2001 REPORT

THE CALIFORNIA DREAM AND ITS FUTURE:

INDICATORS OF EDUCATIONAL AND ECONOMIC OPPORTUNITY IN THE GOLDEN STATE

By
Watson Scott Swail
Lawrence E. Gladieux
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STUDENTS FIRST

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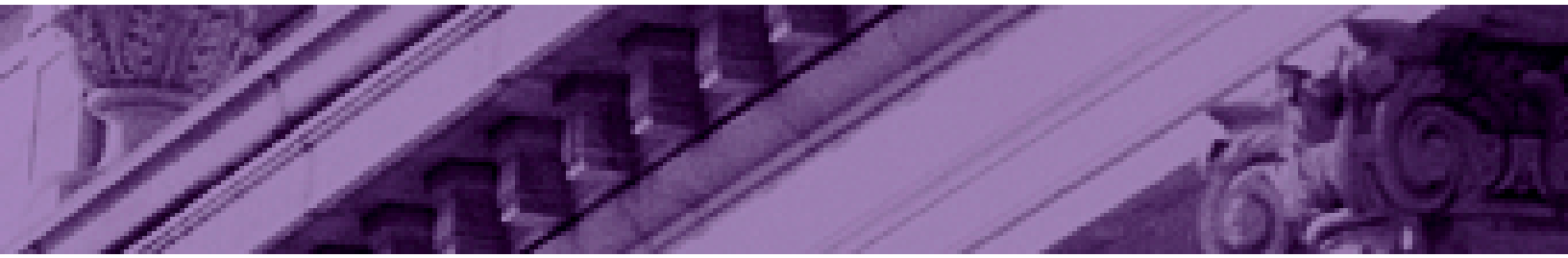


CALIFORNIA STUDENT AID COMMISSION

EDFUND™ STUDENTS FIRST

August 2001

California is on the verge of a new era in higher education. As the population grows and the state's diversity expands, new strategies for ensuring access to college are essential.

Because the California Student Aid Commission and EdFund share a commitment to expanding access to postsecondary education, we commissioned this study to investigate economic and educational issues that affect the opportunity for a college education. It offers some intriguing insights into the state's demographics and financial aid trends, and emphasizes the importance of alternative strategies in fostering college aspirations.

We appreciate your interest in this vital subject and hope that you'll find this report valuable in the ongoing consideration of these key issues for California's future.

Sincerely,

Wally Boeck
Executive Director
California Student Aid Commission

Becky Stilling
President
EdFund

Introduction and Summary

Since California created its Master Plan for Higher Education in 1960, the state has been a bellwether and model for other states and the nation in expanding access to college. Now the state is conducting an extensive review of the Master Plan, and this time the Legislature has called for "a master plan for education—kindergarten through university."[1]

The emphasis will be on promoting successful student transitions at each stage of the educational process, measuring results, and identifying the ingredients of success.

The state has just implemented historic legislation (sb 1644) turning Cal Grants into an entitlement. The new law dramatically expands California's commitment to assuring talented but needy students an equal shot at postsecondary education.

This report examines issues affecting educational and economic opportunity in the Golden State as California embarks on a new era in financing postsecondary opportunities.

- Part I of the paper reviews trends in California's economy, employment, income, state revenues, and spending on education, immigration, and demography.
- Part II presents rates of high school completion, indicators of academic preparation, and limitations and gaps in the opportunity to learn.
- Part III reviews rates of participation in postsecondary education.
- Part IV analyzes factors influencing student persistence to degree completion.
- Part V turns to the price of college attendance and the amount of aid available to help students pay their educational expenses.
- Finally, Part VI presents estimates of average instructional subsidy, net price (total price of attendance minus aid), affordability, and the relative burden on students and families from different income levels.

THE LEGACY AND CONTINUING CHALLENGE OF THE MASTER PLAN

A cornerstone of the original 1960 Master Plan was the promise that "the state would assure all qualified students access to a quality higher education."Access was to be achieved by providing an extensive array of tuition-free public colleges and universities that were geographically accessible. During the severe recession of the early 1990s, however, student fees escalated sharply, family income and student resources could not keep pace, and state and federal grant aid lagged. The result was a drop in undergraduate enrollment and rapid increases in student borrowing and debt levels. As the economy rebounded in the mid-1990s, so did state support for higher education. From 1995 to 1999, the Governor and the Legislature agreed to freeze or even reduce mandatory fees at public colleges and universities.

Still, from a historical perspective, the 1990s will stand as the decade when California moved reluctantly from a no-tuition, low-fee policy to higher fee charges. In the transition, financial aid policy moved from the periphery to the center of deliberations on postsecondary finance and educational opportunity.

The overriding challenge for California policy makers and educators is how to sustain access to postsecondary education—and maximize chances of success—for the state's growing and changing college-age population.

Between now and 2010, California's 18- to 24-year-old population is expected to increase 30 percent, more than double the projected growth rate for the state's entire population. By 2015, undergraduate enrollment is projected to increase by 730,000, far exceeding growth in any other state. Enrollment growth of this magnitude will nearly match California's enrollment increase of the 1960s and 1970s.

The profile of the new enrollees, however, will look far different from that of earlier student generations. Nearly three-quarters of the projected increase in 18- to 24-year-olds will be Hispanic, Asian, or African-American, making the new pool of potential undergraduates the most ethnically diverse in the state's history.

Equally important, more of the state's postsecondary students, both of traditional college age and older, will have lower incomes, on average, and fewer personal or family resources to pay for their education. Keeping college affordable through a combination of fee policy and effective financial aid programs will be more important than ever.

DATA SOURCES AND GAPS

To meet these challenges and chart the state's educational future, it is important to understand past patterns and trends. Focusing principally on the past decade, this report synthesizes data from the Census Bureau, the U.S. Department of Education, and a variety of California sources. Appendix A describes these data sources in detail.

The report presents indicators that shine a light on strategic issues facing California higher education. An accompanying paper, by Donald Heller of the University of Michigan, examines the relationship between student fees, financial aid, and the decisions students make about whether or not to enroll in college, and what type of institution to attend.[2] Heller reviews the national research in this area and applies it to California, taking into account the unique characteristics of the state and its higher education system.

Empirically, however, neither this report nor the Heller report can pinpoint the incremental value or effectiveness of alternative policies for promoting access to higher education. More definitive analysis must await the development of longitudinal data, or the linkage of existing databases, making it possible to track individual students through the California educational system and analyze what makes a difference in their progress. At the moment, California knows certain basic information about the characteristics of entering college students, but academic and financial information tends to be compartmentalized in unlinked databases, and follow-up surveys are insufficient to analyze why students enroll and what happens to them after matriculation.[3]

The state needs to make a much more substantial and concerted investment in such data collection and analysis. Who's going to college? Who's not? Who's graduating and who's not? Why? Politically and economically, these questions will become increasingly important.

Heller concludes from his research that college pricing and financial aid play only a part in the postsecondary enrollment decisions of most students. Likewise, this report encourages a broad view of the challenge facing California policy makers. College pricing and financial aid are important levers available to policy makers. At the same time, we know that enrollment and success in higher education are the result of many factors: prior schooling and academic achievement, the rigor and pattern of courses taken in secondary school, family and cultural attitudes, peer influences, motivation, and awareness of opportunities.

FINDINGS AND CONCLUSIONS

Highlights from our review include:

- The surging economy of the past decade has created a huge increase in the wealth of upper- and middle-class, highly-educated native-born and immigrant Californians. It has also helped lure an influx of four million new immigrants, many of them uneducated and working for low wages. The combination of burgeoning wealth and expanding immigrant poverty has sharpened economic disparities in California.

- Trends in income and wealth—their overall growth and distribution in our society—affect the ability to pay for post-secondary education. They influence who goes and who benefits from college.

- Education provides a critical tool in the American economy. On average, the more education, the more earning power. And the earnings advantage or "premium" paid to the most highly-educated workers has increased in the past three decades.

- K-12 educational resources are unequal across the state. Learning opportunities for poor and minority students lag well behind those of their more affluent, advantaged peers.

- Youth from more affluent and advantaged backgrounds are much more likely to be better prepared, enroll in college, persist, and receive a degree than other students.

- Low-income students receive substantial financial aid and pay a lower net price when compared with other students, but low-income students and families lift a much heavier burden, even after all aid is considered, than middle- and high-income students.

- The new Cal Grant guarantee is a giant step in support of access for low- and moderate-income students. California's commitment to such a policy stands in contrast to the trend in many other states, which have favored merit-based over need-based grants and scholarships, and to the recent federal policy emphasis on tax benefits for higher education expenses, which primarily help middle- and upper-middle-income students.

- Financial aid alone, however, will not assure wider and more equitable access to higher education. Removing financial barriers is a critical but not sufficient condition for equalizing opportunity. Complementary strategies, many focused on elementary and secondary education, are required to assure that students are adequately prepared for the postsecondary experience.

- Regardless of the efficacy of student financial aid, until major steps are taken to close gaps in academic achievement and readiness, college access will remain California dreamin' for too many young people.

Part I

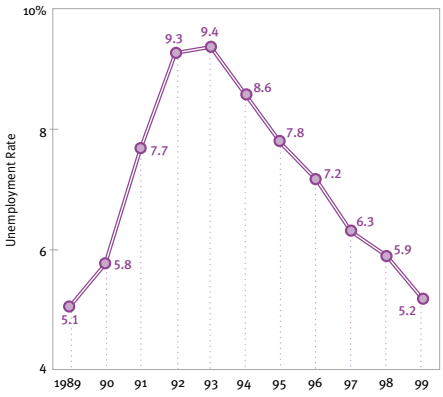
California's Economy and Demography

EMPLOYMENT

- The 1990s were good years for California and the nation. After the recession early in the decade, California's economy grew handsomely, providing increased revenues and employment for business, industry, and individuals.

- At the end of the 1990s, employment reached an all-time high of 17 million people. Unemployment was about five percent, slightly higher than the national average but considered by most economists to be approaching full employment. (*Exhibit 1; see Appendix A, Table 1*)

Exhibit 1: California Unemployment Rates, 1989-99



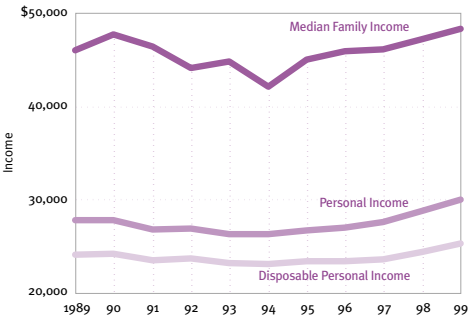
Source: California Department of Finance, Labor Market Information Division.

INCOME TRENDS

- Adjusted for inflation, per capita disposable personal income increased about five percent between 1989 and 1999 for California residents. At decade's end, the average individual had $1,199 more disposable income than in 1989. (*Exhibit 2; see Appendix A, Table 2*)

- These increases in income, however, would disappear completely if not for the economic expansion in 1998 and 1999. In fact, the personal disposable income of Californians, on average, decreased by $465 between 1989 and 1997. (*see Appendix A, Table 2*)

Exhibit 2: Trends in Personal and Family Income in California, 1989-99, in Constant 1999 Dollars



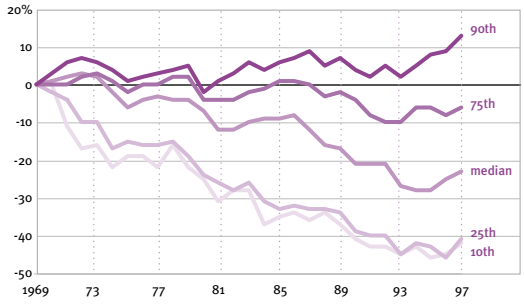
Source: California Department of Finance, based on Current Population Survey, U.S. Department of Commerce.

- Medians and averages are useful as gross measures of prosperity. But disaggregating the data by income level and other variables offers a different perspective. Between 1989 and 1997, household income for the lowest 10 percent of the population decreased by 13 percent, effectively reducing their income by approximately $2,000. Income of the top 10 percent, on the other hand, increased by 7 percent, which translates into an increase of over $9,000 [4]. (*see Appendix A, Table 3*)

- The widening of income disparities is a long-term trend. Low-income families in 1997 earned 22 percent less than they did in 1969, a decrease of $3,700 in 1997 dollars. High-income families earned 49 percent more than in 1969, which translates into about $42,800 in real terms[5]. California has been disproportionately impacted by massive immigration of individuals and families that are more likely to be poor and uneducated. (*see Appendix A, Table 3*)

- The growth of income inequality is even more pronounced when we restrict the analysis to earnings of male workers between the ages of 18 and 54, a category that sidesteps inconsistent earning patterns and practices between men and women. The earning power of male workers from the lowest quarter of the income scale declined by 42 percent between 1969 and 1997. Wage earnings at the median and 75th percentile also fell during the past three decades; the only true increases occurred at the 90th percentile and above (13 percent increase). (*Exhibit 3; see Appendix A, Table 4*)

Exhibit 3: Percentage Change in Real Weekly Wages for Male Workers Ages 18-54 in California, by Income Percentile, 1969-97



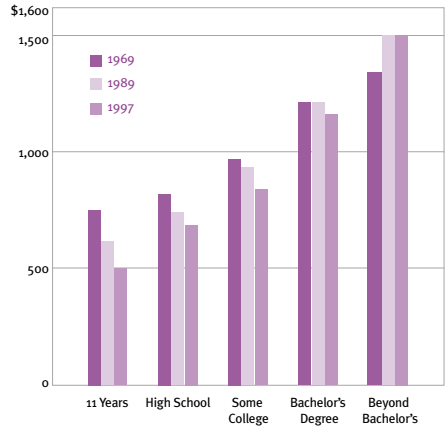
Source: Public Policy Institute of California, California's Rising Income Inequality: Causes and Concerns, 2000.

THE IMPORTANCE OF EDUCATION

- The aforementioned trends in income and wealth—their overall growth and distribution in our society—affect the ability to pay for postsecondary education. They influence who goes to and who benefits from college.

- In the American economy, education is highly associated with earnings. On average, the more education, the more earning power. And the earnings advantage or "premium"paid to the most highly-educated workers has increased in the past three decades. Exhibit 4 illustrates the economic returns to education for Californians from 1969 to 1997. Income returns for individuals with less than a bachelor's degree fell precipitously—one third for those who did not finish high school; 16 percent for those who stopped their education with a high school diploma. Earnings of bachelor's degree recipients decreased slightly (4 percent). Only individuals with graduate and/or professional studies saw their earnings increase over time (12 percent since 1969; 0 percent since 1989). (*Exhibit 4; see Appendix A, Table 5*)

Exhibit 4: Mean Weekly Wages of Californians, by Educational Attainment, 1969, 1989, and 1997 (Inflation Adjusted)



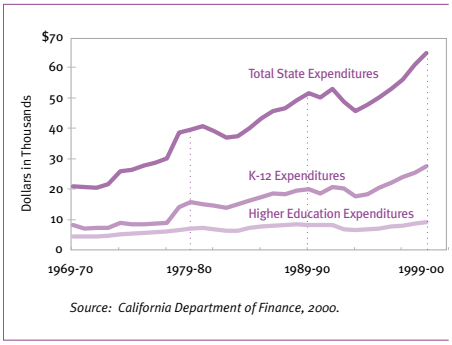
Source: Public Policy Institute of California (2000), based on data from the March file of the CPS and from the decennial Census for 1969 and 1989.

REVENUES AND EXPENDITURES

- Education has done well in staking its claim to the economic prosperity of the 1990s. While the total state budget grew by 27 percent after adjusting for inflation between 1990 and 2000, state expenditures for education rose 33 percent, or about $8.5 billion. Most of the increases were at the K-12 level, which received 41 percent more funding ($7.7 billion), compared to 12 percent ($887 million) for higher education. Education's share of the total state pot increased by 2.6 percent since 1989-90, mostly due to the large increases at the K-12 level. (*Exhibit 5; see Appendix A, Table 6*)

- Still, California is below average nationally when it comes to per pupil funding for public elementary and secondary education. In 1997-98, average spending per student in California was $5,644. This amount is 9 percent lower than the national average of $6,189. Nineteen states had lower spending levels than California. (*see Appendix A, Table 7*)

Exhibit 5: California State Expenditures on K-12 and Higher Education as Compared with Total State Expenditures, 1969-70 to 1999-00, in Constant Dollars



Source: California Department of Finance, 2000.

