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Higher Education's Fiscal Future

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PREFACE

Society has historically made increasing demands on the U.S. higher education sector, but until the last two decades, the resources provided that sector have increased concomitantly. Thus, the sector could respond well to demands that it provide social mobility, high-quality undergraduate education, and strong basic and applied research. Now, however, demands continue to grow but resources are constrained. Fiscal problems confront public and private institutions across the country, threatening to plunge the sector into confusion, if not chaos.

These circumstances require that the assumptions, goals, and delivery systems—especially the financial systems—of the higher education sector be rigorously reviewed. Unfortunately, the various publics, educators, and policymakers with critical stakes in the enterprise have had no framework for examining accepted assumptions about the fiscal foundation of higher education and for exploring alternative ways to strengthen the financial foundations of colleges and universities.

To develop such a framework, in 1994 the Council for Aid to Education (CAE) launched the Commission on National Investment in Higher Education. The purpose of the commission was to understand better the nature of the fiscal challenges facing the postsecondary education sector and to recommend a course of action designed to bring higher education finances and missions back into alignment.

This report documents a briefing presented to the commission to provide an informed context for its deliberations.

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INTRODUCTION

The demographic and financial trends affecting higher education pose dramatic challenges to the sector. The number of students seeking to enroll in higher education continues to grow rapidly and the costs of operation continue to rise. In recent years, however, public sector financial support has lagged these growing demands. The consequent financial constraints have forced American higher education institutions to make drastic changes. Many have had to sharply increase tuition and fees, defer needed maintenance, cancel classes, cut library budgets, and/or dismiss faculty.

At first, those taking such actions believed that the budget shortfalls were temporary, driven by the economic downturn of the early 1990s. Not surprisingly, their responses were often essentially holding actions: decisions designed only to forestall crisis long enough for times to improve. But it has become increasingly apparent that higher education's difficult financial position is the result of enduring changes in both the demand for postsecondary education and the supply of funds.

The purpose of the briefing documented here was to summarize the conclusions of a series of analyses and estimates we conducted. Specifically, our briefing presented evidence of a looming fiscal crisis in higher education and identified the shortfall in access to higher education likely to occur unless the sector makes critical changes to avert the crisis.

THE CHALLENGE TO HIGHER EDUCATION

For well over a century, America's colleges and universities have provided an ever increasing number of students with an education that allowed them to achieve their individual aspirations for a better life. In turn, the United States has become the preeminent economy in the world.

As important as higher education has been in the past, the role of higher education will be even more central as America enters the 21st century. The world economy is entering the information age—a phase of social and economic development that will put a premium on human capital, which is the main product of higher education. If the United States is to maintain its economic leadership, higher education must continue to set the standards for equity and access for all citizens and excellence in academic achievement.

Higher education will face severe challenges in meeting this goal. If past trends continue, the number of students who will pursue higher education will grow rapidly over the next two decades. The initial wave of the baby boom generation's offspring is beginning to flow into higher education, and the number of people who can be expected to pursue higher education will increase rapidly in the opening decades of the 21st century.[1] At the same time, the costs of the resources higher education must purchase to provide education to these students are increasing faster than inflation. Thus, the higher education sector will have to spend increasing amounts per student for increasing numbers of students just to keep pace with current trends.

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[1]While many older adults also enroll in higher education, they tend to do so on a part-time basis and seldom persevere through to a Bachelor's degree. Students in the 18- to 29-year-old age range account for the large majority of higher education's workload.

Figure 1 shows demand for higher education in terms of the numbers of full-time equivalent (FTE) students[2] enrolled in higher education over the last two decades and projections of the number of FTE students who will pursue higher education over the next two decades if current trends continue.[3] Enrollment has grown rapidly over the last two decades, from just over 8 million FTE students in the mid-1970s to more than 10 million FTE students in the mid-1990s. This growth in enrollment has been fueled, of course, by a rising U.S. population. But enrollment increases have also been driven by increases in the percentage of Americans pursuing education beyond high school.

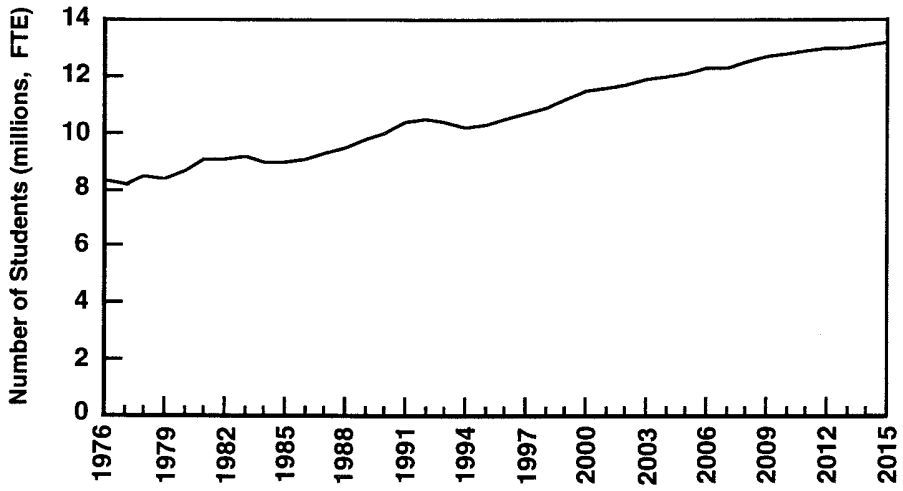

Figure 1. Past and Projected Enrollment Demand

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[2]To reflect the smaller burden part-time students place on higher education, part-time students are counted in proportion to the ratio of their course load to the course load of a full-time student. For example, a student who takes 70 percent of the regular full-time course load is counted as 0.7 FTE.

[3]1976-1994 enrollments, *Digest of Educational Statistics,* National Center for Education Statistics (NCES), annual; 1995-2006 projections, *Projections of Educational Statistics,* NCES, 1996; 2007-2015 projections, RAND extrapolations of trends in the age-specific participation rates implied by the NCES projections multiplied by U.S. Census age-specific population projections.

The increasing participation in higher education is expected to continue into the next century, as is population growth. If past trends in participation continue, the total number of FTE students who will be enrolled in higher education two decades in the future will exceed 13 million, a roughly 30 percent increase over current enrollment levels.

The prices of the goods and services higher education institutions purchase have increased consistently for at least thirty years, but the increase accelerated greatly in the mid-1970s. The Higher Education Price Index (HEPI)[4] reflects the real increases in costs to higher education institutions for the typical goods and services they use—personnel, including faculty, administrators, and support staff; material; supplies; equipment; library acquisitions; and utilities. As Figure 2 shows, the HEPI has risen more than five-fold since 1961.

Costs to higher education have also risen faster than inflation generally (as measured by the consumer price index [CPI]). Overall costs higher than the CPI have two implications for the future of higher education. First, since government agencies tend to use the CPI to discount budgetary appropriations, cost increases that outstrip the CPI would result in an underestimation of the resources required to remain at the same effective service level. Second, as has been demonstrated in the health care system, a sector whose costs grow faster than inflation for an extended period ultimately tends to reach the limits of available resources, at least from traditional funding sources.

Will higher education be able to obtain the revenues required to purchase the increasingly expensive resources needed to serve increasing numbers of students? Figure 3 shows the sources of higher education's revenues in 1994, the most recent year for which complete data are

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[4]Research Associates of Washington, *Inflation Measures for Schools, Colleges, and Libraries*, Washington, D.C., 1995.

