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## *policy brief*

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## Public Higher Education in California: Examining the Financial Landscape of the 21st Century

*By David Hoffert, Robert Jackman, and Shaowen Ang*

*Joe Nation, Professor of the Practice of Public Policy and David Crane, a lecturer (both at Stanford University) were the faculty advisors.*

Over the last several decades, California's public higher education system has been considered a worldwide model of excellence. In 2010, public higher education institutions in California enrolled just under 2.4 million full-time equivalent (FTE) students: 235,000 in UCs, 412,000 in CSUs, and 1.69 million in California Community Colleges (CCCs). Yet, recently, California has been providing its public universities with fewer resources. State General Fund support per student for the UC and CSU systems declined 28 percent in real terms between fiscal years 2007-08 and 2011-12—an

average of 7 percent per year. Even before the financial crisis, the UC system's per-student state funding was declining, decreasing 40 percent in real terms—3 percent per year on average—from 1990-91 to 2007-08.

In this brief we forecast what California's four-year public higher education system will look like in 2025 if the current trend of diminishing state financial support persists—and what that will mean for California's society and economy. We focus on this question because the political

*continued on inside...*

### About the Authors

**David Hoffert** is completing his Master of Public Policy degree with a concentration in advanced economic analysis. He holds a Bachelor of Science degree in computer science from the University of Wisconsin and a Master of Science degree in mechanical engineering from Stanford University. He currently serves as a teaching assistant for the Introductory Economics Center at Stanford and previously directed the Stanford chapter of Students for Gavin Newsom during the 2010 campaign. David plans to run for elected office and intends to make public education—K-12 and beyond—his signature issue.



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**Shaowen Ang** is currently completing her Master of Arts in international policy studies with a concentration in global health and her Master of Science in management science and engineering. She holds a Bachelor of Arts in economics and Asian studies from Cornell University. Originally from Singapore, Shaowen has held policy-related internships with organizations such as the World Health Organization, the Singapore Economic Development Board, the Singapore Ministry of Foreign Affairs, and Innovations for Poverty Actions in Mongolia. She will be returning to Southeast Asia to work in the private sector after graduation.



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environment in California is unlikely to be conducive to an increase in—or even a stabilization of—state funding for higher education. The aim of this brief, then, is to provide a depiction of the current trajectory vivid enough to bring into focus a key question for California: If we are unwilling to change course on funding public higher education, are we willing to live with the consequences?

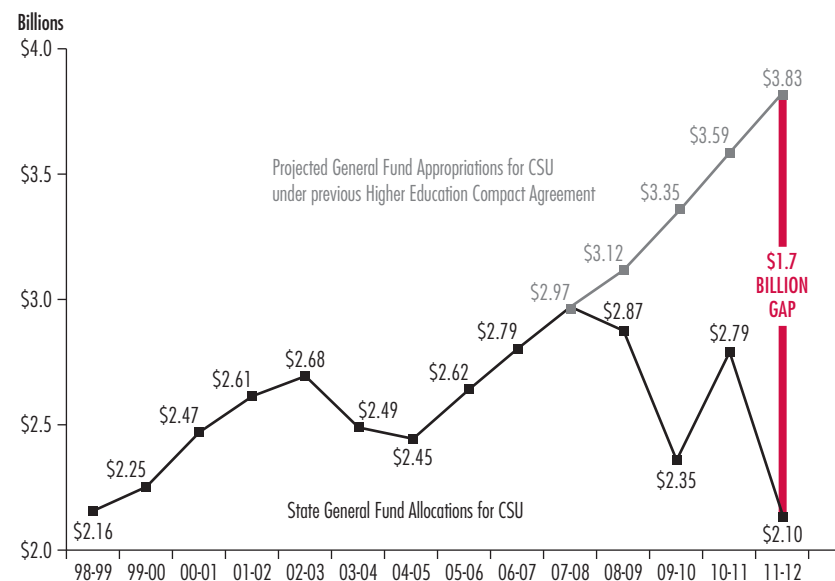
We first assess the California state budget as a whole, using current models and future predictions of underlying factors to project each of its major components between now and 2025. With one General Fund for all expenditures, spending on higher education is necessarily constricted by how other parts of California's budget are apportioned. Yet much of the debate surrounding higher education financing fails to account for these interdependencies. Thus, given the assumptions that higher education will remain among the lowest political priorities in California and that rates of revenue collection are unlikely to increase significantly, this holistic model of state spending