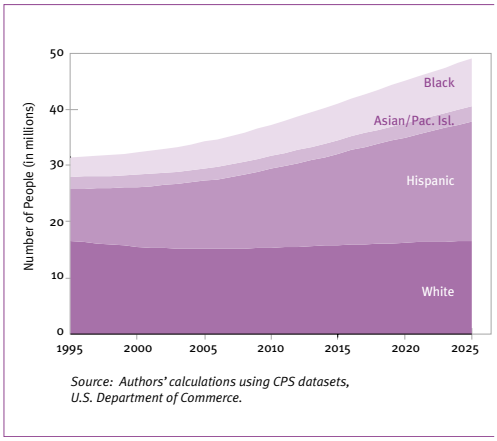
- Although California has historically had the lowest tuition levels for public postsecondary education, the average educational and general (e&g) expenditure per full-time equivalent (fte) student for public institutions in California was $11,898 in 1995-96.[6] This figure ranks them 29th in the nation, or 4 percent below the national average of $12,380. Comparatively, Vermont's average e&g per fte was $18,723 in public institutions. (*see Appendix A, Table 8*)

THE SHIFTING POPULATION OF CALIFORNIA

- By the year 2025, the California population is estimated to reach almost 50 million people, a 52 percent increase over the year 2000. The racial and ethnic mix of Californians has shifted dramatically in recent decades and will continue to change in coming decades. The last year that white Californians were a majority was in 1997. Traditional minority groups now collectively comprise about 52 percent of the California population. By the year 2014, Hispanics and whites are projected to make up equal shares of the population. By 2025, Hispanics will represent 43 percent of the entire California population and become the largest single-ethnic group in the state. (*Exhibit 6; see Appendix A, Tables 9a and 9b*)

- Between 2000 and 2010, the California population will increase by approximately 5 million people, half of whom will be under the age of 25. The traditional college-age population (18-24) will increase by 1.2 million people in that time. This group has been called "Tidal-Wave II," or the tsunami of California young people coming through the education pipeline. By 2010, according to one forecast, undergraduate enrollment will increase by more than 700,000,[7] far exceeding growth in any other state.[8] This has been illustrated as the equivalent of 21 additional medium-sized California State University campuses. Between 2010 and 2025, while the entire California population will increase by 10 million-plus, the college-age population will begin to stabilize. (*see Appendix A, Tables 9a and 9b*)

Exhibit 6: Race/Ethnic Distribution of the California Population, 1995-2025

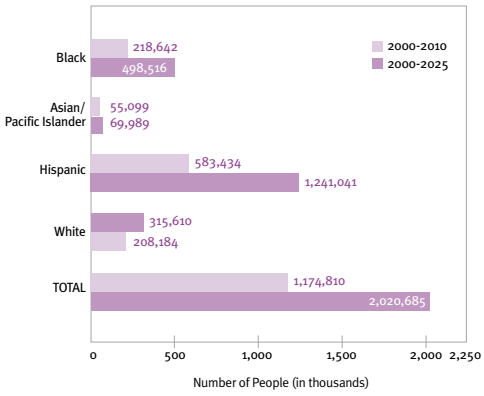


Source: Authors' calculations using CPS datasets, U.S. Department of Commerce.

- Half of the increase in 18 to 24-year-olds in the next 10 years will be of Hispanic descent: a net increase of more than 583,000 people. Blacks will have the largest percentage increase (53 percent), resulting in a net increase of over 218,000. The white and Asian populations will increase by about 25 percent each, with net increases of approximately 315,000 and 55,000 respectively. (*Exhibit 7; see Appendix A, Tables 9a and 9b)*

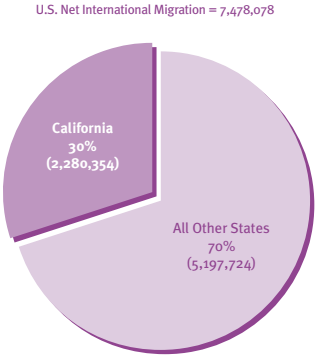
- Immigration from Mexico, Asia, and other places has contributed greatly to California's increasingly diverse population. From July 1998 to July 1999 California had a net international immigration of 248,490, or 29 percent of all international migration to the United States. Over the course of the 1990s, net international migration increased by 2.3 million in California—equal to one-third of the more than 7,000,000 immigrants to the United States during the past decade. (*Exhibit 8; see Appendix A, Table 10*)

Exhibit 7: Net Change in California 18-24 Population (College Age), by Race/Ethnicity, 2000-10 and 2000-25



Source: Authors' calculations using CPS datasets, U.S. Department of Commerce.

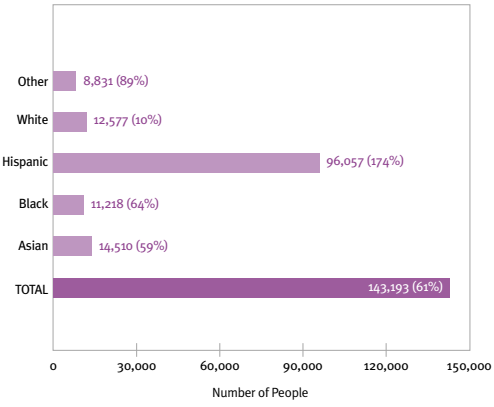
Exhibit 8: Net International Migration for California and the United States, 1990-99



Source: U.S. Census Bureau (ST-99-2).

- Changes in the demographics of the California population-at-large are mirrored in the profile of public high school graduates over time. During the 1990s, the number of white graduates remained about level (5 percent increase), while Hispanic graduates grew by 74 percent, accounting for two-thirds of the entire growth in public high school graduates in the state. Projections for 2008-09 indicate a further increase of 58 percent. The net increase over the two decades beginning in 1990 is an estimated 96,000 Hispanic high school graduates. The next-largest increase is projected to be more than 14,000 Asian graduates. (*Exhibit 9; see Appendix A, Tables 11a and 11b*)

Exhibit 9: Net Change in California Public High School Graduates, by Race/Ethnicity, 1989-90 to 2008-09 (Percent Change in Parentheses)



Source: California Department of Finance, 2000.

Part II
Educational Opportunity and Academic Preparation

HIGH SCHOOL COMPLETION AND DROPOUT RATES

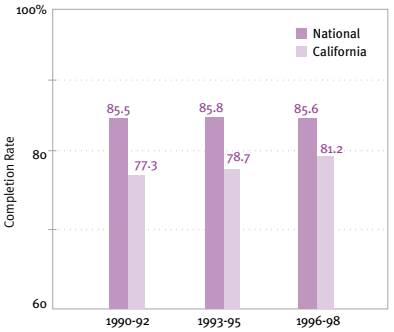
High school completion and dropout rates are defined in a number of ways, and because of the way data are collected nationally, it is important to consider both in discussing who graduates from high school in California versus the nation.

- High school completion rates[9] in California are the sixth lowest in the nation (81.2 percent versus 85.6 percent nationally). However, California's completion rate showed steady improvement during the 1990s, rising four percent from 1990-92 to 1996-98. (*Exhibit 10; see Appendix A, Table 12*)

- Dropout data provides us with a more sophisticated perspective within California. Of all California dropouts, three out of four are minority students, and the state has the second highest minority-dropout level in the nation.[10] Approximately one out of every six black, Latino, and Native American students drop out before high school graduation. This rate is double that of white or Asian students. (*Exhibit 11*)

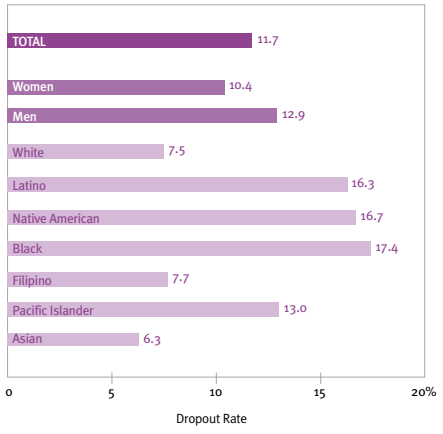
- While no data are available on dropouts by income in California, the dropout rate for low-income students is five times that of high-income students at the national level, and twice that of middle-income students.[11]

Exhibit 10: High School Completion Rates of California Students versus the National Average, 1996-98



Source: NCES, "Dropout Rates In The United States: 1998," Statistical Analysis Report, November 1999 (NCES 2000-02).

Exhibit 11: Dropout Rates for California Public High School Students by Gender and Race/Ethnicity, 1997-98



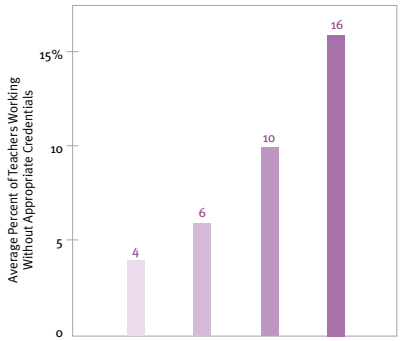
Source: California Postsecondary Education Commission, Higher Education Performance Indicators Report, 1999.

ACADEMIC PREPARATION AND BARRIERS TO OPPORTUNITY

- Of all the variables that influence who enters and who succeeds in college, aspirations and academic preparation seem to be the most powerful. And the odds of success rest heavily on such factors as the quality of teaching, school resources, climate and culture, curriculum and materials, and the support of family and peer networks.[12]

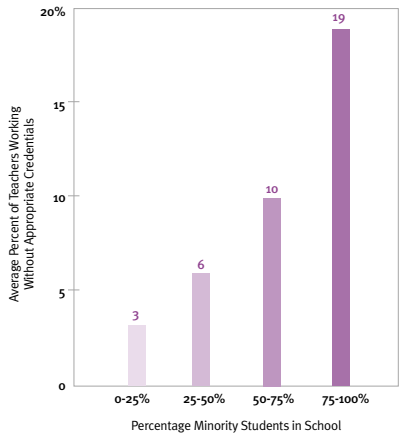
- A recent report by the Center for the Future of Teaching and Learning (cftl), based in Santa Cruz, states that there are more than one million California students attending schools "with so many under-qualified teachers as to make these schools dysfunctional."[13] The number of teachers with emergency permits tripled during the 1990s. A full 10 percent of California's teaching work force, or 28,500 teachers, are working on emergency permits. In addition, the study, conducted by sri International for cftl, found that schools serving large numbers of low-income students had four times as many teachers without appropriate teaching credentials as schools with small numbers of low-income pupils. Schools with a high percentage of minority students had six times as many such teachers. (*Exhibits 12 & 13*)

Exhibit 12: Percentage of Underqualified Teachers in California, by Socio-Economic Status of School, 1999



Source: The Center for the Future of Teaching and Learning, Santa Cruz, CA, 2000.

Exhibit 13: Percentage of Underqualified Teachers in California, by Percent of Minority Students in School, 1999

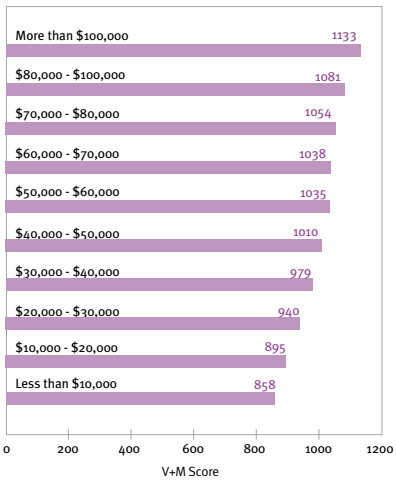


Source: The Center for the Future of Teaching and Learning, Santa Cruz, CA, 2000.

- The sat is a standardized predictor of freshman year grade point average in college and a rough gauge of students' educational experience and basic academic skills. In California as well as the nation, income is highly correlated with sat results. For each $10,000 increase in family income, the combined sat (math and verbal) score increases about 30 points. Test takers from families with over $100,000 income score, on average, about 275 points higher than students from families with under $10,000 income. (*Exhibit 14; see Appendix A, Table 13*)

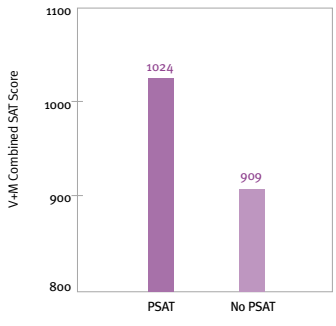
- Two-thirds of the California students who took the sat had also taken the psat to prepare for the sat. The psat offers students a chance to see how they may do on the real sat, but it also acts as a diagnostic test to help them and their teachers identify areas of weakness and strength. These students scored, on average, 167 points higher than students who did not take the psat. Thus, one-third of sat takers in California appear to be at a distinct disadvantage going into the sat. (*Exhibit 15; see Appendix A, Table 14*)

Exhibit 14: SAT Combined Math and Verbal Scores for California Students, 2000, by Self-Report Family Income



Source: College Board, 2000.

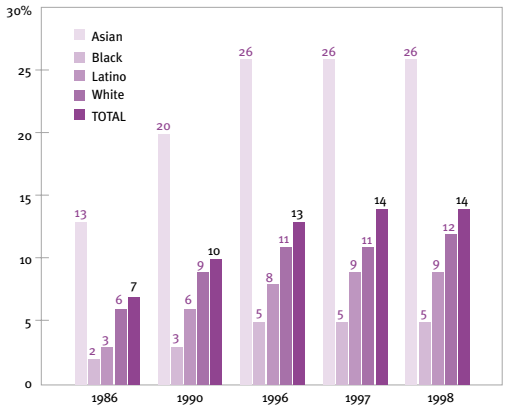
Exhibit 15: Comparative SAT Results for California Students by Whether They had Taken the PSAT Earlier in High School, 2000



Source: College Board, 2000.

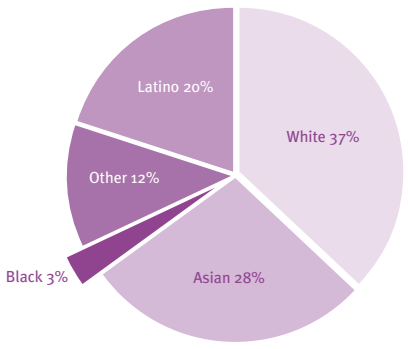
- Another indicator of course quality and academic rigor is the Advanced Placement program. In 1998, approximately 14 percent (40,000) of California twelfth graders took an AP test. This number has about doubled since 1986. White and Asian test takers account for two-thirds of all AP test takers. The real story is in the ratio of test takers to graduates within race/ethnic groups: about one in four Asian students and one in nine white students take an AP test. For Latinos and black students, the ratios are one in 11 and one in 20 respectively. While all these rates have increased dramatically since the late 1980s and early 1990s, they have leveled off since 1996. (*Exhibits 16 & 17; see Appendix A, Table 15*)

Exhibit 16: Percent of California Twelfth-Grade Students Participating in Advanced Placement Courses, by Race/Ethnicity, 1986-98



Source: California Postsecondary Education Commission, 2000, based on College Board data.

Exhibit 17: Distribution of California Twelfth-Grade AP Test Takers, 1998

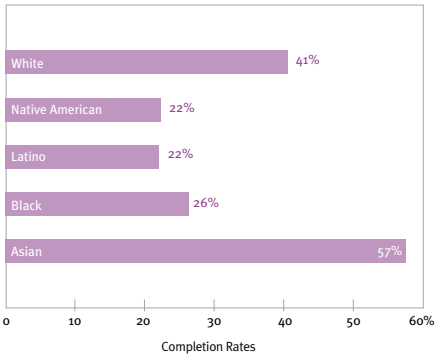


Source: California Postsecondary Education Commission, 2000, based on College Board data.

