DOCUMENT RESUME

ED 414 806 HE 030 699

TITLE	Breaking the Social Contract. The Fiscal Crisis in Higher Education.
INSTITUTION	Council for Aid to Education, Santa Monica, CA.; Rand Corp., Santa Monica, CA. Inst. on Education and Training.
SPONS AGENCY	California Education Roundtable.
REPORT NO	CAE-100
PUB DATE	1997-05-00
NOTE	28p.; A report by the Commission on National Investment in Higher Education. For related document, see HE 030 700.
PUB TYPE	Opinion Papers (120) -- Reports - Evaluative (142)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Accountability; College Attendance; Demography; Economic Factors; Educational Change; *Educational Finance; *Educational Policy; Financial Exigency; Financial Policy; *Financial Problems; *Higher Education; Income; Institutional Mission; Intercollegiate Cooperation; *Outcomes of Education; Paying for College; Productivity; *Socioeconomic Influences; Wages

ABSTRACT

This report presents the results of a 2-year study of the fiscal condition of higher education in the United States. The study found that at a time when the level of education needed for productive employment is increasing, college costs and demand are rising much faster than funding. Unless sweeping changes are made to control costs, millions of Americans will be denied the opportunity to go to college, further exacerbating growing wage disparities between rich and poor and threatening the economic and social stability of the nation. Until now, institutions have covered rising costs by sharp tuition increases; however, such increases will shortly begin to keep Americans from pursuing higher education. And if future tuition increases are capped at the rate of inflation, colleges and universities will face a massive shortfall of resources by 2015. The report recommends that (1) political leaders reallocate public resources to reflect the growing importance of higher education; (2) institutions improve performance-based assessment, faculty productivity, and internal accountability; (3) institutions pursue greater mission differentiation; (4) institutions develop sharing arrangements to improve productivity; and (5) that all citizens be encouraged to pursue some form of postsecondary education. (MDM)

BREAKING THE SOCIAL CONTRACT

The Fiscal Crisis in Higher Education

CAE
Council for Aid to Education
An Independent Subsidiary of RAND

Members of the Commission on National Investment in Higher Education

Joseph L. Dionne, Chairman and CEO, The McGraw-Hill Companies (Cochair)

Thomas Kean, President, Drew University (Cochair)

Robert Albright, Executive Vice President (Retired), Educational Testing Service

John Biggs, Chairman and CEO, TIAA-CREF

Edward Donley, Former Chairman, Air Products and Chemicals, Inc.

Mitchell Fromstein, Chairman, President and CEO, Manpower Incorporated

Vartan Gregorian, President, Brown University

D. Bruce Johnstone, Former Chancellor, State University of New York

David Lascell, Attorney at Law, Hallenback, Lascell, Norris and Zorn

Harold McGraw, Jr., Chairman Emeritus, The McGraw-Hill Companies

Barry Munitz, Chancellor, California State University

Diana Natalicio, President, University of Texas at El Paso

Charles Reed, Chancellor, State University System of Florida

Piedad F. Robertson, Superintendent and President, Santa Monica Community College

Hoke Smith, President, Towson State University

John Zeglis, General Counsel and Senior Executive Vice President, Corporate Affairs, AT&T Company

Ex-officio Members

Roger Benjamin, President, Council for Aid to Education

Judith S. Eaton, Chancellor, Minnesota State Colleges and Universities

To Our Readers

This report offers the results of a two-year study by the Commission on National Investment in Higher Education. Established by the Council for Aid to Education in 1994, the Commission was asked to examine the financial health of America's higher education sector.

Our central finding is that the present course of higher education—in which costs and demand are rising much faster than funding—is unsustainable. Therefore, we call upon the nation to address the fiscal crisis now, before millions of Americans are denied access to a college education.

We recommend increased public funding of higher education and wide-ranging institutional reforms. These reforms will require strong leadership and new coalitions. A new coalition in itself, the Commission benefitted greatly from the presence of leaders from both higher education and corporate America. The business community has a direct interest in the outcome of educational reform and broad experience in the kind of strategic thinking and internal restructuring that will be required of American colleges and universities.

In a separate volume, we present a series of technical papers prepared by RAND in support of the Commission's work. We wish to thank our colleagues on the Commission for the wisdom and experience they brought to our task. We also want to thank RAND staff for their usual sound and provocative analysis, and Roger Benjamin, President of the Council for Aid to Education, for his leadership in this effort.

Joseph L. Dionne (Cochair)
Chairman and CEO
The McGraw-Hill Companies

Thomas Kean (Cochair)
President
Drew University

Overview

For well over a century, the American higher education system has set the world standard for academic excellence and equitable access for all citizens. The Morrill Act of 1862, which created the land grant university, guarantees that all citizens who can profit from higher education will have access to it. Today, however, there are signs that this far-sighted social contract may soon be broken. The higher education sector—by which we mean both public and private institutions of postsecondary education and training—faces challenges unprecedented in its history, and it is floundering in response.

The monetary difficulties of colleges and universities, thought for a time to be temporary, now appear to be part of long-term trends in the demand for enrollment and the supply of funding. Demand has increased sevenfold since World War II and is expected to continue growing over the next two decades. At the same time, operating costs have escalated and public-sector financial support has flattened. As a result, many colleges and universities have had to sharply increase tuition and fees and look for ways to control costs in order to avoid financial disaster.

To examine the dimensions and implications of these trends, the Council for Aid to Education (CAE) launched the Commission on National Investment in Higher Education in 1994. As members of the Commission, we addressed two major questions:

- Will the current revenue base and funding sources be sufficient for meeting higher education's future needs?
- If not, what steps can be taken to avert a fiscal crisis?

