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STUDENT EXPERIENCE IN THE RESEARCH UNIVERSITY (SERU) CONSORTIUM*

COLLEGE AFFORDABILITY AND THE EMERGENCE OF PROGRESSIVE TUITION MODELS: Are New Financial Aid Policies at Major Public Universities Working?

June 2016

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ABSTRACT

In an era of significant disinvestment in public higher education by state governments, many public universities are moving toward a "*progressive tuition model*" that attempts to invest approximately one-third of tuition income into institutional financial aid for lower-income and middle-class students. The objective is to mitigate the cost of tuition and keep college affordable. But is this model as currently formulated working? What levels of financial stress are students of all income groups experiencing? And are they changing their behaviors? Utilizing data from the Student Experience in the Research University (SERU) Survey of undergraduates and other data sources, this study explores these issues by focusing on students at the University of California and ten AAU institutions that are members of the SERU Consortium. At least to date, the increase in tuition, and costs related to housing and other living expenses, have not had a negative impact on the number of lower-income students attending UC. Reflecting to some degree UC's robust financial aid policies, and perhaps the growing number of lower-income families in California, there has been an actual increase in their number and as a percentage of total enrollment – a counterintuitive finding to the general perception that higher tuition equals less access to the economically vulnerable. At the same time, there is evidence of a "middle-class" squeeze, with a marginal drop in the number of students from this economic class. Students' concerns for paying for higher education and accumulated student debt in the 2014 SERU are predictably higher among lower-income students, yet upper-middle income students (with annual family incomes from $80–125,000) are the least likely to agree that the cost of attendance is manageable. With these and other nuances and caveats briefly discussed in this study, the *progressive tuition model* appears to be working in terms of affordability and with only moderate indicators of increased financial stress and changed student behaviors. These results are not necessarily predictive of the future if tuition rates go up further. But they do indicate the higher tuition rates at highly selective public universities, if accompanied by robust federal, state and institutional financial aid, may be the best path for maintaining access to lower-income students, and for generating income needed for institutions to maintain or improve student-to-faculty ratios and other markers of quality. Freezing tuition, as currently demanded by state lawmakers in California, does not appear to be based on any clear analysis of the correlation of tuition and affordability. It appears more as a politically attractive way to appeal to voters while ignoring the financial consequences for public colleges and universities and the quality of the student experience.

Keywords: College Affordability, Financial Aid, Student Debt, University of California.

The cost of enrolling in college or a university has been steadily rising, generating considerable concern among American families and intense media attention. Among lower-income and middle-class students, there is a sense that a public college or university education is increasingly out of reach or a financial burden on a scale never experienced before. Student debt levels are at an historic high. The number of students gaining a bachelors degree in the traditional age cohort of 18-24 year olds has declined relative to our top economic competitors.[1] And the cost of attending a public university or college is a major campaign issue in the upcoming election for president, at least within the Democratic primary, with promises of unprecedented levels of federal funding to states to reduce or even eliminate tuition.

* Student Experience in the Research University (SERU) Consortium is an academic and policy research collaboration based at Center for Studies in Higher Education at the University of California – Berkeley (CSHE) working in partnership with the University of Minnesota, the International Graduate Insight Group Ltd (i-graduate), the Higher School of Economics – Moscow, and member universities. Preliminary findings for this paper were presented on June 8, 2015 at the SERU Research Symposium. Updated version July 22, 2016.

Why has tuition gone up so much in public institutions? The most significant reason is the long-term decline in public investment in public higher education institution over the past two decades, with a sharp acceleration of this trend with the arrival of the Great Recession in 2008. One study notes that between 2001 and 2011 some 79 percent of the tuition hikes at public universities was due to declining state appropriations, some 5 percent was due to increased administrative spending, and another 6 percent was due to construction costs.[2] Even as the economy has slowly recovered, state funding for higher education remains far below pre-recession levels for most states. Disinvestment has resulted in a shift of the financial burden to students. In 1988, public colleges and universities received, on average, 3.2 times as much in revenue from state and local governments as they did from students. They now receive about 1.1 times as much from states and localities as from students.[3] At many public universities, like the University of California, students now pay substantially more toward their education than the state does – an historic shift.

Yet, increased tuition has not fully made up for the huge decline in state subsidies. Compounding the challenges faced by public higher education, in states like California, the population is growing and the labor market is in need of students with a bachelors degree or higher. Even in the midst of declining state investment on a per student basis, UC continued to enroll more students, and the number of undergraduate degrees awarded grew by 47 percent between 2000 and 2014, from 32,741 to 48,069 degrees.[4] There are few additional public dollars for expanding enrollment and program capacity to meet the growing demand for one or more forms of post-secondary education – in California, for example, that state provides virtually no funds for capital construction, let alone the adequate funding of maintenance and the upgrading and retrofitting of old buildings.

Within this environment, most state universities have pursued significant reductions in operating costs. This has included cuts in in the number of permanent faculty and staff, hiring even more part-time instructors, rising student-to-faculty ratios, and reductions in the number of classes and program offerings. In some states, the search for additional revenue has included limits and even cuts in the number of state-resident undergraduates *and* the recruitment of out-of-state and international students who pay higher tuition fees.

One major assumption in the public discourse over rising fees, and state disinvestment, is that it will result in a significant decline in the enrollment of lower income and middle-class students in the nation's public universities and generate unmanageable debt levels for those students who do enroll. There are many different types of higher education institutions in the US with different missions and costs, and different demographic mixes of students – community colleges, vocational institutions, liberal arts colleges, master's granting universities and research-intensive universities, most public and some private, some open to all students with many being enrolled part-time and some highly selective with full-time students. Hence, there are very different dynamics among the institutions related to the operational costs of educating students, what students are charged, and what levels of debt they may or may not incur. As observed in a recent study by Adam Looney and Constantine Yannelis, "Most of the increase in default is associated with the rise in the number of borrowers at for-profit schools and, to a lesser extent, 2-year institutions and certain other non-selective institutions, whose students historically composed only a small share of borrowers." Most 4-year public and non-profit universities, which constitute the vast majority of federal loans have low default rates, in part because of students have relatively high graduation rates and gain jobs (Looney and Yannelis, 2015).[5]

In response to rising tuition and fee costs for students, many public universities with selective admissions practices, such as the University of California (UC), have invested increasing amounts of need-based aid for their students. They have targeted their evolving financial aid programs to support lower- and middle-income students.[6] Institutional aid at these public universities at the scale now invested is a relatively new phenomenon. The intent is to complement federal financial aid grant programs for low-income students, specifically Pell Grants, and the growing direct loan program, as well as state-based financial aid programs such as California's Cal Grants. This has resulted in what can be called a *progressive tuition model* that charges higher-income students more to help reduce the cost and debt for lower income students and their families. The state used to do this via tax and spending policies, but now public universities are taking the role of what might be called taxing the rich to pay for the poor.[7]

In the face of state disinvestment, most public universities have sought other revenue streams, included enrolling more out-of-state and international students who pay higher fees and generally are from higher income families. The result is intended to be a "moderate-fee (relative to the cost of educating a student) and high-financial and need based aid" approach.[8] Unlike most private colleges and universities, and some public institutions, UC does not generally provide financial aid to undergraduate students (including transfer students normally entering at the junior year) based on "merit" - such as students applying with high-standardized test scores, regardless of financial need. [The exception is Regents and Chancellors scholarships that are relatively small programs].

It appears that the University of California is attempting to pursue this *progressive tuition model* in a more aggressive manner than most public universities. As part of a system-wide approach to financial aid, all its campuses must divert substantial tuition income to need based aid. Because this model is relatively new and in an experimental stage, it is not a policy well understood

by most Californians or by increasingly hostile lawmakers who equate higher tuition with decreased access, declining socioeconomic mobility, and increased financial stress for California families.[9]

But is it working? More specifically, in the case of UC, a highly selective multi-campus system of nine undergraduate campuses with most students attending full-time, do we see significant shifts in access for lower-income students? These questions are briefly answered in the following analysis before exploring student behaviors and their perception regarding affordability once enrolled at UC. This provides a basis to discuss the following questions:

- Is the *progressive tuition model* found at UC mitigating the concern of students regarding affordability?
- How do the concerns of students about education costs influence their behaviors – e.g., are they working more, spending less on food, etc.?
- Are college costs (both tuition and the cost of housing and incidentals) influencing their satisfaction with their college experience; are their substantial differences between students from lower- versus higher-income families?

The following provides a discussion on the University of California's student financial aid policies, shifts in enrollment shares among lower, middle-class, and higher income students, the actual cost of attendance, and debt burdens of UC students from different family income groups. Our study then analyzes student responses from the 2014 Student Experience in the Research University (SERU) Survey (known as UCUES in the UC system) regarding their time allocations and behaviors, educational experience, and perceptions. The 2014 SERU Survey includes 66,323 responses from UC students and 63,802 responses from ten non-UC AAU campuses [see Appendix A for response data and Appendix D for the list of campuses that participated in the 2014 SERU Survey]. We also provide a brief analysis of student experiences and behavior change over time by examining an earlier SERU study that focused on data collected in 2010 (Chatman 2011).