- a-f course completion rates are a third indicator for California public high school graduates. In order to be considered "college-ready" by the University of California system, students must complete the a-f courses set by The Regents of the University of California (this is considered a minimum competency level, according to the University of California). In 1999, 35.6 percent of public high school graduates completed the a-f courses. This is an increase of almost one-third since 1990. However, gaps in a-f course-completion rates are visible by race / ethnicity. For instance, Asian and white students have 1999 completion rates of 57.5 and 40.6 percent respectively. In comparison, only one-quarter of black students complete, while Latino and Native Americans complete at even lower levels (22.1 and 22.3 percent). (*Exhibit 18; see Appendix A, Table 16*)

- Thus, by nearly every available indicator, wide gaps exist in who is exposed to quality educational experiences and rigorous academic preparation. The opportunity to learn and levels of academic preparation are highly uneven by either income, race / ethnicity, or both. Regardless of the efficacy of the student financial aid system, until major steps are taken to resolve or reduce these gaps in achievement and readiness, college access will remain California dreamin' for too many young people.

Exhibit 18: A-F Course Completion Rates, Within Race/ Ethnic Groups, 1999



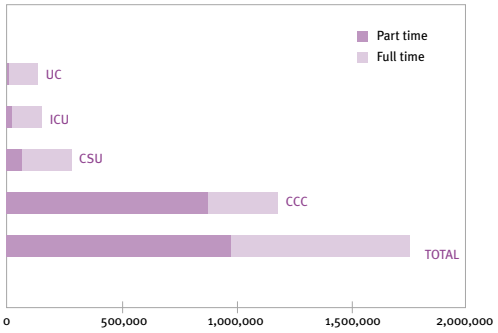
Source: California Postsecondary Education Commission, 2000.

Part III
Participation in Postsecondary Education

- Over 1.7 million students participated in some form of postsecondary education in California in 1999, a decrease of 2.6 percent since 1990. In the public sector, two-thirds of all postsecondary students attended California Community Colleges (CCC), while 16 percent attended the California State University (CSU) and 8 percent enrolled at the University of California (UC). Almost 9 percent of students attended a four-year independent college or university (ICU).[14] (*Exhibit 19; see Appendix A, Table 17*)

- California's ICUs showed the greatest total growth in the 1990s, increasing enrollment by over 56,000, or 59 percent. The University of California was the only public sector that grew in the past decade (9.9 percent), while enrollment in the CCC system declined by 8 percent and CSU declined by slightly more than 3 percent. (*Exhibit 19; see Appendix A, Table 17*)

Exhibit 19: Part-time and Full-time Enrollment at California's Institutions of Higher Education, 1999



Source: California Postsecondary Education Commission, 2000.

- Approximately 776,000 full-time students attended California's colleges in 1999, representing 43 percent of all postsecondary enrollment. Eighty-three percent of these students attended a public institution: 39 percent at CCC (301,414), 28 percent at CSU (218,256), and 16 percent at UC (127,845). Seventeen percent of full-time students attended an ICU. (*Exhibit 19; see Appendix A, Table 17*)

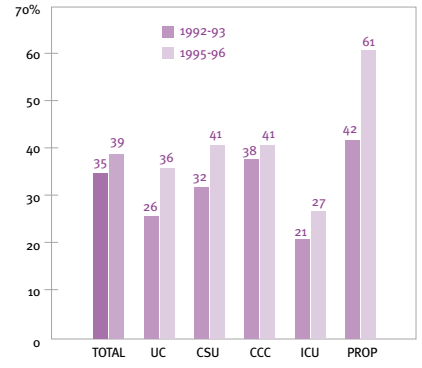
Exhibit 20: Distribution of California Postsecondary Students, by Institution Type and Within Race/Ethnicity, 1999

Source: California Postsecondary Education Commission, 2000.

- Students of color were more likely to attend ccc schools than white or Asian students, while the latter groups were more likely to attend uc and icu schools. Three-quarters of all black and Latino postsecondary students attended ccc campuses in 1999, compared with 68 percent of white and 55 percent of Asian students. Seventeen percent of Asian students and 7 percent of white students attended uc, compared with only 4 percent each of the Latino and black students. (*Exhibit 20*)

- Low-income students are relatively evenly distributed among public institutions in California. Between 36 and 41 percent of enrolled students at uc, csu, and ccc schools come from low-income backgrounds.[15] Proprietary institutions (prop) enroll the highest proportion of low-income students (61 percent) and independent four-year institutions enroll the lowest (27 percent). Between 1992-93 and 1995-96, the number and percentage of low-income students increased within all college systems in California. (*Exhibit 21*)

Exhibit 21: Percent of California Postsecondary Students who are Low Income Within Institution Type, 1992-93 and 1995-96



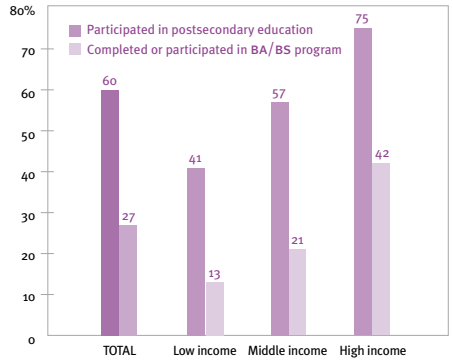
Source: Authors' analysis of National Postsecondary Student Aid Study (NPSAS:96).

Note: Low income is based on national data set definitions, where it is the bottom third of the distribution.

- According to 1998 U.S. Census data, almost 60 percent of 18- to 24-year-old Californians participate in some form of postsecondary education, and 27 percent completed or participated in a four-year program. However, there are large gaps in participation when we look at family income data. Seventy-five percent of high-income 18- to 24-year-olds participated in postsecondary education, compared to 41 percent for low-income families. At the four-year level, 42 percent of high-income students completed or participated, compared to only 13 percent of low-income students. (*Exhibit 22; see Appendix A, Table 18*)

- White and Asian/other students participate in postsecondary education at much higher rates than Hispanic and black students (70 percent and 82 percent of white and Asian/other students versus 42 percent and 51 percent of Hispanic and black students). Similar gaps exist when looking at just four-year college enrollment. Thirty-three percent and 50 percent of white and Asian/other students participated at the four-year level, compared to 15 percent and 16 percent of Hispanic and black students. (*Exhibit 23; see Appendix A, Table 18*)

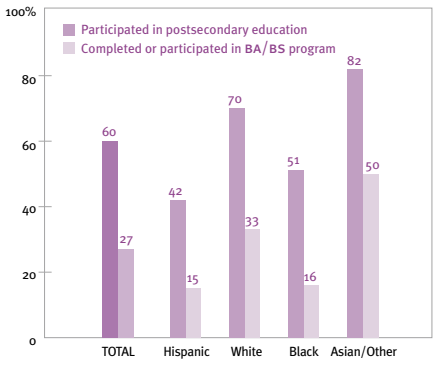
Exhibit 22: Percentage of California 18- to 24-year-olds Participating in Postsecondary Education and Participating in or Completing a Four-Year Degree Program, by Family Income, 1994-98



Source: Authors' calculations of CPS data, U.S. Department of Commerce.

Note: Low-income calculation is based on the family-income distribution of the entire state of California, not just the income of families with 18- to 24-year-old dependents; data for 1994-98 were combined to allow for statistical analysis.

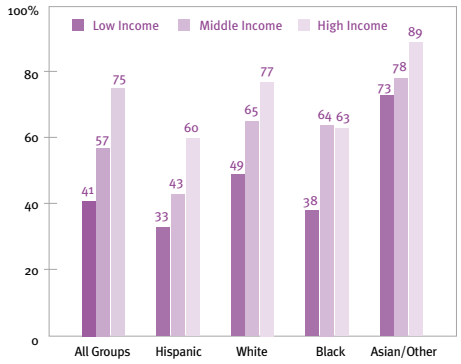
Exhibit 23: Percentage of California 18- to 24-year-olds Participating in Postsecondary Education or Participation or Completion in a Four-Year Degree Program, by Race/Ethnicity, 1994-98



Source: Authors' calculations of CPS data, U.S. Department of Commerce.

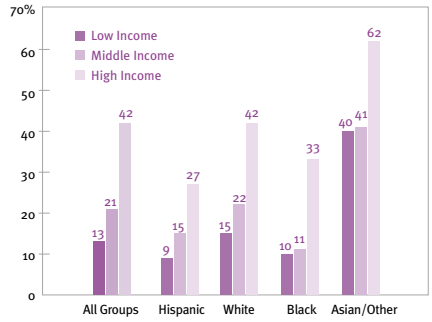
- By all accounts, income matters with regard to postsecondary participation. Participation rates rise steadily with increases in family income. And this holds within race/ethnic groups as well as for the population at large. For example, 60 percent of high-income Hispanics participate in postsecondary education, compared to only 33 percent of low-income Hispanics. Similarly, 63 percent of high-income black students compared to 38 percent of black low-income students participate. Likewise, the data show that high-income students, in the aggregate and within race/ethnic groups, are much more likely to participate at the four-year level than students from less-affluent backgrounds. In fact, for all students, four-year participation rates for high-income students are double those of middle-income students, and triple those of low-income students. Only in the Asian/other category do we see higher participation rates at all income levels. (*Exhibits 24 & 25; see Appendix A, Table 18*)

Exhibit 24: Percentage of California 18- to 24-year-olds Participating in Postsecondary Education by Race/Ethnicity, 1994-98



Source: Authors' calculations of CPS data, U.S. Department of Commerce.

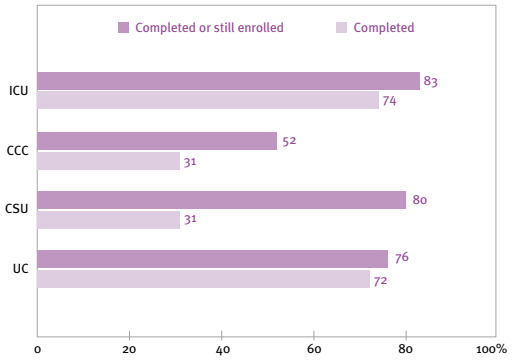
Exhibit 25: Percentage of California 18- to 24-year-olds Participating in or Completing a Four-Year Program, by Race/Ethnicity, 1994-98



Source: Authors' calculations of CPS data, U.S. Department of Commerce.

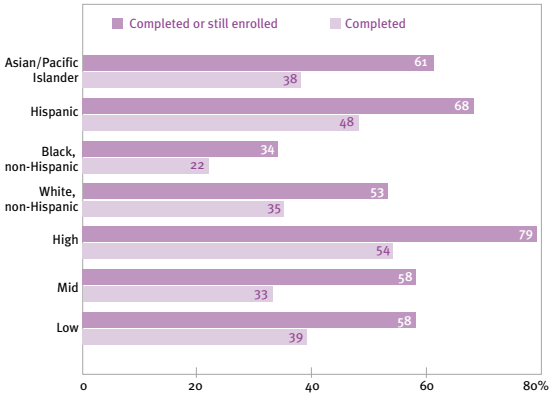
Part IV
College Persistence and Completion

Exhibit 26: Completion Rates of California Beginning Postsecondary Students Within Five Years of Matriculation, 1989-94



Source: Authors' calculations from Beginning Postsecondary Study, NCES.

Exhibit 27: Completion Rates of California Beginning Postsecondary Students Within Five Years of Matriculation, by Family Income (Dependent Students Only) and Race/Ethnicity, 1989-94



Source: Authors' calculations from Beginning Postsecondary Study, NCES.

- Students attending UC, ICU, or proprietary institutions are more likely to complete their academic programs within five years of matriculation than students at other institutions. On average, approximately three out of four students attending these institutions complete within five years, compared to one of three CSU or CCC students. However, half of CCC students and 80 percent of CSU students had either completed or were still enrolled by the time of the five-year follow-up study. Unfortunately, the Beginning Postsecondary Student (BPS) study from which these data come did not include a follow-up beyond five years. Therefore, we are unable to project more accurately the fate or experience of students beyond that time limit. (*Exhibit 26; see Appendix A, Table 19*)

- Disparities in persistence and completion become apparent when we focus on race/ethnic and income groups.[16] Hispanics have the highest completion rates of any group (48 percent), possibly explained in part by their high enrollment in less-than-four-year schools. Asian and white students complete at rates of 38 percent and 35 percent respectively, while black students complete at a 22 percent rate. High-income students complete and persist at higher rates than less-affluent students. Seventy-nine percent of high-income students completed their studies or were still enrolled after five years, compared to slightly less than 60 percent for middle- and low-income students. Fifty-four percent of high-income students completed their degree programs within five years of matriculation, compared with 39 percent and 33 percent of low- and middle-income students, respectively. Unfortunately, the BPS database does not allow race/ethnicity and income to be disaggregated by institution type. (*Exhibit 27; see Appendix A, Table 19*)

- Dependent and full-time students were also more likely to complete or persist than independent or part-time students. Sixty-three percent of dependent students completed or were still enrolled after five years compared with 43 percent of independent students (41 versus 29 percent completion rate differential). And three of four full-time students persisted compared to 51 percent of part-time students (62 versus 29 percent completion rate differential). (*see Appendix A, Table 19*)

- Another indicator of persistence and completion is a degree productivity rating. This indicator simply reflects a ratio of degrees conferred to the number of full-time students enrolled in any given year.[17] Although this indicator is not to be mistaken for much more rigorous longitudinal and cohort studies, it does provide a rough benchmark of degree completion by type of institution. We found that ICUs had the highest degree-production ratio, producing one degree for every three full-time students. UC and CSU each produced about one degree per four full-time enrolled students, and CCC produced a ratio of 1:5. Ratios calculated from 1999 data were quite similar to those calculated from 1990 data. Only CCC showed a marked increase, from 1:7 to 1:5, during that time. (*see Appendix A, Table 20*)

Part V
Student Charges and Student Aid in California

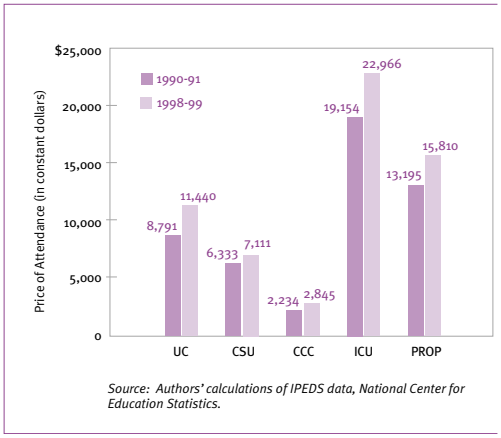
This section sets the stage for the discussion in Part VI regarding net price and affordability of higher education in California. In this section, we review student charges over time and the amount of aid available to undergraduates to help pay these expenses, by institution type, race/ethnicity, dependency, and family income.

TUITION, FEES, AND OTHER STUDENT CHARGES

- Inflation-adjusted tuition charges for University of California undergraduates climbed 82 percent above inflation between 1990-91 and 1999-2000, from $2,267 to $4,137. The 1999 figure is 28 percent higher than the national average for four-year public colleges.[18] This reflects a major policy shift in California during the 1990s. At the start of the decade, UC was roughly on par with or below the national average for student charges. However, steep increases in the early part of the decade have moved California from a low-fee, low-aid system to a higher-fee, higher-aid model. (*Exhibit 28; see Appendix A, Table 21*)

- The California State University has kept its fees well below the national average posted above, but still increased at a faster rate than the national average for four-year public schools. By the end of the 1990s, CSU fees increased 57 percent to $1,954, or an increase of $708. (*Exhibit 28; see Appendix A, Table 21*)

Exhibit 28: Price of Attendance at California Institutions of Higher Education (Adjusted for Inflation)



Source: Authors' calculations of IPEDS data, National Center for Education Statistics.

- The California Community College system had the largest percent increase (146 percent), which is somewhat misleading because the actual dollar increase was only $231. CCC charges have always been and continue to be well below the national average for community college systems. In 1998-99, the national average enrollment-weighted two-year schools charge was $1,578 (inflation adjusted to 1999 dollars) compared to $389 for CCC. (*Exhibit 28; see Appendix A, Table 21*)

- While percent changes were lowest at ICU and proprietary institutions, the dollar increases were significantly higher than those posted at California's public institutions. Tuition at four-year independent schools increased by $3,347 to $16,592 since 1990, an increase of 25 percent and about $1,500 higher than the $15,000 national average. Tuition and fee charges at proprietary institutions increased $2,720 to $11,291, or 32 percent. (*see Appendix A, Table 21*)

- Although tuition and fee charges changed dramatically, room and board and other student expenses more closely mirrored standard inflationary changes during the 1990s. Thus, actual changes in affordability were determined mostly by changes in direct tuition or fee charges. When total student expenses are considered and adjusted for inflation, UC had the highest cost of attendance increase of all sectors (30 percent, from $8,791 to $11,440). Four-year independent institutions had the highest dollar increase, raising the total cost of attendance to $22,966, up 20 percent from $19,154 in 1990-91. (*Exhibit 28; see Appendix A, Table 21*)

- Thus, before consideration of student aid, California's institutions of higher education became considerably more expensive during the 1990s. California's public four-year institutions posted increases well beyond national figures, both in percentage and actual tuition charges. Community colleges also increased faster than national averages, but actual dollar increases were less than the national average due to extremely low initial rates in California. Four-year independent schools posted increases slightly below the national averages.