What we found was a time bomb ticking under the nation's social and economic foundations: *At a time when the level of education needed for productive employment is increasing, the opportunity to go to college will be denied to millions of Americans unless sweeping changes are made to control costs, halt sharp increases in tuition, and increase other sources of revenue.*

As service-related jobs have come to dominate the workplace, the college degree—or at least some form of postsecondary education and training—has replaced the high school diploma as the entry card into rewarding employment. Those who only finish high school—or drop out—start on the lowest rung of the wage ladder and will see their real hourly wages actually decline over their working lives. Unless the nation makes a concerted effort to raise the level of education and skill of these Americans, the wage disparity between the rich and the poor will become so large that it will threaten both America's social stability and its core democratic values. Widespread access to higher education is therefore critical to the economic health and social welfare of the nation.

The higher education sector, however, is facing a catastrophic shortfall in funding. Given current trends in both funding and the costs of higher education, the deficit in operating expenses for the nation's colleges and universities will have quadrupled by 2015. Assuming tuition increases no faster than inflation, by that year U.S. colleges and universities will fall $38 billion short (in 1995 dollars) of the annual budget they need to educate the student population expected in 2015. If, however, tuition increases at current rates—basically doubling by 2015—the impact on access will be devastating: effectively half of those who want to pursue higher education will be shut out.

To address a crisis of such proportions, we call for a two-pronged strategy: increased public investment in higher education and comprehensive reform of higher education institutions to lower costs and improve services. The second of these, institutional reform, is in fact a prerequisite for increased public funding. Unless the higher education sector changes the way it operates by undergoing the kind of restructuring and streamlining that successful businesses have implemented, it will be difficult to garner the increases in public funding needed to meet future demands.

More specifically, we make these recommendations:

- America's political leaders—the President, Congress, governors, mayors, and other state and local officials—should reallocate public resources to reflect the growing importance of education to the economic prosperity and social stability of the United States. Public funding of higher education has stagnated since 1976. It is time for the nation to reverse this policy.
- Institutions of higher education should make major structural changes in their governance system so that decision makers can assess the relative value of departments, programs, and systems in order to reallocate scarce resources. This will entail improving performance-based assessment, defining and measuring faculty productivity, and integrating accounting systems.
- As part of their overall restructuring, colleges and universities should pursue greater mission differentiation to streamline their services and better respond to the changing needs of their constituencies. Individual institutions and parts of statewide systems should focus on their points of comparative advantage rather than all striving to become full-service campuses. Community colleges, undergraduate universities, and research universities, for example, should embrace different missions, give priority to activities central to those missions, and reduce or eliminate more-marginal activities.
- Colleges and universities should develop sharing arrangements to improve productivity. A greater sharing of resources—requirements, classes, services, infrastructure, libraries—could lead to significant savings and even improve services.
- It is time to redefine the appropriate level of education for all American workers in the 21st century. All citizens planning to enter the workforce should be encouraged to pursue—as a minimum—some form of postsecondary education or training.

This reform agenda cannot be implemented by the higher education establishment alone. A sea change of this sort requires the active participation of leaders in government, business, and education, as well as the American public. With this report, we hope to convey the urgency of the situation. In our view, the enormous deficits facing the higher education sector in the near future are more critical than the much publicized crisis in the Social Security system. Indeed, unless America manages to open up the narrowing bottleneck of higher education, there will not be enough economic growth to support *any* version of the Social Security plans being discussed. In very real and practical terms, education is the key to the nation's future. Americans must ensure that it becomes a national priority. ◆

The Threat from Within

Recent shifts in America's economy have made higher education more significant than ever. The industrial jobs that once formed the backbone of the economy are dwindling and will provide employment for only 10 percent of the workforce by the year 2000. The service-related jobs that are taking their place require a level of knowledge and skill that, for the most part, can be gained only through programs offered at colleges and universities. If workers in today's economy are cut off from higher education, they will be unable to attain the proficiency levels needed to master new technologies and enter new occupations.

This gradual shift in the educational requirements of today's workforce has put great pressures on the entire educational system. The nation must educate a larger and more diverse population to levels never before required. Those who are content with a high school diploma or with not completing high school are likely to face a bleak economic future. The growing disparity in the incomes of the rich and the poor is testimony to this fact. If current trends in wages and family income persist, the economic disparities that will exist in America by 2015 will pose a grave danger to society:

- A much larger proportion of the population will fall below the standard of living considered average today.
- The real hourly wages of the average male worker will decline by about 25 percent compared to what the average male earned in the 1970s. For those near the bottom of the wage distribution, hourly earnings will slip by about 44 percent.
- While family incomes in the highest earning bracket will increase by 50 percent, the earnings of the poorest families will decline by about 36 percent from the levels of comparable families in 1976, creating an unprecedented income gap between the nation's rich and poor.
- The proportion of immigrants in the population will increase to 12 percent of the labor force by 2015. Unless immigration policy changes, most of the new immigrants will come from Mexico and Central America, a group with historically low levels of education.
- College education will not be equally distributed among ethnic/racial groups, creating little chance for underrepresented groups to improve their standard of living. As a result, the educational and economic fault lines in the United States will be drawn increasingly in terms of ethnicity and race.

This portrait of the future is not a prediction but a simple extrapolation of the earning patterns, described more fully below, of the 20-year period from 1976 to 1995 (the most recent year for which data were available). We believe the growing gap between the rich and the poor is one of the greatest threats to America's social order. At the heart of this problem is the profound change that has taken place in the level of knowledge and skill required to be a productive worker in today's economy. Improving the education and training of all Americans is, in our view, the only way to combat this threat and reduce the growing divide.

Trends in Wages and Family Income

As has been well documented in research, wage and family income disparities have been growing since 1976. Figure 1 shows the distribution of hourly wages among all male workers in the United States in real terms, adjusted for inflation and indexed to 1976. (In other words, 1976 is shown as a base, and wages estimated for subsequent years are shown as a percentage of what they were in 1976.) The figure shows only male wages, but disparities in female wages are growing at about the same rate. The top line shows changes in earning levels for workers at the 90th percentile of all male wage earners. It shows slow growth over the 20 years extrapolated out to the future.

