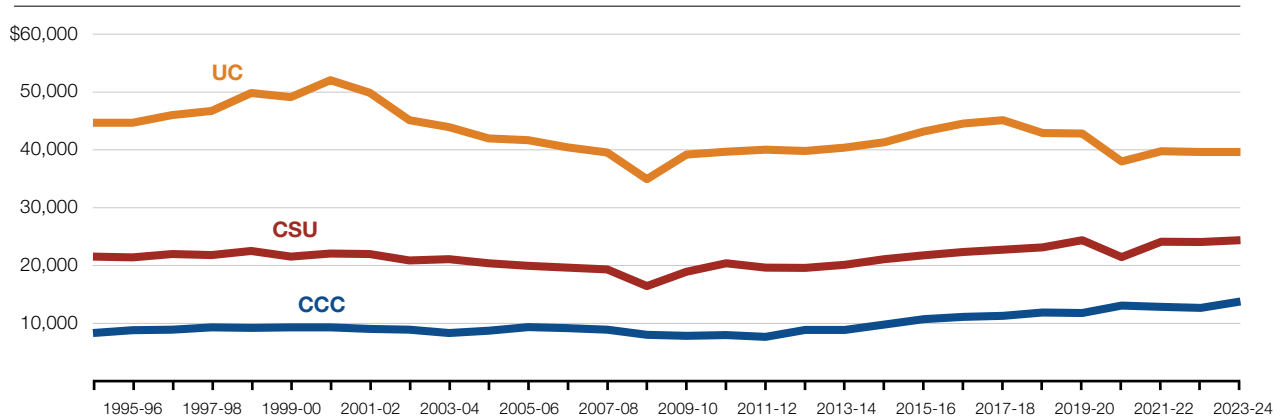
**Technical note:** In each chart, the darker line shows actual funding each year. The lighter line reflects the 1990-91 funding level adjusted for inflation over the period.



CCC systemwide General Fund and local property tax revenue (after controlling for inflation) have increased 31 percent and 33 percent, respectively, over the past ten years.

### CCC Has Fared Best in Terms of Growth in Total Core Funds Per Student

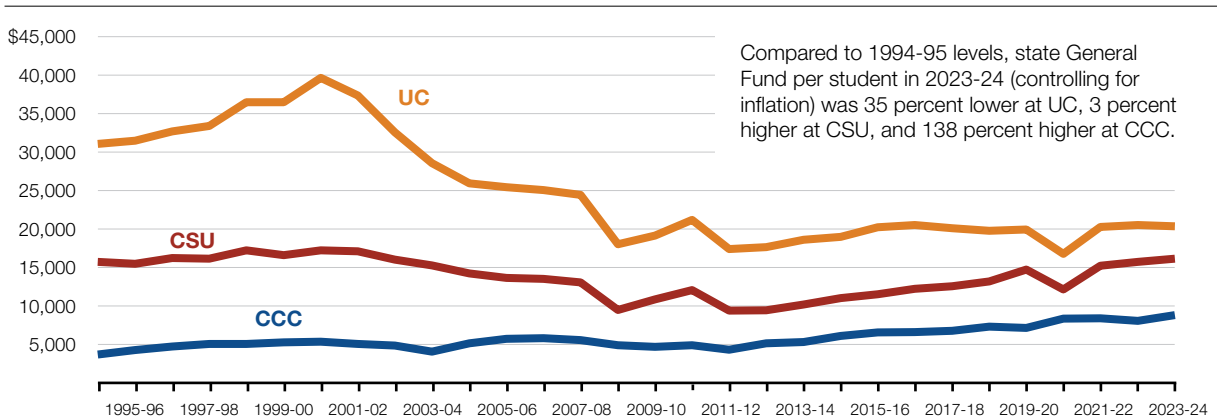
Core Funds Per Full-Time Equivalent (FTE) Student, 2023-24 Dollars



**Technical note:** At UC and CSU, 1 FTE student represents 30 credit units for an undergraduate and 24 credit units for a graduate student. At CCC, 1 FTE student represents 525 contact hours per year, which on average generates about 24 credits. Amounts include Cal Grant and Middle Class Scholarship funding by segment. The higher per-student amounts at UC and CSU reflect the higher cost of providing upper-division and graduate instruction. The state also provides substantially more financial aid support to students attending UC and CSU given their higher tuition levels.

### CCC Also Has Fared Best in Terms of Growth in State Funds Per Student

State General Fund Per FTE Student, 2023-24 Dollars

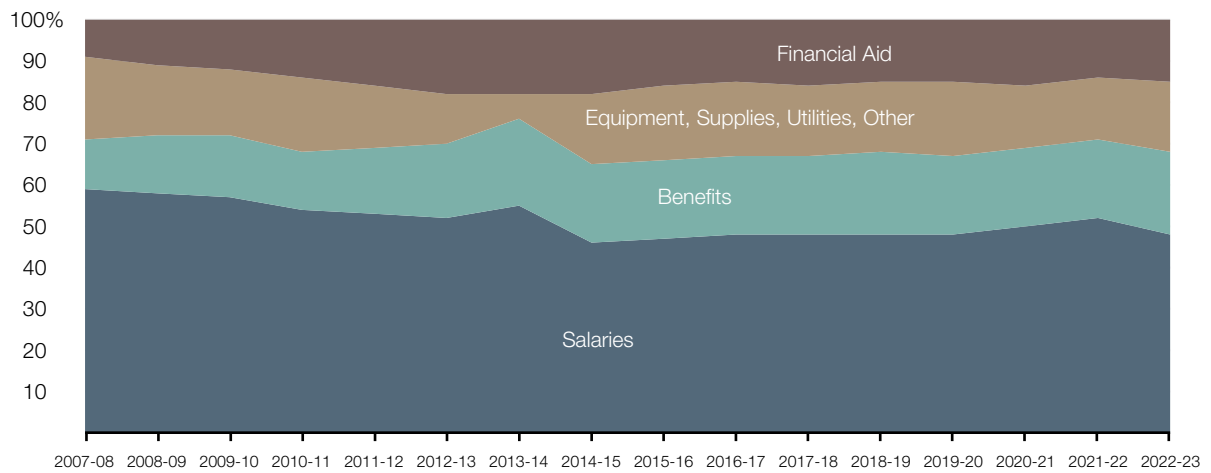


#### Key Issue

The state has long aimed to link funding to the public segments' missions, with each segment receiving different corresponding per-student funding rates. Moving forward, the Legislature will continue to face key decisions about how much per-student funding to provide each segment.