STUDENT AID IN CALIFORNIA

Two factors are important in reviewing the distribution of aid among undergraduates in California. The first is the price of attendance. Generally, undergraduates attending higher-priced institutions receive more aid and larger awards than those attending less-expensive institutions, all other things being equal. The second is the ability of the family, including the student, to contribute to paying the expenses associated with postsecondary education. Again, all other things being equal, low-income undergraduates are more likely to receive aid than higher-income undergraduates, and if they receive aid, they will receive more on average. Also, more of the aid will be in the form of grants instead of loans.

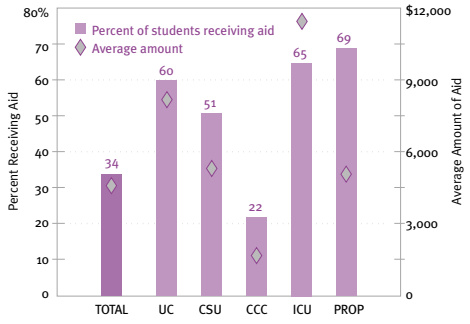
Other student characteristics such as race/ethnicity or dependency status that are associated with variations in the receipt of financial aid probably reflect differences in these other two variables. The following section provides a detailed overview of how financial aid is awarded to different groups of undergraduates in California.

OVERVIEW OF AID FOR UNDERGRADUATES

- Undergraduates in California are less likely to receive student aid than are those in the rest of the nation. Thirty-four percent of all undergraduates attending a California postsecondary institution received financial aid in 1995-96, compared with 50 percent nationally. This difference may be partially explained by the large number of part-time undergraduates and undergraduates attending community colleges. On average, aided undergraduates in California received $4,817. Twenty-nine percent of all undergraduates received grants (average equaled $2,808) and 14 percent received loans (average equaled $4,827). (*Exhibit 29; see Appendix A, Table 22*)

- Undergraduates attending higher-priced institutions in California were more likely to receive aid than those attending less expensive institutions. In most cases undergraduates received larger awards. About two-thirds of all undergraduates attending UC, ICU, and proprietary institutions received aid, compared with 51 percent of CSU undergraduates and 22 percent of community-college undergraduates. (*Exhibit 29; see Appendix A, Table 22*)

Exhibit 29: Percentage of All California Undergraduate Students Receiving Aid and Average Total Aid Amount for Aided Students, by Institution Type, 1995-96



Source: Authors' calculations of NPSAS:96 database, National Center for Education Statistics.

- Undergraduates in more expensive institutions received larger student aid awards than those attending lower-priced institutions. Average awards ranged from $11,630 at ICUs to $1,701 at community colleges. CCC undergraduates were less likely to receive either loans or grants than those at all other types of California institutions. (*Exhibit 29; see Appendix A, Table 22*)

- Over half (56 percent) of full-time, full-year undergraduates received financial aid compared with 26 percent of the part-timers, which includes those who attend full time for a semester or quarter, but not at all or part time for the rest of the year. Full timers received higher average awards than their part-time peers ($7,381 versus $2,612). (*see Appendix A, Table 22*)

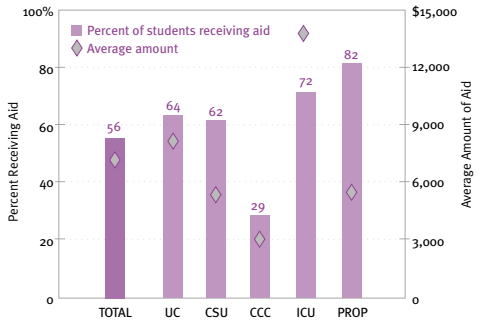
- Independent and dependent undergraduates were roughly equal in the chances of receiving grant or loan aid. But dependent undergraduates received over half-again as much aid as independent undergraduates ($5,982 versus $3,862), mostly due to larger grants. (*see Appendix A, Table 22*)

- Over half (51 percent) of all dependent low-income undergraduates received some form of financial aid, averaging $5,922, compared with 35 percent of middle-income undergraduates (average $6,234) and 18 percent of high-income undergraduates who received $5,815. Half of dependent low-income undergraduates received grants compared with 25 percent of middle-income undergraduates, but the average grant for both was around $4,000. About one in five low- or middle-income undergraduates borrowed, but middle-income undergraduates borrowed nearly $800 more ($4,812 versus $4,045). Only one in 10 high-income undergraduates borrowed, but they borrowed more ($5,712) than those in lower-income groups. (*see Appendix A, Table 22*)

- The share of independent undergraduates receiving aid, grants, and loans was not significantly different than that reported for dependent undergraduates. And while loan amounts were not significantly different than the amount received by dependent undergraduates, independent undergraduates received grants that were about half the amount received by dependent undergraduates. (*see Appendix A, Table 22*)

- The percentage of undergraduates receiving aid or the average amount of aid received did not vary much among ethnic/racial groups. Thirty percent of white undergraduates received aid, the lowest percentage of any race/ethnic group. White undergraduates, however, still represent the highest number of aid recipients in California. With the exception of "other undergraduates," Native American undergraduates were the most likely to receive aid (42 percent). Asian/Pacific Islanders received the largest average award and black and Hispanic undergraduates received the lowest average award. These differences may represent variation in the price of attendance and the ability to pay for college that is associated with the different ethnic and racial groups in the state. (*see Appendix A, Table 22*)

Exhibit 30: Percent of California Full-Time, Full-Year (FT/FY) Undergraduate Students Receiving Aid and Average Total Aid Amount for FT/FY Aided Students, by Institution Type, 1995-96



Source: Authors' calculations of NPSAS:96 database, National Center for Education Statistics.

FULL-TIME, FULL-YEAR UNDERGRADUATES

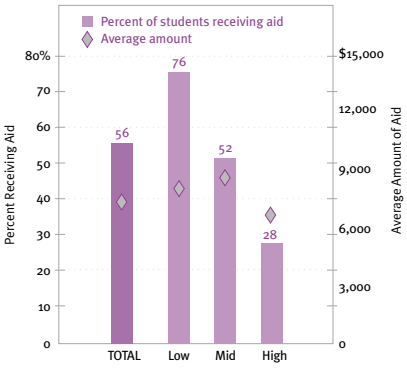
- Full-time undergraduates are those students who attend college full time for the entire year. Predictably, they were more likely to receive aid than those who attended part time. While 34 percent of all undergraduates received aid, over half (56 percent) of full-time undergraduates received aid in 1995-96. (*Exhibit 30; see Appendix A, Table 23*)

- Full-time undergraduates attending proprietary institutions were more likely to receive aid than those attending other types of institutions. Community college undergraduates were at the other end of the aid award continuum. Less than one-third (29 percent) of full-time community college undergraduates received aid. (*Exhibit 30; see Appendix A, Table 23*)

- About half of public four-year college full-time undergraduates (UC/CSU) received grants, compared with 63 percent and 64 percent of ICU and proprietary undergraduates respectively. Only 27 percent of full-time community college undergraduates received grants. Full-time ICU undergraduates received the largest average grant at $9,377. Community college undergraduates received the smallest average grant at $2,236. Proprietary undergraduates received about the same: $2,343. (*see Appendix A, Table 23*)

- More full-time undergraduates attending ICU and proprietary institutions borrowed than those attending any other institutional type. In total, 53 percent of ICU undergraduates and 59 percent of proprietary-school undergraduates borrowed to support their education. Forty-five percent of UC undergraduates borrowed, while 34 percent of CSU undergraduates borrowed, which closely matched the state average. Because such a large share of California's undergraduates attend community colleges, the fact that only 8 percent of full-time community college undergraduates borrow has a profound effect on the state averages. (*see Appendix A, Table 23*)

Exhibit 31: Percent of FT/FY Dependent Undergraduate Students Receiving Aid and Average Total Aid Amount for FT/FY Aided Students, by Family Income Type, 1995-96



Source: Authors' calculations of NPSAS:96 database, National Center for Education Statistics.

- Income was more closely related to the probability of receiving aid than race/ethnicity. Three quarters of full-time, low-income dependent undergraduates received aid, compared with 52 percent of middle-income and 28 percent of high-income undergraduates. The average award received by middle-income undergraduates was higher than that received by low- or high-income undergraduates. (*Exhibit 31; see Appendix A, Table 23*)

- Low-income undergraduates who attended full time were more likely to receive grants than loans (74 percent versus 42 percent). Middle-income undergraduates were slightly more likely to receive a grant than a loan, but high-income undergraduates were slightly more likely to get a loan than a grant. High-income undergraduates received the highest average loan, while low- and middle-income undergraduates received larger grant awards. (*Exhibit 31; see Appendix A, Table 23*)

- Independent, full-time high-income undergraduates were more likely to receive aid than high-income dependent undergraduates. Forty-six percent of full-time independent undergraduates received aid compared with 28 percent of their dependent peers. (*see Appendix A, Table 23*)

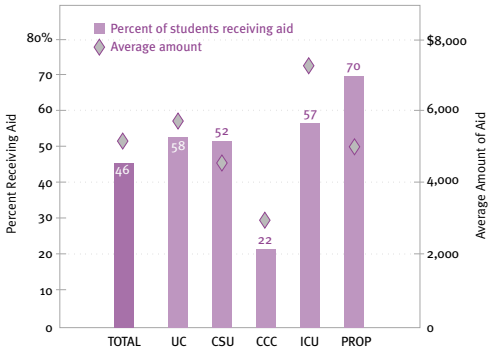
- Limiting the view to full-time undergraduates who received aid, 84 percent received grants and 60 percent received loans. The majority of full-time aided undergraduates received both types of aid. Fifty-seven percent of those receiving grants also received loans. Alternatively, 79 percent of those receiving loan aid also received grant aid. (*see Appendix A, Table 23*)

FEDERAL AID

- Federal programs provide the bulk of student aid awarded to undergraduates in California. Forty-six percent of all full-time, full-year California-aided undergraduates received federal aid in their aid package, averaging $5,256 in federal aid. About one-third of aided undergraduates received Pell Grants, which are awarded to undergraduates with the most need, and one-third also received federal loans, which are more broadly awarded. Work-Study is a small program. Only 6 percent of California undergraduates participated in College Work-Study and 4 percent received PLUS loans, which allows parents to borrow to supplement their own contribution (average $6,051). (*Exhibit 32; see Appendix A, Tables 24a and 24b*)

- At 70 percent, proprietary institutions had the highest percentage of undergraduates receiving federal aid compared with slightly over half of the undergraduates attending UC, CSU, and ICU institutions. Only 22 percent of community college undergraduates received federal aid. ICU undergraduates received significantly larger amounts of federal assistance ($7,324) than undergraduates at the other institutions, and community college undergraduates received the least ($3,047). (*Exhibit 32; see Appendix A, Table 24a*)

Exhibit 32: Percent of California FT/FY Undergraduate Students Receiving Federal Aid and Average Total Aid Amount for FT/FY Aided Students, by Institution Type, 1995-96



Source: Authors' analysis of NPSAS:96 database, National Center for Education Statistics.

- In total, 60 percent of proprietary-school undergraduates received Pell Grants compared with 39 percent of CSU undergraduates and 33 percent of UC undergraduates. ICU and community college undergraduates had the lowest Pell Grant participation rate of 23 percent and 20 percent respectively. (*see Appendix A, Table 24a*)

- College Work-Study provided aid to less than 10 percent of undergraduates in California. ICU undergraduates were most likely to participate in work-study programs (19 percent). Only 3 percent of CSU and community college undergraduates received work-study and 9 percent of UC undergraduates participated in the federal work-study program. Undergraduates received, on average, between $1,400 and $2,500 in work-study funds. (*see Appendix A, Table 24b*)

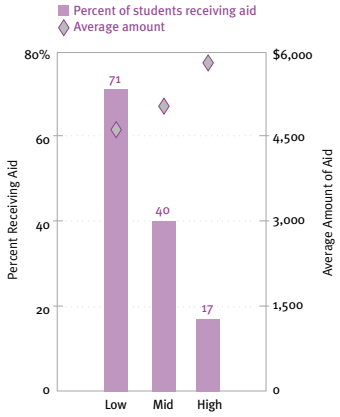
- The federal government provides almost all loan aid. Approximately half of all full-time undergraduates attending UC, ICU, or proprietary institutions received a federal loan. ICU undergraduates borrowed the most with an average loan of $5,247, while UC and proprietary undergraduates averaged around $4,300. One-third of CSU undergraduates borrowed federal monies, and borrowed slightly more than their UC peers ($4,636). A small share of community college undergraduates borrowed (8 percent), but borrowed substantially considering the length of program ($2,452). (*see Appendix A, Table 24b*)

- The PLUS program is another smaller loan program for parents, which tended to be used by undergraduates attending the more expensive institutions in California. UC, ICU, and proprietary institutions again had the highest participation rates (7 percent, 8 percent, and 10 percent respectively). ICU parents borrowed the highest average amount ($7,933), with CSU parents borrowing the second highest ($6,333). (*see Appendix A, Table 24b*)

- Half of minority undergraduates received aid, ranging from $4,600 to $5,500. Just under 40 percent of white undergraduates received aid, but, on average, received slightly larger aid packages than other undergraduates ($5,688). Minority undergraduates also were more likely to receive a Pell Grant than were white undergraduates. Most undergraduates received between $1,700 and $2,000, regardless of race. (*see Appendix A, Table 24a*)

- Independent undergraduates were more likely to receive federal aid than were dependent undergraduates. In total, 58 percent of independent undergraduates received federal aid compared with 42 percent of dependent undergraduates. They also tended to receive more federal aid than did their dependent peers ($5,781 versus $4,954). Forty-seven percent of independent undergraduates received Pell Grants versus 25 percent of dependent undergraduates. Independent undergraduates also received more federal loans than dependent undergraduates (39 percent versus 30 percent), and higher amounts ($5,818 versus $3,837). (*see Appendix A, Tables 24a and 24b*)

Exhibit 33: Percent of California FT/FY Dependent Undergraduate Students Receiving Federal Aid and Average Total Aid Amount for FT/FY Aided Students, by Family Income Type, 1995-96



Source: Authors' calculations of NPSAS:96 database, National Center for Education Statistics.

- A higher percentage of both dependent and independent low-income undergraduates received federal aid than those in the higher-income categories. However, low-income undergraduates did not receive as much aid as their more affluent counterparts. This probably represents the difference in the price of the institution they attended. (*Exhibit 33; see Appendix A, Table 24a*)

- The average amount borrowed, about $3,800, did not differ significantly by income within dependency status. This is due, in part, to federal loan limits. But a higher percentage of low- and middle-income undergraduates received federal loans than high-income undergraduates. Forty-one percent and 36 percent of dependent low- and middle-income undergraduates received federal loans in their aid package compared with 16 percent of high-income undergraduates. Independent undergraduates had a higher average loan than dependent undergraduates. (*see Appendix A, Table 24b*)

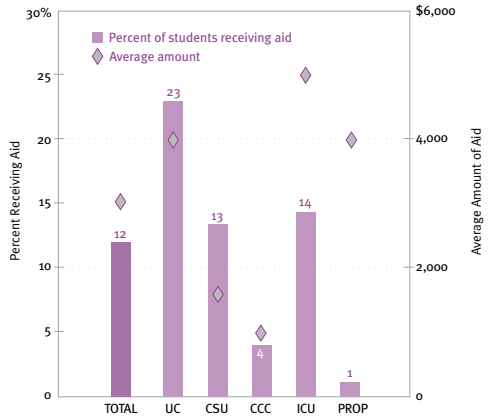
STATE AID

- State aid plays a smaller role than federal aid in California and virtually all of it is in the form of state grants. Twelve percent of full-time, full-year undergraduates received state grants in 1995-96, averaging $3,181. (*see Appendix A, Table 25*)

- Twenty-three percent of UC undergraduates received state grants with an average award of $4,005, compared with 13 percent of CSU undergraduates who received $1,784 on average and 14 percent of ICU undergraduates who received the largest average award at $5,244. Only 4 percent of community college students received state grants, averaging $1,075. (*Exhibit 34; see Appendix A, Table 25*)

- A higher percentage of minority undergraduates (including Asians) received state grants than did white undergraduates. Twenty-one percent, 15 percent, and 13 percent of Asian, black, and Hispanic undergraduates received aid respectively. Comparatively, 7 percent of white undergraduates received state grants. (*see Appendix A, Table 25*)

Exhibit 34: Percent of California FT/FY Undergraduate Students Receiving State Aid and Average Total Aid Amount for FT/FY Aided Students, by Institution Type, 1995-96

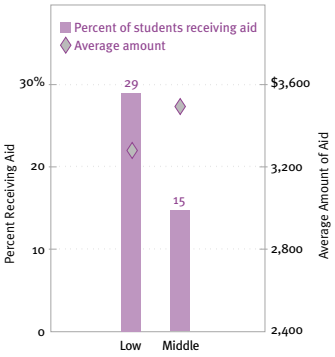


Source: Authors' analysis of NPSAS:96 database, National Center for Education Statistics.