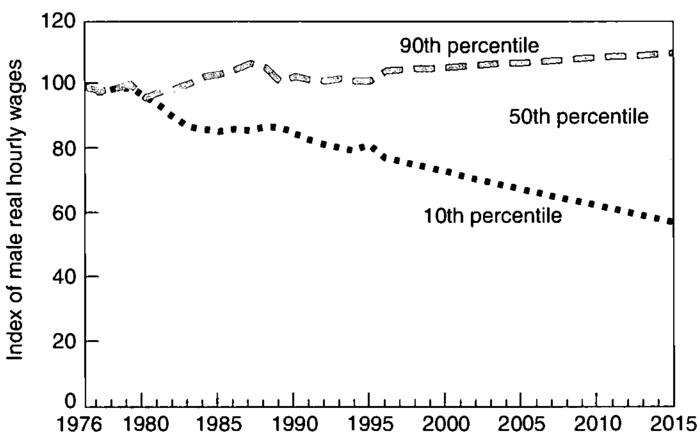

Figure 1—Long-Term Trends in Hourly Wages of Male Workers

The message here is that the highest paid workers will hold their own to 2015. Those in the 50th percentile—workers right in the middle of the distribution—have lost about 14 percent in real wages over the 20 years; by 2015, they will be earning about 25 percent less than they earned in 1976. But the most striking consequence of current trends shows up in the figures for workers in the bottom 10 percent. If current trends continue, these workers will be earning little more than half of what they earned in 1976.

The numbers for family income over the same period show even wider disparity. As Figure 2 shows, families at the top of the scale will be earning about 50 percent more in 2015 than they did in 1976. This is not because men's wages are going up, but because more women are working and families tend to be smaller than they used to be, creating more workers in the economy per family. Those in the middle of the income distribution scale will be a little better off, though not much. But for those in the bottom 10th percentile—consisting largely of single-parent families headed by women and families of low-educated immigrant populations—we see a 36 percent fall in income compared to what families in that income bracket earned in 1976. In that year, families at the 90th percentile enjoyed income levels nine times greater than those of families at the 10th percentile. By 1993, the disparity was twelvefold. At this rate, the ratio will exceed sixteen to one by 2015.

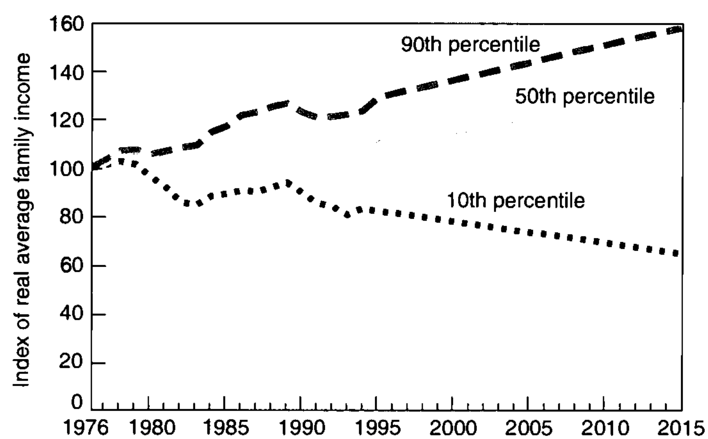

Figure 2—Long-Term Trends in Family Earnings

Changes in the Immigrant Population

A doubling in the proportion of immigrants in the workforce since the 1970s (over 10 percent of the workforce is now foreign born) and the lower educational level of more-recent immigrants are additional factors in the growth of income disparity. Figure 3 shows the changing face of America's immigrant workforce. In 1970, only 6 percent of the immigrant workforce came from Mexico or Central America and 68 percent came from Europe. In 1990, 21 percent of the immigrant workforce came from Mexico or Central America and only 34 percent from Europe. Because the educational level of Mexican and Central American immigrants is lower than that of other immigrant groups, the earnings of more-recent immigrants have deteriorated relative both to native workers and to earlier immigrants and are likely to remain low throughout these immigrants' working lives. If these trends hold, a growing proportion of workers will have less than a high school diploma and will face declining earnings over their lifetimes.

Education and Income: the Intimate Link

The single most important factor in determining level of income is level of education. Figure 4 shows the distribution of real hourly

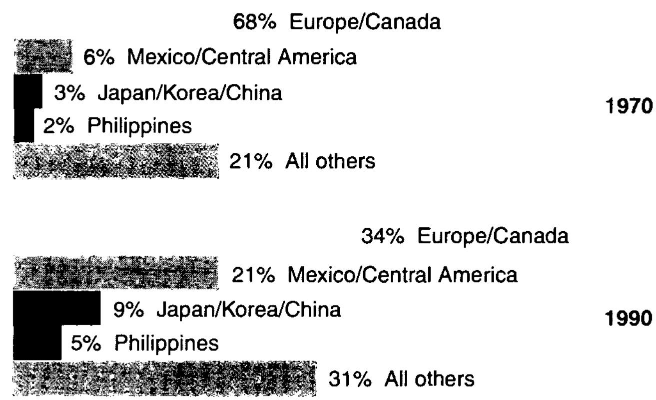

Figure 3—Changing Composition of America's Immigrant Population

wages of male workers by education level. Men with a college education have kept pace with inflation over the 20-year period, men with *some* college education have seen a decline in real income of 14 percent, and men with only a high school diploma have lost 18 percent. Meanwhile, real wages of high school dropouts have declined by 25 percent.

If these lines are drawn out another 20 years using the same rates, the result is devastating. By 2015, male workers with only a high school education will have lost 38 percent of what comparable male workers earned in 1976. And those without a high school diploma will have lost 52 percent in real earnings over the same period. If the U.S. economy continues to place a high value on a college-educated workforce, which we believe it will, then only college graduates will be able to hold their own economically out to 2015. Those who attend some college will not do badly, but those who stop pursuing an education before or after graduating from high school will lose ground over their working lives.