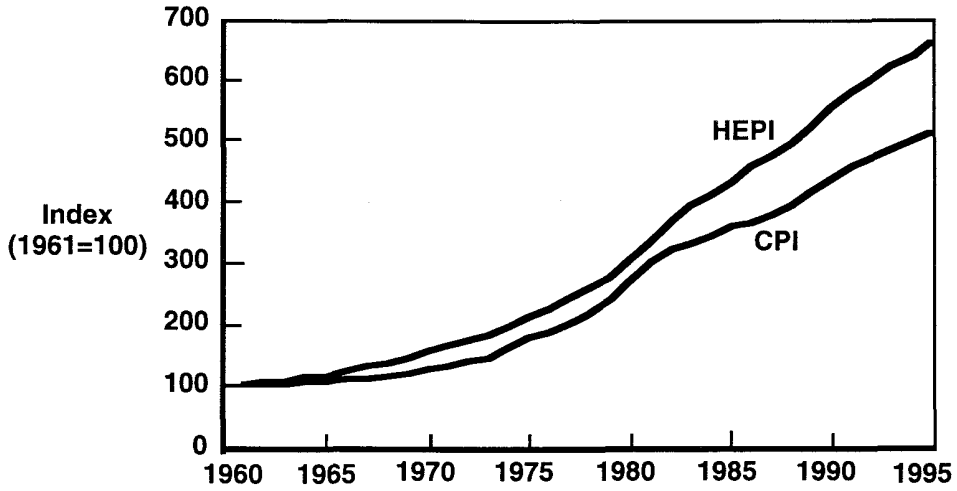

Figure 2. Costs to Higher Education Are Growing Rapidly

available.[5] Higher education institutions received just under $180 billion in revenues that year. Students and their families supplied just over a quarter of higher education's funds through tuition and fees. Institutions generated a similar percentage through sales and services, primarily through the medical services provided by the nation's teaching hospitals, but also through a variety of other activities ranging from bookstores to dormitories. Private gifts and endowment income accounted for another 7 percent of higher education's revenues.

Although higher education is a vital national endeavor, the sector is essentially state based. Higher education's organization, governance, finance, and missions are largely determined at the state level. The federal government is an important source of revenues, but the bulk of government support for higher education comes from the states, mostly in the form of appropriations to

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[5]See National Center for Education Statistics, *Digest of Educational Statistics*, 1996.

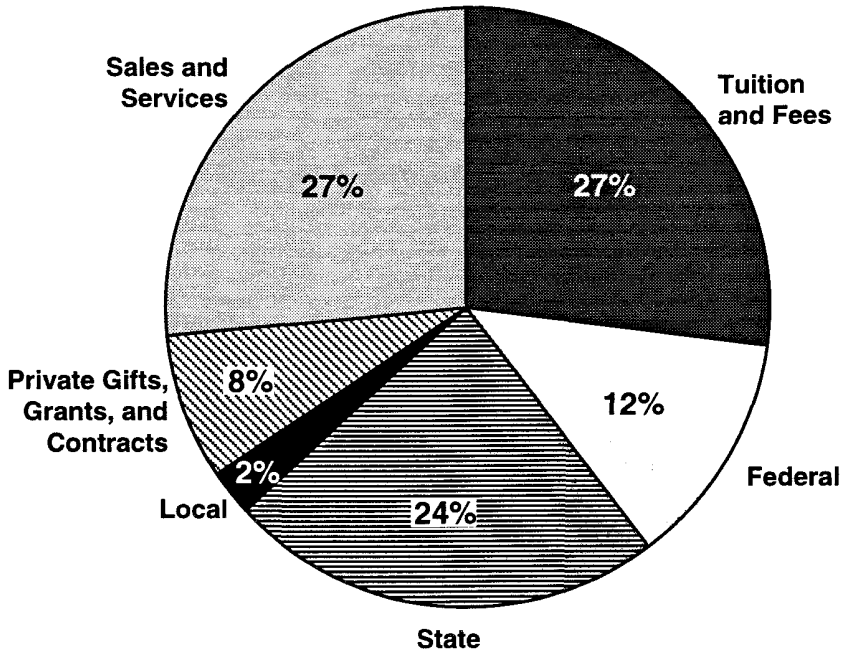

Figure 3. Higher Education's Revenue Sources

public institutions. Thus, to understand higher education's fiscal future and the sector's prospects for meeting the challenges of the 21st century, we must begin at the state level.

A VIEW FROM THE STATES

California is a good place to start. It is the nation's largest state, with a higher education system that has long been the national model and is now facing a major fiscal crisis.[6]

Figure 4 shows how California allotted its general fund expenditures in fiscal year (FY) 1995. The general fund is, for most intents and purposes, the discretionary budget of the state: it contains the funds that the governor and the legislature can shift from one purpose to another. (The state's budget also includes various special funds and federal funds that can only be spent for specified purposes.) In FY 1995, health and welfare, corrections, K-12 education, and the community colleges consumed 82 percent of the general fund appropriations.

The rest of the state's higher education sector—primarily the University of California system, the California State University system, and the state's scholarship programs—accounted for another 10 percent. (Because California law links state support for community colleges to state support for K-12 education, we distinguish between state appropriations to the community colleges and to the rest of higher education.) This left only 8 percent for all other state activities, including operating all three branches of government.

Even with their 10 percent, the state's four-year colleges and universities faced severe fiscal constraints. Similarly, California's community colleges were hard-pressed to meet demands with their share of the funds. And our estimates suggest that state support for both the four-year institutions and the community colleges is likely to lag demands in the future.

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[6]The estimates presented in this section are from Stephen Carroll, Eugene Bryton, C. Peter Rydell, and Michael Shires, *A Perspective on California's Fiscal Future*, MR-570-IET, RAND, Santa Monica, CA, 1995.

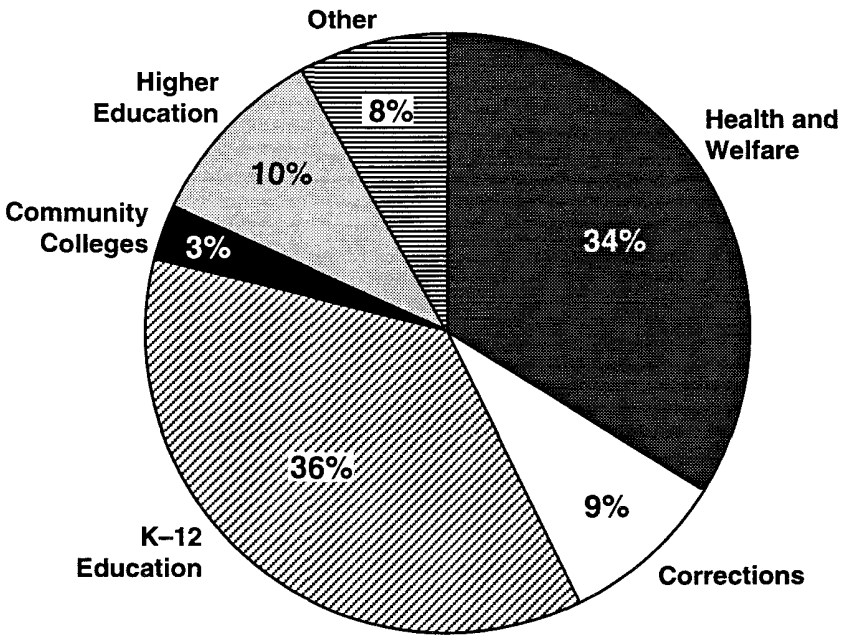

Figure 4. FY 1995 Distribution of California's General Fund Appropriations

We projected California's general fund revenues and expenditures in each major spending category over the next decade, assuming that current demographic and economic trends, tax policies, and mandated spending programs all continue through 2005. That is not to say that none of these factors can be changed. Rather, our purpose is to show what the future is likely to hold if they are not changed.

Figure 5 shows our projections of state general fund revenues for 1995 to 2005. We expect that the general fund will grow more rapidly in the future than it did over the last five years, which bounded one of California's most severe recessions. However, we do not expect general fund revenues to grow at the dramatic rates of the 1960s and 1970s.