- Dependent undergraduates were more likely to receive state grants than independent undergraduates (14 percent versus 7 percent) and also received $1,300 more on average than independent undergraduates. On average, dependent undergraduates received $3,387 in state grant aid. (*see Appendix A, Table 25*)

- Most state aid was awarded to lower-income undergraduates. Twenty-nine percent of dependent low-income undergraduates and 16 percent of dependent middle-income undergraduates received state aid with an average award of $3,400. Only 1 percent of high-income dependent undergraduates received state aid. Eight percent of independent low-income undergraduates received state aid averaging $2,551. (*Exhibit 35; see Appendix A, Table 25*)

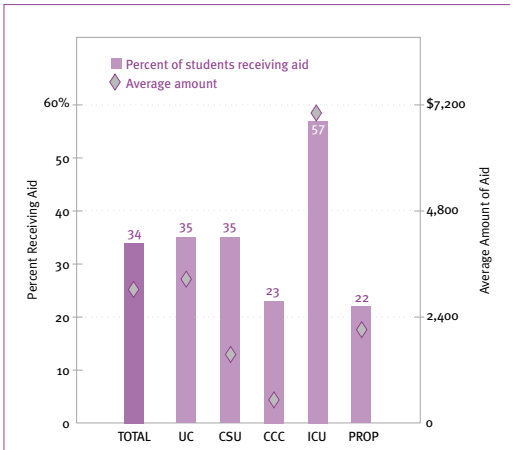
Exhibit 35: Percent of California Dependent FT/FY Undergraduate Students Receiving State Aid and Average Total Aid Amount for FT/FY Aided Students, by Family Income Type, 1995-96



Source: Authors' calculations of NPSAS:96 database, National Center for Education Statistics.

Note: High-income data statistically insignificant because of small sample size.

Exhibit 36: Percent of California FT/FY Undergraduate Students Receiving Institutional Aid and Average Total Aid Amount for FT/FY Aided Students, by Institution Type, 1995-96



Source: Authors' analysis of NPSAS:96 database, National Center for Education Statistics.

INSTITUTIONAL AID

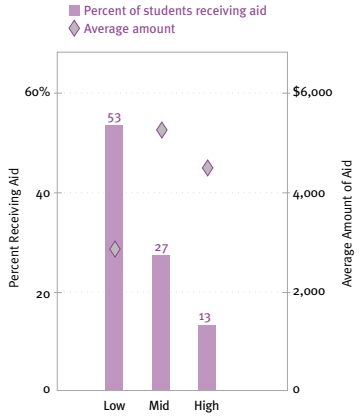
- Institutional aid includes grants and tuition refunds made by the institution. Thirty-two percent of undergraduates received institutional grants averaging $2,918. Only 3 percent of undergraduates received institutional loans that averaged $1,923. Work-study and other types of institutional aid are too insignificant to report. (*see Appendix A, Table 26*)

- ICU institutions were most likely to provide institutional aid to undergraduates, both in the percentage of undergraduates and in average amounts (57 percent; $7,131). This compares to 35 percent for both UC and CSU undergraduates, averaging $3,135 and $1,538 respectively. Twenty-two percent of proprietary undergraduates received an average of $2,241 in institutional aid, and 23 percent of community college undergraduates received an average of $516. (*Exhibit 36; see Appendix A, Table 26*)

- Proprietary institutions were the only sector to provide significant amounts of institutional loans. In total, 14 percent of proprietary undergraduates received an institutional loan averaging $2,326. This represents the rise of the private loan program as an alternative to public loans. Three percent of ICU undergraduates received an average of $3,831, and only 1 percent of UC undergraduates received an institutional loan. (*see Appendix A, Table 26*)

- Institutional aid did not differ significantly across race/ethnic groups with the exception of black undergraduates. Almost half of all black undergraduates received institutional aid, compared with one-third of the other groups of undergraduates. (*see Appendix A, Table 26*)

Exhibit 37: Percent of California Dependent FT/FY Undergraduate Students Receiving Institutional Aid and Average Total Aid Amount for FT/FY Aided Students, by Family Income Type, 1995-96



Source: Authors' calculations of NPSAS:96 database, National Center for Education Statistics.

- More independent undergraduates received institutional aid than dependent undergraduates, but the latter received larger awards ($3,728 versus $1,652). (*see Appendix A, Table 26*)

- Over half of all full-time low-income undergraduates received some type of institutional aid. Fifty-three percent of dependent low-income undergraduates received institutional aid, as did 57 percent of independent low-income undergraduates. Only about one in seven high-income undergraduates received institutional aid, averaging $4,515 for dependent undergraduates. (*Exhibit 37; see Appendix A, Table* 26)

SUMMARY

In summary, student financial aid does appear to be targeted to the groups it was designed to help in California. While the middle-income students receive the highest amounts of aid, the low-income students are the most likely to receive aid. This is because the cost of education as well as the ability to pay dictates the amount of financial aid received. In general, while middle-income students have a somewhat higher ability to pay than low-income students do, they tend to choose higher cost schools. Taken cumulatively, federal, state, and insituttional aid programs seem to lower the financial barriers to college for many students and give access to those who would not otherwise be able to obtain a college eduation. Further, low-income students are more likely to receive grants that do not incur the burden of repayment.

Part VI
Average Subsidies, Net Prices, and Affordability for California Undergraduates

AVERAGE SUBSIDIES

Financial aid programs provide direct subsidies to students to help them pay their educational expenses. Students also benefit from indirect subsidies that make it possible for institutions to charge less than the full cost of providing instruction. State, federal, and local governments as well as private philanthropy provide funds that allow institutions to reduce tuition. The sum of these two types of subsidy varies among students based on how much financial aid they receive and where they attend school. The combined average student subsidy is highest at UC and lowest among proprietary schools in California.

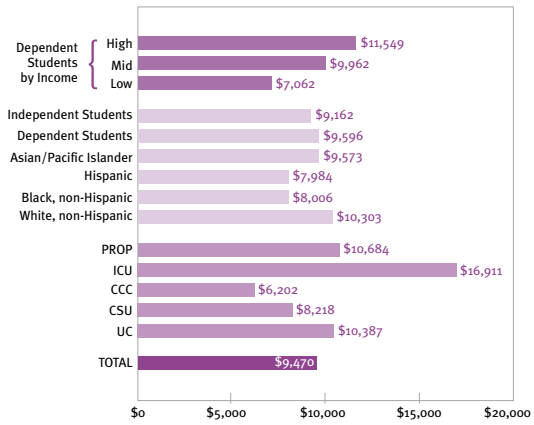
The results suggest that in 1995-96 low-income undergraduates in California were attending institutions that spent roughly the same amount, on average, on their education as was available to higher-income undergraduates. The second conclusion suggested by these results is that lower-income undergraduates in California received significantly more support from financial aid than did higher-income undergraduates. This analysis should be updated when more recent federal data come available (for 2000-2001) to see if the drift toward non-need based aid has eroded the equity in financing that was evident in mid-decade.[19]

NET PRICES

Leaving aside indirect subsidies, the question for students and families is: What do students and families actually pay to go to college? Net price is the difference between the total price of attendance[20] and the amount of aid available to help offset those prices. The remainder represents what the student and/or family must pay. Net price can be calculated in two ways. The first considers the real, long-term cost to students and families, and it is represented by total price of attendance minus grant aid. We will simply refer to this as net price. The second method is to subtract all aid, including loans, from cost of attendance. This method approximates the "out-of-pocket" cost to undergraduates; that is, money that undergraduates and/or families have to come up with at the time of enrollment. This will be referred to as out-of-pocket expense. Here is what we found:

- The net price (total price minus grants) for all full-time, full-year undergraduates in 1995-96 was $9,470. The out-of-pocket expense (total cost minus all aid, including loans) for undergraduates was $7,456. Thus, on average, loan packaging saved undergraduates and families about $2,000 at the time payment was due. (*Exhibit 38; see Appendix A, Table 27*)

Exhibit 38: Average Net Price (Price of Attendance minus Grants) for California FT/FY Undergraduate Students, by Various Characteristics, 1995-96



Source: Authors' analysis of NPSAS:96, National Center for Education Statistics.

- ICU undergraduates paid a net price of $16,911, reflecting an average grant package of $6,000. In total, icu undergraduates received about $10,000 in aid, bringing their out-of-pocket expenses down to $12,868. (*Exhibit 38; see Appendix A, Table 27*)
- UC undergraduates paid a net price of $10,387, reflecting $2,713 in grants. The out-of-pocket cost of $7,764 reflects a total aid package, including loans, of $5,337. (*Exhibit 38; see Appendix A, Table 27*)
- CSU undergraduates averaged $8,218 in net price, with $1,616 in total grants, and $3,405 in total aid, bringing their out-of-pocket expense to $6,429. (*Exhibit 38; see Appendix A, Table 27*)
- Community college undergraduates paid the lowest net price, averaging $6,202 per year, reflecting $597 in grants, with a total out-of-pocket expense of $5,849 based on total aid amounting to $950. (*Exhibit 38; see Appendix A, Table 27*)
- Proprietary-school students faced a net price higher than uc undergraduates, totaling $10,684. These undergraduates received almost $1,500 in grants, but loan packaging brings their total aid up to $4,690, providing an out-of-pocket expense of $7,423. (*Exhibit 38; see Appendix A, Table 27*)

- The net price for white and Asian undergraduates was between $1,500 and $2,300 more than black and Hispanic undergraduates. This is due to a combination of aid packaging and price of institution; white and Asian undergraduates attended higher-priced institutions, on average, and (in the case of white undergraduates, at least) received less aid to pay for the higher costs. In total, net price for white undergraduates was $10,303, with an out-of-pocket cost of $8,299 reflecting about $1,667 in grants. Asian undergraduates paid $9,573, with $2,883 in grants. Black and Hispanic undergraduates were virtually the same in terms of net price ($8,006 and $7,984) and aid packaging (about $2,200 in grants and $1,600 in loans). (*Exhibit 38; see Appendix A, Table 27*)

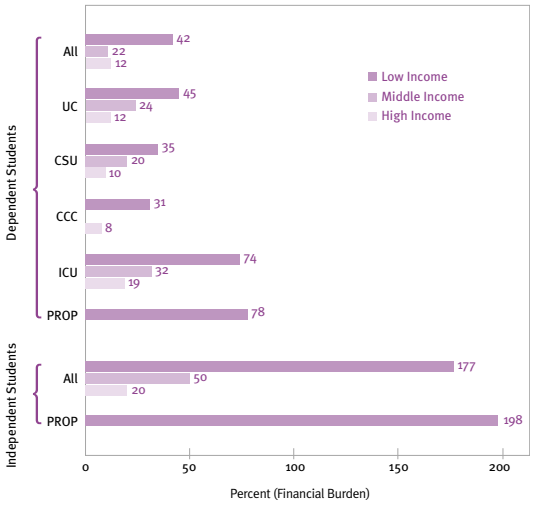
- The average net price for dependent versus independent undergraduates differed by only $400 ($9,596 versus $9,162). However, the out-of-pocket cost for independent undergraduates was reduced by loans to $6,288, versus $7,938 for dependent undergraduates. (*Exhibit 38; see Appendix A, Table 27*)

- For dependent undergraduates, the net price for low-income undergraduates was $7,062, compared with $9,962 and $11,549 for middle- and high-income undergraduates, respectively. Non-grant aid packaging reduced out-of-pocket expenses by about $2,000 for low- and middle-income undergraduates, and $1,000 for high-income undergraduates. (*Exhibit 38; see Appendix A, Table 27*)

- Net price for low-income independent undergraduates was $8,450, about $1,500 higher than their dependent counterparts. Middle- and high-income independent undergraduates faced net prices of $9,533 and $10,588 respectively. Low- and middle-income undergraduates reduced their out-of-pocket expenses by about $3,000 through loan and other aid packaging, and high-income independent undergraduates reduced their burden by $2,300. (*Exhibit 38; see Appendix A, Table 27*)

- Both net price and out-of-pocket expenses followed the same pattern. Consistent with need-based aid principles, they revealed that low-income undergraduates paid far less than middle- and high-income undergraduates to attend college, in all institutional sectors.

Exhibit 39: Net Price (Price of Attendance minus Grants) as a Share of Family/Student Income for California Students and Families, by Institution Type and Income Level, 1995



Source: Authors' calculation of NPSAS:96 data, National Center for Education Statistics.

Note: Burden calculation derived from dividing net price (price of attendance minus grants) by family/individual income data for that variable; missing bars represent very low sample sizes.

RELATIVE BURDEN: NET PRICE AND FAMILY INCOME

Net price analysis shows that low-income undergraduates pay less than other undergraduates. So the system—need-based assistance—works. But the ultimate question is: What is the burden on families from different income levels? To answer this question, we have developed a ratio between net price (total cost minus grants) and family income. What we find is that low-income families and undergraduates, even after consideration of aid, face a much greater burden in paying for college—on average—than those higher on the income ladder.

- A year of college represented about 42 percent of family income for dependent low-income families, compared with 22 percent for middle-income and only 12 percent for high-income families. (*Exhibit 39*)
- High-income independent undergraduates paid about 20 percent of their annual family income to attend college and university, on average. In contrast, low-income independent undergraduates paid 177 percent—close to double their annual income—for college while middle-income families paid out about half their annual income. (*Exhibit 39*)
- Similar gaps in affordability are apparent within all institution sectors. At all public institutions, net price accounted for between 30 and 45 percent of low-income student family income, compared with between 8 and 12 percent for high-income undergraduates. The largest affordability gap was at ICU institutions, where low-income undergraduates paid 74 percent of their annual family income, compared with only 19 percent of high-income undergraduates. (*Exhibit 39*)

Appendix A

Table 1

Employment and Unemployment, California and Metropolitan Areas, 1989-1999 (in Thousands)

Year/Area	Civilian Labor Force	Employed[a]	Unemployed[b]	Unemployment Rate (percent)
1989	14,517	13,780	737	5.1%
1990	15,193	14,319	874	5.8
1991	15,176	14,004	1,172	7.7
1992	15,404	13,973	1,431	9.3
1993	15,359	13,918	1,441	9.4
1994	15,450	14,122	1,328	8.6
1995	15,412	14,203	1,209	7.8
1996	15,511	14,391	1,120	7.2
1997	15,947	14,943	1,005	6.3
1998	16,337	15,368	969	5.9
1999	16,597	15,732	865	5.2

Source: Employment Development Department, Labor Market Information Division, 916.262.2496, http://www.calmis.ca.gov.

Notes:

[a] Includes wage and salary workers, employers, own-account workers, unpaid family workers, and workers directly involved in work stoppages.

[b] Excludes the potential or latent supply of workers not active in the labor market.