allows us to provide an accurate and likely unique prediction of how much state funding higher education will receive in the years to come. We then explore the consequences of—and possible responses to—what will effectively be a gradual privatization of the higher education system in California. By combining our projections of declining state financial support with outside studies on the differences between public and private universities, we endeavor to illuminate the economic and social ramifications of effective privatization.

## California Budget Projections

In modeling the state's budget, we focus on all expenditures other than higher education. This is because we hypothesize that higher education is, and will continue to be, a low budgetary priority, making it susceptible to crowding out over time. Figure 1, taken from the latest CSU budget document, emphasizes the unfortunate reality that higher education is not a priority in tough times; a similar chart exists for the UC system as well.

**Figure 1: CSU State Support versus Higher Education Compact Funding Agreement**



Source: The California State University 2012-2013 Support Budget

There are several complementary reasons why higher education routinely falls short in budget apportionments. Some areas of state expenditure, such as K-14 education and pensions, are constitutionally or contractually mandated to take precedence. In other areas, precedence arises out of economic incentives that are likely unintentional but pervasive nevertheless. For example, if California spends more on MediCal, it is eligible for increased matching funds from the federal government; if the state spends more on higher education, in contrast, it must be careful to avoid reducing its eligibility for federal contributions to need-based financial aid. Effectively, the federal government subsidizes MediCal spending and taxes higher education spending, providing incentives for the state to make MediCal a priority over higher education.

Our budget analysis focuses on California's General Fund, since 92 percent of the state's contribution to higher education funding comes from there. Within the General Fund, we focus on those elements of both

**Table 1: Categories and Sources for Baseline Budget Projections**

BUDGET CATEGORY	SOURCE OF BASELINE ASSUMPTIONS
Personal Income Tax	Legislative Analyst's Office
Sales and Use Tax	Legislative Analyst's Office
Corporation Tax	Legislative Analyst's Office
Insurance Tax	Legislative Analyst's Office
Other Revenue	Legislative Analyst's Office
Net Transfers and Loans	Legislative Analyst's Office
K-14 Education	Legislative Analyst's Office
Child Care and Development	Legislative Analyst's Office
MediCal	RAND Corporation
CalWORKS	Legislative Analyst's Office
Supplemental Security Income	Legislative Analyst's Office
In-Home Supportive Services	Legislative Analyst's Office
Developmental Services	Legislative Analyst's Office
Mental Health	Legislative Analyst's Office
Other Health/Social Programs	Legislative Analyst's Office
Corrections and Rehabilitation	Legislative Analyst's Office
Judiciary	Legislative Analyst's Office
Infrastructure Debt Service	California State Treasurer
Pensions	Stanford Institute for Economic Policy Research
Other Programs/Costs	Legislative Analyst's Office

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expenditure and revenue that either currently account for significant percentages of the total or are expected to do so in the near future. Today, 70 percent of the General Fund's expenditures go to MediCal, corrections, K-12 education, and higher education, while 93 percent of its revenues come from income taxes, sales taxes, and corporate taxes. We also, however, examine state pensions, retiree health care, and debt service, as these are oft-mentioned candidates for rapid expenditure growth in the coming years.