## UC's Spending Has Changed in Notable Ways

Core Operating Costs by Function

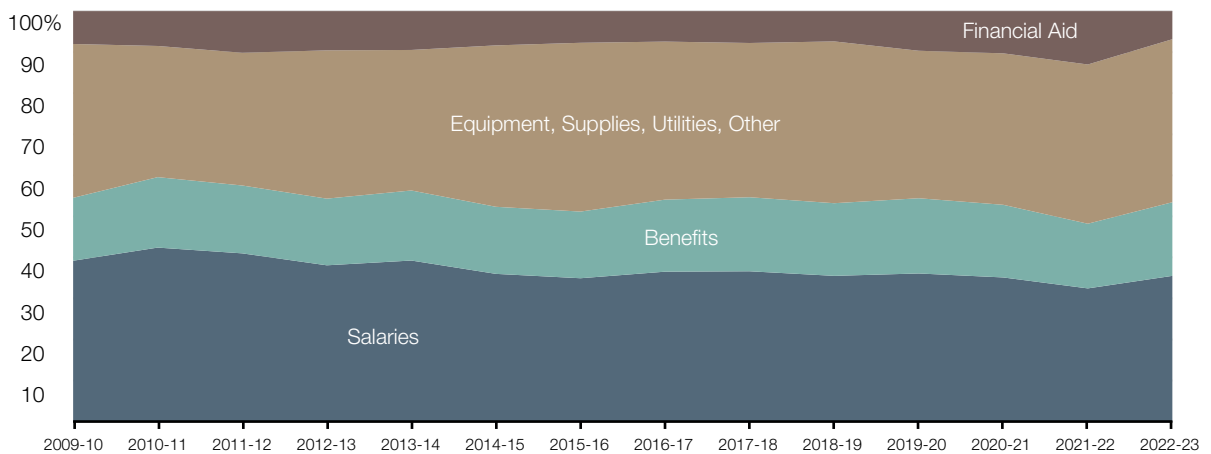


UC's spending patterns changed from 2007-08 to 2014-15, with the share of its budget spent on salaries and other operating expenses declining notably as the share spent on benefits and financial aid increased notably. Since 2014-15, UC's spending patterns have not changed much.

**Technical note:** For both charts on this page, "Benefits" includes employer health care contributions for active and retirees as well as pension contributions.

## CSU's Spending Also Has Changed

Total Operating Costs by Function

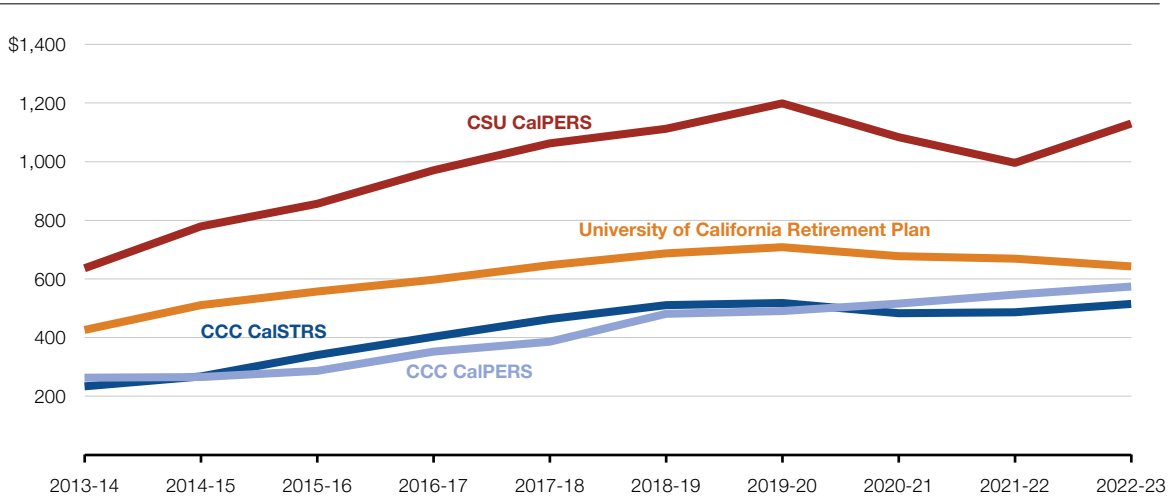


**Technical note:** Chart shows total core and noncore operating costs, as CSU did not have a breakdown of its core operating costs over the entire period shown. "Other" includes certain noncore capital expenses and debt payments.

Though the changes at CSU are less notable than at UC, the share of CSU's total operating budget spent on salaries also has declined over time while the share spent on benefits has increased. A similar spending trend has occurred at CCC.

**Pension Costs Generally Have Been Increasing Over Time...**

Employer Pension Spending, 2022-23 Dollars (In Millions)

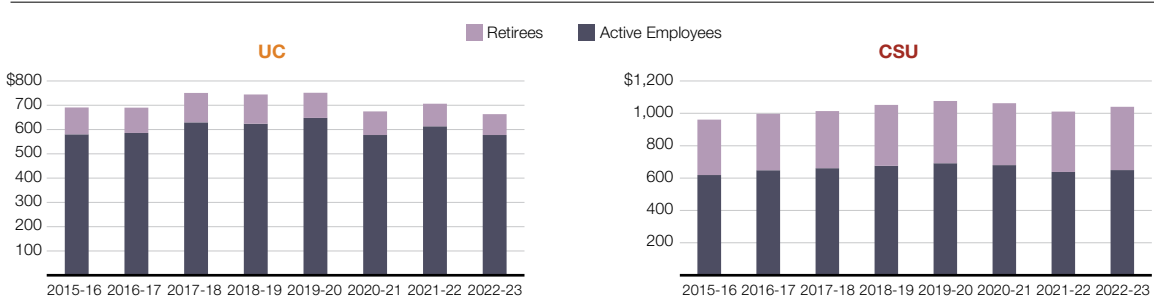


**Technical note:** Chart shows employer pension costs for all employees at CSU and CCC. For UC, chart shows employer pension costs on behalf of only core-funded employees.

Across all three segments, pension spending over the past ten years has outpaced inflation. It also has increased as a share of total core spending. For example, at UC, pension spending increased from 4.3 percent of total core spending in 2013-14 to 5.7 percent in 2022-23.