Table 2

Personal and Family Income Measures for California, 1989-99 (in Constant Dollars)

year	Personal Disposable Income	Personal Income	Median Family Income
1989	$23,996	$27,705	$46,031
1990	24,086	27,709	47,724
1991	23,443	26,747	46,393
1992	23,657	26,784	44,086
1993	23,159	26,251	44,768
1994	23,038	26,193	42,068
1995	23,262	26,588	44,936
1996	23,289	26,956	45,871
1997	23,531	27,573	46,060
1998	24,309	28,720	47,223
1999	25,195	29,910	48,338
89-97	**-465**	**-132**	**29**
89-99	**1,199**	**2,205**	**2,307**

Source: California Department of Finance; U.S. Department of Commerce, Bureau of Economic Analysis,http://www.bea.doc.gov.

Notes: A family is a group of two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such people (including related subfamily members) are considered as members of one family.

Data for 1994 onward are not comparable to prior historical data because of the Current Population survey redesign. 1999 data for median family income are extrapolated based on average increases over the previous three years.

Table 3

Trends in Real-Adjusted Household Income in California (in Constant Dollars)

	----------Income Percentile----------				
Year	10th	25th	Median	75th	90th
1969	$16,700	$28,200	$43,600	$65,300	$87,800
1979	17,300	30,200	50,700	79,300	108,800
1989	15,000	27,900	51,100	83,100	121,500
1997	13,000	25,300	48,600	84,500	130,600

Source: Public Policy Institute of California: California's Rising Income Inequality: Causes and Concerns, 2000.

Note: Statistics are adjusted to 1997 dollars. Income level reported is for a houshold with two adults and two children.

Table 4

Real Weekly Wages for Male Workers Ages 18-54 in California by Income Percentile, 1969-1997 (in Constant Dollars)

	----------Wage Percentile----------				
Year	10th	25th	Median	75th	90th
1969	$332	$526	$720	$957	$1,210
1974	258	438	705	967	1,260
1979	260	425	690	977	1,274
1984	208	364	654	947	1,264
1989	208	345	594	940	1,296
1994	191	306	519	896	1,271
1997	192	308	554	904	1,373

Source: Public Policy Institute of California, California's Rising Income Inequality: Causes and Concerns, 2000. Data calculated from the March CPS file.

Note: Statistics adjusted to 1997 dollars. Sample includes civilian males ages 18-24 who worked at least 13 weeks during the year and who were not self-employed. In 1998, income in California may not be comparable to other years because of changes in CPS.

Table 5

Mean Weekly Wages of Californians by Educational Attainment, 1969, 1989, and 1997 (Inflation Adjusted)

Year	11 years	High School	Some College	Bachelor's Degree	Beyond Bachelor's
1969	$754	$822	$973	$1,217	$1,346
1989	619	744	937	1,217	1,504
1997	502	689	843	1,164	1,502
1969-1997	(525)	(133)	(130)	(53)	(156)
1989-1997	(117)	(55)	(94)	(53)	(2)
1969-1997	-33%	-16%	-13%	-4%	12%
1989-1997	-19%	-7%	-10%	-4%	0%

Source: Public Policy Institute of California 2000 based on data from the March file of the CPS and the decennial Census for 1969 and 1989.

Table 6

California State General Fund Expenditures for K-12 and Higher Education, as Compared to Total Expenditures, for Fiscal Years 1969-70 through 1999-2000

	Constant Dollars, 1999-00 (in millions)			Share of Total Expenditures (percentage)		
Year	K-12	Higher	Total Budget	K-12	Higher	All Education
1969-70	$6,966	$3,308	$19,733	35.3%	16.8%	52.1%
1979-80	14,582	5,847	38,345	38.0	15.2	53.3
1989-90	18,761	7,125	50,355	37.3	14.2	51.4
1999-00	26,418	8,012	63,732	41.5	12.6	54.0
Change since **1969-70**	**19,453**	**4,704**	**43,999**	**6.2**	**-4.2**	**2.0**
Change since **1979-80**	**11,836**	**2,165**	**25,387**	**3.4**	**-2.7**	**0.7**
Change since **1989-90**	**7,657**	**887**	**13,377**	**4.2**	**-1.6**	**2.6**
% Change since **1989-90**	**41%**	**12%**	**27%**	**10%**	**-13%**	**5%**

Source: Governor's Budgets, 1969-70 through 1999-00, California Department of Finance, U.S. Bureau of Labor Statistics.

Table 7

Current Expenditure Per Pupil in Fall Enrollment in Public Elementary and Secondary Schools by State: 1997-98

	United States	$6,189			
1	New Jersey	$9,643	26	Hawaii	$5,858
2	Connecticut	8,904	27	Kansas	5,727
3	New York	8,852	28	Montana	5,724
4	Alaska	8,271	29	Colorado	5,656
5	Rhode Island	7,928	30	Georgia	5,647
6	Massachusetts	7,778	**31**	**California**	**5,644**
7	Delaware	7,420	32	Missouri	5,565
8	Pennsylvania	7,209	33	Florida	5,552
9	Wisconsin	7,123	34	Texas	5,444
10	Vermont	7,075	35	South Carolina	5,320
11	Michigan	7,050	36	Nevada	5,295
12	Maryland	7,034	37	North Carolina	5,257
13	Maine	6,742	38	Kentucky	5,213
14	Oregon	6,419	39	Louisiana	5,188
15	Minnesota	6,388	40	North Dakota	5,056
16	West Virginia	6,323	41	Oklahoma	5,033
17	Indiana	6,318	42	New Mexico	5,005
18	Illinois	6,242	43	Tennessee	4,937
19	Wyoming	6,218	44	Alabama	4,849
20	Ohio	6,198	45	Idaho	4,721
21	New Hampshire	6,156	46	Arkansas	4,708
22	Virginia	6,067	47	South Dakota	4,669
23	Washington	6,040	48	Arizona	4,595
24	Iowa	5,998	49	Mississippi	4,288
25	Nebraska	5,958	50	Utah	3,969

Source: NCES Digest of Education Statistics 2000, Table 169, p. 190.

Table 8

Educational and General Expenditures Per Full-Time Equivalent Student for Public Institutions of Higher Education by State, 1995-96

	United States	$12,380			
1	Vermont	$18,723	26	Texas	$12,226
2	Alaska	18,278	27	Arkansas	11,988
3	Hawaii	16,095	28	Massachusetts	11,902
4	Delaware	15,761	**29**	**California**	**11,898**
5	Iowa	14,934	30	Wyoming	11,866
6	New Mexico	14,476	31	Alabama	11,847
7	Connecticut	14,091	32	Mississippi	11,830
8	Oregon	14,033	33	Colorado	11,776
9	Wisconsin	13,893	34	Rhode Island	11,745
10	Michigan	13,882	35	New Hampshire	11,679
11	Minnesota	13,681	36	North Dakota	11,649
12	Pennsylvania	13,608	37	Missouri	11,509
13	Indiana	13,533	38	Tennessee	11,393
14	New Jersey	13,321	39	Idaho	11,242
15	Georgia	13,149	40	Nebraska	11,208
16	Maine	13,122	41	Virginia	11,148
17	Utah	13,077	42	Kansas	11,080
18	Maryland	12,915	43	Illinois	11,054
19	North Carolina	12,862	44	Arizona	10,934
20	New York	12,776	45	Montana	10,828
21	Washington	12,542	46	Louisiana	10,610
22	South Carolina	12,510	47	West Virginia	10,362
23	Nevada	12,423	48	Florida	10,100
24	Kentucky	12,339	49	South Dakota	9,378
25	Ohio	12,284	50	Oklahoma	9,056

Source: NCES Digest of Education Statistics 2000, Tables 350,382, and 201, p. 382 and Digest of Education Statistics 1999, Table 205, p. 230.

Note: Expenditures per student calculated by dividing the educational and general expenditures of public institutions of higher education for 1995-96 by the full-time-equivalent fall enrollment for public institutions in 1995.

Table 9a

Distribution of California Population by Selected Age Groups and Race/Ethnicity, 1990-2025

	ALL CALIFORNIANS, Race/Ethnicity						18-24-YEAR-OLDS, Race/Ethnicity					
Year	TOTAL	White	Hispanic	Asian Pacific Is.	Black	Native American	TOTAL	White	Hispanic	Asian Pacific Is.	Black	Native American
1995	31,589,147	16,629,643	9,207,161	2,183,575	3,380,061	188,707	3,000,361	1,265,347	1,142,635	218,309	354,977	19,093
2000	32,521,102	15,561,848	10,645,725	2,137,541	4,005,991	169,997	3,131,470	1,228,111	1,259,567	216,449	410,221	17,122
2005	34,441,341	15,122,934	12,267,832	2,157,769	4,730,965	161,841	3,638,135	1,371,934	1,493,379	235,827	518,772	18,223
2010	37,454,497	15,394,232	14,025,353	2,268,207	5,602,090	164,615	4,306,280	1,543,721	1,843,001	271,548	628,863	19,147
2015	41,158,780	15,838,196	16,195,701	2,406,097	6,548,569	170,217	4,696,989	1,537,083	2,122,513	271,711	747,136	18,546
2020	45,277,571	16,261,335	18,756,783	2,544,096	7,539,055	176,302	4,830,317	1,456,210	2,259,715	273,241	822,220	18,931
2025	49,284,744	16,625,889	21,232,440	2,679,438	8,563,921	183,056	5,152,155	1,436,295	2,500,608	286,438	908,737	20,077

Source: U.S. Census Bureau.

Table 9b

Percentage Distribution of California Population by Selected Age Groups and Race/Ethnicity, 1995-2025

	ALL CALIFORNIANS, Race/Ethnicity						18-24-YEAR-OLDS, Race/Ethnicity					
Year	TOTAL	White	Hispanic	Asian Pacific Is.	Black	Native American	TOTAL	White	Hispanic	Asian Pacific Is.	Black	Native American
1995	100%	52.6%	29.1%	6.9%	10.7%	0.6%	100%	42.2%	38.1%	7.3%	11.8%	0.6%
2000	100	47.9	32.7	6.6	12.3	0.5	100	39.2	40.2	6.9	13.1	0.5
2005	100	43.9	35.6	6.3	13.7	0.5	100	37.7	41.0	6.5	14.3	0.5
2010	100	41.1	37.4	6.1	15.0	0.4	100	35.8	42.8	6.3	14.6	0.4
2015	100	38.5	39.3	5.8	15.9	0.4	100	32.7	45.2	5.8	15.9	0.4
2020	100	35.9	41.4	5.6	16.7	0.4	100	30.1	46.8	5.7	17.0	0.4
2025	100	33.7	43.1	5.4	17.4	0.4	100	27.9	48.5	5.6	17.6	0.4

Source: U.S. Census Bureau.

Table 10
State Population and Migration Estimates, 1990-1999

Area Name	Net International Migration	Net Domestic Migration
United States	**7,478,078**	
California	**2,280,354**	**-2,170,790**
Northwest	1,853,808	-3,024,628
New England	253,411	-506,239
Middle Atlantic	1,600,397	-2,518,389
Midwest	758,946	-640,630
East North Central	590,705	-752,770
West North Central	168,241	112,140
South	1,990,312	3,597,871
South Atlantic	1,142,930	2,403,156
East South Central	67,212	610,896
West South Central	780,170	583,819
West	2,875,012	67,387
Mountain	318,515	1,708,982
Pacific	2,556,497	-1,641,595

Source: U.S. Census Bureau (ST-99-1 and ST-99-2).

Table 11
Number of California K-12 Grade Public High School Graduates by Race/Ethnicity, 1988-89 to 2008-09

School Year	TOTAL	Asian	Black	Hispanic	White	Other
1988-89	244,629	22,352	18,568	51,809	142,291	9,609
1993-94	253,083	29,119	18,979	75,026	118,580	11,379
1998-99	296,576	33,166	22,373	93,393	132,877	14,767
2003-04	329,192	34,696	24,690	111,886	141,582	16,338
2008-09	379,484	39,311	28,678	151,209	141,504	18,782

Source: California Department of Finance, California Public K-12 Projections by

Percent Distribution of California K-12 Public School Graduates by Race/Ethnicity, 1988-89 to 2008-09

School Year	TOTAL	Asian	Black	Hispanic	White	Other
1988-89	100%	9.1%	7.6%	21.2%	58.2%	3.9%
1993-94	100	11.5	7.5	29.6	46.9	4.5
1998-99	100	11.2	7.5	31.5	44.8	5.0
2003-04	100	10.5	7.5	34.0	43.0	5.0
2008-09	100	10.4	7.6	39.8	37.3	4.9

Ethinicity, 2000 Series, Sacramento, CA, Nov. 2000.

Note: Other is comprised of American Indian, Filipino, and Pacific Islander. Multiple race and nonresponses were allocated to the known categories.

Table 12

High School Completion Rates of 18 through 24-year-olds Not Currently Enrolled in High School or Below by State, October 1990-92, 1993-95, and 1996-98

		Completion Rate (percent)					Completion Rate (percent)		
		1990-92	1993-95	1996-98			1990-92	1993-95	1996-98
1	Oregon	89.6%	82.6%	75.4%	26	Washington	90.7%	85.7%	87.7%
2	Arizona	81.7	83.8	77.1	27	Iowa	94.6	93.2	88.0
3	Nevada	82.1	81.9	78.2	28	Alaska	86.9	93.2	88.3
4	New Mexico	84.1	82.3	78.6	29	Delaware	86.2	93.0	88.5
5	Texas	80.0	79.5	80.2	30	West Virginia	83.3	86.8	89.1
6	**California**	**77.3**	**78.7**	**81.2**	31	New Hampshire	87.9	86.9	89.2
7	Louisiana	83.9	80.1	81.6	32	Indiana	87.8	88.5	89.3
8	Mississippi	85.4	83.9	82.0	33	Ohio	90.0	88.3	89.4
9	Florida	84.1	80.6	83.6	34	South Dakota	89.1	91.3	89.8
10	Alabama	83.9	83.6	84.2	35	Minnesota	92.5	93.1	90.0
11	Arkansas	87.5	88.3	84.5	36	Missouri	88.1	90.4	90.4
12	New York	88.0	87.0	84.7	37	Massachusetts	89.8	92.5	90.6
13	Georgia	85.1	80.3	84.8	38	Utah	93.9	93.4	90.7
14	Kentucky	81.1	82.4	85.2	39	Wisconsin	92.4	93.5	90.8
15	North Carolina	83.0	85.5	85.2	40	Michigan	87.2	88.6	91.0
16	Colorado	88.1	88.4	85.5	41	Montana	91.6	89.6	91.1
17	Idaho	84.7	86.1	85.8	42	Nebraska	92.5	94.1	91.2
18	Virginia	88.6	87.5	85.9	43	Connecticut	89.9	94.7	91.6
19	Oklahoma	84.3	86.7	86.0	44	Kansas	93.2	90.9	91.6
20	Rhode Island	87.9	89.4	86.1	45	Maine	91.9	92.9	91.6
21	Illinois	86.0	86.5	86.6	46	New Jersey	90.8	91.6	91.8
22	Tennessee	76.7	84.5	86.9	47	Hawaii	93.5	92.0	92.3
23	Pennsylvania	90.2	89.4	87.6	48	Vermont	87.0	88.1	93.6
24	South Carolina	85.0	87.8	87.6	49	Maryland	88.6	93.6	94.5
25	Wyoming	92.0	90.8	87.6	50	North Dakota	96.3	96.4	94.7
National		85.5	85.8	85.6	California		77.3	78.7	81.2

Source: NCES "Dropout Rates in the United States:1998," Satistical Analysis Report, November 1999 (NCES 2000022).

Table 13

SAT Math and Verbal Scores for California Students by Self-Reported Family Income, 2000

	SAT 1 Test Takers		Percent		SAT 1 Verbal		SAT 1 Math		V+M
	Number	Percent	Male	Female	Mean Scores	Standard Deviations	Mean Scores	Standard Deviations	Mean Scores
Less than $10,000	7,322	6%	36%	64%	410	108	448	115	858
$10,000 - 20,000	14,100	12	40	60	431	107	464	113	895
$20,000 - 30,000	13,288	11	42	58	457	106	483	112	940
$30,000 - 40,000	13,844	12	42	58	480	106	499	112	979
$40,000 - 50,000	10,245	9	45	55	497	103	513	108	1010
$50,000 - 60,000	10,534	9	46	54	510	103	525	107	1035
$60,000 - 70,000	8,892	8	46	54	512	103	526	107	1038
$70,000 - 80,000	8,492	7	47	53	520	102	534	106	1054
$80,000 - 90,000	11,324	10	47	53	533	102	548	107	1081
More than $100,000	19,136	16	49	51	557	103	576	106	1133
No Response	38,968	--	--	--	--	--	--	--	

Source: College Board (http://www.collegeboard.org/sat/cbsenior/yr2000/ca/cabk400.html).