Our estimates are in some sense optimistic, because we did not attempt to project the timing or magnitude of recessions or expansions—even though the history of business cycles in the postwar decades suggests that an economic turndown is likely sometime before 2005. If a

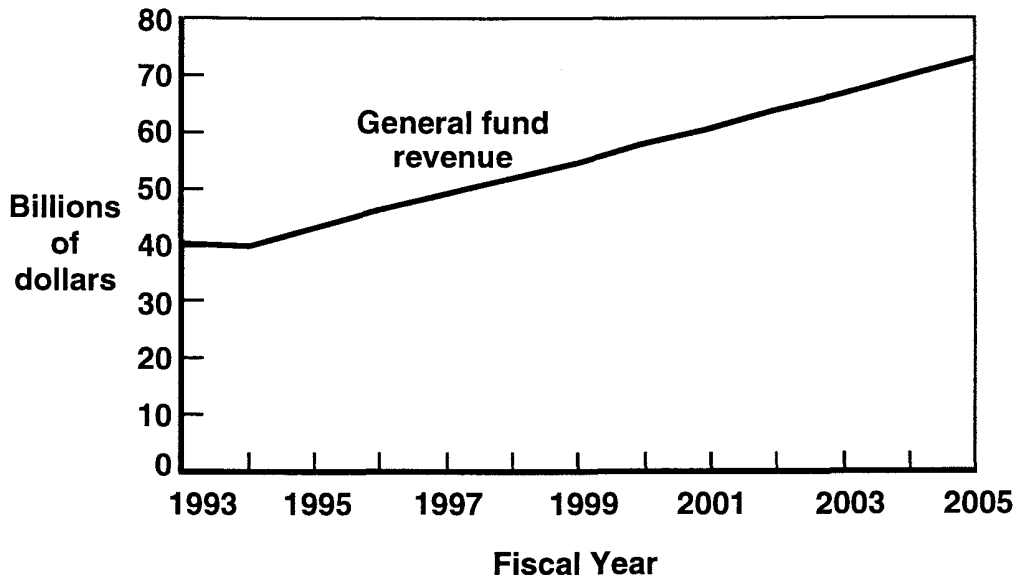

Figure 5. California's General Fund Revenues Will Grow Moderately

downturn does occur, general fund revenues will likely "rachet down" from our projections, which means that when the downturn ends, general fund revenues will grow along a path parallel to, but below, our projections.

Spending in each of three major budget categories—health, welfare, and K-12 and community college education—is likely to increase at about the same rate as general fund revenues.

The greatest increase in spending can be expected in corrections. The corrections share of the budget began to grow in the early 1980s, when determinate sentencing was introduced. However, in 1994 the California legislature prescribed, and the state's voters enacted a ballot proposition mandating, that felons found guilty of a third serious crime be locked up for 25 years to life. Passage of the "three strikes" proposition wrote the requirements into the state's constitution.

We estimate that this law will more than double the fraction of the state general fund consumed by corrections over the next decade. It will increase not only the number of felons imprisoned but—even more significant—the length of sentences served. Figure 6 illus-

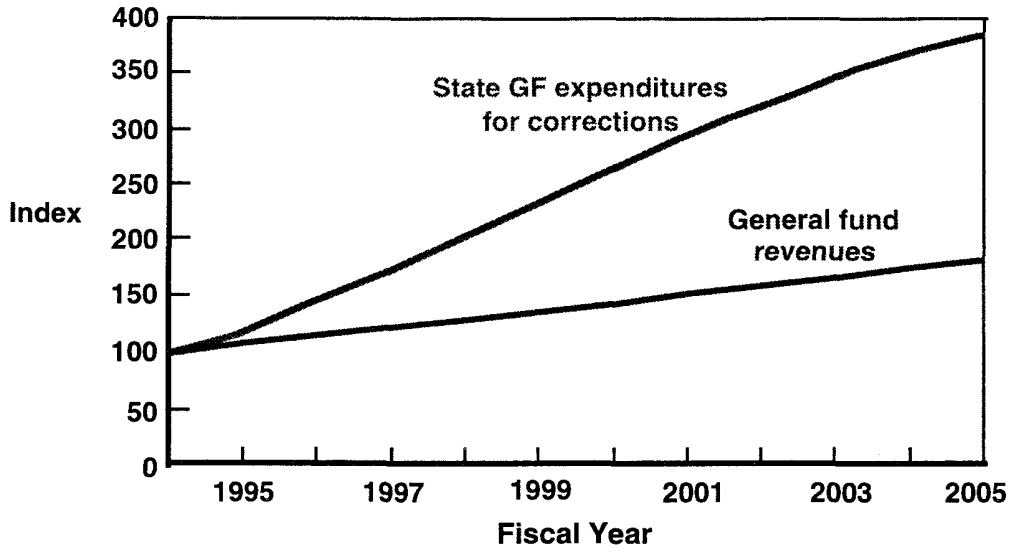

Figure 6. California's Spending on Corrections Will Grow Much Faster Than Revenues

trates how drastically the three-strikes initiative will affect state spending on corrections. Unlike spending on the other categories, corrections spending will increase at a substantially higher rate than general fund revenues.

Taken together, these trends add up to an impending budget crisis for California higher education. The spending requirements imposed by various laws now in place imply that spending on health and welfare, corrections, and K-12 education combined with the community colleges will consume about 91 percent of California's general fund by 2005 (see Table 1). As a result, little will be left for other public services, including higher education. It is not clear how the government will choose to allocate the 9 percent remaining. However, it is clear that the rest of higher education cannot expect to receive the 10 percent it had in FY 1995—the rest of government obviously cannot go unfunded.

Even if some of the assumptions underlying the analysis break down, higher education, including both the four-year institutions and the community colleges, will still be fiscally pinched. Moreover, the budget situation

Table 1.

By FY 2005, California's Cupboard Will Be Bare for Rest of Government

Budget Category	Share of General Fund (%) FY 95	FY 05
Health & Welfare	34	32
Corrections	9	20
K–12 Education	36	36
Community Colleges	3	3
Higher Education	10	?
Other	8	?

could be worse than projected, given that our forecast assumes that any economic downturns will be balanced by economic expansions. Further, our projections do not allow for budget effects of natural disasters, the probability that the federal government will not provide the amount budgeted for immigration costs, or the effects of efforts at the federal level to replace social funding with block grants. In other words, stark as they seem, our projections may actually be optimistic.

Clearly, this budget crunch will have various effects on higher education. However, an effect of greatest concern is how many potential students postsecondary education—the community colleges and the state's four-year colleges and universities—will fail to serve.

Figure 7 shows our projections on an FTE student basis.[7] *Full demand* is our estimate of the demand for student slots that California postsecondary institutions would have to meet to provide the same level of service they provided in 1989-1990. We chose these years because

[7]Again, this approach allows us to account for the smaller burden that part-time students place on higher education. Part-time students are counted in terms of the ratio of their course load to that of a full-time student.

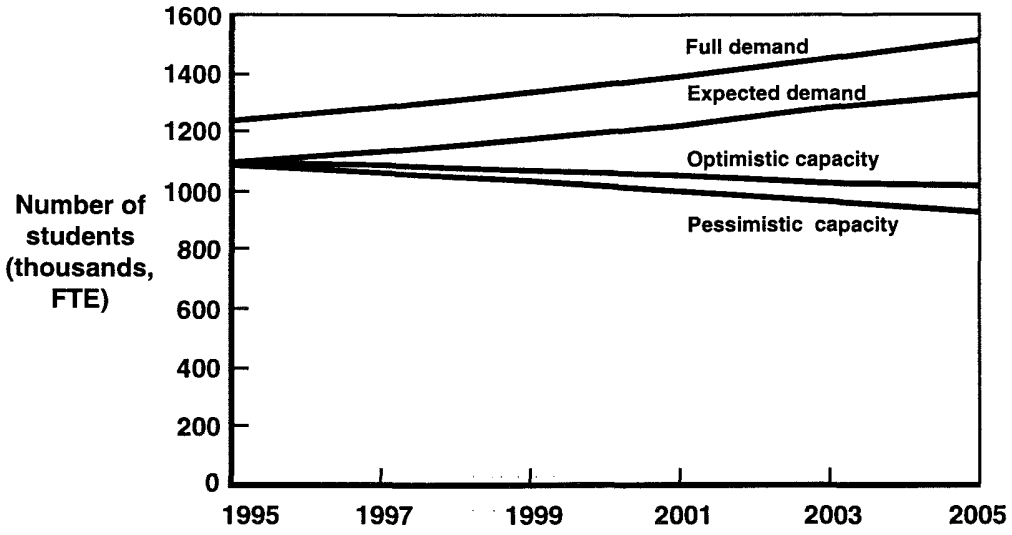

Figure 7. California's Access Deficits Will Soar for All Postsecondary Education

they predate the intensified fiscal problems of the early 1990s recession and the ensuing institutional responses to those problems, including caps on admissions, reductions in the number of classes offered, tuition increases, and so forth. *Expected demand* is our estimate of the number of slots that California postsecondary institutions would have to provide to maintain the same level of service they provided in 1994-1995. This assumes that the effects of responses to the past fiscal problems continue to adversely affect student demands into the future—but that there are no further adverse effects on student demands for postsecondary education. In other words, the difference between full and expected demand represents the number of people pushed out of the market for postsecondary education in California by tuition increases and other responses to the fiscal pressures of the early 1990s.