This economic polarization is particularly troublesome in that a growing proportion of the poor will be African American and Hispanic. Like non-Hispanic whites, African Americans and Hispanics suffer lifelong economic consequences if they do not pursue higher education. Because larger proportions of these two groups fail to go beyond high school, larger proportions of these groups are among the poor. Figure 5 shows an index that conveys the ratio of the number of students in higher education for various ethnic/racial groups to the total number of 18- to 29-year-olds in those groups. The figure plots changes in that index over the 20 years and extrapolates the rates out to 2015.

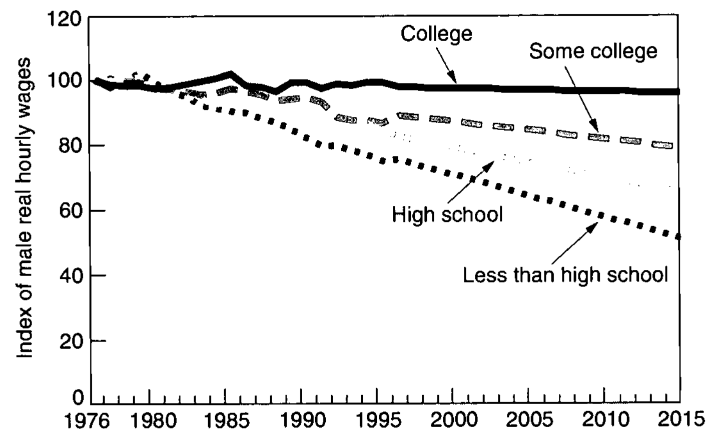

Figure 4—Distribution of Real Mean Hourly Wages for Male Workers by Education Level

As of 1995, Asians and Pacific Islanders scored over 40 on this index, and non-Hispanic whites scored just over 30. In contrast, African Americans and Hispanics scored about 20 and 18, respectively. Although participation rates are increas-

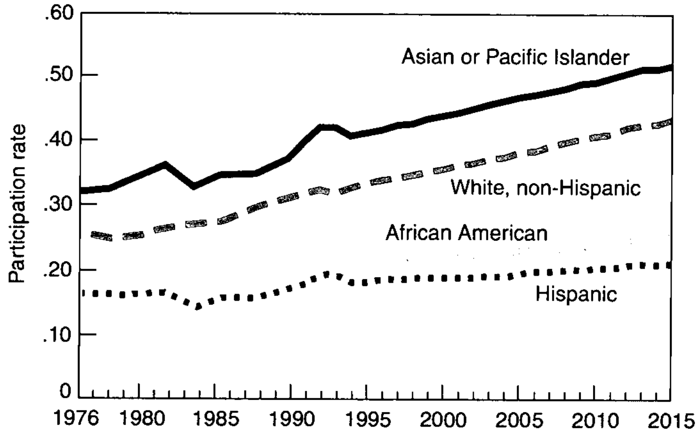

Figure 5—Rate of Participation of Different Ethnic/Racial Groups in Higher Education

ing for all groups, they are currently increasing more rapidly for whites and Asians than for African Americans and Hispanics. As a result, the gap could widen considerably by 2015. Only by increasing the proportion of African Americans and Hispanics going to college can the gap be stabilized or reduced.

It is in the interest of all Americans to promote higher levels of education and training for those who are rapidly losing earning power in American society. Low levels of education are powerful predictors of welfare dependency, unemployment, and incarceration, all of which are very costly. Moreover, by 2015 the number of workers for every retiree on Social Security will be at least one-fifth what it was 50 years ago. This means that a shrinking proportion of American workers will not only have to maintain U.S. economic competitiveness in the global marketplace, but will also have to support the economic base of the rest of the nation at the same time. It is more important than ever that this workforce be adequately educated and trained. It is therefore in the national interest that the widest possible access to higher education be maintained. ◆

Dimensions of the Fiscal Crisis

Will America's higher education sector be equipped to meet the needs of future students? By the year 2015, the nation must be prepared to educate over 4 million more students than it educated in 1995—simply because of population growth. If the proportion of the population that wants to attend college also increases, as we think it should, then that number will be even higher. Will the revenue base of colleges and universities be sufficient to handle such an increase in the numbers of students?

Our analysis shows that if current funding trends continue, the higher education sector will face a calamitous shortage of resources. Unless public funding increases significantly and institutions undergo fundamental internal restructuring to improve their productivity, access to higher education will be dramatically *reduced* in the future.

Growth in Demand

Enrollment in America's colleges and universities has grown rapidly since the 1930s. This growth was fueled, of course, by a growing U.S. population—but while the population has only doubled since 1930, enrollment in higher education has expanded tenfold. The additional growth reflects the phenomenal increase in the percentage of Americans pursuing education beyond high school.

U.S. population growth is expected to continue into the next century, as is the rate at which Americans go to college.

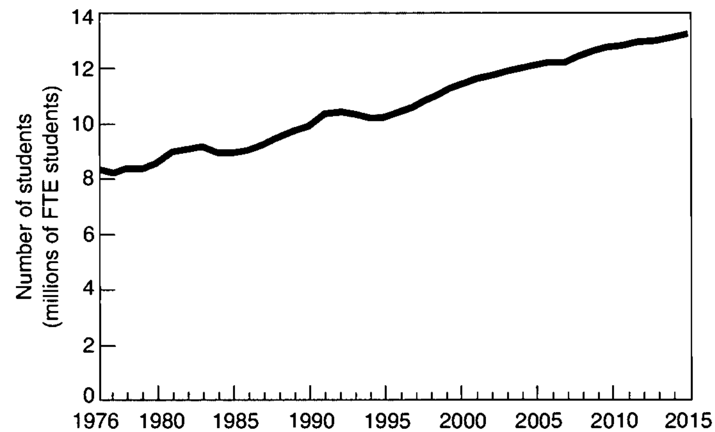

Figure 6—Past Enrollment and Projected Demand

As Figure 6 shows,[1] if these trends continue, the total number of students in colleges and universities will increase from the 1995 level of 10.3 million to about 13.2 million full-time equivalent (FTE) students by 2015.[2]

[1]The National Center for Education Statistics has published projections to 2006. We computed the participation rates by age implicit in those projections and extrapolated the trends in those rates through 2015. We then multiplied estimated participation rates by the census projections of age distributions of the population to 2015.