SERU is administered as a census, on-line undergraduate survey with a version administered at all the undergraduate UC campuses and more than fifteen major public universities in the US, all of which are members of the Association of American Universities. (A version is also administered internationally at top-tier national universities). SERU provides a unique and robust source for exploring the question of affordability and the level of financial stress experienced by students.

In this exploratory look at the SERU data, our focus is on the financial background and circumstances of students, with the plan to look in more depth at sub-populations related to race and ethnicity, parental education and other important variables. In this analysis, we look at UC's network of nine undergraduate campuses as a system serving the state of California, and do not unpack the data by individual campuses. UC has a mandate as a statewide institution to serve the top high school graduates and transfer students via systemwide admissions, tuition, and financial aid policies. This provides a rationale for looking at the performance of the system.

This analysis also reports on student income as opposed to the concept of family wealth and other forms of social capital. Students may have, for example, low reported family income, but come from family backgrounds with property and parents with relatively high education levels. With these caveats noted, we do have the opportunity to generally assess the match of affordability and student behaviors in an era of rising tuition and revised financial aid models.

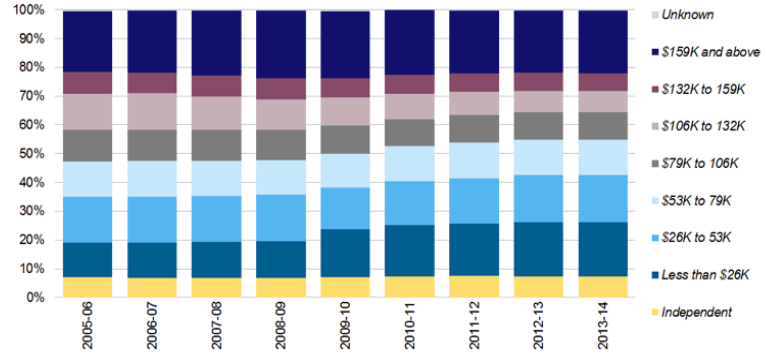


Figure 1: Trends in the parent income of UC undergraduates, 2013 constant dollars UC-wide, 2005–06 to 2013–14. [Source: Indicator 2.2.3, 2015 Accountability Report, University of California]

A. Affordability at the University of California

Reflecting national trends, over the past two decades state funding for California higher education on a per student basis has declined considerably. In part, economic downturns and an inadequate tax model led to cuts in funding for the University of California and other public colleges and universities. Another reason for the decline in per student funding is the increased public mandated costs of health care and pensions, and large-scale investment and costs related to prisons. Higher education must compete for tax dollars as "discretionary" spending (not mandated by law). The onset of the Great Recession accelerated the disinvestment pattern, resulting in a 30 percent drop in state funding to California's world-renowned public university system between 2008 and 2012.[10]

To partially make-up for the funding loss, UC increased student tuition and fees. In 2005-06, tuition and fees was $7,430 per year at UC's nine undergraduate campuses; by 2011-12 it climbed to $14,460. In this period, UC continued to enroll additional students to help maintain its social contract with the people of California – even though it was not receiving state funding for the increased workload. The result? Student to faculty ratios climbed and the overall expenditures per student declined from approximately $18,000 per student (undergraduate and graduate) to $16,500.[11]

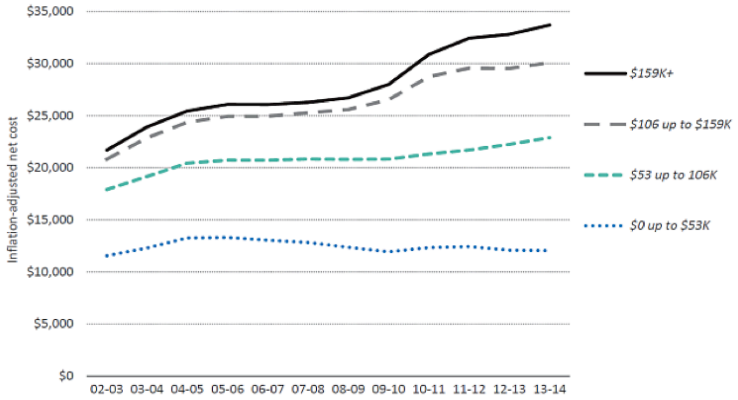


Figure 2: Net cost of attendance by family income, UC-wide, inflation-adjusted 2002-03 to 2013-14. [Source: Indicator 2.1.2, 2015 Accountability Report, University of California]

To help mitigate the impact of increased tuition for lower- and middle-class students, UC devotes some 33 percent of all tuition income to need-based financial aid that differentiates net costs across income groups. This is in addition to federal and state programs for lower-income students, such as Pell Grants and Cal Grants. Approximately $8,500 dollars of the current $14,460 in tuition and fees goes now to financial aid primarily for lower income students.[12] Between 2007-08 and 2015-16, institutional aid spending more than doubled at the universities, growing from $313 million to an estimated $735 million at UC. Institutional aid includes the Blue and Gold Opportunity Plan, established in 2009-10, which fully covers tuition and fees for students with family income under $80,000 a year. The Middle Class Scholarship, a state funding aid program, partially covers tuition for families up to $150,000 in annual income.[13]

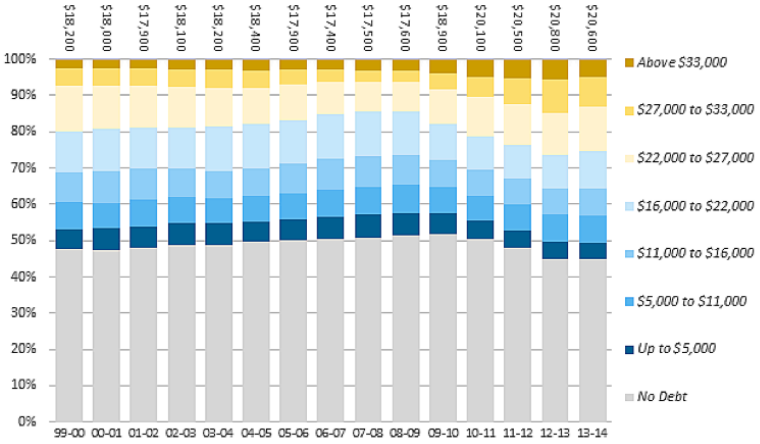


Figure 3: Student loan debt burden of graduating seniors, inflation-adjusted UC-wide 1999–2000 to 2013–14 (average debt of those with debt shown above each year). [Source: Indicator 2.5.2, 2015 Accountability Report, University of California]

About 55 percent of undergraduate students at UC receive aid sufficient to fully cover systemwide tuition and fees; an additional 9 percent receive partial tuition coverage. In determining need-based aid, UC first applies applicable federal and state aid on a student's behalf and assumes each student must contribute $9,500 through work or borrowing. It then uses institutional aid to fill any remaining gap between available resources and the cost of attendance. UC's average gift aid per recipient from all sources exceeds tuition by about $4,600—meaning the average aid award pays for some living costs.[14]

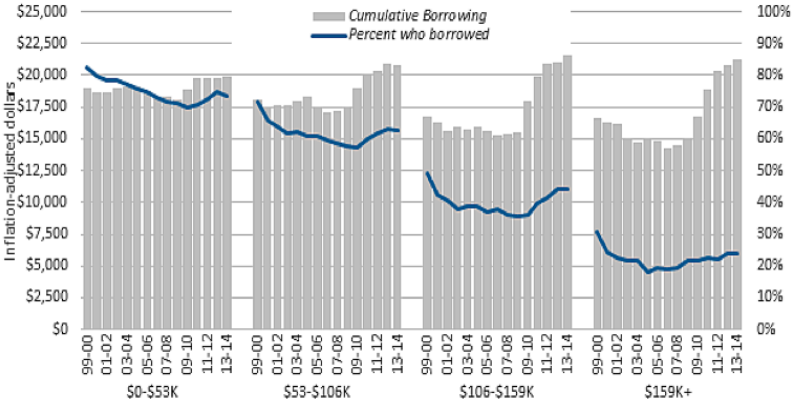


Figure 4: Student loan debt burden of graduating seniors by parent income, inflation-adjusted UC-wide 1999–2000 to 2013–14. [Source: Indicator 2.5.3, 2015 Accountability Report, University of California]

How do these combined aid policies impact the net costs of attendance and student debt levels?

Figure 1 shows the percentage of UC undergraduates with parents in the indicated income categories, from the 2005-06 academic year up to 2013-14. We see that the percentage of undergraduates attending UC from lower-income families has risen, particularly since 2009 and among families making less than $26,000 a year. In 2009, approximately 35 percent of UC's undergraduates were from family incomes of $53,000 or less, and by 2014 it rose to 40 percent.

There has been a slight decline in attendance among students from upper-income backgrounds, particularly from families in the $106,000-132,000 income range. The share of students from the highest-income families (over $159,000 in income) rose slightly during the Great Recession, but is constant now at about 20 percent of total UC attendance.