The *optimistic capacity* and *pessimistic capacity* lines in the figure represent our estimates under different assumptions about how the state's general fund budget will be allocated among the categories described earlier. The access deficit ranges from 300,000 to 500,000 FTE students. However, it is important to remember that an FTE represents more than one student, which means

that this estimate understates the actual number of people not served by postsecondary education because of financial constraints. The range above actually translates into almost 750,000 people—a very large number for the state's higher education system to turn away.

But is California an anomaly in the national fiscal landscape? Given some of the popular impressions about the state, it is only fair to ask if other, much different states are facing similar problems. We addressed that question by looking at other states. One of them, Wisconsin, differs from California in many of the dimensions along which people often think California represents an extreme: Wisconsin is midwestern, has a largely homogeneous population with relatively few immigrants or people of color, and is politically liberal and socially conservative.[8]

Figure 8 shows how Wisconsin's general fund revenues were allocated in FY 1995. Wisconsin uses budget categories somewhat different from California's, but the picture is much the same: In FY 1995, the University of Wisconsin (UW) accounted for about 10 percent of the budget—roughly the same amount received by the University of California and the California State University systems combined. Corrections and K-12 education each received a somewhat smaller share of the general fund in Wisconsin than they did in California, and Wisconsin spent a larger share of its budget on activities other than education and corrections than California did.

Like California, Wisconsin will experience a moderate growth in state revenues over the next decade, according to the projections of the state's Department of Finance (see Figure 9). Like California, Wisconsin expects expenditures in most budget categories to keep pace with the revenue growth. Unlike California, Wisconsin has not passed anything like the "three strikes" legislation. Does this mean that Wisconsin does not face the fiscal crisis in higher education that California does?

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[8]The estimates reported for Wisconsin were developed by combining existing forecasts of future spending needs for each relevant state agency.

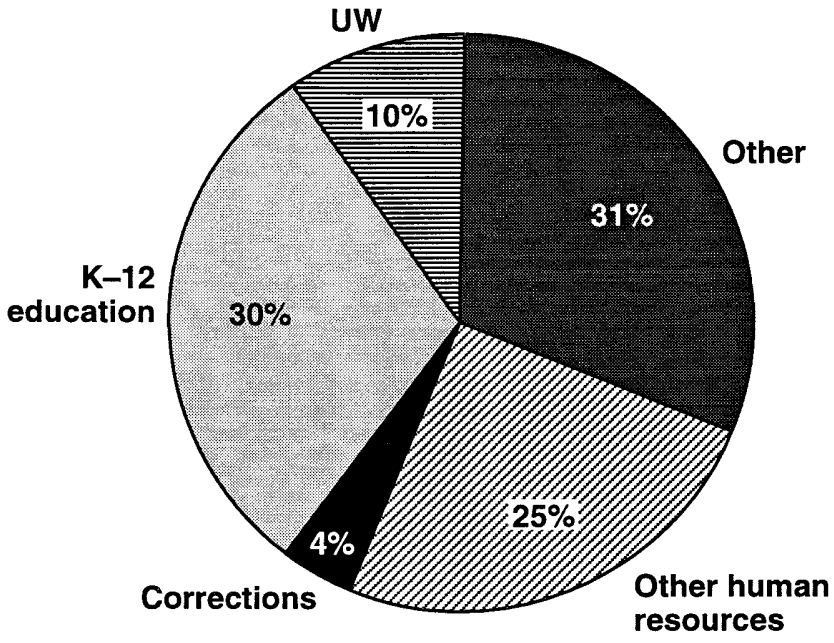

Figure 8. FY 1995 Distribution of Wisconsin's General Fund Appropriations

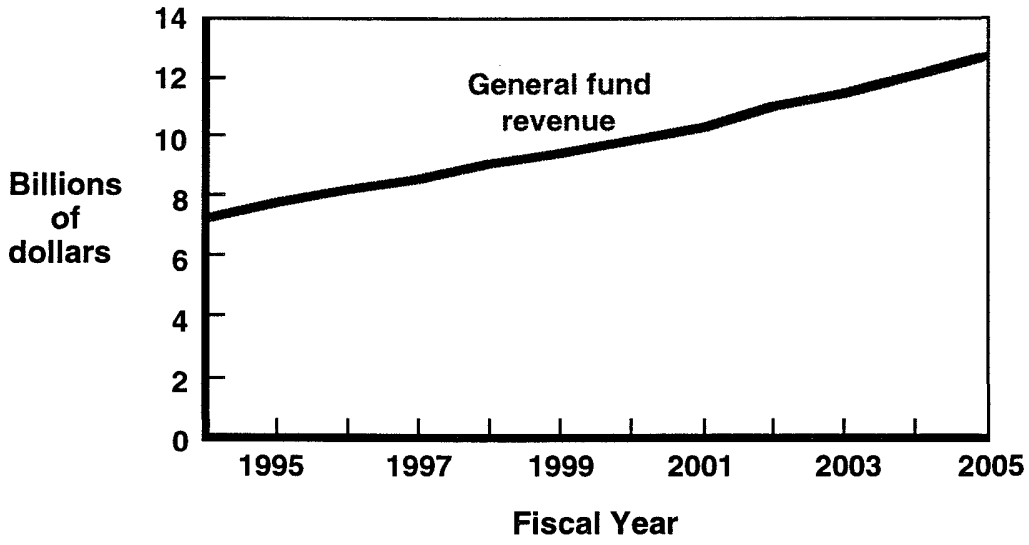

Figure 9. Wisconsin's Revenues Will Grow Moderately

Unfortunately, corrections are likely to present the same kind of drain on public funds in Wisconsin as we projected for California. Wisconsin's Department of Corrections has made projections of its likely prison population and the cost of supporting that population. Those projections produced the graph shown in Figure 10.

Expenditures on corrections will grow as rapidly as in California because of population dynamics. Crime is a young man's game: A very large proportion of crime is committed by males between 15 and 30 years old. Once they get into their 30s, 40s, and 50s, they have been jailed, have changed their ways, or have learned how to avoid being caught. In any case, as we all know, baby boom II is on its way, bringing an increase in the 15- to 30-year-old population. If crime in that future age group is consistent with historical patterns, even without a three-strikes law, corrections will consume a growing proportion of Wisconsin's budget.

Although not quite as grim as in California, the implications for higher education in Wisconsin are not bright. We projected how much Wisconsin would have to spend in each of its budget categories given the expected demands for services and population growth.