[2]Since many students attend college on a part-time basis, placing smaller burdens on institutions, they are traditionally counted as full-time equivalent students. For example, a part-time student whose course load is 70 percent of a full-time course load is counted as 0.7 FTE. By this method, higher education will have to educate approximately 3 million more FTE students.

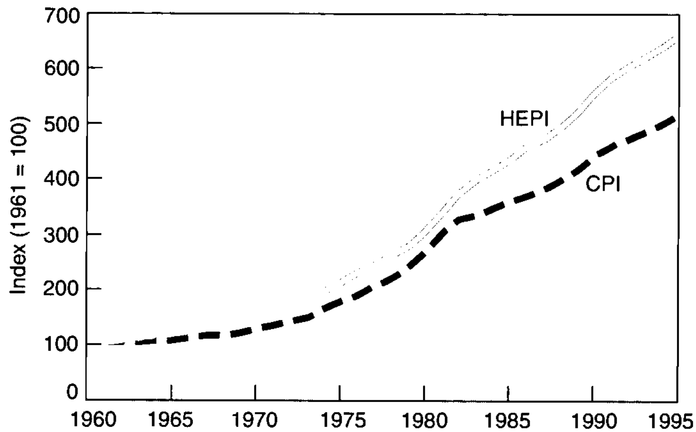

Figure 7—Growth of Costs to Higher Education Institutions

Growth in Costs

The costs per student in higher education have also risen. In fact, they have grown consistently for at least 30 years, escalating sharply since the late 1970s. The Higher Education Price Index (HEPI), produced by Research Associates of Washington, reflects the real increases in the prices paid by higher education institutions for goods and services (faculty salaries, for example).[3] As Figure 7 shows, the HEPI rose more than sixfold between 1961 and 1995, much faster than inflation as measured by the Consumer Price Index (CPI). Between 1980 and 1995, the annual average rate of growth in the costs of providing higher education exceeded the CPI by a full percentage point. A sector whose costs grow faster than inflation for an extended period ultimately reaches the limits of available resources, as has been demonstrated in the health care industry.

Decline in Public Funding

While both enrollment and costs have increased rapidly over the last two decades, public funding for the sector has not kept pace. Figure 8 shows total public appropriations to higher education from federal, state, and local sources in real terms—that is, adjusted for inflation—per student (by which we always mean FTE student) relative to 1976.[4] As can be seen, public support per student has just kept pace with inflation, but real costs per student have grown by about 40 percent.

In effect, the United States has been underfunding higher education since the mid-1970s. Figure 9 shows the share of personal income allocated through government appropriations

[3]The HEPI measures the average change in prices over time for a fixed basket of goods and services that higher education institutions buy to support current operations. These goods and services include salaries of faculty, administration, and other professional and nonprofessional personnel; contracted services such as communications and transportation; supplies and materials; equipment; library acquisitions; and utilities. See *Inflation Measures for Schools, Colleges, and Libraries*, Research Associates of Washington, Washington, D.C., 1995.

[4]National Center for Education Statistics, *Digest of Educational Statistics*, U.S. Department of Education, Office of Educational Research and Improvement, Washington, D.C., various years.

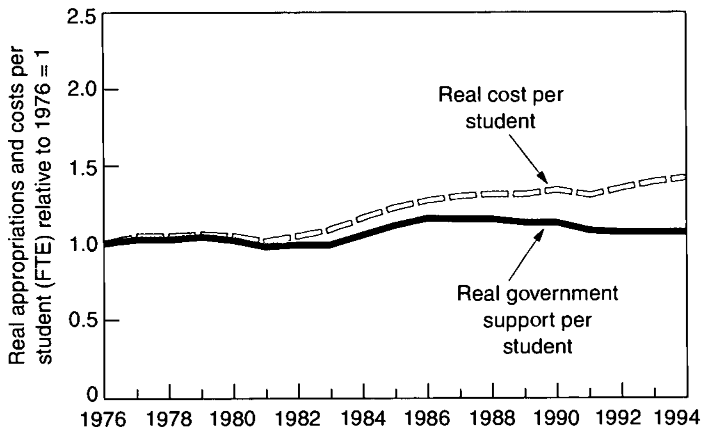

Figure 8—Government Appropriations to Higher Education over 20 Years

to higher education from 1960 to 1994. In the 1960s and early 1970s, Americans doubled the share of their income that went to higher education—from $7 to about $14 per $1,000 earned. Since 1976, however, that share has been steadily decreasing.

Tax revenues as a share of personal income actually increased slightly over the period shown in Figure 9. In fact, they have been increasing since 1976. What has changed is government spending priorities. At the federal level, the growth of entitlements—most notably, Social Security, Medicare, and Medicaid—has dominated federal spending, as Figure 10 illustrates. Mandatory spending on entitlement programs and interest on the national debt consumed about 38 percent of the federal budget in 1965. In 1995, they accounted for about 67 percent. The entitlement programs focus largely on older Americans, which means that as the baby boomers age, the population drawing on these programs will increase. The Congressional Budget Office estimates that in 2005—less than a decade from now—these programs will consume almost 75 percent of federal revenues. This vast intergenerational transfer of wealth is squeezing higher education out of the federal budget.