Since stated tuition rose at UC, it is important to note how net costs have diverged for lower- and upper-income students over the past decade at UC, as shown in Figure 2. The net cost of attendance (taking into account grants, scholarships, and other gift aid, and adjusting for inflation) has stayed flat for lower-income families. By comparison, the net cost for middle-income families has risen slightly, while the net costs for upper-middle and upper-income families making over $106,000 annually has risen close to $30,000.

In recent years, more students have been borrowing to finance their college education. Figure 3 shows the inflation-adjusted student loan debt burden of graduating seniors in the UC system, from 1999-2000 to 2013-2014. Up until 2008-2009, the average debt among students who borrow had been declining slightly, to $17,600, with an increase to $20,600 over the following years. Close to 50 percent of graduates had no student loan debt, although this fraction has declined to 45 percent in the most recent years. We see that the shares of students borrowing above $22,000 for college have risen since 2009.

Focusing on student loan debt burden by parent income groups in Figure 4, we see that lower-income students have always been more likely to borrow, but that the likelihood of borrowing and the average amount of cumulative borrowing among these students has only risen slightly since 2009. There are larger increases in cumulative borrowing among the middle- and upper-income groups, and larger increases in the likelihood of borrowing among graduating seniors whose families make $53,000 to $159,000.

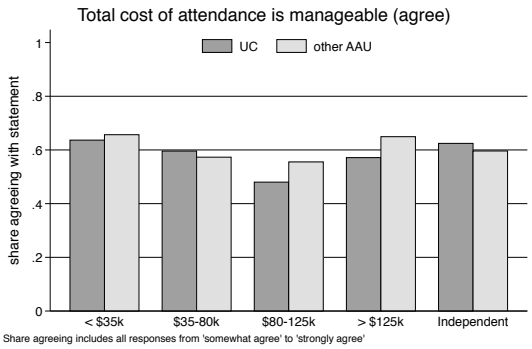


Figure 5: Shares of student respondents agreeing with the statement "the total cost of attendance is manageable," by family income and UC/other AAU institution type. [Source: SERU 2014]

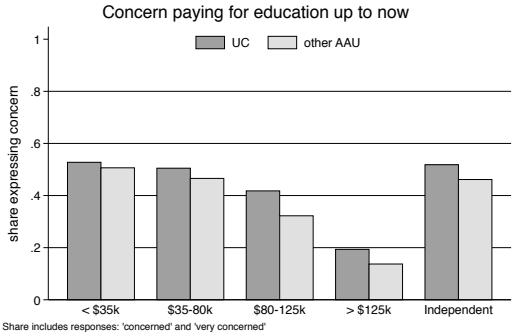


Figure 6: Shares of student respondents expressing concern with paying for education up to now, by family income and UC/other AAU institution type. [Source: SERU 2014]

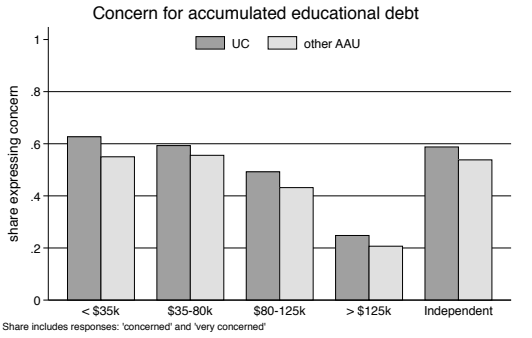


Figure 7: Shares of student respondents expressing concern with accumulated educational debt, by family income and UC/other AAU institution type. [Source: SERU 2014]

It appears that higher aid, combined with tuition increases, has resulted in greater net cost differentiation by income. Lower-income students in the UC system are paying similar net costs when compared to students to a decade ago, with only a slight increase in their debt burden. Students from higher-income groups are paying greater net costs and taking on more debt.

At least to date, the increase in tuition, and costs related to housing and other living expenses, has not had a negative impact on the number of lower-income students attending UC. Reflecting to some degree UC's robust financial aid policies, and perhaps the growing number of lower-income families in California, there has been an actual increase in their number – a counterintuitive finding to the general perception that higher tuition equals less access to the economically vulnerable. At the same time, there is evidence of a "middle-class" squeeze (particularly among students that report upper-middle class family incomes of $106,000 to $159,000) with a marginal decline in their enrollment numbers. This also may partially reflect an overall decline in middle-class families in California's population, as well as concerns over affordability and market shifts with more Californian's seeking higher education in other states.

B. Student Behaviors and Perceptions of Affordability

Among the lower, middle and high-income students at UC, what level of economic stress are they experiencing? Do students' academic and social experiences and behaviors vary by income? The SERU Survey provides a window for examining these questions. As noted, SERU is administered as a census, on-line survey with a version administered at all the undergraduate UC campuses and more than fifteen major public universities in the US, all of which are members of the Association of American Universities (a version is also administered internationally at top-tier national universities).

The following analysis focuses the issues of affordability, academic engagement and the concerns of students by socioeconomic status. Students are categorized by their self-reported family income: under $35,000, $35,000-79,999, $80,000-124,999, and $125,000 and over. This grouping reflects a general equal distribution of students among the income groups and past categories of students by family income in previous SERU research. All financially independent students are classified together as a separate group. These income groups are separated by campus type (UC campuses compared to other AAU institutions participating in SERU) for comparisons across income groups and between the UC system versus other research institutions.

When asked if the total cost of attendance is manageable, around 60 percent of students in the lowest- and highest-income groups agree with the statement [Figure 5]. The share of students agreeing falls in the middle-income groups before rising again for the highest-income students. These perceptions about managing cost of attendance are similar when comparing UC and other AAU institutions' respondents: lower-income students are the most likely to agree, while upper-middle income students from families making $80-125,000 in income are the least likely to express agreement. UC students from families making over $80,000 a year are less likely to agree that the cost of attendance is manageable compared to other AAU students.

Students' concerns with paying for their education and accumulated college debt follow a more predictable pattern; these concerns are highest among students from families making under $35,000 in annual income, and are similar for students in the $35-80,000 range before falling among students from higher-income families [Figures 6 and 7]. This pattern of concern for paying for undergraduate education is similar across institutional types, but concerns about paying for education and educational debt are somewhat lower at other AAU campuses versus among students in the UC system.

Within UC campuses, students who identify with an underrepresented minority group (URM), such as Latina/os, Hispanics, American Indians, African Americans, Native Hawaiians, and Pacific Islanders, are more likely to express concern with financing their education when compared to Asian and White students in the same income groups. Concern with paying for their education, as well as student debt, is considerably higher among URM students, and slightly higher among Asian students, compared to White students in similar income categories.

When asked if the cost of attendance is manageable, lower-income URM students agree at similar rates to White and Asian students, but URM students from families making over $80,000 a year are slightly less likely to agree, compared to higher-income Asian and White peers. At the same time, URM students, followed by Asian students, had higher concerns over debt accumulation than White students, again across income groups. Yet a lower percentage of Asian students across all income groups also reported to be less likely to be employed then their URM and White counterparts [see Appendix figures B.1 through B.4].

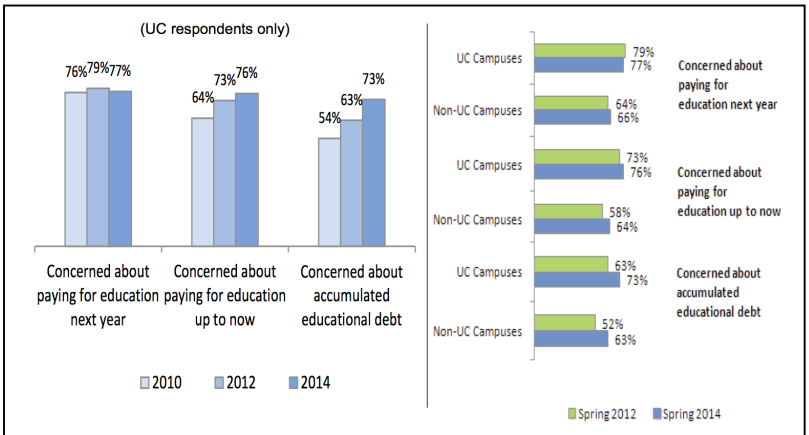


Figure 8: Comparison of student affordability concerns across recent years, at UC and selected non-UC AAU institutions. [Source: UCUES 2010, 2012, 2014 and SERU 2012, 2014]

This again raises the issue of cultural, racial and ethnic differences among students regarding the reality and their perceptions of affordability that could, in addition, be further illuminated by looking at variables such as the discipline or major that students are pursuing. It also indicates that incomes alone are incomplete measures of the ability to pay for college; asset ownership of real estate and savings, which is considerably higher among White and lower among URM families, are likely very important in understanding the perception of students regarding college costs. This is a topic we plan to further explore with the SERU data.