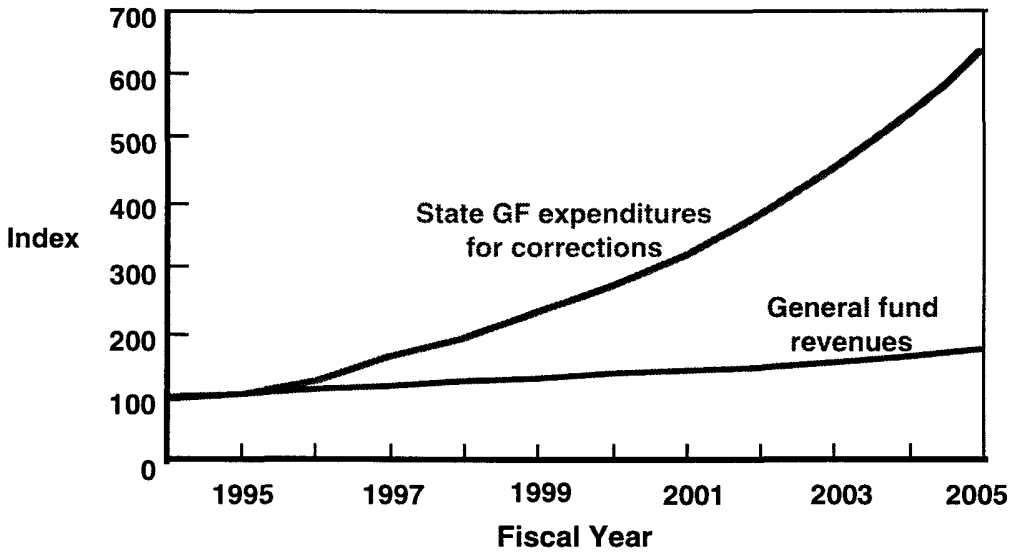

Figure 10. Wisconsin's Spending on Corrections Will Grow Much Faster Than Revenues

As Table 2 shows, Wisconsin would need 120 percent of its budget to meet these demands. And cuts are most likely in the higher education and "other" categories. In short, even though Wisconsin differs from California in many ways, it will face very similar fiscal problems.

Table 2.

By FY 2005, Wisconsin's Cupboard Will Be Bare for Rest of Government

Budget Category	Share of General Fund (%) FY 95	FY 05
Corrections	4	15
Other Human Resources	25	22
K–12 Education	30	46
UW	10	8
Other	31	29
Total	*100*	*120*

SO GOES THE NATION[9]

Overall public appropriations to higher education—federal, state, and local support—grew slowly through the 1970s and 1980s in real terms. In constant (1995) dollars, federal, state, and local government appropriations to higher education grew about $32 billion in 1975 to just under $44 billion in 1994. As Figure 11 shows, government support for higher education has effectively plateaued.

This national picture reflects the fiscal realities suggested in our discussion of California and Wisconsin. The share of state government budgets allocated to higher education has been declining since the 1970s. As

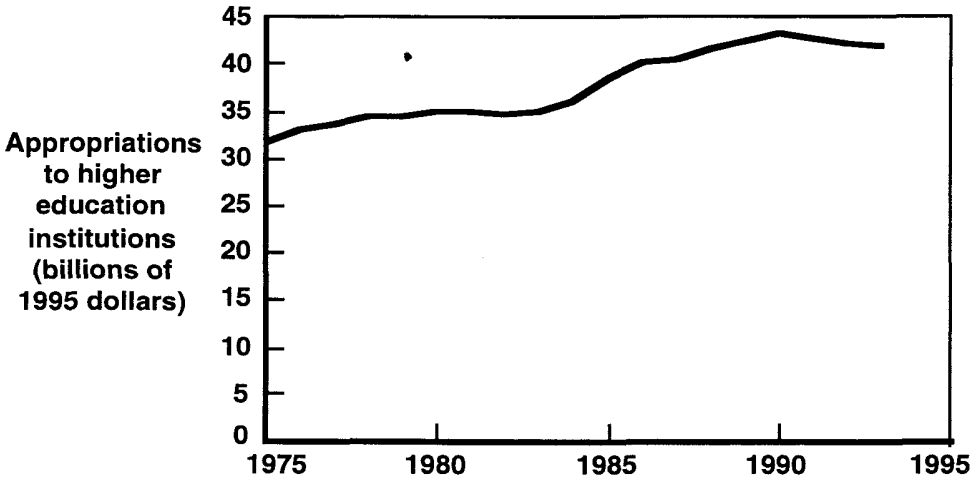

Figure 11. Public Support Has Not Kept Pace

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[9]The data presented in this section are derived from three annual publications: *Digest of Educational Statistics* (U.S. Department of Education, National Center for Education Statistics), *Statistical Abstract of the United States* (U.S. Bureau of the Census), and *Budget of the United States Government* (U.S. Office of Management and Budget).

Figure 12 indicates, that decline has been consistent and steady, despite wild fluctuations in state budgets during good and bad economic times. In 1975, almost 8 percent of state budgets went to higher education nationally. By 1994, state appropriations to higher education had fallen below 6.5 percent of total tax revenues—a decrease of almost 20 percent.

The percentage of federal funds going to higher education has also fallen, but much more dramatically than the state share. As Figure 13 shows, higher education's share of federal spending plummeted between 1975 and 1985, and has remained flat ever since.

In effect, the United States has been underfunding higher education since the mid-1970s. Figure 14 shows the share of personal income allocated to higher education through government appropriations from 1960 to 1994. In the 1960s and early 1970s, Americans doubled the share of their income that went to higher education—from $7 per $1,000 earned to about $14 per $1,000 earned. Since 1976, however, that share has steadily decreased.

This drop in the share of personal income allocated to higher education through appropriations of tax revenues reflects fundamental changes in government priorities. Tax revenues as a share of personal income actually increased slightly over the period shown. In fact, they have been increasing for the last two decades. What has changed is government spending priorities.