Table 14

Test Takers Who Took the Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT)

	SAT 1 Test Takers		Percent		SAT 1 Verbal		SAT 1 Math		
	Number	Percent	Male	Female	Mean Scores	Standard Deviations	Mean Scores	Standard Deviations	V+M
PSAT as a junior	51,760	38%	45%	55%	502	109	522	111	1024
PSAT as a sophomore or junior	53,866	40	41	59	527	112	549	114	1076
No PSAT	28,915	21	48	52	444	106	465	109	909

Source: College Board (http://www.collegeboard.org/sat/cbsenior/yr2000/ca/cabk400.html).

Table 15
California's Twelfth Grade Participation in Advanced Placement (AP) by Race/Ethnicity, 1986-1998

Number of Test Takers

	1986	1990	1996	1997	1998
Asian	3,150	6,475	9,794	10,353	11,045
Black	356	567	924	1,055	1,041
Latino	1,206	3,399	6,399	7,153	7,916
Other	2,218	1,919	3,791	3,951	4,622
White	8,979	11,173	13,929	14,296	15,254
Total	**15,909**	**23,533**	**34,837**	**36,808**	**39,878**

Percent of Each Group's Graduates

Asian	13.2%	19.7%	26.2%	26.2%	25.9%
Black	2.0	3.2	4.8	5.1	4.9
Latino	2.8	6.2	8.1	8.7	9.0
White	6.4	8.7	11.5	11.5	11.9
Total	**7.0**	**10.0**	**13.4**	**13.7**	**14.1**

Source: California Postsecondary Education Commission, 2000, based on Collge Board Data.

Table 16
A-F Course Completion Rates of California Public High School Graduates by Race/Ethnicity, 1990-99

Academic Year	Asian	Black	Latino	Native American	White	Total A-F Completers
Number of A-F Course Completers						
1990	13,080	4,435	10,730	369	42,770	74,135
1993	15,591	5,056	14,634	482	43,473	82,419
1996	16,248	5,429	17,529	549	48,120	91,698
1999	19,824	5,799	21,103	593	54,563	106,441
Number of High School Graduates						
1990	26,167	17,488	55,219	1,890	129,058	236,562
1993	29,305	18,219	71,466	2,138	120,853	249,320
1996	29,039	19,436	78,619	2,290	121,292	259,071
1999	34,483	22,065	95,438	2,665	134,229	299,221
Percentage of A-F Course Completers Within Race/Ethnicity Groups						
1990	50.0%	25.4%	19.4%	19.5%	33.1%	31.3%
1993	53.2	27.8	20.5	22.5	36.0	33.1
1996	56.0	27.9	22.3	24.0	39.7	35.4
1999	57.5	26.3	22.1	22.3	40.6	35.6

Source: CPEC Online Data.

Table 17
Total Fall Undergraduate Enrollment by Segment, 1990-99

All Students

Segment	1990	1993	1996	1999	1990-99	
Total	1,799,364	1,567,468	1,676,937	1,753,092	-46,272	-2.6
CCC	1,284,991	1,097,478	1,152,500	1,179,747	-105,244	-8.2
CSU	294,083	262,492	272,642	284,592	-9,491	-3.2
ICU	96,019	85,227	125,747	152,205	56,186	58.5
UC	124,271	122,271	126,048	136,548	12,277	9.9
Full-time Students						
Total	698,911	672,052	731,644	776.142	77,231	11.1
CCC	298,915	295,623	303,639	301,414	2,499	0.8
CSU	209,936	192,229	205,477	218,256	8,320	4.0
ICU	75,68	70,587	104,888	128,627	53,059	70.2
UC	114,492	113,593	117,640	127,845	13,353	11.7

Source: California Postsecondary Education Commission, 2000.

Table 18

Participation in Postsecondary Education by Race/Ethnicity Within Family Income for California 18- to 24-year-olds, 1994-98 Aggregate

	Percentage within income group			
	Total	Low Income	Middle Income	High Income
All Races/Ethnic Groups				
Participated in postsecondary education	60	41	57	75
Completed or participated in BA/BS program	27	13	21	42
Hispanic				
Participated in postsecondary education	42	33	43	60
Completed or participated in BA/BS program	15	9	15	27
White (non-Hispanic)				
Participated in postsecondary education	70	49	65	77
Completed or participated in BA/BS program	33	15	22	42
Black (non-Hispanic)				
Participated in postsecondary education	51	38	64	63
Completed or participated in BA/BS program	16	10	11	33
Asian/Other (non-Hispanic)				
Participated in postsecondary education	82	73	78	89
Completed or participated in BA/BS program	50	40	41	62

Source: Authors' calculations of CPS data, U.S. Department of Commerce.

Note: Low-income calculation is based on the family-income distribution of the entire state of California, not just the income of families within 18- to 24-year-olds dependents; data for 1994-98 were combined to allow for statistical analysis.

Table 19

Percentage Distribution of 1989-90 Beginning Postsecondary Students According to Completion/Enrollment Status as of Spring 1994 by Level of First Institution Attended, Income, Race/Ethnicity, Enrollment Status, and Financial Aid

	Completed	No Degree Enrolled	Completed or Still Enrolled	No Degree Not Enrolled
Total				
Dependency				
Dependent	40.7%	22.5%	63.2%	36.8%
Independent	29.1	14.2	43.3	56.7
Institution Type				
UC	72.0	3.9	75.9	24.1
CSU	30.8	49.6	80.4	19.6
CCC	31.3	20.6	52.0	48.0
ICU	74.3	8.3	82.6	17.4
PROP	74.8	0.0	74.8	25.2
Income (Dependent)				
Low	38.7	19.5	58.1	41.9
Middle	32.5	25.4	57.9	42.1
High	54.1	24.9	78.9	21.1
Race/Ethnicity				
White/Asian	35.4	19.7	55.0	45.0
Hispanic/Native American/Black	40.0	20.9	60.9	39.1
Race/Ethnicity				
White, non-Hispanic	34.8	18.7	53.5	46.6
Black, non-Hispanic	21.7	12.2	33.9	66.1
Hispanic	47.5	20.2	67.7	32.2
Asian/Pacific Islander	37.5	23.4	60.9	39.2
American Indian/Alaskan Native	23.2	76.8	100.0	0.0
Intensity of Enrollment in Academic Year 1989-90				
Full time	62.0	14.3	76.3	23.7
Part time	28.5	22.5	51.0	49.0

Source: Authors' calculations from Beginning Postsecondary Students Study, NCES. (BPS:89/94)

Table 20

Degree Production Ratio of California Postsecondary Institutions by Institution Type, 1990 and 1999

Segment		1990	1999
UC	enrolled	114,492	127,845
	degrees	26,261	31,166
	degree ratio	23%	24%
CSU	enrolled	209,936	218,256
	degrees	48,105	54,814
	degree ratio	23%	25%
CCC	enrolled	298,915	301,414
	degrees	38,548	64,046
	degree ratio	13%	21%
ICU	enrolled	75,568	128,627
	degrees	25,662	40,908
	degree ratio	34%	32%

Source: CPEC data 2000.

Note: Calculation is made by dividing full-time fall enrollment by the number of undergraduate degrees produced during that same year. Degrees include all undergraduate degrees, including associates, certificates, and bachelors. CCC figures are low due to a number of factors that may include high student transfer rates to four-year institutions.

Table 21

California Enrollment-Weighted Undergraduate Tuition and Fees, Non-Tuition Expenses, and Total Price of Attendance by Institutional Type and Year, 1990-91 and 1998-99

	Constant Dollars	(1999)
Tuition	**1990-91**	**1998-99**
UC	$2,267	$4,137
CSU	1,246	1,954
CCC	158	389
ICU	13,246	16,592
PROP	8,570	11,291
Room & Board		
UC	6,524	7,303
CSU	5,087	5,157
CCC	2,076	2,456
ICU	5,908	6,373
PROP	4,625	4,519
Price of Attendance		
UC	8,791	11,440
CSU	6,333	7,111
CCC	2,234	2,845
ICU	19,154	22,966
PROP	13,195	15,810

Source: Integrated Postsecondary Education Data System.

Note: Weighted by full-time, full-year students.

Table 22

Percent of California Undergraduate Students Receiving Grants, Loans, and Total Aid with Average Amounts for Aided Students by Sector and Student Characteristics, 1995-96

	TOTAL AID		TOTAL GRANT		TOTAL LOAN	
	Percent of students receiving aid	Average amount	Percent of students receiving grants	Average amount	Percent of students receiving loans	Average amount
Total Students	**34%**	**$4,817**	**29%**	**$2,808**	**14%**	**$4,827**
Institution Type						
UC	60	8,120	47	5,180	44	5,028
CSU	51	5,187	42	2,833	30	4,525
CCC	22	1,701	20	1,172	2	3,234
ICU	65	11,630	55	7,834	45	6,228
PROP	69	4,820	52	2,043	44	4,211
Gender						
Male	33	4,948	27	2,745	15	4,843
Female	35	4,721	31	2,853	14	4,814
Race/Ethnicity of Student						
White, non-Hispanic	30	4,987	24	2,632	14	5,188
Black, non-Hispanic	37	4,218	33	2,226	12	4,509
Hispanic	38	4,139	35	2,499	14	4,398
Asian/Pacific Islander	38	5,705	34	3,928	16	4,497
American Indian/Alaskan Native	42	–	22	–	11	–
Other	54	5,610	49	2,885	27	–
Attendance Pattern 1995-96						
Full time, full year	56	7,381	47	4,497	34	5,163
Part time, part year	26	2,612	22	1,389	7	4,165
Dependency Status						
Dependent students	35	5,982	29	4,103	17	4,628
Independent students	34	3,862	29	1,803	12	5,051
Dependent Students by Income Level						
Low	51	5,922	49	4,188	22	4,045
Mid	35	6,234	25	4,003	20	4,812
High	18	5,815	10	3,828	10	5,712
Independent Students by Income Level						
Low	56	4,311	52	2,179	21	4,809
Mid	27	3,551	23	1,245	10	5,336
High	19	3,063	14	1,383	5	5,416

Source: Author's calculations of National Postsecondary Student Aid Study: 96, National Center for Education Statistics.

Dashes denote insufficient sample size. Income is calendar year 1994.

Table 23
Percent of California Full-Time, Full-Year Undergraduate Students Receiving Grants, Loans, and Total Aid with Average Amounts for Aided Students by Sector and Student Characteristics, 1995-96

	TOTAL AID		TOTAL GRANT		TOTAL LOAN	
	Percent of students receiving aid	Average amount	Percent of students receiving grants	Average amount	Percent of students receiving loans	Average amount
Total Students	**56%**	**$7,381**	**47%**	**$4,497**	**34%**	**$5,163**
Institution Type						
UC	64	8,342	51	5,345	45	5,205
CSU	62	5,529	53	3,072	34	4,813
CCC	29	3,234	27	2,236	8	2,452
ICU	72	13,988	64	9,377	53	6,514
PROP	82	5,694	63	2,343	59	4,548
Gender						
Male	51	7,593	42	4,333	33	5,250
Female	60	7,220	51	4,616	35	5,089
Race/Ethnicity of Student						
White, non-Hispanic	50	7,294	40	4,142	31	5,672
Black, non-Hispanic	65	7,295	56	3,914	38	4,680
Hispanic	58	7,326	52	4,396	36	4,789
Asian/Pacific Islander	61	7,639	52	5,545	33	4,516
Other	68	–	63	–	46	–
Dependency Status						
Dependent students	50	7,712	41	5,373	30	4,884
Independent students	69	6,798	60	3,040	42	5,647
Dependent Students by Income Level						
Low	76	7,961	74	5,527	42	4,199
Mid	52	8,469	40	5,580	36	5,253
High	28	6,276	15	4,388	17	5,857
Independent Students by Income Level						
Low	82	6,644	79	3,114	47	5,294
Mid	60	7,373	50	2,565	45	6,160
High	46	6,739	23	–	29	6,297

Source: Author's calculations of National Postsecondary Student Aid Study: 96, National Center for Education Statistics.
Dashes denote insufficient sample size. Income is calendar year 1994.

Table 24a

Percentage of California Full-Time, Full-Year Undergraduate Students Receiving Federal Aid According to Type of Federal Aid by Institutional and Student Characteristics, 1995-96

	FEDERAL AID		FEDERAL GRANT		FEDERAL PELL GRANTS	
	Percent of students receiving aid	Average amount	Percent of students receiving grants	Average amount	Percent of students receiving loans	Average amount
Total Students	**46%**	**$5,256**	**32%**	**$2,051**	**31%**	**$1,861**
Institution Type						
UC	53	5,824	33	1,910	33	1,805
CSU	52	4,658	39	1,954	39	1,863
CCC	22	3,047	20	2,228	20	2,000
ICU	57	7,324	24	2,479	23	1,710
PROP	70	5,122	60	2,003	60	1,907
Gender						
Male	42	5,537	30	2,010	30	1,848
Female	50	5,045	33	2,084	33	1,871
Race/Ethnicity of Student						
White, non-Hispanic	39	5,688	22	1,942	22	1,750
Black, non-Hispanic	53	5,477	42	2,181	42	1,973
Hispanic	51	4,955	38	2,034	38	1,829
Asian/Pacific Islander	53	4,625	41	2,166	41	2,002
Other	62	–	55	–	55	–
Dependency Status						
Dependent students	42	4,954	25	2,080	25	1,880
Independent students	58	5,781	47	2,013	47	1,836
Dependent Students by Income Level						
Low	71	4,649	65	2,177	65	1,964
Mid	40	5,085	10	1,169	10	1,097
High	17	5,857	0	–	0	–
Independent Students by Income Level						
Low	70	5,576	66	2,067	66	1,884
Mid	55	6,248	38	1,946	38	1,821
High	30	6,132	7	–	7	–

Source: Author's calculations of National Postsecondary Student Aid Study: 96, National Center for Education Statistics.
Dashes denote insufficient sample size. Income is calendar year 1994.

Table 24b

Percentage of California Full-Time, Full-Year Undergraduates Receiving Federal Aid According to Type of Federal Aid by Institutional Sector and Student Characteristics, 1995-96

	FEDERAL WORK STUDY		FEDERAL LOANS		FEDERAL PLUS LOANS	
	Percent of students receiving aid	Average amount	Percent of students receiving grants	Average amount	Percent of students receiving loans	Average amount
Total Students	**6%**	**$1,524**	**32%**	**$4,541**	**4%**	**$6,051**
Institution Type						
UC	9	1,442	45	4,372	7	5,541
CSU	3	2,086	33	4,636	1	6,333
CCC	3	1,452	8	2,452	0	0
ICU	19	1,414	52	5,247	8	7,933
PROP	1	2,489	45	4,308	10	4,352
Gender						
Male	5	1,638	31	4,699	3	5,856
Female	7	1,461	34	4,412	4	6,214
Race/Ethnicity of Student						
White, non-Hispanic	5	1,405	30	4,901	4	7,042
Black, non-Hispanic	14	–	37	4,185	4	–
Hispanic	6	1,556	35	4,453	3	–
Asian/Pacific Islander	8	1,596	32	3,799	4	5,251
Other	3	–	46	–	2	–
Dependency Status						
Dependent students	6	1,419	30	3,837	5	6,051
Independent students	6	–	39	5,818	0	–
Dependent Students by Income Level						
Low	10	1,547	41	3,865	4	3,518
Mid	8	1,264	36	3,774	8	5,830
High	2	–	16	3,859	4	8,245
Independent Students by Income Level						
Low	9	–	43	5,481	0	–
Mid	3	–	41	6,444	0	–
High	0	–	29	6,220	0	–

Source: Author's calculations of National Postsecondary Student Aid Study: 96, National Center for Education Statistics.
Dashes denote insufficient sample size. Income is calendar year 1994.