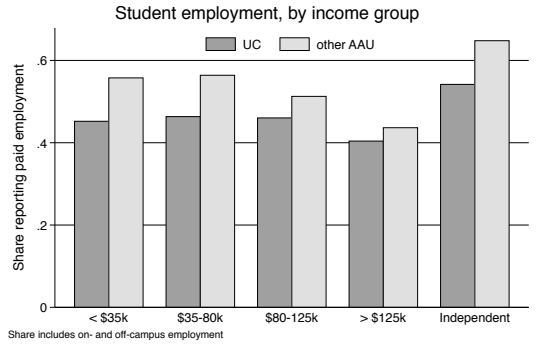


Figure 9: Shares of students reporting any paid employment, by family income and UC/other AAU institution type. [Source: SERU 2014]

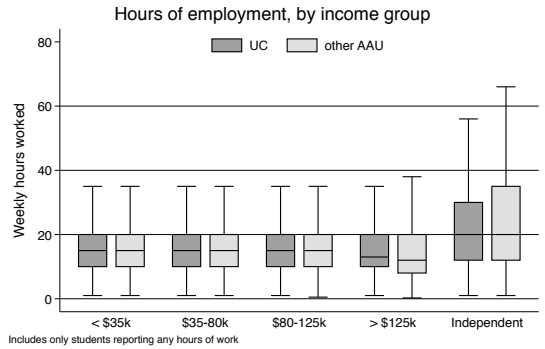


Figure 10: Box plot of weekly hours worked, conditional on working, by family income and UC/other AAU institution type. [Source: SERU 2014]

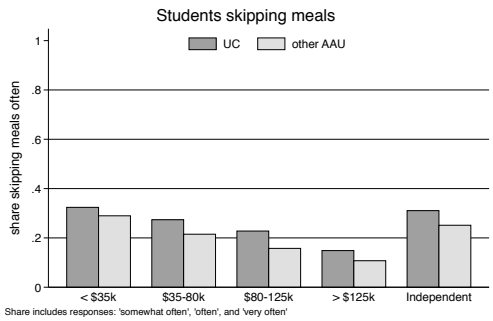


Figure 11: Shares of students reporting skipping meals often, by family income and UC/other AAU institution type. [Source: SERU 2014]

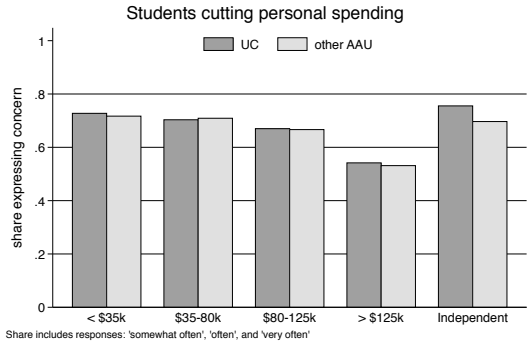


Figure 12: Shares of students reporting cutting personal spending, by family income and UC/other AAU institution type. [Source: SERU 2014]

Returning to our general analysis by income groups, the overall concerns about financing college appear to be rising over time [Figure 8], at both UC and other AAU campuses; current concerns about financing a college education and educational debt appear to be more salient. What actions did students take in 2014 to meet their costs of attending college? To mitigate increasing costs, some students may have taken on- or off-campus employment, as well as taken action to cut back on academic and personal expenses.

SERU data indicates that the likelihood of working is negatively correlated with family income for dependent students. We do have concerns that students who are employed more than twenty hours may be underrepresented among SERU survey responses. Among those that did respond, working students at both UC and other AAU institutions work a similar number of weekly hours. Independent students are both more likely to work, and tend to work many more hours, with over half of working independent students reporting 20 or more weekly hours of paid work. The share of students having any employment (both on- or off-campus) is smaller overall at UC campuses versus other AAU institutions participating in the 2014 SERU survey [Figure 9]. Almost 46 percent of all UC survey respondents reported working for pay in 2014; this proportion is similar among UC students with family income under $35,000 up to family incomes of $80,000 to $125,000. Over 52 percent of students at other AAU institutions reported working, with almost 56 percent working among dependent students from families making under $80,000, down to 43.6 percent of students from the highest-income families. About 54 percent of UC independent students work for pay, compared to 65 percent of independent students attending other AAU campuses.

This difference between UC and other AAU students in employment applies across all family income categories and among independent students. UC campus respondents from families making under $80,000 year, as well as independent students, were 10 percent less likely to report having any employment in the 2013-2014 academic year. This gap in employment between UC and other-AAU students closes among students from higher-income families, but UC students are still less likely to work overall. Among working students, the distribution of hours of work is remarkably similar for students from the poorest families up to upper-middle income families, for both UC students and students attending other AAU institutions [Figure 10].

Working students from all families in the lower three income categories (under $35,000; $35,000 up to $80,000; and $80,000 to $125,000) have a median of 15 hours/week of work in each income group. Students in each income category reported

10 hours/week at the 25th percentile of working students in each income group, and 20 hours/week at the 75th percentile for the same income groups.

Working students from upper-income families have a slightly lower reported median for hours worked, although the distribution of hours worked is still similar to other dependent students. Independent students who work report many more hours of work; the median hours worked per week is 20 for UC and other-AAU students, with the 75 percentile of hours worked at 30 hours/week for UC students and 35 hours/week for students attending non-UC SERU institutions.

Turning to cost-saving behaviors reported by students in the 2014 SERU, we see that UC students across all income groups were more likely to report skipping meals versus other AAU students. Students from lower income families were more likely to report cutting personal spending or skipping meals. Almost 26 percent of UC students reported skipping meals to meet college expenses, compared to 18 percent of non-UC students in SERU [Figure 11]. Over 30 percent of UC students from the poorest families (under $35,000 in family income) and independent students reported skipping meals; for non-UC students this rate ranges from 25-29 percent. Within each income group, UC and non-UC students were equally likely to report cutting personal spending in the previous academic year, with independent UC students more likely to report this compared to non-UC students [Figure 12].

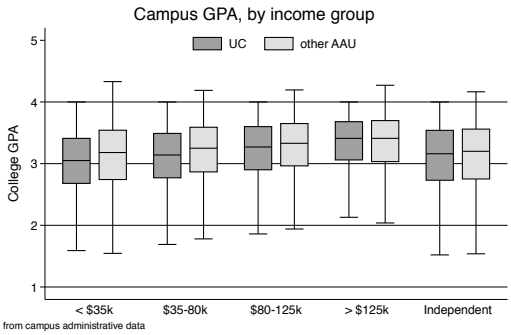


Figure 13: Distribution of college GPA, by family income and UC/other AAU institution type. [Source: SERU 2014]

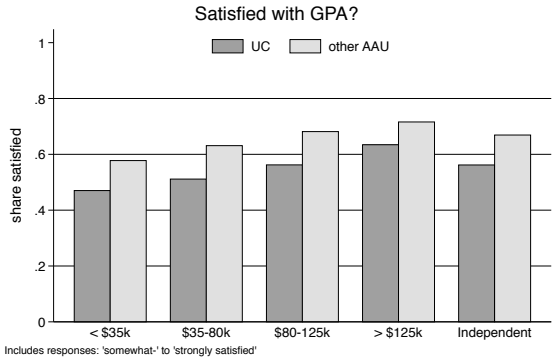


Figure 14: Shares of student respondents satisfied with GPA, by family income and UC/other AAU institution type. [Source: SERU 2014]

The 2014 SERU includes more detail on cost-saving behaviors taken among UC students only. As one may expect, students from lower-income families are more likely to say "yes" to any of these activities versus students from higher-income families. [See Appendix table A.2] However, there are some actions that are taken slightly more often by students from middle-income families (with incomes between $35,000 to 80,000 and $80,000 to $125,000) versus poorer students, such as:

- Asking for a re-evaluation of a financial aid package;
- Saving cash on books, either by buying fewer books or used books, or by using books on reserve at the library;
- Taking more courses per term;
- Taking other actions to graduate quickly;
- Using AP or similar credit to substitute for college courses;
- Taking lower-cost community college courses.

Table 1: Total counts of behaviors taken to meet college expenses, by family income

Family income	Median behavior count, 2014	Mean behavior count, 2014	Mean behavior count, 2010
Less than $10,000	6	6.0	6.1
$10,000 to $19,999	6	6.1	6.0
$20,000 to $34,999	6	6.2	6.0
$35,000 to $49,999	6	6.0	6.1
$50,000 to $64,999	6	5.9	5.8
$65,000 to $79,999	6	6.0	5.6
$80,000 to $99,999	6	5.8	5.4
$100,000 to $124,999	5	5.2	4.7
$125,000 to $149,999	5	4.7	4.2
$150,000 to $199,999	4	4.2	3.7
$200,000 or more	3	3.1	3.0
Independent student	6	6.2	N/A
Overall	5	5.4	5.1

Source: 2014 SERU/UCUES and 2010 SERU/UCUES (from Chatman, 2011)

Only 1-5 percent of all income groups of students reported "cost hasn't been a problem" except for dependent UC students from families making $125,000 or more in income, where almost 18 percent agreed with this statement.