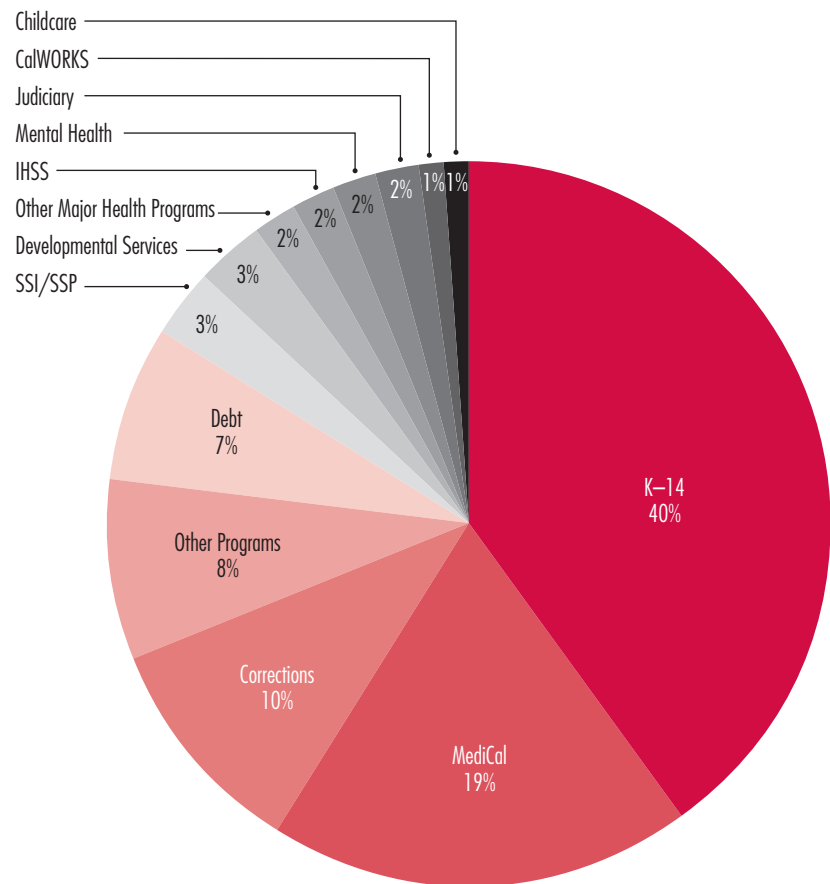
The California Legislative Analyst's Office (LAO) performs budget projections on an annual basis over a five-year time horizon, but we are interested in looking further out into the future, to fiscal year 2024-25. Thankfully, in the long run, changes in revenues and expenditures are driven mostly by economic and demographic changes, not the policy details with which the LAO concerns itself in the short run. Our projections of the budget through 2024-25, therefore, are primarily constructed by continuing the

trends identified by the LAO, while accounting for economic and population growth, but are also supplemented by other projection sources as appropriate. In other words, our projections assume that current-law policies persist through 2025, establishing a status quo benchmark. Table 1 lists the components of the California

budget that we analyzed and the sources from which we drew our baseline assumptions for each of those categories. Figure 2 presents the proportion of the 2011-12 non-higher education state budget that each of the expenditure categories comprised, to provide a sense of their relative magnitudes.