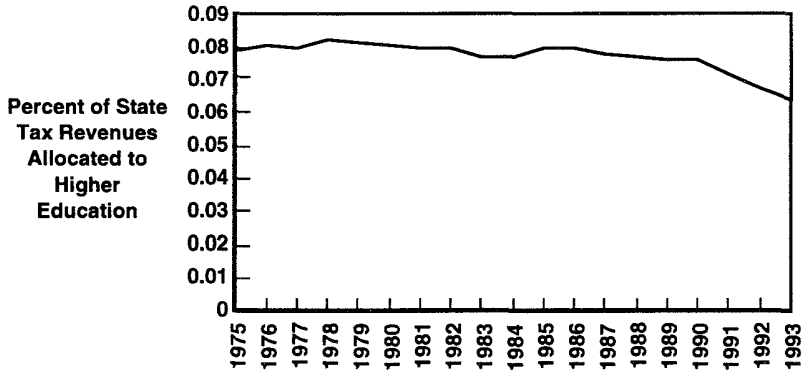

Figure 12. States Are Cutting Support of Higher Education

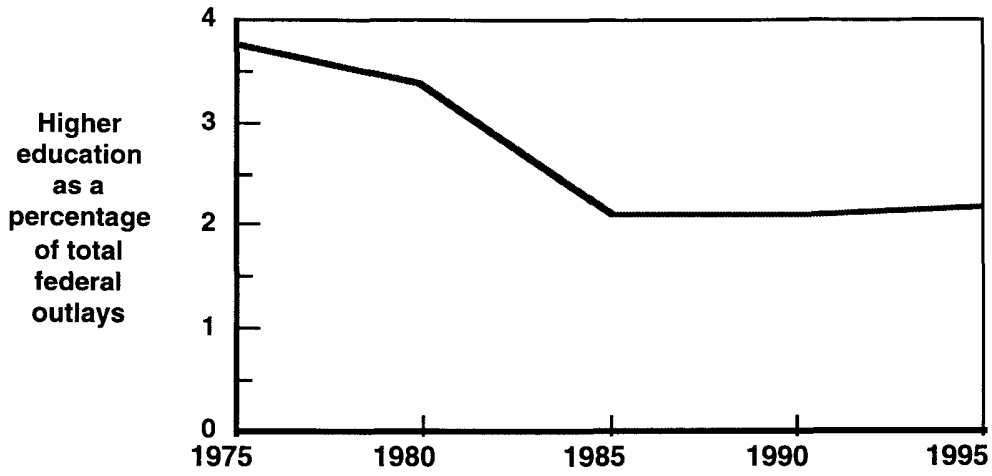

Figure 13. The Federal Government Is Also Cutting Support of Higher Education

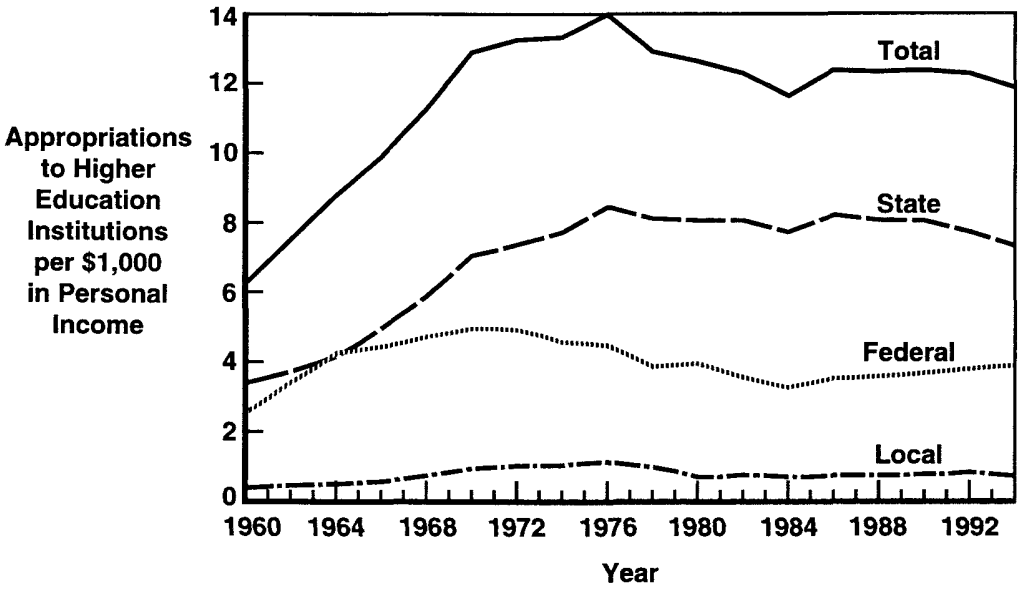

Figure 14. Share of Personal Income Allocated to Higher Education

At the federal level, the growth of entitlements—most notably, Social Security, Medicare, and Medicaid—has dominated federal spending. Spending on entitlement programs and interest on the national debt consumed about 38 percent of the federal budget in 1965. Today, nondiscretionary spending accounts for about 67 percent.

The entitlement programs focus largely on older Americans, and as the baby boomers age, the size of the population drawing on these programs will grow. The Congressional Budget Office estimates that in 2005—less than one decade from now—these programs will consume almost 75 percent of federal revenues (see Figure 15). This vast intergenerational transfer of wealth is squeezing higher education out of the federal budget.

The situation at the state level is quite similar. Like the federal government, state governments are increasingly devoting more of their budgets to health and welfare programs. And the plight of higher education in state budget battles is exacerbated by rapid increases in spending on corrections, or prisons. Figure 16 illustrates the distribution of state government spending on higher education, health and welfare, and corrections over the last two decades and extrapolates these trends through 2015 to indicate their consequences.[10]

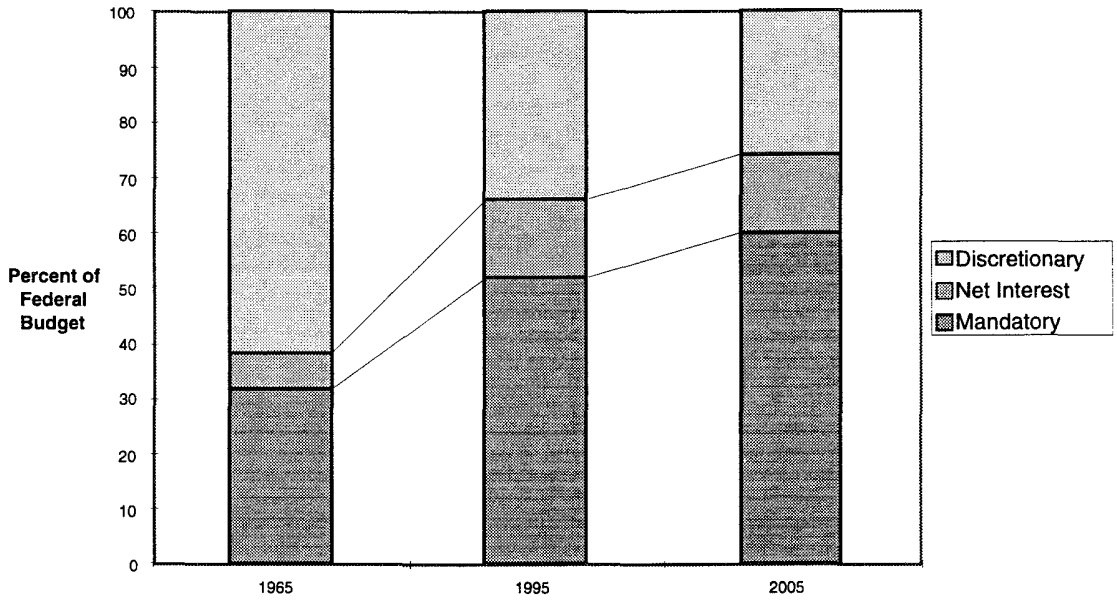

Figure 15. Entitlements are Eroding Federal Budgetary Discretion

[10]The projections presented in Figure 16 are linear extrapolations of current trends.

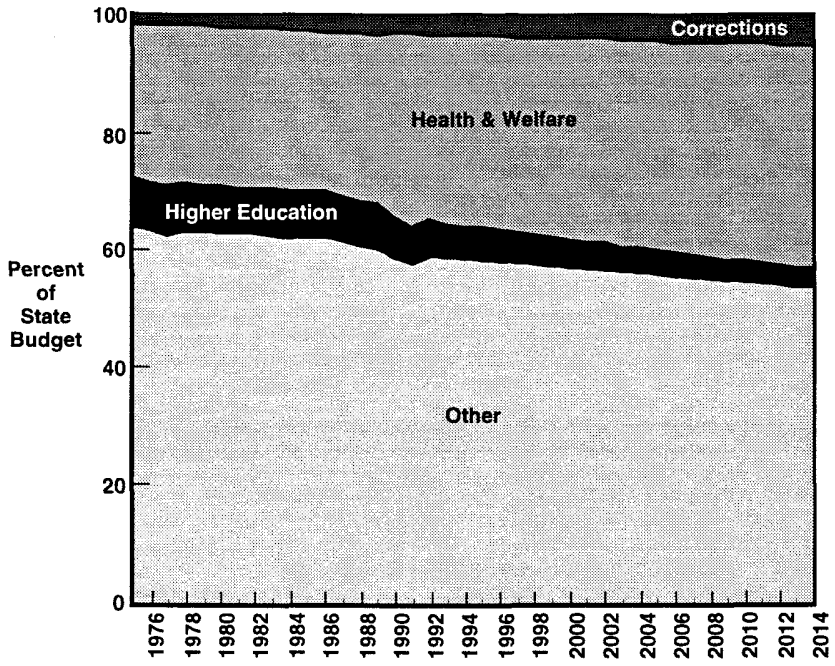

Figure 16. Spending on Corrections and Health and Welfare Is Crowding Out Higher Education at the State Level

As their government support has decreased over the years, institutions of higher education have had to charge students higher tuition and fees. In the early 1970s, average annual increases in higher education's tuition revenues were fairly moderate—slightly above inflation. Tuition began to grow much faster than the rate of inflation in the late 1970s, as shown in Figure 17. By the 1980s, tuition was climbing at rates well above that of inflation. Average annual increases in public and private tuition well outpaced inflation throughout the 1980s.