**...As Have Health Care Costs**

Employer Health Care Spending, 2022-23 Dollars (In Millions)



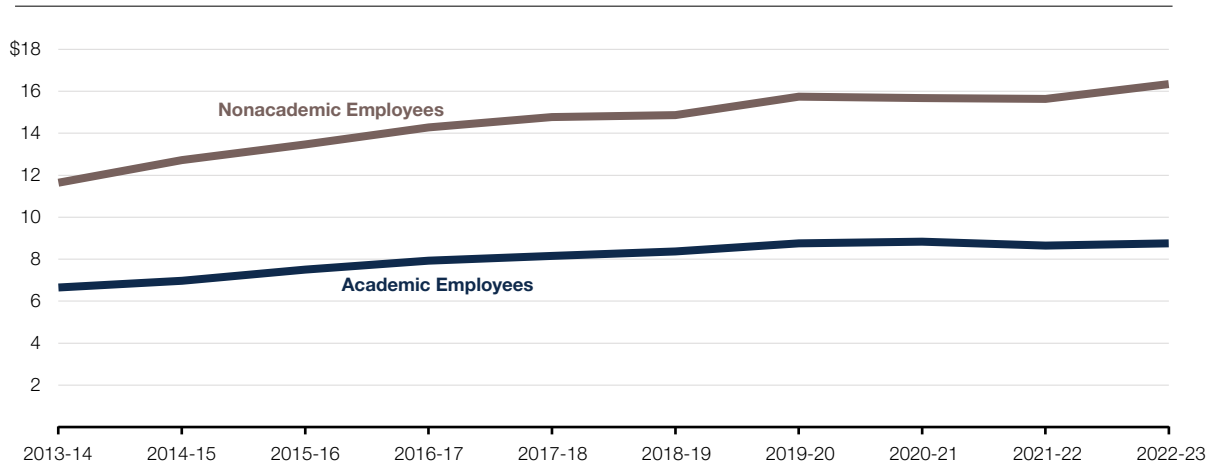
**Technical note:** Charts show employer health care spending on behalf of core-funded employees. Comparable health care spending data are not readily available for CCC.

Since 2015-16, health care spending at UC and CSU has outpaced overall inflation in most, but not all, years. As a share of total core spending, health care spending has trended differently at UC and CSU. Whereas health care spending declined as a share of UC's total core spending (from 6.9 percent in 2015-16 to 6.4 percent in 2022-23), it increased at CSU (from 11.5 percent in 2015-16 to 12.7 percent in 2022-23).



### At UC, Spending on Nonacademic Employees Has Grown More Quickly Than Academic Employees

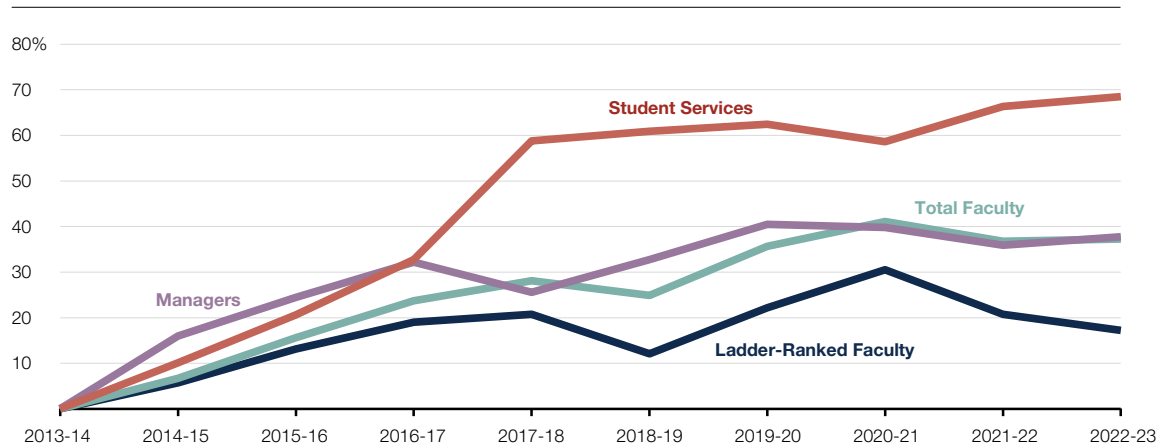
Total Spending on Salaries and Benefits, 2022-23 Dollars (In Billions)



Total spending on academic employees at UC (after controlling for inflation) was 32 percent higher, compared to 40 percent higher for nonacademic employees, in 2022-23 compared to 2013-14.

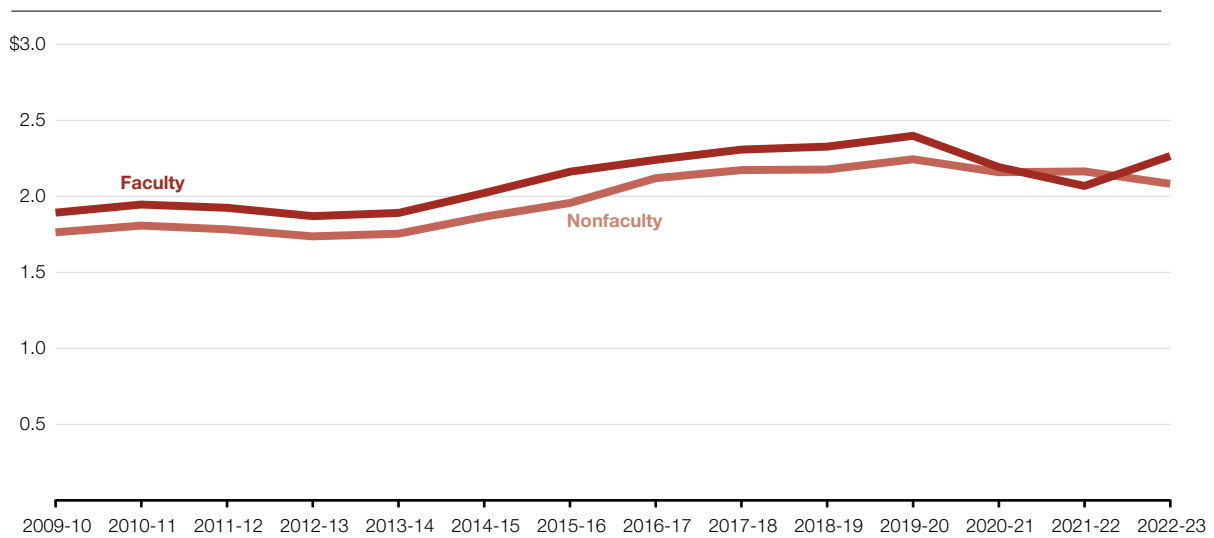
### Spending on Student Services Staff Has Notably Outpaced Other Employee Groups