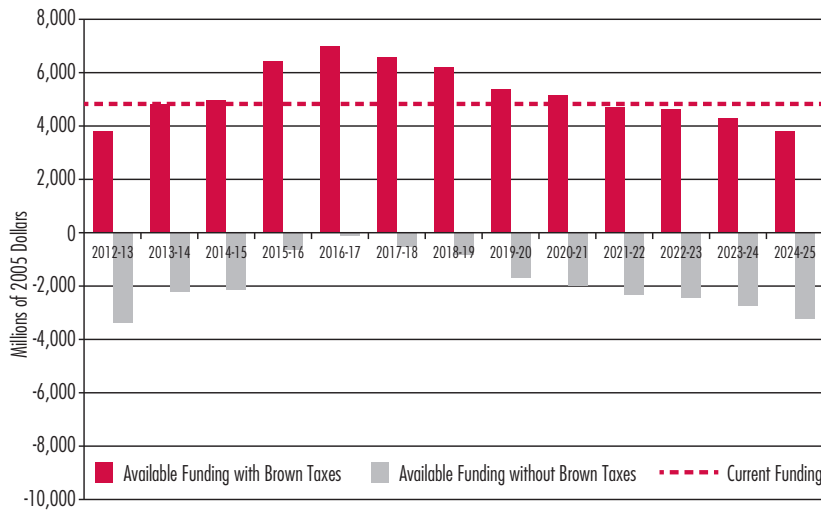
Figures 3 and 4 present the

**Figure 2: 2011-12 Non-Higher Education State Expenditure Proportions**

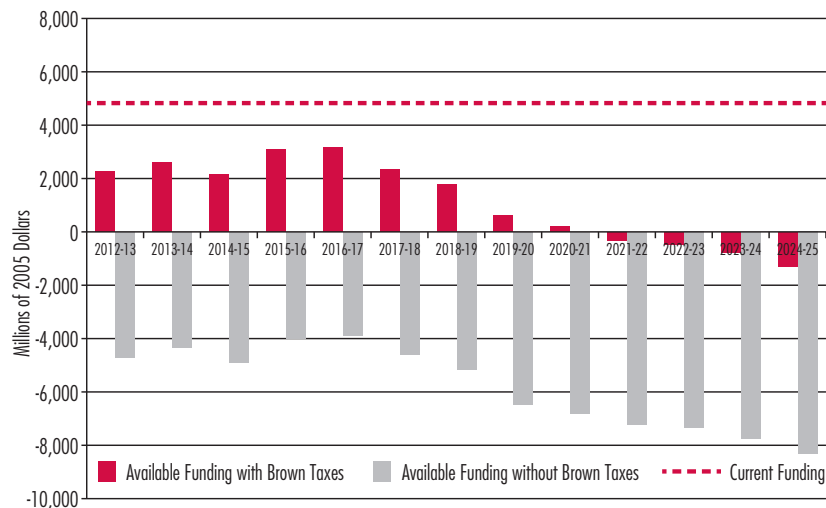


Data from the California Legislative Analyst's Office

**Figure 3: “Best-Case” Available Funding for Higher Education**



**Figure 4: “Optimistic” Available Funding for Higher Education**



results of our comprehensive budget analysis by predicting the amount of money from the General Fund available for higher education in each year according to our residual model, in which every other expenditure category is given priority. The dashed red line represents the level of funding that was provided to higher education in 2011-12—already only about 60 percent of what it was, in real terms, a decade ago. The light gray bars present the funding situation assuming status quo taxation policies; the red bars present the situation under three new assumptions: that Governor Brown’s proposed tax increases are approved by voters this November, that those increases are made permanent rather than sunset by 2018, and that those increases bring in the \$7 billion per year expected by the LAO.

In Figure 3, we provide what we consider to be the “best-case”<sup>1</sup> scenario in each category of revenues and expenditures. Clearly, even this unreasonably optimistic projection does not

1 Of course, a truly “best-case” scenario for higher education would not insist that it receive the lowest budgetary priority. Here, by “best-case,” we mean only that all necessary expenditures in other spending areas are minimized. The point is to illustrate the fact that no amount of budgetary luck can overcome the consequences of the current insistence on relegating higher education to among the lowest priorities in the budget. Hereafter, we move from this residual model to an historical decline model, to base our conclusions on a less severe assumption than absolute lowest priority.

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look particularly good. Without the Brown taxes, there is no funding available for higher education in any year of the forecast; in most years, in fact, cutting higher education funding to zero would still not balance the budget. With the Brown taxes, current levels of funding for higher education can be sustained—perhaps even increased slightly—through the end of the decade.<sup>2</sup> Then, however, higher education cutting must resume, even as, in all likelihood, student enrollment increases.