For example, average annual tuition growth in public institutions was about 13 percent between 1980 and 1985 and 8 percent between 1985 and 1990. Between 1990 and 1992 alone, tuition grew 5.2 percent. In these same three time periods, average annual inflation, as measured by the CPI, was 7 percent, 4 percent, and 4 percent, respectively. Among the many reasons for these

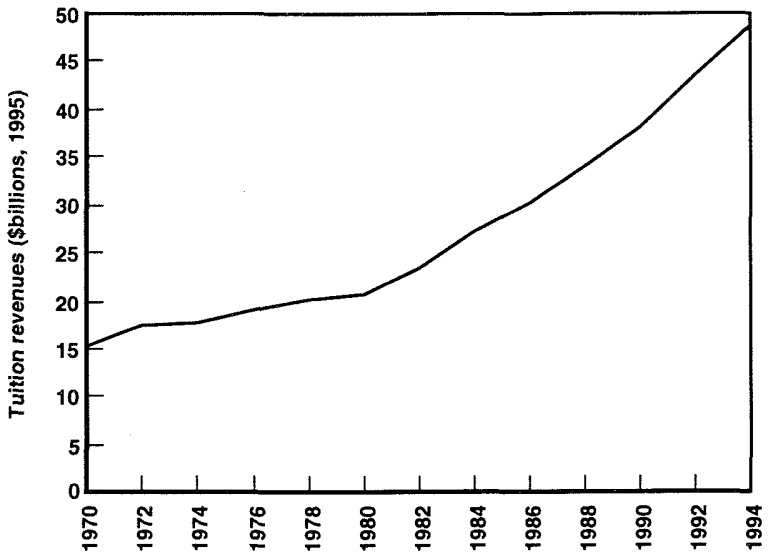

Figure 17. Students Are Making Up the Difference

increases is that colleges are substituting aid packages for the loss of state support in order to provide access for low-income students.

To put these trends in perspective, we compared changes in real federal and state support for higher education to changes in real tuition and fees over the last two decades. Specifically, Figure 18 shows higher education's current fund revenues per FTE student (in constant dollars) from the federal government, from state governments, and from tuition and fees, in each case relative to 1975. While real federal and state support per FTE student has varied from year to year, the overall pattern is flat. In contrast, higher education's tuition and fee revenues per FTE student have soared, particularly in the 1980s and 1990s, reaching a 1993 level almost 60 percent greater than the 1975 level.

Private sector support for higher education has risen: private grants, gifts, and endowment income have roughly doubled over the last two decades, as Figure 19 shows. By 1995, private sector endowment and gifts accounted for 8 percent of higher education's revenues. However,

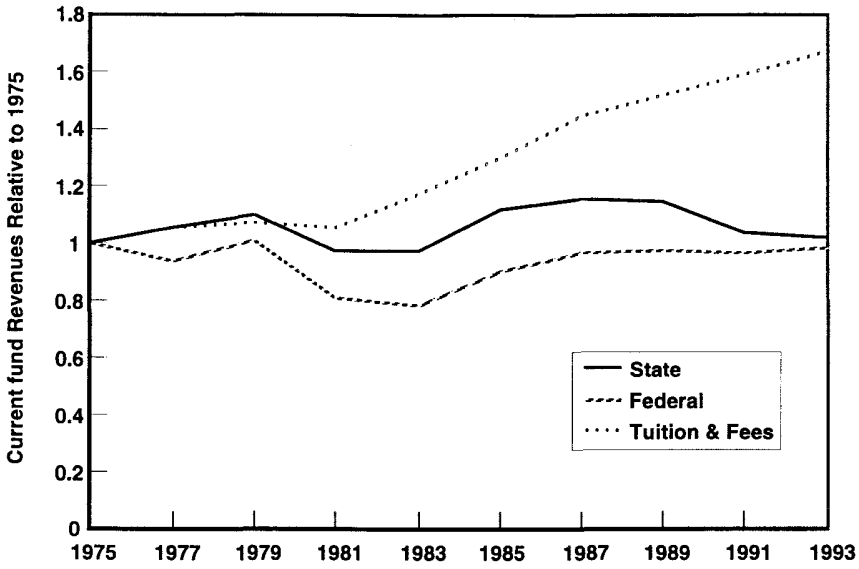

Figure 18. Tuition Revenues Are Growing Much Faster Than State and Federal Support for Higher Education

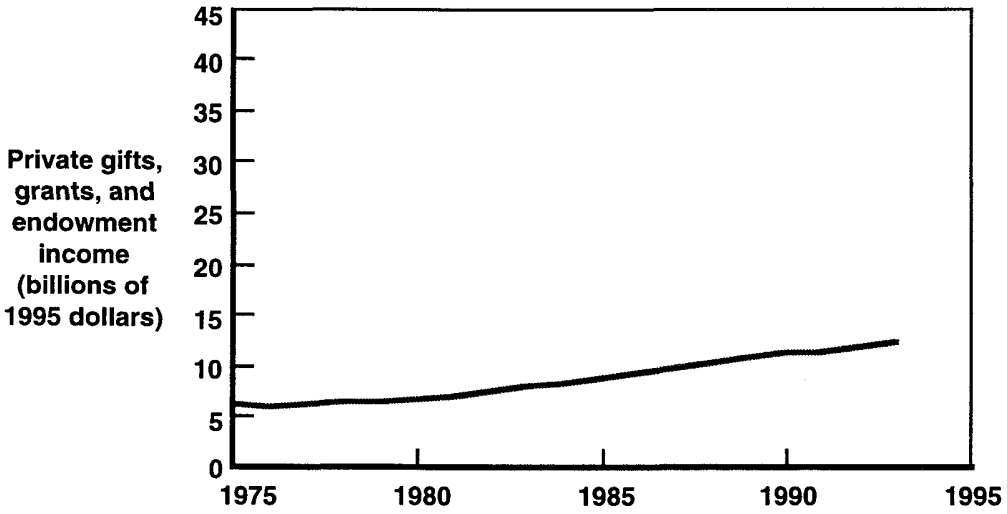

Figure 19. The Private Sector Is Helping, Too

the actual amount is relatively small, and the private sector cannot be expected to make up the resource shortfall likely to occur.

CONCLUSION

What are the prospects for a turnaround in these trends? We see no reason to expect federal support to higher education to increase at anywhere near the rate needed to keep pace with inflation and growing demands for access. Both the Congress and President Clinton have agreed, in principle, to eliminate the federal deficit by FY 2002. Whatever the means eventually agreed upon to achieve a balanced budget, the competition for federal dollars will increase. Higher education has not fared well in past federal budget debates, and it is unlikely to fare any better in an era of more tightly constrained federal budgets. Even if higher education maintains its current share of federal spending, that share is likely to translate into increases that lag growing costs to the sector and the growing demands being placed on it.

Over the last two decades, states have faced mounting pressures to expand spending on health care and on corrections. Higher education has been squeezed; state spending for higher education has grown less rapidly than has total general fund spending. Note that these trends have all been quite stable for well over a decade, changing little with the ebbs and flows of the business cycle. States have systematically chosen to increase spending on corrections and health at the expense of higher education (and other areas) through the recessions of the early 1980s and early 1990s and the boom times in between.

Further, ongoing efforts to reduce federal spending on welfare are likely to exacerbate the competition for state spending. States are likely to see intensified pressure to provide some support to populations that had previously relied on federal support.

The data we have presented suggest that higher education has entered an era in which government support for higher education will not increase fast enough to allow colleges and universities to expand their capacity to meet growing demands in the face of increasing prices.

Figure 20 summarizes higher education's likely fiscal future if current trends continue.