Cumulative Percent Change in Total Spending on Salaries and Benefits for Select Employee Groups After Controlling for Inflation



### At CSU, Spending on Nonfaculty and Faculty Employees Has Grown Roughly In Tandem

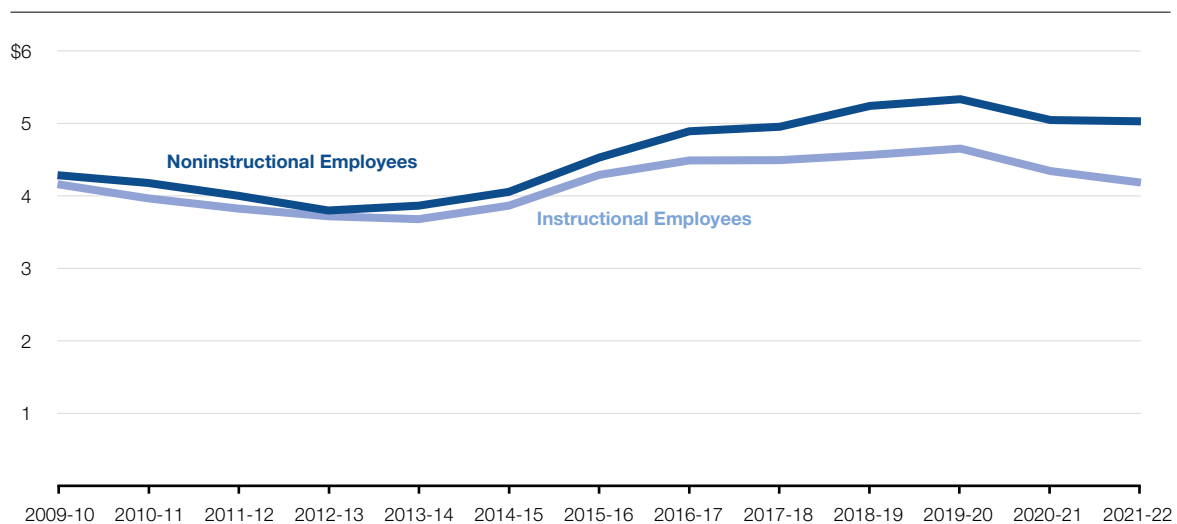
Total Spending on Salaries and Benefits, 2022-23 Dollars (In Billions)



Total spending on salaries and benefits for faculty at CSU (after controlling for inflation) was 18 percent higher, compared to 20 percent higher for other CSU employees, in 2022-23 compared to 2009-10.

### Like UC, CCC Has Seen Greater Growth in Its Noninstructional Employees

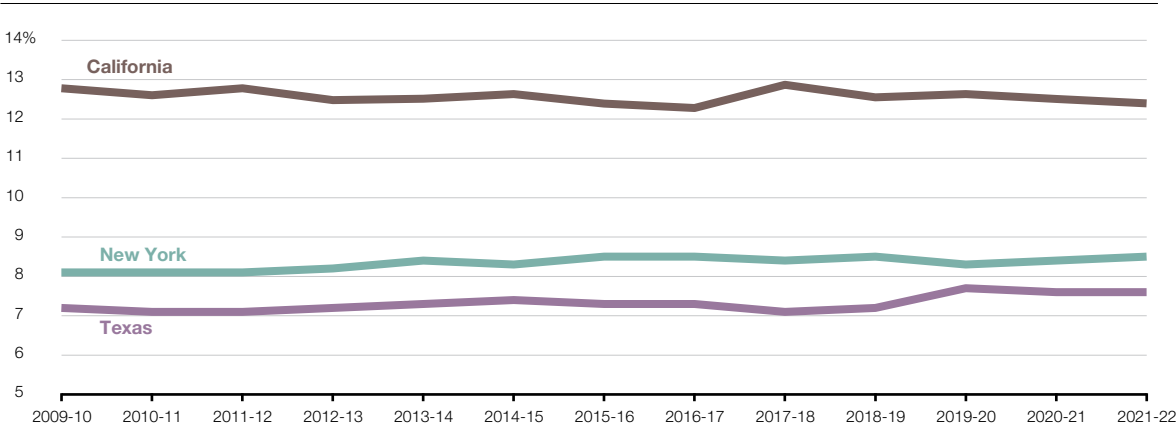
Total Spending on Salaries and Benefits, 2021-22 Dollars (In Billions)



Total spending on salaries and benefits for instructional employees at CCC (after controlling for inflation) was flat, compared to up 17 percent for noninstructional employees, in 2021-22 compared to 2009-10.

### California Has Been Retaining Its Share of National Higher Education R&D Spending

Share of National Higher Education Research and Development (R&D) Expenditures From All Sources

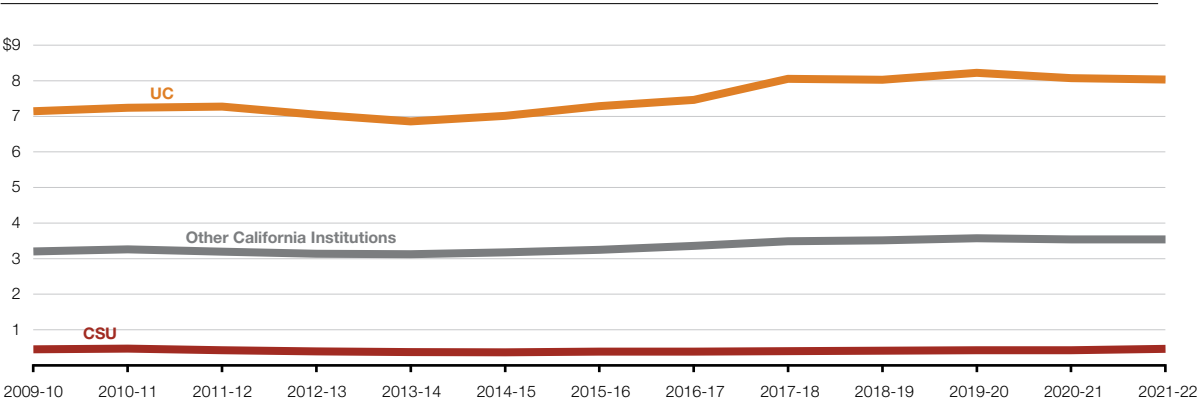


**Technical note:** Chart shows the three states with the highest shares of total national higher education R&D expenditures.