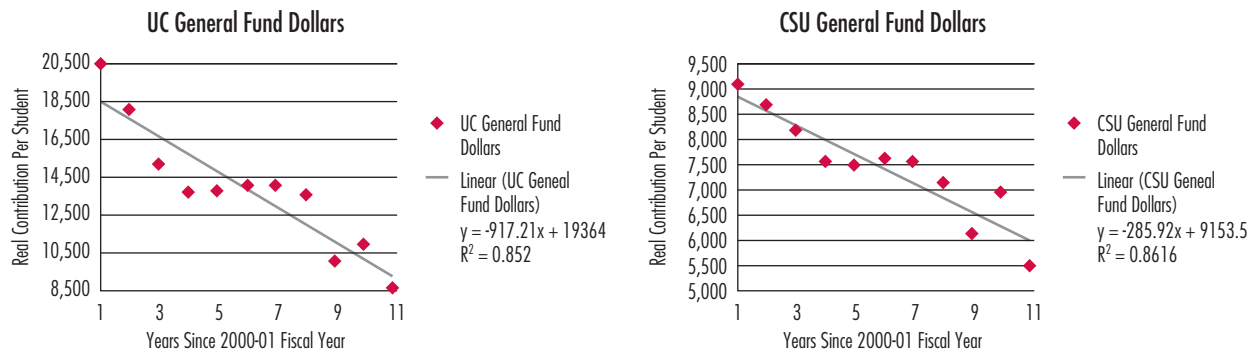
In Figure 4, we relax three<sup>3</sup> assumptions. First, rather than

use a 7.1 percent investment rate of return for state pensions, we move to a more reasonable 6.2 percent return. Second, we assume that state debt already authorized is, in fact, issued and must be paid off.<sup>4</sup> Third, we assume that the state begins to (only partially) fund retiree health care costs in advance, rather than use the purely pay-as-you-go system it does today.<sup>5</sup> In other words, these three relaxed assumptions present a more realistic projection that is still, if anything, optimistic. Unfortunately, these changes make our results significantly worse. Now, even with the

Brown taxes, higher education funding would have to be cut immediately and would be reduced to zero by 2022.

It is highly unlikely that the state legislature will cut all higher education funds immediately. However, this result does mean that the pressure to continue trimming the higher education budget year after year will persist. In order to forecast the impact of continued budget cuts on the higher education system, then, we need to develop a prediction of how and when the higher education budget will actually be cut. Assuming that the most

**Figure 5: General Fund Real Spending per FTE Student for UC and CSU, Last Decade**



2 This result is consistent with Governor Brown's budget proposal, as he assumes the passage of his tax increases.  
 3 Our projection of MediCal, the remaining major source of potential crowding out, is the same in both our "best-case" and "optimistic" scenarios. This is because multiple reputable sources (including RAND and the Centers for Medicare and Medicaid Services) mostly agree on this projection, making a deviation from their numbers speculative at best.  
 4 Using scenarios provided by the California State Treasurer.  
 5 Using numbers provided by a recent Gabriel Roeder Smith & Company report to the California State Controller.

meaningful measure of higher education spending is real spending per FTE student, we find a strong linear trend in the cuts to both the UC and CSU systems over the past decade, depicted in Figure 5. Since the

CCC system is at least partially protected from budget cuts by Proposition 98, we assume that it is spared entirely from future budget cuts and focus, for the remainder of this brief, on four-year-or-better higher education

in the state. Table 2 presents the levels of real state spending per student on the UC and CSU systems that we expect if these trends continue through 2025.<sup>6</sup>

### Consequences of Effective Privatization

The model we use to predict the effects of this decline in spending is as simple as it is intuitively sound. The defining feature of a private university is that it does not receive state funding to subsidize the tuition of in-state students. Thus, if a public university stops receiving state funds, it has effectively become a private university. By the same logic, as a public university sees its financial contribution from the state diminish, it is effectively being privatized, and we would expect its behavior to change over time to reflect this change in status. Thus, if we can determine a level of funding that represents a “completely” public university, we can describe the extent to which an actual university has been privatized. And if we can say what proportion of a university is private and what