Compared to a previous SERU Consortium generated analysis of the 2010 SERU/UCUES data, the mean counts of cost-saving behaviors by income category is very similar. Behaviors include applying for financial aid and scholarships for the first time, buying few books, taking a leave of absence for financial reasons, taking more courses per quarter to graduate earlier, opting not to do study abroad, getting a job for the first time, increasing the number of working hours, increasing the student loan amount and similar questions.

The accompanying Table 1 summarizes the number of cost-saving behaviors taken by students to meet college expenses. There were increases in these behaviors among students from middle- and upper-middle-income families (from $65,000 to $199,000); the mean behavior count increased by 0.4 to 0.5 for each of these groups from 2010 to 2014. Students from lower-income families and the highest-income families had little change in the number of actions taken to meet college costs. Across ethnic groups, the median and mean behavior counts taken by URM, Asian, and White students are similar, with higher-income URM students reporting slightly more actions taken to reduce expenses compared to White and Asian students [see Appendix table A.3].

What does the 2014 SERU tell us about academic performance, academic satisfaction, and other campus experiences of students in different income groups? Figure 13 is a box plot of student respondents' campus GPAs, by income group and institutional type (UC / other AAU). Each box indicates the median, 25th, and 75th percentile GPAs of respondents; the whiskers indicate outlying GPAs within 1.5 times the interquartile range (IQR). We see that these students' GPAs are largely similar across income and institutional groups, with a slight increase in the 25th, 50th, and 75th percentiles in higher-income groups.

However, satisfaction with one's GPA appears to be higher among students from higher-income families [Figure 14]; about 10 percent more students express GPA satisfaction in the over-$125,000 family income group compared to the under-$35,000 income group. Also, students at other AAU institutions in all family income groups are more likely to be satisfied with their GPA compared to UC students with similar incomes.

SERU measures of student satisfaction with the academic and social experience in college are strikingly similar across income categories. The majority of students at all campuses are somewhat-to-strongly satisfied with their overall academic and social experiences in college, with lower income students slightly less likely to express satisfaction [Figures 15 and 16]. Students across institutional types and across income groups are also likely to agree with the statements "I belong at this institution" and "I would still choose to enroll here" [Figures 17 and 18]. For all of these statements, UC students in each income group were slightly less likely to express positive satisfaction or agreement with the statement compared to other AAU students.

These findings on student experiences from the 2014 SERU are largely similar to findings in the 2010 study of UC's SERU data; academic and social satisfaction was slightly higher among students from higher-income families, but that the overall shares

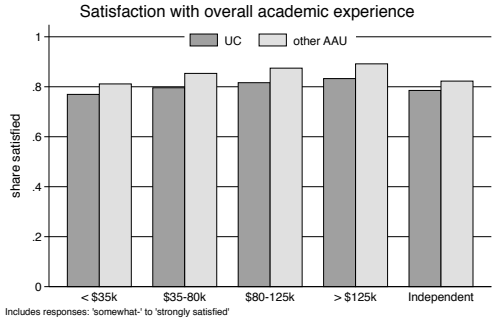


Figure 15: Shares of student respondents satisfied with their overall academic experience in college, by family income and UC/other AAU institution type. [Source: SERU 2014]

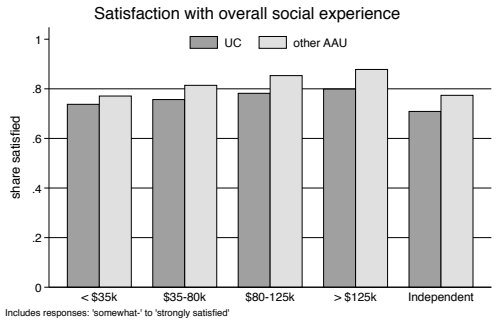


Figure 16: Shares of student respondents satisfied with their overall social experience in college, by family income and UC/other AAU institution type. [Source: SERU 2014]

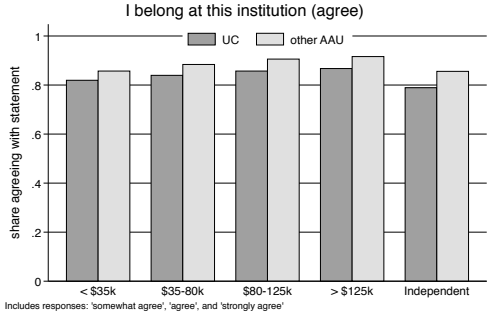


Figure 17: Shares of student respondents agreeing with the statement "I belong at this institution," by family income and UC/other AAU institution type. [Source: SERU 2014]

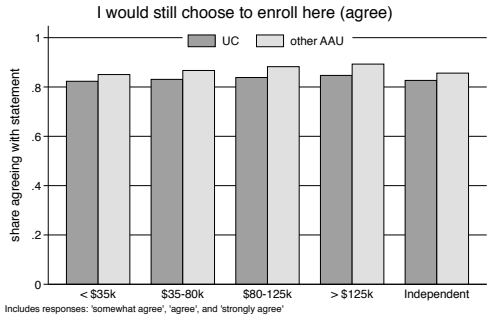


Figure 18: Shares of student respondents agreeing with the statement "I would still choose to enroll here," by family income and UC/other AAU institution type. [Source: SERU 2014]

were similar across income groups.[15] This brief expands the scope to non-UC AAU institutions participating in SERU, and we see similar responses among these institutions. Similarly, the 2014 SERU responses also do not show a "middle-class" squeeze in students' academic and social behaviors and satisfaction; responses of satisfaction or agreement do not follow a U-shape by income group. The only question where this applies was for "the total cost of attendance is manageable"; students from families making $80-125,000 in income were the least likely to agree with this statement, compared to students from both lower-income and the highest-income families. However, no U-shape in the responses is seen regarding student concerns about paying for education and for student debt; concerns are uniformly higher among lower-income students, and these financial concerns lessen as incomes rise.

In our cursory look at broad categories of race and ethnicity by income group, satisfaction and belonging across ethnic categories for students in the UC system, underrepresented minorities (URM) students across income groups express similar levels of satisfaction and belonging as White students with similar family incomes. Levels of satisfaction are slightly lower for students with Asian backgrounds across income groups, particularly with regards to satisfaction with their academic experiences in college [see Appendix figures B.5 through B.8].

Finally, we think it is important to consider access, affordability, and student behaviors, and their correlation with graduation rates. Bowen, Chingos, and McPherson found that higher net prices at public flagship universities are associated with lower four-year and six-year graduation rates among students from the bottom quartile of family income. Conversely, higher-income students' graduation rates are unaffected by changes in the net price of attendance.[16] This suggests that a shift in aid policy favoring lower-income students may increase graduation rates of these students.

We want to know if this change in financial aid policies across the income distribution ultimately improves the graduation rates of lower-income students. For this analysis, we have not yet explored the data that links family income, affordability, and student behaviors and experiences with graduation rates. But generally we do know that the overall retention and graduation rates of UC students have improved over the last fifteen years. The four year graduation rate for the 2010 entering UC freshman cohort was 62 percent, and 82 percent in six-years – among the highest of all public research universities. Approximately 18 percent of all undergraduates in the UC system are also Community Colleges transfer students entering one of its campuses at the junior year. Some 87 percent of these transfer students who entered UC in 2010 also earned their bachelor's degree.[17] According to a recent a report (part of a required statement on actual and targeted performance measures for UC adopted in recent budget language by the state legislature), lower income students are only slightly less likely to graduate in 4 years then students with greater family or personal wealth.[18]

C. Conclusion

In an era of a sharp decline in public investment in higher education, forced reductions in university operative costs, and rising tuition and fees, the University of California experienced an increase in the number of lower-income students. The net cost of attendance diverged greatly by family income since the introduction of UC aid plans in 2009–2010; lower-income UC students have had little change in their net costs, while higher-income students are paying significantly more to attend. At the same time, there is evidence of financial stress and altered behaviors, and also some contradictions in student responses. For example, UC student report higher concerns over their ability to manage the cost of their education and accumulative debt across all income categories when compared to AAU campuses, but work less then their AAU counterparts.

Other conclusions of this study:

- Student loan borrowing among lower-income students has only increased slightly; middle- and upper-income students are both more likely to borrow and have borrowed more since 2009.
- Students' concerns for paying for higher education and accumulated student debt in the 2014 SERU are predictably higher among lower-income students, but that upper-middle income students (with annual family incomes from $80-125,000) are the least likely to agree that the cost of attendance is manageable.
- University of California students are less likely to work for pay versus their non-UC peers in the 2014 SERU survey, across all income groups as well as among independent students.
- UC students were more likely to report skipping meals to meet college expenses.
- Middle and upper-middle income students at UC in 2014 took slightly more actions to meet college expenses compared to similar UC students in 2010.
- Higher-income students and non-UC AAU students in the 2014 SERU survey are more likely to express satisfaction with their GPA, even though GPA distributions are only slightly higher for these students.