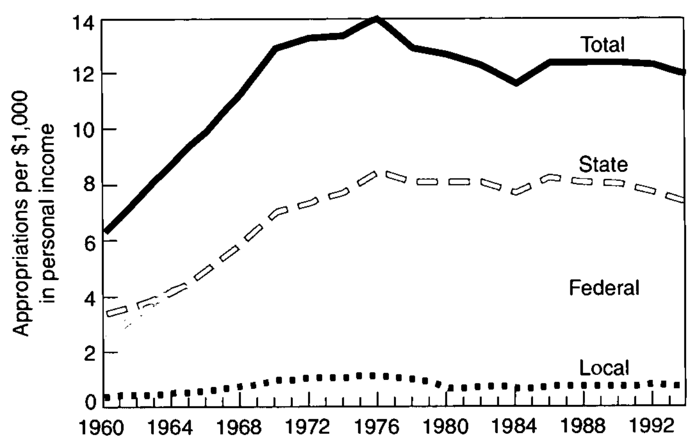

Figure 9—Share of Personal Income Allocated to Higher Education Since 1960

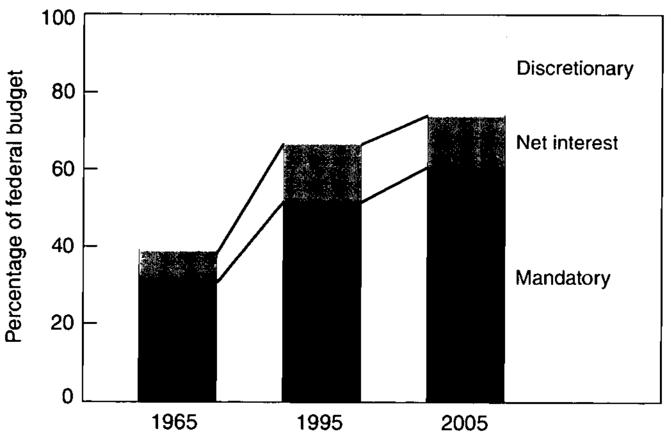

Figure 10—Erosion of Federal Budgetary Discretion by Entitlements

The situation at the state and local levels is very similar. Like the federal government, state and local governments are increasingly allotting greater shares of their budgets to health and welfare programs. And the plight of higher education in state and local budget battles is exacerbated by rapid increases in spending on corrections, mainly prisons. Figure 11 shows the distribution of state government spending on higher education, health and welfare, and corrections from 1976 to 1995 and extrapolates the trends through 2015 to indicate their consequences.

Clearly, government support for higher education has declined both economically and politically over a long period, and it will be difficult to bring it back to previous levels. Now that there are stringent fiscal limits on public resources, the government is beginning to ask the same kinds of questions of colleges and universities that it has asked of the health care industry—questions about cost, productivity, efficiency, and effectiveness. Until institutions of higher education can provide good answers to such questions, it will be difficult to increase public support and to regain the priority formerly given to higher education in federal, state, and local budgets.

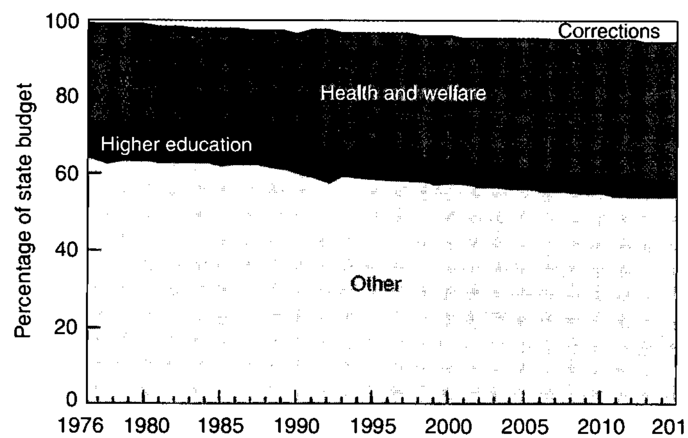

Figure 11—Distribution of State Expenditures

Tuition Growth and Its Effect on Access

Because government funding has not kept pace with costs, all institutions have had to increase tuition and fees. The top line in Figure 12 plots these increases as a departure from tuition and fees charged in 1976. Like government funding and costs, tuition grew at about the rate of inflation during the late 1970s, but as costs began to grow in the early 1980s, so did tuition. By 1994, tuition and fees had risen by more than 100 percent compared to 1976.[5]

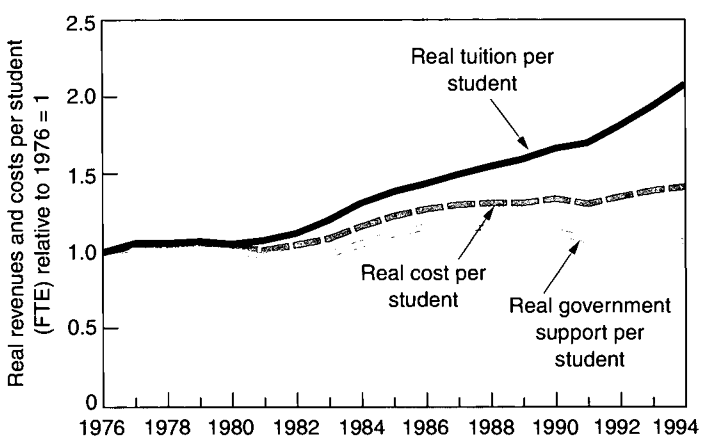

Figure 12—Growth of Tuition

If appropriate steps are not taken, higher education could become so expensive that millions of students will be denied access. Average real tuition per student, adjusted for inflation, approximately doubled in the 20 years from 1976 to 1995. Figure 13 shows that if it doubles again in the next 20-year period (1996 to 2015), about 6.7 million students will be priced out of the system. In other words, about one out of every two people we would expect to seek a college education will not be able to pay for it. Even if tuition increases by only 25 percent over the 20 years, one out of five students will be excluded.