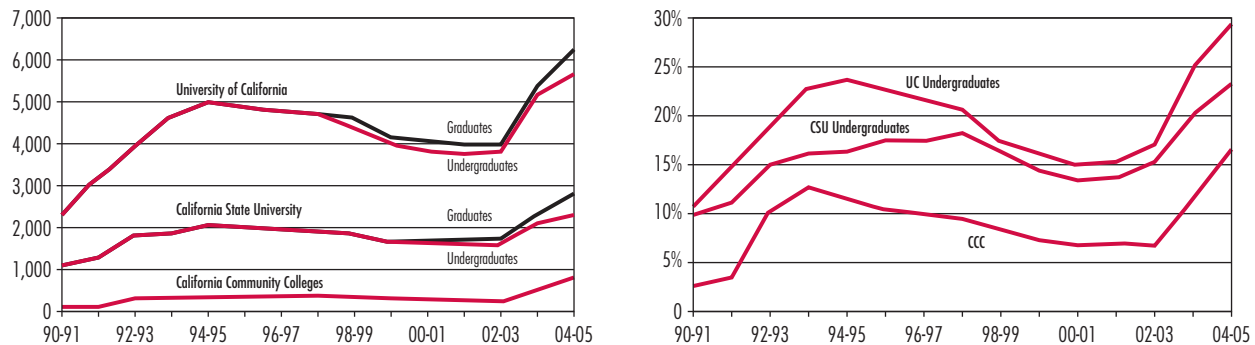
**Table 2: Projected General Fund Real Spending per FTE Student for UC and CSU**

Fiscal Year	UC System		CSU System	
	Contribution	As % of 2001-02	Contribution	As % of 2001-02
2012-13	\$8,357	41.21%	\$5,722	63.18%
2013-14	\$7,440	36.69%	\$5,437	60.03%
2014-15	\$6,523	32.16%	\$5,151	56.87%
2015-16	\$5,606	27.64%	\$4,865	53.71%
2016-17	\$4,689	23.12%	\$4,579	50.56%
2017-18	\$3,771	18.60%	\$4,293	47.40%
2018-19	\$2,854	14.07%	\$4,007	44.24%
2019-20	\$1,937	9.55%	\$3,721	41.08%
2020-21	\$1,020	5.03%	\$3,435	37.93%
2021-22	\$103	0.51%	\$3,149	34.77%
2022-23	\$0	0%	\$2,863	31.61%
2023-24	\$0	0%	\$2,577	28.46%
2024-25	\$0	0%	\$2,291	25.30%

<sup>6</sup> Table 2 also reports these spending levels as a percentage of spending in 2001-02. As explained below, this is because we have established that year as the last in which the UC and CSU systems were behaving as “fully public.”

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**Figure 6: Tuition per Student and Student Share of Educational Costs over Time**



Source: Legislative Analyst's Office

proportion is public, we can take a weighted average of the characteristics of fully public and private universities to predict the characteristics of the hybrid university in question.

The first step in using our model of effective privatization is to identify the last year in which we believe the California public higher education system was behaving as a “completely” public system. For this, we focus on the tuition and fees students must pay to obtain higher education; after all, what distinguishes a public university from a private university is subsidized tuition for students. We chose two

specific measures of student costs to evaluate: tuition and fees and student share of total educational costs. Figure 6 shows that both of these indicators had been declining for the eight-year period prior to 2001-02 and then began to increase sharply, making 2001-02 a natural choice for a “baseline public year.” The choice of 2001-02 also makes sense in the context of the “dot com boom” of the late 1990s followed by the “dot com bust” shortly before 2001-02.