Since 2009-10, California’s share of total national higher education R&D expenditures has hovered around 12.5 percent.

### UC Has More R&D Spending Than Any Other Higher Education Segment in California

Total Higher Education R&D Expenditures, 2021-22 Dollars (In Billions)



**Technical note:** Only includes higher education institutions that spend at least a certain amount annually on R&D (\$150,000 in 2021-22).

Total R&D spending at UC was 12 percent higher (after controlling for inflation) in 2021-22 compared to 2009-10. CSU’s total R&D spending was 2 percent higher, whereas total R&D spending at other California institutions (mostly nonprofit universities) was 11 percent higher.

## California Consistently Has Same Four Universities With Top R&D Spending

Top 15 Universities in Nation With Most Higher Education R&D Expenditures, 2011-12 and 2021-22 (In Millions)

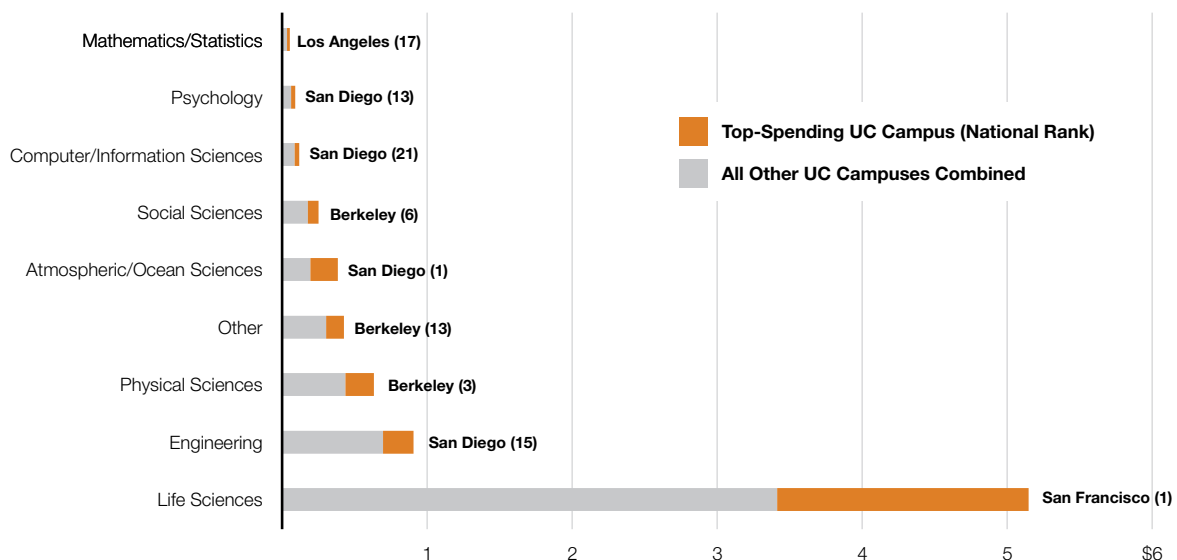
2011-12		2021-22		
1	Johns Hopkins University	\$2,851	Johns Hopkins University	\$3,420
2	University of Michigan, Ann Arbor	1,791	<b>University of California, San Francisco</b>	<b>1,806</b>
3	University of Wisconsin, Madison	1,584	University of Pennsylvania	1,791
4	University of Washington, Seattle	1,501	University of Michigan, Ann Arbor	1,771
5	<b>University of California, San Diego</b>	<b>1,454</b>	University of Washington, Seattle	1,560
6	<b>University of California, San Francisco</b>	<b>1,398</b>	<b>University of California, Los Angeles</b>	<b>1,536</b>
7	Duke University	1,367	<b>University of California, San Diego</b>	<b>1,533</b>
8	<b>University of California, Los Angeles</b>	<b>1,358</b>	University of Wisconsin, Madison	1,524
9	<b>Stanford University</b>	<b>1,223</b>	Duke University	1,391
10	Columbia University	1,204	<b>Stanford University</b>	<b>1,385</b>
11	University of North Carolina, Chapel Hill	1,198	Ohio State University	1,363
12	University of Pittsburgh	1,173	University of North Carolina, Chapel Hill	1,361
13	University of Pennsylvania	1,147	Harvard University	1,308
14	University of Minnesota	1,118	Cornell University	1,300
15	Massachusetts Institute of Technology	1,116	New York University	1,276

**Technical note:** The 2011-12 amounts have been adjusted for inflation (shown in 2021-22 dollars).

R&D = research and development.

## UC Spends More on Life Science Research Than All Other Fields Combined

Total UC R&D Expenditures by Field (In Billions), 2021-22

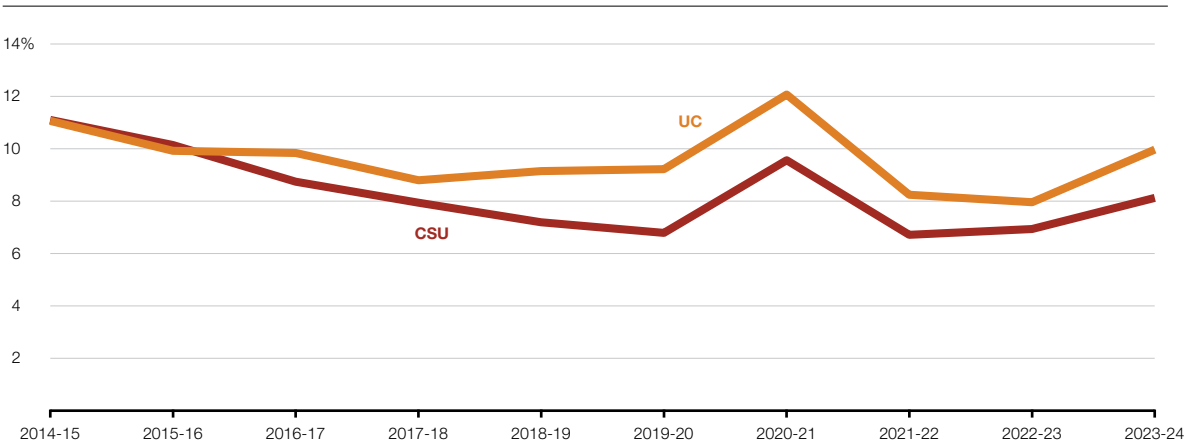


**Technical note:** "Other" includes business, communication, education, humanities, law, social work, and visual and performing arts.