The consequences of such exclusion will not be confined to the affected student population. Those who are denied access to college might not be able to afford to send their children to college 20 years later. The social and economic ills generated by inadequate levels of education will reverberate through successive generations.

Increased private sector support of higher education by alumni, other individuals, corporations, and foundations can help and has done so already: private grants, gifts, and endowment income have roughly doubled over the past two decades.

[5]Figure 12 shows gross tuition revenue per student and thus does not speak, for example, to the increasing efforts of private institutions to lower net tuition price to many students. Few students actually pay the full price of tuition. Indeed, one reason for tuition increases is that universities and colleges are attempting to maintain access for low-income students by substituting aid packages for lost state support.

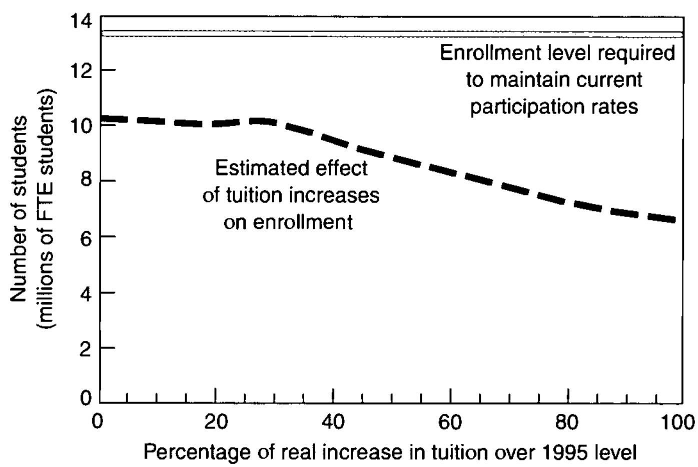

Figure 13—Effect of Increasing Tuition on Enrollment

However, in 1995, they provided only 8 percent of higher education's revenues—almost the same percentage as they provided in 1975. This private sector and endowment income represents a relatively small proportion of the total higher education budget and is more concentrated in the private, relatively elite, and wealthy institutions that serve a smaller share of the total student population.[6]

The Bottom Line

Given funding projections, it will be extremely difficult even to maintain today's enrollment rates, let alone provide for those of the future. Figure 14 shows the dimensions of the problem. Until now, institutions have been paying for rising costs by sharp tuition increases; however, such increases will shortly begin to keep Americans from pursuing higher education. If future tuition increases are capped at the rate of inflation, the higher education sector will face a massive shortfall of resources by the year 2015.

In 1995 dollars, higher education will have to spend about $151 billion in 2015 to serve future students if costs continue to grow at current rates. Assuming that public appropriations to higher education continue to follow current trends, government funding will be about $47 billion in that year. Tuition, grants, and endowment income will account for another $66 billion. In other words, the higher education sector will face a funding shortfall of about $38 billion—almost a quarter of what it will need.

[6]For trends in private giving, see *Voluntary Support of Education*, Council for Aid to Education, New York, annual. (See also www.cae.org.)

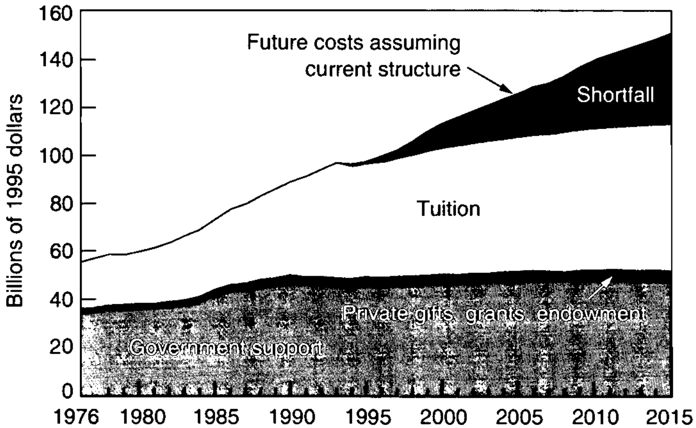

Figure 14—Funding Shortfall Facing Higher Education in the Next 20 Years

President Clinton proposed significant increases in federal student aid programs in his State of the Union message in January 1997. Figure 15 offers an initial estimate of how far his proposal would go toward filling the shortfall. While it is clearly a step in the right direction, the added funding falls far short of what will be needed if institutions do not find a way to control costs. 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. ◆

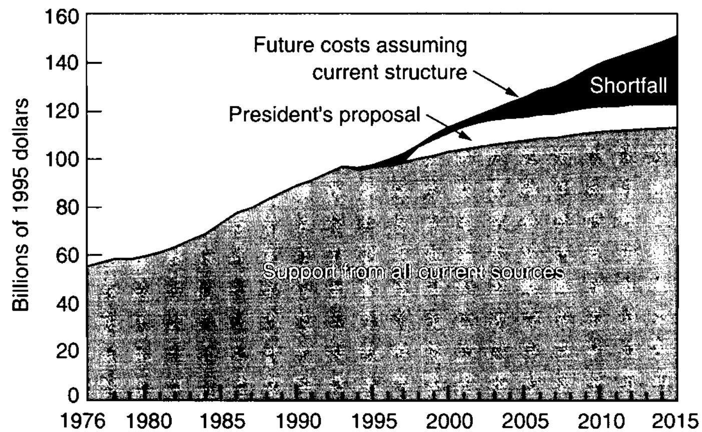

Figure 15—Effect of President Clinton's Proposal

Institutional Roadblocks

Given the magnitude of the deficit facing American colleges and universities, it is surprising that these institutions have not taken more serious steps to increase productivity without sacrificing quality.[8] Many have adopted cost-saving measures, such as forced retirements and hiring freezes, but most of these actions have been partial and ad hoc.