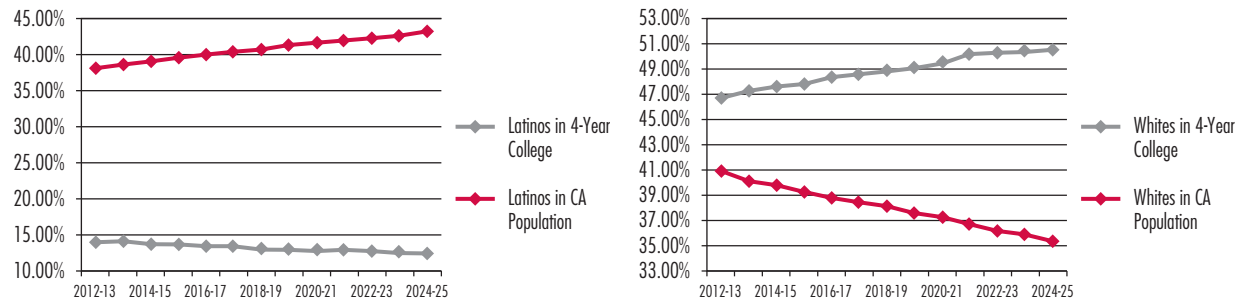
The second step in using our model is to identify how the behaviors of public and private universities differ; for this, we

turn to outside research. U.S. national statistics show that the average tuition at private four-year universities is more than double that of the average at public four-year institutions. Several studies confirm that higher tuition prices lead to lower enrollment by students, but more detailed research notes that minority students—including Latinos, the fastest growing demographic group in California—are discouraged disproportionately.<sup>7,8</sup> Other research shows that private universities tend to achieve cost reductions by offering a greater number of inexpensive

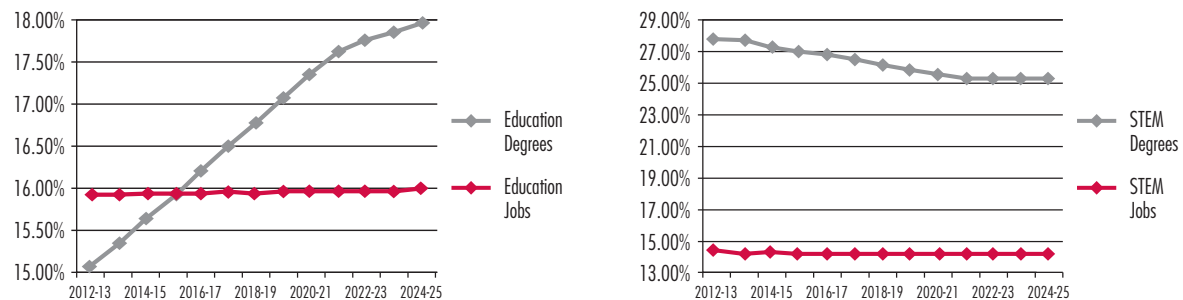
7 Perna, Laura W. “Differences in the Decision to Attend College among African Americans, Hispanics, and Whites.” *The Journal of Higher Education*, Vol. 71, No. 2, Special Issue: The Shape of Diversity (Mar/Apr 2000), pp. 117-141.

8 Chen, Rong, and DesJardins, Stephen L. “Investigating the Impact of Financial Aid on Student Dropout Risks: Racial and Ethnic Differences.” *The Journal of Higher Education*, Vol. 81, No. 2 (March/April 2010), pp. 180-208.



**Figure 7: Access for Latinos and Whites**

Based on authors' weighted-average model, California Department of Finance demographic projections

**Figure 8: Supply and Demand of Education and STEM Degrees**

Based on authors' weighted-average model, Bureau of Labor Statistics, Georgetown University Center on Education and the Workforce Job Projections

degree programs and fewer costly programs. In California in the academic year 2001-02, for example, 50.9 percent of degrees produced by the UC system could be classified as science, technology, engineering, and mathematics (STEM) degrees, compared with only 25.1 percent of degrees produced by four-year private universities in the state.