About two-thirds of UC's R&D spending is in the life sciences—a field that encompasses biological and health sciences as well as agriculture. UC continues to have several of its campuses rank high nationally in terms of their R&D spending. The right side of the above chart shows the UC campus that has the highest ranking nationally in each respective field.

## Debt-Service Ratio Has Hovered Around 10 Percent at UC and 8 Percent at CSU

General Fund-Supported Debt as a Share of Each Segment's Annual General Fund Revenues



**Technical note:** Since 2013-14 for UC and 2014-15 for CSU, the state has allowed the segments to sell university bonds to finance their academic buildings. Prior to this time, the state had issued bonds directly for this purpose. UC and CSU use their main state budget appropriations to pay associated debt service. State law contains associated debt-service caps—UC and CSU may spend no more than 15 percent and 12 percent, respectively, of their General Fund appropriations on state-approved capital projects.

### Key Issue

Each year, the Legislature faces key trade-offs in deciding how much to spend on UC's and CSU's operations relative to their buildings and infrastructure. A related legislative issue is how close the segments are to their state debt caps and the implications this has for additional expansion.

### Current Credit Ratings Are Good

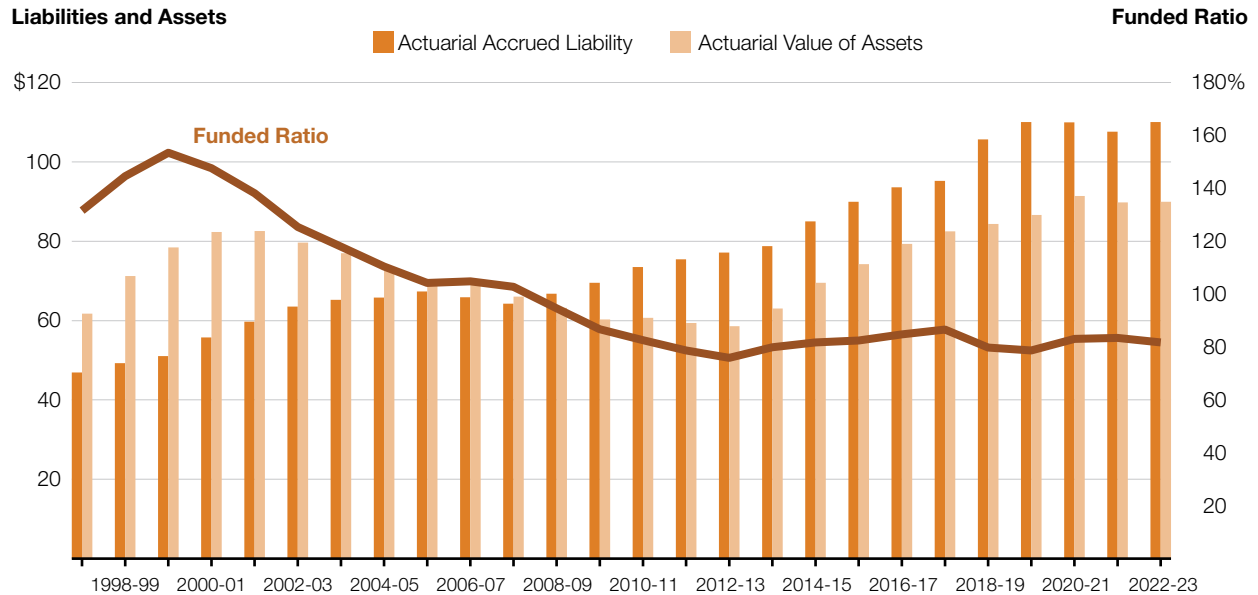
Rating as of July 2023

	Fitch	Moody's	Standard and Poor's
<b>UC</b>	AA	Aa2	AA
<b>CSU</b>	—	Aa2	AA-
<b>State</b>	AA	Aa2	AA-

Chart shows ratings for UC general revenue bonds, comparable bonds at CSU, and state general obligation bonds—reflecting each entity's best-rated bonds. Entities' borrowing costs are linked to their credit ratings, with better ratings resulting in lower costs. Although none of the entities shown currently has the best credit rating offered by each rating agency (for example, a AAA rating), the ratings are at the high-end of the scales and are better than at many other times over the past several decades.

## After a Period of Decline, UC's Pension System Stabilizes

Liabilities and Assets, 2022-23 Dollars (In Billions) and Assets as a Share of Liabilities