- Majorities of low-, middle-, and high-income students express academic and social satisfaction with their college experiences; higher-income students and non-UC students are slightly more likely to express satisfaction and to agree with statements on student belonging.
- URM students, followed by Asian students, had higher concerns over debt accumulation than White students, again across income groups.

With some qualifications, the *progressive tuition model* appears to be working in terms of affordability and with only moderate yet still important indicators of increased financial stress and changed student behaviors. These results are not necessarily predictive of the future if tuition rates go up further, or if financial aid support declines relative to the cost of tuition and living expenses. But they do indicate that higher tuition rates at public universities, if accompanied by robust federal, state, and institutional financial aid, is a viable path for maintaining access to lower-income students, and for generating income needed for institutions to maintain or improve student to faculty ratios and other measure of quality.

The University of California system also needs to grow with the state population and to help meet the changing labor needs of regional and local economies. Without the prospect of a significant reinvestment by state governments, or a dramatic federal investment as promised by some presidential hopefuls, increasing tuition needs to be one part of a revised funding model of public higher education. Freezing tuition, as currently demanded by state lawmakers in California, does not appear to be based on any clear analysis of the correlation of tuition and affordability. It appears more as a politically attractive way to appeal to voters while ignoring the financial consequences for public colleges and universities.

In a 2013 report, the California Legislative Analyst's Office (LAO) also noted that that past tuition freezes ignore inflation and other costs, and historically have been followed by periods of steep tuition increases to partially make up for lost income. The LAO also stated that, "tuition levels and students' share of cost currently are low. After accounting for state and institutional financial aid, the average share of cost paid by California students is about 30 percent at UC and CSU and 6 percent at CCC."[19]

Steady marginal increases in tuition, at the rate of inflation or higher, provide a more predictable cost for students and their families, and may help UC, and other public universities, to remain affordable and provide a quality undergraduate student experience. Lack of resources may, in fact, push UC to reduce its sizable investment of tuition dollars into need-based financial aid. At nearly 22 to 1, UC already has among the highest student to faculty ratios of any major research-intensive university in the U.S.[20] And without resources to simply maintain this important benchmark of quality, how can the UC system possibly grow with the state's population under a social contract that has existed since around 1920, and further expressed in the 1960 California Master Plan for Higher Education.

Future research should study why students at non-UC campuses are somewhat less concerned about affordability issues than UC students. The other public AAU campuses [see current listing of member institutions in Appendix D] in the SERU survey have instituted moderate-fee, high-financial aid policies similar to the UC system. It would be useful to compare how students' experiences differ across other AAU institutions to test how their version of the *progressive tuition model* is working. In turn, this could assist in understanding best practices and best outcomes. Such research could also help decipher whether or not moderately higher and predictable tuition rates may lead to greater affordability – again, a concept that runs counter to current popular perception. We still do not know much about the elasticity of tuition pricing and its effects when accompanied by robust financial aid policies, or, the effects of debt eversion and similar behaviors among socioeconomic groups. This points to a significant gap in the research in an age where public universities must develop a dramatically revised funding model if they are to provide access that promotes much needed socioeconomic mobility.

Yet it is also true that we are in a relatively new and not yet completed transition from a network of public universities with relatively robust public subsidization and low tuition and housing costs, to the new world of public disinvestment and an increased focus on funding via students and their families. How successful research-intensive universities are in generating this new model will significantly influence the nation's socioeconomic mobility rates and, more generally, their economic viability.

ENDNOTES

[1] See OECD Education at a Glance; OECD data indicates that he United States has slipped behind many other countries in college completion and "educational mobility," with fewer young Americans getting more education than their parents. About half of young people in OECD countries have at least matched their parents' level of education. But in the United States, a larger-than-average proportion had less education (so-called downward mobility) while a smaller-than-average population had more education (upward mobility). Twenty percent of U.S. men and 27 percent of U.S. women had more education than their folks, compared with the OECD average of 28 percent and 36 percent, respectively. According to the 2014 OECD report, in 2012 some 39 percent of young Americans were expected to graduate from

college, compared with 60 percent in Iceland, 57 percent in New Zealand and 53 percent in Poland while close to matching of other developing economies.

[2] Hiltonsmith, 2015: Rising administrative costs linked to regulatory requirements, the growing complexity of institutions and service desires of students and other stakeholders are also a factor driving costs. Hitonsmith's analysis indicates

[3] Mitchell and Leachman, 2015.

[4] University of California, *2015 Accountability Report*.

[5] Looney and Yannelis also state: "Decomposition analysis indicates that changes in characteristics of borrowers and the institutions they attended are associated with much of the doubling in default rates between 2000 and 2011. Changes in the type of schools attended, debt burdens, and labor market outcomes of non-traditional borrowers at for-profit and 2-year colleges explain the largest share."

[6] Among all institutional stypes, past studies indicate that an increase in grant aid by $1,000 increases the probability of college enrollment by 4 percentage points; this finding is supported in reviews of financial aid research in the 1980s (Leslie and Brinkman, 1988), 1990s (Kane, 2003), and 2000s (Dynarski and Scott-Clayton, 2013). Bettinger (2004); Castleman and Long (2013); Page, Castleman and Sahadewo (2016); and Goldrick-Rab et. al. provide causal evidence of need-based aid increasing retention and degree attainment, as well as reducing time to completion. A recent review of these and related studies is by Page and Scott-Clayton (2016). Lastly, Rothstein and Rouse (2011) have concluded that the use of grants versus loans to finance college can influence early career choices as well.

[7] Douglass, 2015.

[8] Douglass, 2015; Douglass and Thomson, 2012.

[9] News articles displaying debate between UC and the CA state legislature: http://www.sacbee.com/news/politics-government/capitol-alert/article83095727.html; http://www.sacbee.com/news/politics-government/capitol-alert/article68782827.html

[10] Cook, Murphy and Johnson, 2016; Parker, 2015

[11] University of California, *2015 Accountability Report*: http://accountability.universityofcalifornia.edu/2015/chapters/chapter-2.html#2.1.1

[12] UC Office of the President, 2013. Since the early 1990s, tutition policy includes a return-to –aid 33% of new tuition and fee revenue will be returned to financial aid, and a 33% in return-to-aid for professional school students and 50% in return-to-aid for graduate academic students.

[13] UC's own information on the following programs: the Blue and Gold Opportunity Plan (http://admission.universityofcalifornia.edu/paying-for-uc/glossary/blue-and-gold/) and the Middle Class Scholarship Program (http://admission.universityofcalifornia.edu/paying-for-uc/glossary/middle-class-scholarship/index.html).

[14] Legislative Analyst Office, 2016, pp.15-16.

[15] Douglass and Thomson, 2012.

[16] Bowen, Chingos, and McPherson, 2009.

[17] University of California, *2015 Accountability Report*: http://accountability.universityofcalifornia.edu/2015/chapters/chapter-3.html

[18] Legislative Analyst Office, 2016, p 19.

[19] Legislative Analyst's Office, 2013.

[20] University of California, *2015 Accountability Report*: http://accountability.universityofcalifornia.edu/2015/chapters/chapter-8.html#8.1.2

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APPENDIX A – SERU Data Tables

Table A.1a: 2014 SERU Student Characteristics

			Non-UC AAUs	All UC Campuses	Total
Total			**63,802**	**66,323**	**130,125**
Family Income					
	Under $35,000	%	9.58	19.21	14.49
		N	*6112*	*12743*	*18855*
	$35,000-79,999	%	20.26	19.86	20.05
		N	*12925*	*13169*	*26094*
	$80,000-124,999	%	21.86	15.80	18.77
		N	*13946*	*10480*	*24426*
	$125,000 and over	%	22.65	12.87	17.67
		N	*14452*	*8537*	*22989*
	Independent	%	11.32	10.15	10.73
		N	*7224*	*6735*	*13959*
	Skipped/Missing	%	14.33	22.10	18.29
		N	*9143*	*14659*	*23802*
Parent Education					
	Neither parent w/ BA degree	%	21.96	32.41	27.29
		N	*14013*	*21494*	*35507*
	One/both parent(s) w/ BA degree	%	30.03	21.79	25.83
		N	*19162*	*14449*	*33611*
	One/both parent(s) w/ graduate degree	%	35.45	25.71	30.49
		N	*22619*	*17053*	*39672*
	Don't know / NA / skipped / missing	%	12.55	20.09	16.40
		N	*8008*	*13327*	*21335*
Race/Ethnicity					
	American Indian	%	0.36	0.13	0.24
		N	*227*	*86*	*313*
	African American	%	3.53	1.91	2.70
		N	*2251*	*1267*	*3518*
	Hispanic	%	6.79	21.09	14.08
		N	*4332*	*13989*	*18321*
	Asian	%	11.56	33.19	22.58
		N	*7375*	*22012*	*29387*
	White	%	60.23	25.56	42.56
		N	*38428*	*16951*	*55379*
	Native Hawaiian / Pacific Isl.	%	0.16	0.36	0.26
		N	*101*	*236*	*337*
	Multiracial	%	2.14	5.13	3.67
		N	*1366*	*3405*	*4771*