Thus, using our projections of UC and CSU “publicness” from Table 2 and data from

the California Postsecondary Commission confirming the differences between public and private institutions listed above, we can employ a linear weighted-average model to predict the ethnic and degree compositions of the effectively privatized California higher education system of 2025.

Figure 7 presents our results on access for Latinos and Whites. Latinos are significantly underrepresented in four-year

colleges already, and effective privatization will only exacerbate their low representation. In contrast, effective privatization will increase already-existing White overrepresentation in the system.

Figure 8 presents our results on degree production for education and STEM. The shift to less-expensive degree types that will inevitably accompany effective privatization certainly has its negative consequences. For example, the proportion of

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four-year-or-better Education degrees will rapidly grow from shortage to surplus. However, the results of effective privatization appear to somewhat lessen the existing mismatch between supply of and demand for STEM degrees.

It is worth noting explicitly that these results assume that changes in access and degree production occur instantaneously when state funding is cut. In reality, we might expect there to be a lag time between the two, though it is not clear what that lag time would be.<sup>9</sup> Still, this calls into question only when these effects will occur, not what they will be. As such, we believe these results still offer useful insight into the future behavior of the California higher education system.

## **Policy Options and Conclusions**

This brief's main focus has been to provide a description of the financial challenges facing California's public higher education system and the likely consequences of continued decline in fiscal support from the state. The state faces a long-term general budget crisis that will only get worse with time. With its undesirable consequences for ethnic composition of the California public university system, this financial challenge threatens the very core of the California Master Plan for Higher Education's mandate of universal access.

While a thorough consideration of potential policy responses is best left to decision makers in Sacramento, we can offer a couple of nascent ideas for change. However, the current political climate and institutions in California combine to deny us the luxury of proposing any solutions that rely on substantial increases in state government funding. The

following suggestions, then, are provided to highlight the fact that, in such an environment, solutions previously considered unacceptable may merit renewed attention.

1. Focus all remaining funds for higher education entirely on need-based financial aid—in other words, deliberately and rapidly redirect all funding from the UC and CSU systems directly to students. Given outside research that has concluded that state subsidies to colleges can distort incentives and, if anything, benefit most those students with the least financial need,<sup>10</sup> such a change could represent a more efficient use of limited funds. In addition, a move like this would finally stabilize tuition rates (after an initial significant increase). If we decide not to fund the UC and CSU systems directly as “public” higher education institutions—and thus consign them to effective privatization—we can at least

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<sup>9</sup> Data from the past 10 years does not yet show the effects we predict. However, we are only about four years from the severest cuts, and a lag time of four years is reasonable since that is the completion time for an undergraduate degree.

<sup>10</sup> For more on this concept, see the work of Sam Peltzman and Bridget Long.

ensure that there is a robust “public” aid system for needy students.

2. Prioritize funding for the CSU system over funding for the UC system, letting the UC schools become truly private immediately in order to slow the privatization of the CSU system. Whereas the UC system can leverage revenue from sources such as research grants, Division I sports, and endowments, the CSU system basically has only two sources of revenue—state funds and student tuition—making the

only viable alternative to state funding for the CSU tuition increases. As a result, an injection of state funds into the CSU system would be proportionally more valuable than the same injection into the UC system.

We do not mean to imply that we “like” either of these solutions, but that is hardly the point. California’s public higher education system is experiencing a real crisis, and even the “best” solutions will be far from satisfactory. Indeed, both of these recommendations

represent at least a major change in the Master Plan for Higher Education in California, if not a complete dismantling of it. We consider this, however, to be an advantage of, rather than a detractor from, our work. California’s public higher education system is in serious financial trouble, which has, in turn, spawned non-financial consequences impacting the state’s economy and sense of social justice. Responding boldly to a crisis of this magnitude, while daunting, strikes us as entirely appropriate.

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