### Other Pension Systems Also Are Generally Stabilizing

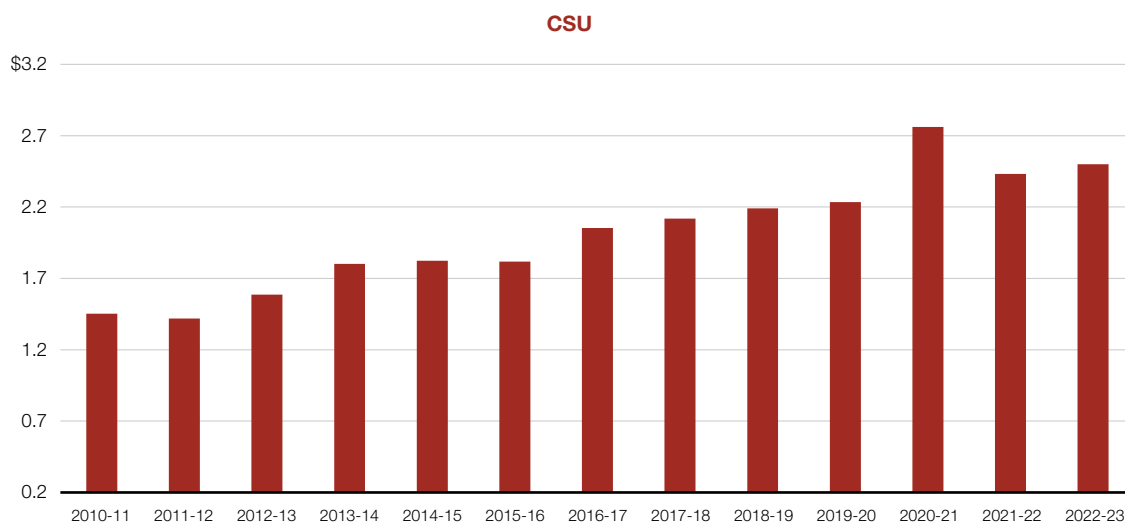
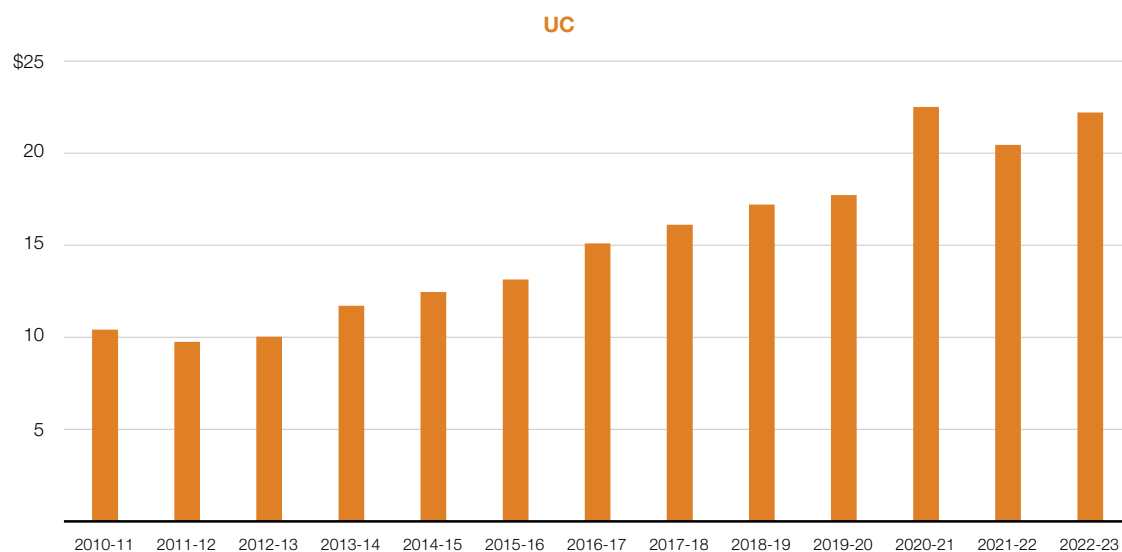
Whereas UC administers its own UC Retirement Plan, CSU employees generally participate in the California Public Employees Retirement System. Depending on their job classification, CCC employees generally participate either in CalPERS or the California State Teachers Retirement System (CalSTRS). All three of these pension systems had a period in which they were fully funded (mostly in the late 1990s). Thereafter, the funding status of all three pension systems deteriorated, with policy decisions, investment returns, and changes in actuarial assumptions contributing factors. Since 2013-14, the funding status of the three systems generally have stabilized, mostly in response to policy decisions that have raised pension contribution rates.

### Retiree Health Care Liabilities Are Growing

UC and CSU continue to pay for retiree health care costs as these costs materialize, without any pre-funding. In contrast, nearly all other state agencies began pre-funding these benefits (similar to how pension benefits are funded) several years ago. As the number of retirees and health care premiums increase over the coming years, UC and CSU likely will see this portion of their budgets increase, in turn impacting other portions of their budgets.

## Endowments Continue to Grow at UC and CSU

Total Endowment by Segment, 2022-23 Dollars (In Billions)

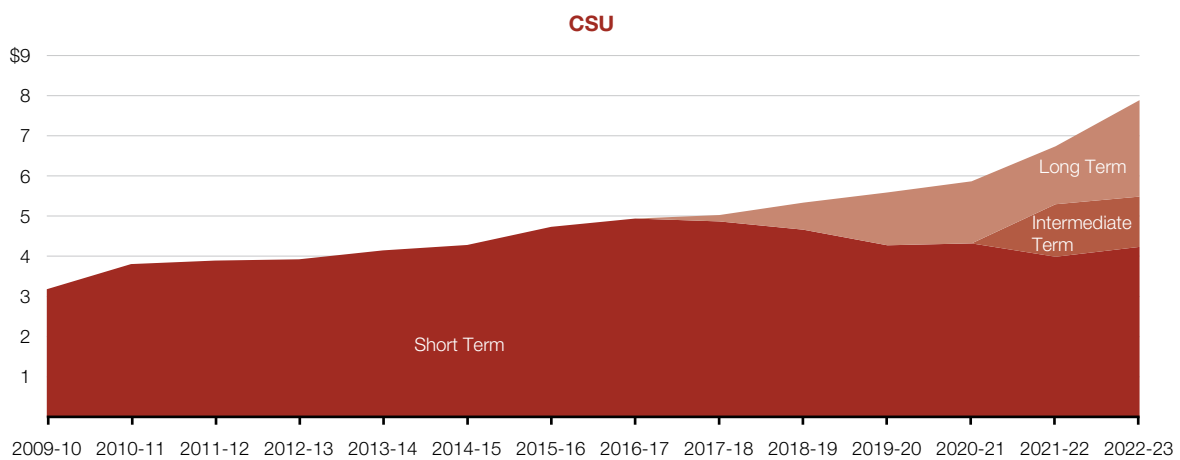
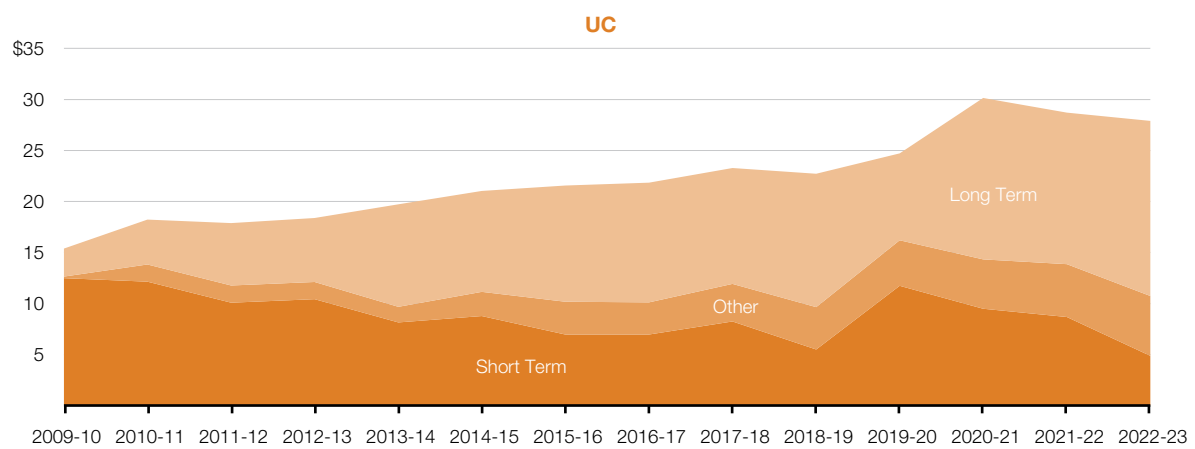