Non-resident	%	6.26	6.23	6.25
	N	*3995*	*4135*	*8130*
Decline to state / Missing	%	8.97	6.40	7.66
	N	*5727*	*4242*	*9969*
Gender				
Female	%	60.66	60.37	60.51
	N	*38705*	*40039*	*78744*
Male	%	39.32	39.51	39.42
	N	*25089*	*26205*	*51294*

Table A.1b: 2014 SERU UC respondent counts, by income and ethnicity

	Ethnic categories (collapsed)			
Family income	URM	Asian	White	Other/Decline
Under $35,000	4,344	5,095	1,477	1,827
$35,000-79,999	3,710	4,600	2,664	2,195
$80,000-124,999	1,580	3,574	3,423	1,903
$125,000 and over	758	2,469	3,730	1,580
Independent	1,764	1,490	2,081	1,400
Skipped / Missing	3,422	4,784	3,576	2,877

Note: URM (underrepresented minority) includes American Indian, African American, Hispanic/Latina/o, and Native Hawaiian/Pacific Islander students

Table A.2: Share of UC students reporting following behaviors to meet college costs, by family income

Behaviors to Meet College Expenses (% yes)	Dependent Students (by family income)				Indep. Students	Total
	under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000		
Applied for financial aid for the first time	45.6	41.3	37.6	23.8	34.4	37.1
Applied for continuing financial aid	85.0	79.0	55.3	22.9	78.1	64.4
Applied for outside scholarships/grants	49.6	49.7	45.4	31.8	49.9	44.7
Asked financial aid office to reevaluate application / aid package	15.1	16.1	13.0	5.6	22.8	13.9
Bought fewer/used books, used books on reserve	86.7	86.8	83.2	68.9	80.0	80.7
Took a leave of absence/quarter/semester off	2.4	2.1	1.8	1.4	6.5	2.5
Took more courses per term	33.9	34.6	34.3	27.2	32.3	32.4
Took action to graduate more quickly	22.9	25.3	27.1	21.9	27.6	24.5
Did not retake a class to improve grade	19.3	18.4	16.0	10.9	20.3	16.9
Accepted AP or similar credit instead of taking the course	34.3	37.7	41.8	37.8	17.3	34.6
Decided against study abroad	39.1	39.6	38.5	26.3	40.6	36.4
Took a community college course because it was cheaper	16.5	17.5	17.4	12.6	25.9	17.1

Behaviors to Meet College Expenses (% yes)	Dependent Students (by family income)				Indep. Students	Total
	under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000		
Took a job for the first time at college	27.2	26.3	24.6	19.8	17.4	23.5
Worked before but increased the number of hours worked	20.6	20.2	18.2	11.6	26.9	18.7
Increased the debt I carry on my credit card	16.7	14.4	11.0	6.2	31.5	14.6
Increased my annual student loan amount	30.5	27.2	20.8	9.6	38.4	24.3
Have cut expenses overall / have been more frugal	63.4	63.1	59.5	45.6	64.4	58.4
Cost hasn't been a problem (None of the above)	1.1	1.8	5.0	17.8	2.7	5.1
Heard about Blue and Gold Opportunity Plan	59.7	55.4	40.4	28.9	56.3	48.0

Table A.3: Total behavior counts to meet college expenses, by income and ethnicity; UC students only

	Median behavior count, 2014			Mean behavior count, 2014		
	URM	Asian	White	URM	Asian	White
Under $35,000	6	6	6	6.4	6.0	6.4
$35,000-79,999	6	6	6	6.4	5.9	6.2
$80,000-124,999	6	5	6	6.4	5.3	5.6
$125,000 and over	5	4	4	5	3.8	3.8
Independent	7	6	6	6.6	5.7	6.3

APPENDIX B – SERU responses by ethnicity among UC students

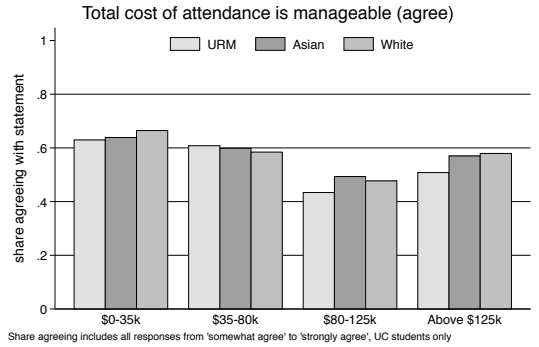


Figure B.1: Shares of student respondents agreeing with the statement "the total cost of attendance is manageable," by family income and ethnicity, UC students only. [Source: SERU 2014]

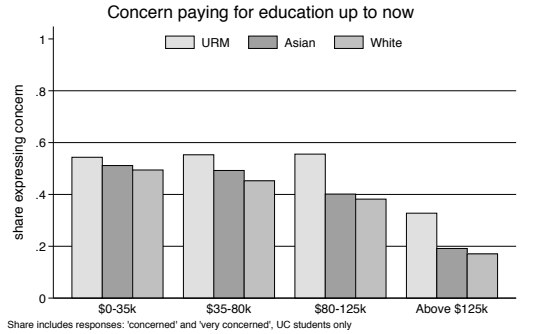


Figure B.2: Shares of student respondents expressing concern with paying for education up to now, by family income and ethnicity, UC students only. [Source: SERU 2014]

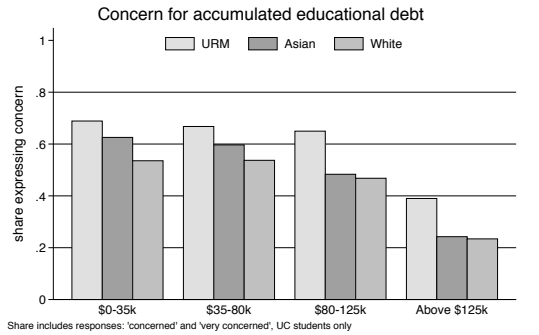


Figure B.3: Shares of student respondents expressing concern with accumulated educational debt, by family income and ethnicity, UC students only. [Source: SERU 2014]

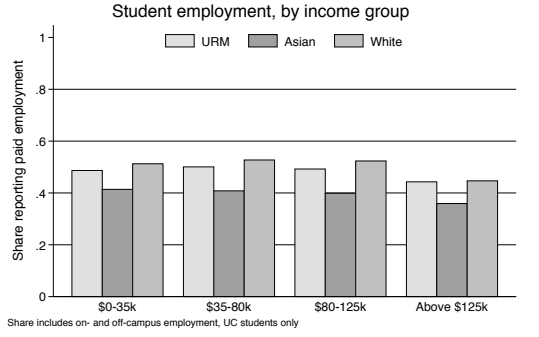


Figure B.4: Shares of students reporting any paid employment, by family income and ethnicity, UC students only. [Source: SERU 2014]

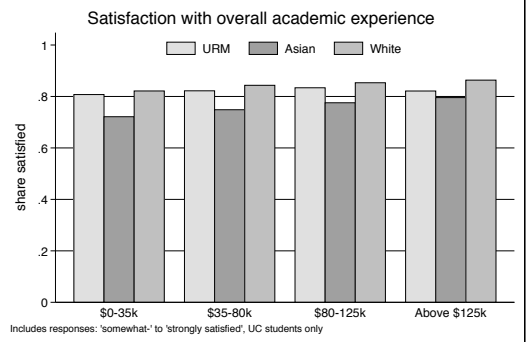


Figure B.5: Shares of student respondents satisfied with their overall academic experience in college, by family income and ethnicity, UC students only. [Source: SERU 2014]

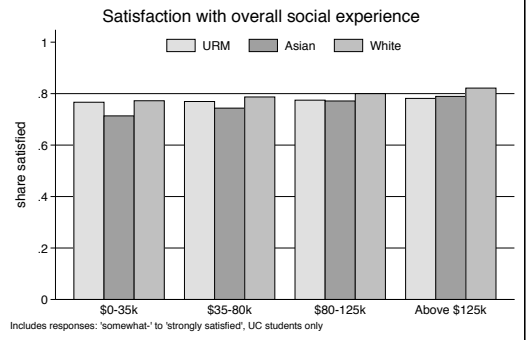


Figure B.6: Shares of student respondents satisfied with their overall social experience in college, by family income and ethnicity, UC students only. [Source: SERU 2014]

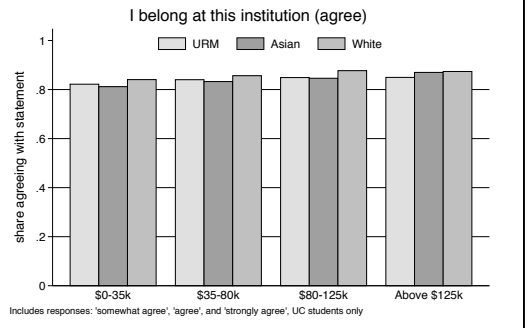


Figure B.7: Shares of student respondents agreeing with the statement "I belong at this institution," by family income and ethnicity, UC students only. [Source: SERU 2014]