Table 25

Percentage of California Full-Time, Full-Year Undergraduates Receiving State Grants According to Type of Aid by Institutional and Student Characteristics, 1995-96

	STATE GRANTS	
	Percent of students receiving grants	Average amount
Total Students	**12%**	**$3,181**
Institution Type		
UC	23	4,005
CSU	13	1,784
CCC	4	1,075
ICU	14	5,244
PROP	1	0
Gender		
Male	7	3,396
Female	16	3,090
Race/Ethnicity of Student		
White, non-Hispanic	7	3,302
Black, non-Hispanic	15	–
Hispanic	13	3,054
Asian/Pacific Islander	21	3,411
Other	9	–
Dependency Status		
Dependent students	14	3,387
Independent students	7	2,118
Dependent Students by Income Level		
Low	29	3,326
Mid	15	3,553
High	1	–
Independent Students by Income Level		
Low	8	–
Mid	9	–
High	1	–

Source: Author's calculations of National Postsecondary Student Aid Study: 96, National Center for Education Statistics.

Dashes denote insufficient sample size. Income is calendar year 1994.

Table 26

Percentage of California Full-Time, Full-Year Undergraduates Receiving Institutional Aid According to Type of Aid by Institutional and Student Characteristics, 1995-96

	INSTITUTIONAL AID		INSTITUTIONAL GRANTS		INSTITUTIONAL LOANS	
	Percent of students receiving aid	Average amount	Percent of students receiving grants	Average amount	Percent of students receiving aid	Average amount
Total Students	**34%**	**$2,950**	**32%**	**$2,918**	**3%**	**$1,923**
Institution Type						
UC	35	3,135	32	3,124	1	1,088
CSU	35	1,538	35	1,516	0	0
CCC	23	516	21	540	0	0
ICU	57	7,131	56	6,847	3	3,831
PROP	22	2,241	14	1,159	14	2,326
Gender						
Male	32	2,911	29	2,855	4	1,640
Female	36	2,982	34	2,967	2	2,526
Race/Ethnicity of Student						
White, non-Hispanic	30	3,187	28	3,138	3	1,791
Black, non-Hispanic	48	2,195	46	2,107	2	–
Hispanic	37	2,701	34	2,756	2	–
Asian/Pacific Islander	33	3,336	31	3,284	3	–
Other	57	–	57	–	0	–
Dependency Status						
Dependent students	30	3,728	28	3,729	1	2,914
Independent students	44	1,652	40	1,529	6	1,432
Dependent Students by Income Level						
Low	53	2,941	49	3,031	1	–
Mid	27	5,300	27	5,016	2	–
High	13	4,515	11	4,526	1	–
Independent Students by Income Level						
Low	57	1,761	52	1,653	5	–
Mid	40	1,167	35	958	10	–
High	16	–	14	–	2	–

Source: Author's calculations of National Postsecondary Student Aid Study: 96, National Center for Education Statistics.

Dashes denote insufficient sample size. Income is calendar year 1994.

Table 27

Average Tuition and Fees, Student Budget, Financial Aid, and Net Price for Aided California Full-Time, Full-Year Undergraduates by Institution Type, Dependency Status, and Income, 1995-96

	Adiusted Gross Income	Tuition & fees	Price of Attendance	Total Aid	Grants	Loans	PLUS Loans	Work-Study	Other	Net Price (Price - Grants)	Out-of-Pocket Expenses
Total Students	$46,049	$4,134	$11,581	$4,122	$2,111	$1,525	$218	$117	$152	$9,470	$7,456
Institution Type											
UC	54,978	4,237	13,101	5,337	2,713	1,985	380	200	59	10,387	7,764
CSU	41,465	2,211	9,834	3,405	1,616	1,539	83	61	106	8,218	6,429
CCC	44,735	432	6,799	950	597	194	0	49	110	6,202	5,849
ICU	62,902	14,787	22,872	10,005	5,962	2,843	625	323	252	16,911	12,868
PROP	16,669	6,179	12,143	4,690	1,469	2,285	417	26	493	10,684	7,423
Gender											
Male	45,963	3,739	11,024	3,870	1,814	1,516	203	100	237	9,209	7,150
Female	46,125	4,488	12,080	4,347	2,377	1,533	230	131	76	9,703	7,731
Race/Ethnicity of Student											
White, non-Hispanic	57,746	4,319	11,970	3,671	1,667	1,524	261	83	135	10,303	8,299
Black, non-Hispanic	34,305	2,807	10,202	4,753	2,197	1,594	203	242	518	8,006	5,437
Hispanic	32,567	3,356	10,267	4,275	2,283	1,589	135	111	156	7,984	5,989
Asian/Pacific Islander	36,872	4,969	12,462	4,624	2,883	1,282	219	161	79	9,573	7,830
American Indian/Alaska	–	–	–	–	–	–	–	–	–	–	–
Other	37,056	3,579	11,004	5,270	2,433	2,468	170	146	53	8,571	5,734
Dependency Status											
Dependent students	57,325	4,454	11,822	3,885	2,226	1,171	307	115	66	9,596	7,938
Independent students	18,758	3,357	10,996	4,697	1,833	2,383	0	120	361	9,162	6,288
Dependent Students by Income Level											
Low	16,661	3,970	11,125	6,019	4,064	1,611	137	190	17	7,062	5,107
Mid	45,544	4,751	12,184	4,424	2,222	1,447	470	109	176	9,962	7,760
High	99,150	4,693	12,203	1,736	654	629	357	55	41	11,549	10,468
Independent Students by Income Level											
Low	4,771	3,349	10,925	5,447	2,469	2,474	0	187	316	8,450	5,454
Mid	19,157	3,196	10,826	4,413	1,293	2,746	0	55	320	9,533	6,413
High	53,214	3,536	11,337	3,108	779	1,796	0	18	514	10,558	8,229

Source: Author's calculations of National Postsecondary Student Aid Study: 96, National Center for Education Statistics .

Dashes denote insufficient sample size . Income is calendar year 1994.

Appendix B

SUBSIDY AVAILABLE TO UNDERGRADUATES IN CALIFORNIA

Introduction

Most analysis of the fairness of higher education finance is defined by the price the student pays to attend college. The net price is usually defined as the total paid to attend college after student aid is awarded. In an equitable world, families with lower income will pay less to attend college than would a family with more income. The next obvious question is once a student enrolls in college, how much additional money is spent on his or her education beyond what they paid to enroll? Measuring the level of expenditure beyond tuition that is made on behalf of college students provides an alternative view of the student finance issue. Do low-income students attend institutions that spend less on education than is spent by institutions attended by higher-income students? It may be that lower-income students pay less to attend college than higher-income students because of student aid, but attend institutions that have more limited funding. If this is the case, than the promise of access is somewhat hollow.

Definition of Subsidy

Subsidy represents the difference between the price the student pays and the cost of providing the education. In most colleges, tuition only covers part of the instructional costs. The subsidy may be provided largely by state or local dollars in the case of public colleges or by private gifts and endowment in the case of private colleges.

In addition to institutional subsidy, many students receive financial aid, which counts as a student subsidy. Grant aid is a clear subsidy to the student, but loan aid poses a more complicated problem. The rule of thumb is that a student would have to pay one-third more in interest and fees to borrow a regular loan instead of a subsidized guaranteed loan, so one-third of the face value of subsidized loans is counted as a subsidy. Obviously, the actual subsidy changes with interest rates and changes in legislation. Indeed, the longer student borrowers stay in school, the greater the subsidy they receive. No subsidy value is assigned to unsubsidized loans or College Work-Study.

This rough calculation of subsidy provides a measure of how much is spent on a student's behalf when they attend a postsecondary institution. The total subsidy provides an index that can be used to compare groups of institutions or students with different characteristics. It also provides information on what share of the subsidy came from financial aid and how much was provided by the institution. Subsidy is not correlated with the price a student paid to attend the institution. A student could pay a low tuition and receive a high subsidy or a high tuition and receive very little subsidy.

Data and Methods

Two data sets were used to make these calculations. The first is the Integrated Postsecondary Education Data Survey (IPEDS), which is collected annually by the National Center for Education Statistics. These data provide detailed information on all institutions of postsecondary education. The second is the National Postsecondary Student Aid Study (NPSAS), which is a national sample of students in postsecondary education that provides information on how students finance their education. NPSAS also includes information on the family income of each student. The most recent NPSAS data available was collected in 1995-96. This is the base year for the analysis.

The IPEDS defines education and general expenditures (E&G). E&G expenditures represent everything a college spends on achieving its educational mission. It excludes spending for bookstores, dormitories, and other activities and functions that are not related to the educational mission of the institution. E&G expenditures are divided into different functions such as administration, instruction, student support, research, and student aid. The subsidy is determined by first excluding student aid expenditures, because student aid is going to be added using the NPSAS data. An adjustment is made for the share of graduate students enrolled in the institution, because institutions spend more on graduate students than on undergraduates. Next, tuition revenue is subtracted from the E&G expenditures. The resulting amount represents the amount spent on

education above and beyond the tuition collected. This amount is expressed on a per full-time equivalent (FTE) student basis. If a student attended part time, the subsidy amount is reduced accordingly.

The next step is to identify the amount of financial aid students received. The NPSAS data provides a detailed report of loans and grants undergraduates received from all sources. If a student did not receive any financial aid, the institutional subsidy represents the total subsidy available to that student. If a student received $5,000 in grants and $3,000 in loans they would be credited with a subsidy of $6,000 (all of the grant and one-third of the loan) in addition to the institutional subsidy. Only institutions attended by students in the NPSAS sample are included in the analysis.

Adding the institutional subsidy to the student subsidy provides an estimate of the total subsidy available to students. In the case of proprietary schools and some non-profit schools, there is no institutional subsidy. If there was a negative institutional subsidy, which happens at some private colleges, it was reported as zero. If a student attends part time, the institutional subsidy is reduced accordingly.

Results

Table 1 shows the total subsidy available to dependent and independent students attending California institutions. The results show that undergraduates attending institutions in the UC system receive the largest subsidy. In good part, this represents the UC research mission. The assumption is that the funded research enriches the undergraduate education on the campus, so to leave it out would underestimate the educational resources on the campus. On average, about $700 separates the average subsidy available to undergraduates attending institutions in the CSU system and the community colleges in the state. The difference in subsidy between dependent and independent undergraduates in the private four-year colleges represents the fact that a large share of the independent students attend private colleges part time and dependent students are more likely to attend full time.

Table 1. Total Subsidy by Institutional Type and Student Dependency in California, 1995-96

INSTITUTIONAL TYPE	DEPENDENT	INDEPENDENT
Public research university	$18,282	$19,266
Public comprehensive	6,503	6,759
Public community college	5,819	6,047
Private four-year	9,518	3,637
Proprietary	1,631	1,578

Source: IPEDS and NPSAS:96

Looking at dependent students only, it is clear that California students attending the UC system have more spent on them than is the case nationally. Also, the subsidy available to students in private colleges is higher than is the case nationally. Only small differences exist in the remaining comparisons.

Table 2. California Compared with the Nation, Dependent Students, 1995-96

INSTITUTIONAL TYPE	CALIFORNIA	NATIONAL
Public research university	$18,282	$11,421
Public comprehensive	6,503	6,599
Public community college	5,819	5,210
Private four-year	9,518	7,945
Proprietary	1,631	1,485

Source: IPEDS and NPSAS:96

The next table shows the component parts of the subsidy in California by dependent student income. In this table undergraduates are divided into thirds based on family income. Low income goes from $0 to $31,640; middle income ends at $60,328 and any student with income higher than that is in the upper third. The results suggest that institutional subsidies do not vary much by income in California and most of the difference is due to student aid. Subsidies provided by student aid are more sensitive to income than is institutional subsidy. The good news is that on average, low-income students are not being shunted into schools that provide minimal subsidies.

Table 3. Total, Institutional, and Student Subsidy by Dependent Student Income for California

Dependent Student	Total Subsidy	Institutional Only	Student Aid
Low	**$9,219**	**$6,591**	**$2,629**
Middle	8,457	6,922	1,535
High	7,479	6,865	614

Source: IPEDS and NPSAS:96

Summary and Implications

These results provide good news. First, low-income students in California receive a larger educational subsidy than higher-income students. Low-income students received a larger subsidy through student aid than did higher-income students. Second, the average institutional subsidy does not vary much between the income groups. Lower-income students received a slightly lower institutional subsidy than higher-income students, but the difference was modest. By this definition, the current postsecondary financing system in California achieves a modest level of equity.

End Notes

[1] See the Web site of the joint legislative committee leading the Master Plan review, at http://www.sen.ca.gov/masterplan/. The committee has been charged with developing "a new education master plan for California's next generation of students that will build on our state's existing Master Plan for Higher Education, expanding that framework to include K-12 education and the many interfaces between K-12 and postsecondary education."

[2] Donald E. Heller, "*The Effects of Tuition Prices and Financial Aid on Enrollment in Higher Education*," EdFund, 2001.

[3] For specific recommendations on the types of data collection and analysis that are currently lacking, see Lawrence E. Gladieux and Samuel M. Kipp III, *Keeping the Promise: What California Needs to Know and Do To Expand Higher Education Opportunity for All Its Citizens*, a paper prepared for the James Irvine Foundation, December 2000.

[4] This analysis is not directly comparable to Table 2 due to differences in definitions, as well as differences in time periods. Table 3 does not take into account the prosperous years of 1998 and 1999, and data were not available to update the analysis.

[5] This analysis is borrowed from *California's Rising Income Inequality: Causes and Concerns*, by Deborah Reed of the Public Policy Institute of California.

[6] At the time of publication, this was the latest available data from the National Center of Educational Statistics regarding E&G calculations.

[7] California Postsecondary Education Commission (CPEC), *Providing for Progress: California Higher Education Enrollment Demand and Resources into the 21st Century*, Feb. 2000, p. 2.

[8] Carnevale, Anthony P. and Richard A. Fry, *Crossing the Great Divide: Can We Achieve Equity When Generation Y Goes to College?* Educational Testing Service, 2000.

[9] High school completion rates represent the proportion of 18- through 24-year-olds who have completed a high school diploma or an equivalent credential, including a General Educational Development (GED) credential.

[10] Based on event dropout rate calculation by National Center for Education Statistics, *Dropout Rates in the United States* (1999). Table 1, p. 4.

[11] National Center for Education Statistics, *Dropout Rates in the United States* (1999). Table 1, p. 4.

[12] See Gladieux and Swail. "*Financial Aid is Not Enough: Improving the Odds of College Success*," in Jacqueline King, *Financing a College Education: How It Works, How It's Changing*. (1999), and Clifford Adelman, *Answers in the Toolbox*, U.S. Department of Education, 1999.

[13] Center for the Future of Teaching and Learning. *Status of the Teaching Profession.* Santa Cruz, CA: 2000 Author.

[14] While proprietary schools are an important focus area for federal and state policy, data are inconsistent in terms of availability and accuracy. Therefore, we have restricted our analysis to those sectors where the data were comparable and accessible. Aid data on proprietary schools and students are provided later in this publication.

[15] In analyzing California data from the National Postsecondary Student Aid Study (NPSAS), we used national income definitions, where low-income was defined as the lowest 33 percent of the survey sample. Using these income breaks for analyzing the California portion, we found that 39 percent of California's college students fit under this national guideline of low-income. Thus, California students are poorer, on average, than students in the rest of the nation.

[16] The BPS database is not rigorous enough to allow breakdown of these categories by institution type within the state of California.

[17] We used California Postsecondary Education Commission (CPEC) enrollment and degree-completion data for this analysis. Simply put, this indicator is derived by dividing the number of undergraduate degrees awarded by an institution in a particular year by the number of full-time undergraduate students enrolled in that same year. Unfortunately, this type of analysis does not come close to the accuracy of longitudinal, cohort-based analysis, and therefore should only be used as a rough indicator of degree productivity. Other important factors, including transfer between schools and sectors, affect the rating, sometimes positively, sometimes not. The negative impact of such factors is especially apparent for community college students.

[18] The unadjusted national enrollment-weighted four-year public tuition and fee charge was $3,247 in 1998-99, according to the College Board. All national comparisons of tuition and fee or room and board charges were taken from *Trends in College Pricing 2000* and based on the *College Board's Annual Survey of Colleges*. (www.collegeboard.org).

[19] See Appendix B of this report on "*Subsidy Available to Undergraduates in California*," prepared by John B. Lee.

[20] Price of attendance is also commonly referred to as "cost of attendance" or "student budget."

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