**Technical note:** Chart includes endowment funds designated for restricted purposes.

Even after controlling for inflation, CSU's and UC's endowments grew substantially from 2010-11 through 2020-21.

## Total Amounts in Other Investment Accounts Generally Have Been on the Rise

Amount in Investment Accounts Other Than Endowments, 2022-23 Dollars (In Billions)



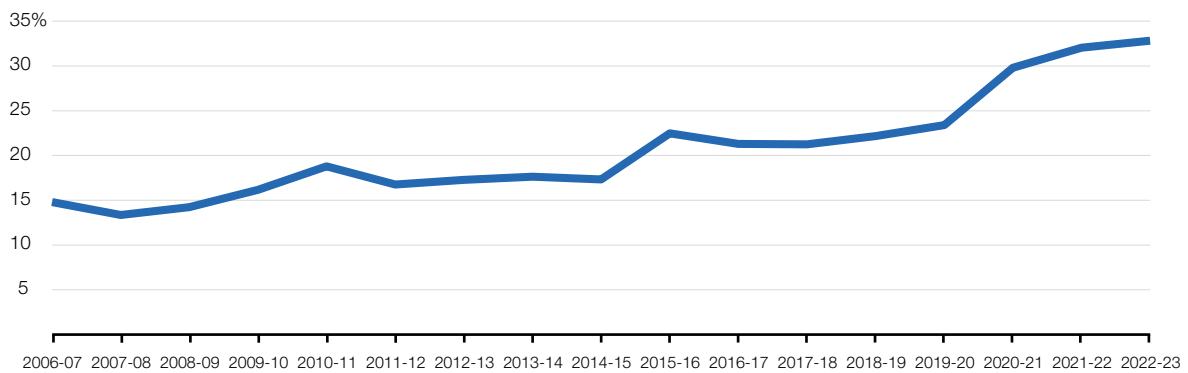
**Technical note:** Investment returns may take the form of interest, dividend, rental, or royalty income and include both realized and unrealized gains and losses. Short-term investment accounts tend to be low risk and have small returns. In contrast, longer-term accounts tend to be higher risk but also offer higher potential returns over time. "Other" UC accounts include receivables from UC Retirement Plan loans.

In addition to endowments (which commonly receive contributions from alumni and philanthropists), UC and CSU have other investment accounts (that hold core and other noncore funds). Similar to their endowments, UC and CSU have seen these other investment accounts grow substantially. CSU, after being granted statutory authority, created a new long-term investment account in 2018 that invests some funds in equities. UC has had such investment authority over the entire period shown.



## Unrestricted Reserves Generally Have Been Increasing at CCC

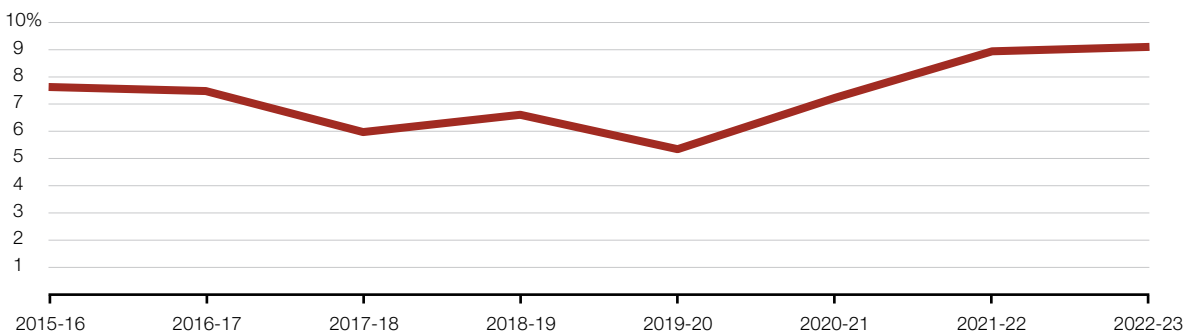
Systemwide Unrestricted General Fund Reserves as Percent of Annual Core Expenditures



**Technical note:** Chart shows all unrestricted General Fund reserves, even if committed for certain purposes, such as purchasing new equipment.

## Reserves Have Been Fluctuating at CSU

Uncommitted Core Funds as a Percent of Annual Core Expenditures



**Technical note:** Chart shows only reserves that have not already been committed for a special purpose. Comparable longitudinal reserve data are not available for UC. As of June 30, 2023, UC reported it had uncommitted core reserves equating to 2.6 percent of its annual core expenditures. (UC's total reported core fund balance was 15 percent of its core fund expenditures, but the bulk of that amount was committed for designated purposes.)

### Key Issue

Various fiscal oversight entities recommend state and local governments maintain reserve levels equating to two to six months (or 16 percent to 50 percent) of annual expenditures. UC and CSU have had reserve levels below the recommended range for agencies of their size. Moving forward, a key legislative issue will continue to revolve around the segments' reserve levels, preparation for the next fiscal downturn, and overall fiscal health.





## **LAO PUBLICATIONS**

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This report was prepared by Ian Klein, with contributions from Lisa Qing and Paul Steenhausen. It was designed by Vu Chu and reviewed by Jennifer Pacella. The Legislative Analyst's Office (LAO) is a nonpartisan office that provides fiscal and policy information and advice to the Legislature.

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