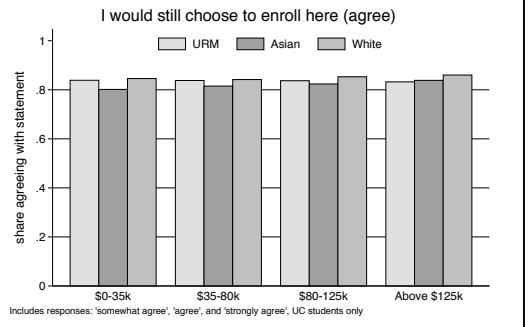


Figure B.8: Shares of student respondents agreeing with the statement "I would still choose to enroll here," by family income and ethnicity, UC students only. [Source: SERU 2014]

APPENDIX C – SERU tabulations of responses

Table C.1: Figure 5 tabulations

Given grants/scholarships, total cost of attendance is manageable (Agree, somewhat to strongly):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% agreeing	63.66	59.59	48.01	57.14	62.45	58.03
	(N in cell)	*(12703)*	*(13143)*	*(10447)*	*(8490)*	*(6708)*	*(3333)*
Non-UC AAUs	% agreeing	65.68	57.31	55.53	64.94	59.61	60.70
	(N in cell)	*(6092)*	*(12881)*	*(13916)*	*(14387)*	*(7183)*	*(2043)*

Table C.2: Figure 6 tabulations

Concern paying for undergraduate education up to now (concerned / very concerned):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% concerned	52.76	50.49	41.79	19.34	51.83	39.69
	(N in cell)	*(12712)*	*(13145)*	*(10465)*	*(8520)*	*(6711)*	*(3820)*
Non-UC AAUs	% concerned	50.64	46.57	32.23	13.72	46.14	27.50
	(N in cell)	*(6098)*	*(12901)*	*(13929)*	*(14427)*	*(7195)*	*(2313)*

Table C.3: Figure 7 tabulations

Concern paying for accumulated educational debt (concerned / very concerned):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% concerned	62.68	59.29	49.23	24.79	58.78	43.75
	(N in cell)	*(12614)*	*(13034)*	*(10376)*	*(8439)*	*(6637)*	*(3781)*
Non-UC AAUs	% concerned	50.64	46.57	32.23	13.72	46.14	27.50
	(N in cell)	*(6108)*	*(12910)*	*(13932)*	*(14439)*	*(7204)*	*(2318)*

Table C.4: Figure 9 tabulations

Had paid employment during academic year:		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% yes	45.21	46.34	46.03	40.40	54.18	44.36
	(N in cell)	*(12585)*	*(13025)*	*(10402)*	*(8458)*	*(6628)*	*(10914)*
Non-UC AAUs	% yes	55.75	56.40	51.26	43.65	64.79	48.97
	(N in cell)	*(6073)*	*(12884)*	*(13920)*	*(14406)*	*(7169)*	*(7730)*

Table C.5: Figure 11 tabulations

How frequently you skipped meals to save money (somewhat to very often):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	%	32.39	27.36	22.78	14.85	31.05	21.53
	(N in cell)	*(12691)*	*(13127)*	*(10448)*	*(8509)*	*(6698)*	*(3390)*
Non-UC AAUs	%	28.96	21.50	15.75	10.74	25.13	14.20
	(N in cell)	*(6091)*	*(12885)*	*(13916)*	*(14411)*	*(7174)*	*(2078)*

Table C.6: Figure 12 tabulations

How frequently you cut down on personal / recreational spending (somewhat to very often):	Dependent Students (by family income)					
	under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing

How frequently you cut down on personal / recreational spending (somewhat to very often):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	%	72.75	70.33	66.99	54.17	75.54	59.61
	(N in cell)	*(12695)*	*(13119)*	*(10451)*	*(8495)*	*(6692)*	*(3387)*
Non-UC AAUs	%	71.69	70.90	66.65	53.14	69.67	54.45
	(N in cell)	*(6087)*	*(12890)*	*(13919)*	*(14412)*	*(7177)*	*(2079)*

Table C.7: Figure 14 tabulations

Satisfaction with GPA (Somewhat to strongly satisfied):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% satisfied	47.01	51.14	56.22	63.43	56.19	53.18
	(N in cell)	*(12724)*	*(13155)*	*(10464)*	*(8530)*	*(6713)*	*(6485)*
Non-UC AAUs	% satisfied	57.76	63.11	68.14	71.59	66.91	65.73
	(N in cell)	*(6099)*	*(12910)*	*(13934)*	*(14436)*	*(7199)*	*(4327)*

Table C.7: Figure 15 tabulations

Satisfaction with overall academic experience (Somewhat to strongly satisfied):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% satisfied	76.94	79.60	81.63	83.26	78.52	78.75
	(N in cell)	*(12647)*	*(13093)*	*(10425)*	*(8502)*	*(6686)*	*(6439)*
Non-UC AAUs	% satisfied	81.14	85.34	87.44	89.16	82.26	83.71
	(N in cell)	*(6086)*	*(12874)*	*(13913)*	*(14406)*	*(7183)*	*(4310)*

Table C.8: Figure 16 tabulations

Satisfaction with overall social experience (Somewhat to strongly satisfied):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% satisfied	73.75	75.67	78.19	79.88	70.88	75.26
	(N in cell)	*(12678)*	*(13118)*	*(10439)*	*(8511)*	*(6694)*	*(6459)*
Non-UC AAUs	% satisfied	77.09	81.40	85.32	87.81	77.38	82.05
	(N in cell)	*(6081)*	*(12879)*	*(13912)*	*(14401)*	*(7183)*	*(4318)*

Table C.9: Figure 17 tabulations

I belong at this institution (Agree, somewhat to strongly):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% agreeing	81.94	83.95	85.70	86.72	78.90	83.15
	(N in cell)	*(12719)*	*(13135)*	*(10456)*	*(8533)*	*(6707)*	*(6458)*
Non-UC AAUs	% agreeing	85.70	88.39	90.58	91.61	85.58	87.81
	(N in cell)	*(6098)*	*(12906)*	*(13933)*	*(14441)*	*(7204)*	*(4331)*

Table C.10: Figure 18 tabulations

I would still choose to enroll here (Agree, somewhat to strongly):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
UC Campuses	% agreeing	82.31	83.08	83.84	84.69	82.67	81.54
	(N in cell)	*(12700)*	*(13130)*	*(10464)*	*(8524)*	*(6715)*	*(6456)*

I would still choose to enroll here (Agree, somewhat to strongly):		Dependent Students (by family income)					
		under $35,000	$35,000 to $80,000	$80,000 to $125,000	over $125,000	Indep-endent	Skipped / Missing
Non-UC AAUs	% agreeing	85.04	86.69	88.23	89.29	85.62	85.62
	(N in cell)	*(6096)*	*(12897)*	*(13933)*	*(14438)*	*(7205)*	*(4324)*

APPENDIX D – SERU Consortium Member Campuses

The Student Experience in the Research University (SERU) Consortium is an academic and policy research collaboration based at Center for Studies in Higher Education at the University of California – Berkeley (CSHE) working in partnership with the University of Minnesota, the International Graduate Insight Group Ltd (i-graduate), the Higher School of Economics – Moscow, and member universities. The SERU Consortium is a group of leading research-intensive universities, policy researchers, and scholars, who collaborate in the following activities:

- The generation of institutional, comparative, and longitudinal data on the student experience in research universities, including administration of on-line census SERU Undergraduate and Graduate Surveys.
- Sharing of best practices and SERU data among member universities under agreed protocols.
- Promoting and supporting the systematic use by Consortium members of data and analysis as tools for policy and scholarly relevant research and institutional self-improvement.
- Development of research collaborations and studies related to the student experience.
- Providing a global network of peer universities with similar challenges as goals.

1. Member Campuses Data Used in analysis of SERU 2014 data:

SERU University of California:
- Berkeley
- Davis
- Irvine
- Los Angeles
- Merced, Riverside
- San Diego
- Santa Barbara
- Santa Cruz

SERU AAU Institutions:
- University of Michigan
- University of Minnesota
- Rutgers University
- University of Pittsburgh
- Texas A&M University
- University of Virginia
- Indiana University
- Purdue University
- University of Iowa
- University of Washington

2. Other Current SERU Member Campuses (2016)

SERU AAU Consortium Members
- University of Oregon
- University of Texas
- University of Southern California
- University of North Carolina

SERU-International Consortium Members

- Universidade Estadual de Campinas*
- Hunan University
- Nanjing University
- Xian Jiaotong University
- Amsterdam University College
- University of Cape Town*
- University of Bristol*
- Higher School of Economics-Moscow
- University of Oxford*
- Osaka University
- Tongji University
- Hiroshima University
- Lund University
- Lancaster University
- Utrecht University**

* SERU Associate Campuses not currently administering the SERU Survey.
** Campuses planning on joining in 2016