The "real resource requirements" shown in the figure are the revenues higher education will need from sources other than tuition if it is to provide to future students the same real resources per student at the same real tuition levels that it provided to students in 1976, assuming that current trends in participation and in the prices of higher education resources continue through 2015. We chose 1976 as our base because public appropriations to higher education institutions as a

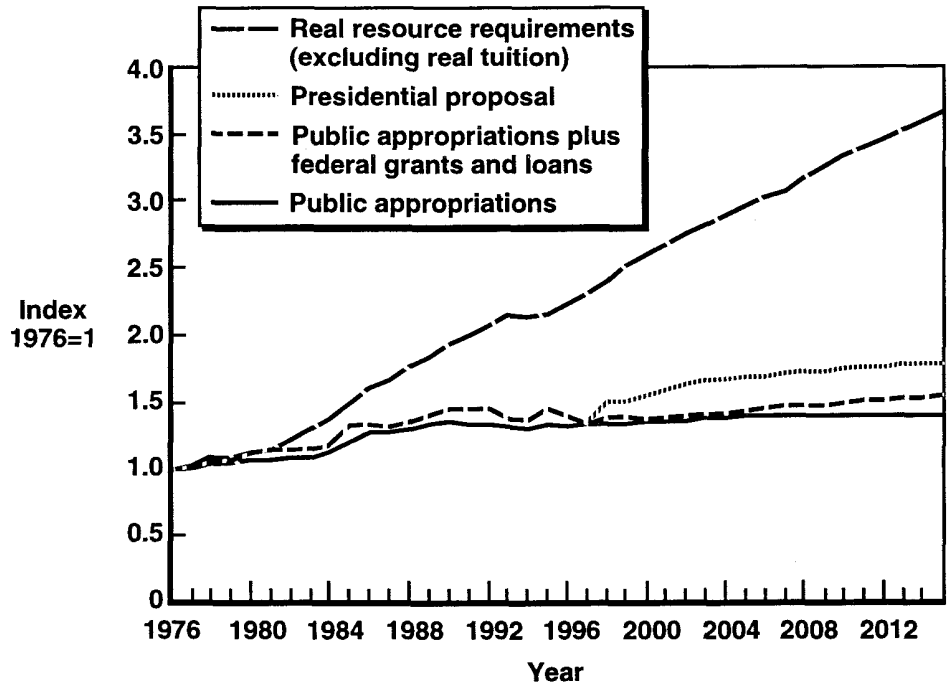

Figure 20. Higher Education's Likely Fiscal Future

share of personal income peaked in that year.[11] Resource requirements are thus an estimate of the relative (to 1976) governmental revenues that colleges and universities will need in each year through 2015 to provide future students with the same services provided to students in 1976, with tuition increases held to the rate of inflation.

We then computed actual federal, state, and local appropriations to higher education through 1995 and estimated what future appropriations will be through 2015 if current trends continue.[12] That is, the projection shows how much government will provide to higher education institutions if current trends continue, relative to 1976. We also computed the additional relative contributions the federal government has made and, if current trends continue, will make in the future in the form of subsidies to students in connection with grants and loans.

The picture is clear. The combination of government support to institutions and government support to students (i.e., the cost of subsidizing loans and giving grants) has failed to grow at anywhere near the rate at which costs have increased. Public appropriations grew about as fast as did enrollments and prices through the 1970s and early 1980s. Public support began to lag

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[11]We computed average expenditures per pupil in 1976 by dividing the sum of government appropriations and tuition revenues by enrollment (FTE). We then multiplied this figure by the HEPI—actual through 1994 and extrapolated trend for 1995 through 2015—and applied the results to our demand projections (see Figure 1). The result is a projection of the revenues higher education institutions will need in order to purchase the same resources per student in the future that they purchased in 1976. We then subtracted off the tuition revenues colleges and universities would receive if tuition grew from 1976 levels at the rate of inflation.

[12]To project what future government appropriations will be if current trends continue, we extrapolated current trends in federal, state, and local appropriations to higher education relative to personal income, multiplied the projections by U.S. Census projections of personal income, and indexed the result to 1976. This projection is the revenues higher education will receive from the public sector in each future year through 2015 if current trends continue.

resource requirements in the mid-1980s and fell noticeably behind in the early 1990s. This, of course, is the period when higher education institutions began to increase tuition and fees at unprecedented rates. If nothing is done to arrest current trends, the future is bleak. Although public support is likely to grow with increases in personal income, the rate of increase in appropriations is likely to be significantly less than the rate needed to keep pace with price and demand increases.

The line labeled "Presidential proposal" in Figure 20 shows an initial estimate of how the plan proposed by President Clinton in his State of the Union message might affect these calculations. While his proposal is clearly a step in the right direction, it falls far short of what will be needed to keep tuition from continuing to soar beyond the means of many students and their families. Moreover, most of the increases in Clinton's proposal are in the form of tax credits, which will benefit middle-income groups rather than the lower-income groups we have singled out for attention.

These trends imply a looming fiscal crisis. To deal with this crisis, the higher education sector will have to serve a much smaller segment of the population or dramatically cut back on the resources used to provide education (and consequently on educational quality). The other alternative is to continue to raise tuition levels at rates that make higher education unaffordable for larger and larger percentages of the population.

The financial situation clearly bodes ill for higher education's ability to meet the many challenges it faces—especially the growing demand for enrollment. Ironically, if higher education attempts to increase revenues—and thus its capacity to meet expected enrollment demand—by raising tuition, it may end by increasing the access deficit instead.

Figure 21 shows the results of our estimates (based on enrollment patterns) at various levels of real increases in tuition, assuming that nothing is done to modify past trends in public support. As a point of comparison, the top line shows the policy enrollment objective for the

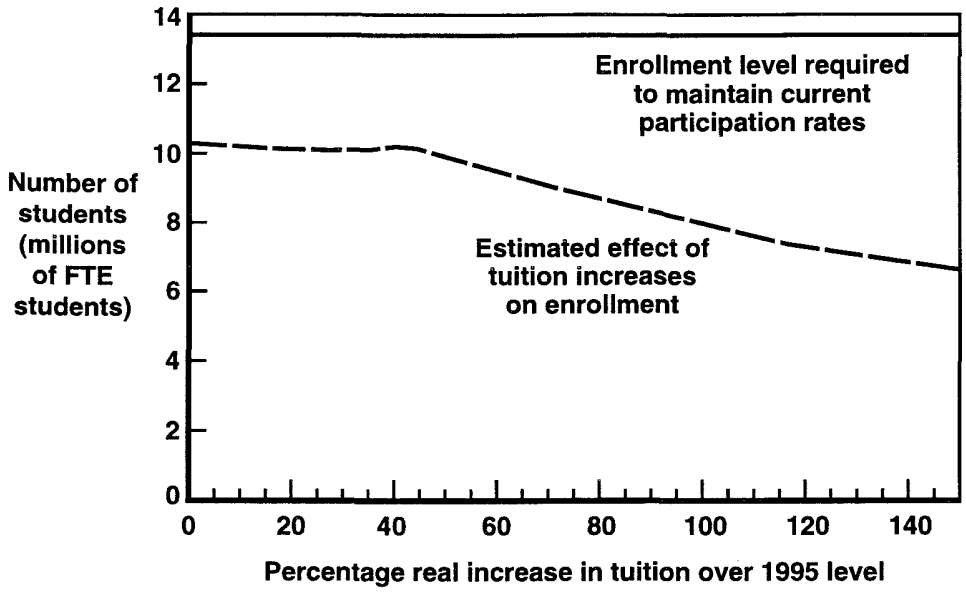

Figure 21. Severe Access Deficits Are Likely

year 2015—i.e., the number of students that higher education would actually enroll if it provided the same level of service that it does today (relative to the population).

Raising tuition and fees makes money available to cover rising per-student costs. If tuition goes up faster than per-student costs do, the percentage of those costs that is covered by students paying full tuition increases, and money becomes available to cover some of the costs of other students. The result is an increase in the number of students who can be served.

However, as tuition and fees go up, some individuals will decide that the gains from higher education are not worth the increased cost, and others simply will not be able to afford to participate. Thus, an increase in tuition will cause some students who could have paid at the old rate (and who hence would have subsidized those who could not) to drop into the subsidized group. Increases for those still paying tuition then have to become even larger.

As Figure 21 shows, when real increases in tuition approach 80 to 100 percent, enrollment drops drastically:

6 to 7 million students could be "driven out" by tuition increases of this magnitude. Since the number who would actually enroll without these increases is about 13 million, tuition increases on the order of those we have seen over the last two decades could price out as many as half of the people who would pursue a college or university education. These estimates are certainly not precise, but they indicate that large tuition increases are likely to make access deficits dramatically higher.

It seems clear that higher education in the United States is at a crossroads. Additional large-scale investment is not, at present, a likely solution to the emerging challenges. Other solutions are required. We believe that the only way for higher education to meet these challenges is to radically rethink not only revenue sources and uses, but also the efficiency with which they are managed. America urgently needs to take bold steps to forestall the fiscal crisis facing U.S. higher education.