The main reason why institutions have not taken more effective action is their outmoded governance structure—i.e., the decision-making units, policies, and practices that control resource allocation have remained largely unchanged since the structure's establishment in the 19th century. Designed for an era of growth, the current structure is cumbersome and even dysfunctional in an environment of scarce resources. In fact, impediments to change are built into the management assumptions and practices of colleges and universities. In that sense, higher education is a prime example of a public-sector institution struggling to deal with a changed environment.

The academic department, for example, which is the heart of the current governance structure, is based on the assumption that faculty members should govern themselves, making all decisions about what should be taught, who should be hired, and so forth. The continued sway of the department might be justified if departments were truly autonomous. In reality, however, they function as parts of a greater whole—one on which they are financially dependent.

Besides being decentralized and departmentalized, institutions are a maze of hierarchical structures operating independently of one another. The dean of a college of arts and sciences allocates resources among several dozen social science, humanities, life science, and physical science departments. The dean of engineering does the same for a variety of engineering programs. And the vice president for operations manages facilities, maintenance, parking, and campus security. Administrators report up or down their narrow chains of command, largely ignorant of what those in other parts of the institution are doing.

What is needed now is a systemwide process for reallocating resources among departments and other parts of the institution. Just as successful companies have learned to focus on their core competencies—the products and services they supply at a better quality and lower price than their competitors—higher education institutions and systems need to reexamine their missions and streamline their services to serve those missions. This task requires that operations be seen from a broad perspective, one that will lead to such questions as: Which of our centers, departments, colleges, or services enjoy comparative advantage over those of other education or training institutions? Would another classics professor contribute to the

[8] By increases in productivity we mean a measurable reduction in costs achieved while maintaining or improving effectiveness without sacrificing quality.

educational mission more than another mathematics professor? More than acquiring additional equipment for the geophysics laboratory? More than expanding the student counseling program? More than repairing classroom and dormitory roofs?[9]

The current governance structure actually prevents institutions and institutional systems from asking such questions. Moreover, finding answers for these types of questions will require not only a new decision-making process, but a concerted effort to generate data on the costs and benefits of providing different services. With the structure as it is now, decision makers have not had to choose among competing functions, so comprehensive information systems have not evolved to support such decisions. Higher education officials simply do not have the information they need to compare missions and functions and understand the trade-offs among the potential allocations being considered.

Clearly, these roadblocks need to be taken into account and surmounted before colleges and universities can streamline. One of our strongest recommendations is that institutional restructuring, including mission differentiation, be made a national priority.[10] Like the health care industry, the higher education sector must systematically address issues of cost, productivity, efficiency, and effectiveness as a prerequisite for increases in public sector investments. Indeed, if the higher education sector is to get a sympathetic ear from legislators, it needs strong advocacy from the business community, an ally it is unlikely to win unless it has put itself through the same sort of streamlining and reengineering that the business community has implemented to reduce costs and improve service.

We believe that colleges and universities must make major organizational changes. To do so, their governance systems must be changed so that they can reallocate scarce resources and permit fundamental reform in the way they do business. Moreover, we urge academic leaders to actively involve the business community in their restructuring. Business leaders have extensive experience in such matters, as well as a direct interest in the outcome of education reform. ◆

[9]Unlike large research universities, small liberal arts colleges do not have multiple layers of management. While this means that their administrative costs are lower, it also means that there is less room to maneuver internally when restructuring. As a result, other measures—such as sharing among institutions and creative use of educational technology—become even more important.

[10]It is important to note that some colleges and universities have taken important steps down the restructuring path, beginning with reforms of administrative functions. The Pew Higher Education Roundtable, for example, has performed a useful role in bringing together leaders of private universities and colleges to discuss restructuring ideas. (See *Policy Perspectives*, a continuing series edited by Robert Zemsky and William Massy, Pew Higher Education Research Program.) Important experiments are being conducted by higher education leaders in California and Florida, to name just two states; and the Foundation for Independent Higher Education has launched a pilot project to assist independent colleges that want to undertake cost containment efforts. These are isolated efforts, however—not the restructuring of the entire higher education sector that we believe is an urgent necessity.

Recommendations

The problems delineated in this report must be addressed. We challenge America to adopt—and make into goals—our recommendations for putting U.S. colleges and universities on a path to financial health and keeping the door open to all Americans willing and able to reap the benefits of higher education. Meeting this challenge will require a combination of increased government investment and far-reaching institutional reforms that will provide high-quality education at lower cost. Increased public funding could be tied to institutional reform to create incentives to innovate.

Recommendation 1:

America's political leaders—the President, Congress, governors, mayors, and other state and local officials—should reallocate public resources to reflect the growing importance of education to the economic prosperity and social stability of the United States.

If the American people had known how the educational requirements of the workforce were going to grow in the 20 years from 1976 to 1995, it is doubtful that they would have allowed public funding to stagnate as it has. We believe Americans should no longer tolerate inaction: The nation should not be allowed to continue to drift toward educational mediocrity and the ominous levels of economic inequality that are arising. We are confident that once the American public and their leaders are aware of the dangers of the current course, they will act to increase public support for higher education—even if that means reducing the level of support for other public sectors.

For example, we believe it is a reasonable goal for the nation's government—the federal, state, and local levels—to attempt to reduce the deficit facing the higher education sector by half. At present, the federal government provides slightly less than a third of government appropriations to higher education; state and local governments provide the rest. The federal government might commit to providing one-third of the public sector share of the needed increase, with state and local governments providing the remaining two-thirds. We realize that this is an audacious goal given the current stresses on federal, state, and local budgets, but to do less is to put the nation at grave risk.

Meeting this goal would provide 50 percent of the future deficit. The rest of the shortfall would be made up by productivity gains achieved through the structural reforms described in the following three recommendations, and by modest increases in tuition and fees.

Recommendation 2:

Institutions of higher education should make major structural changes in their governance system so that decision makers can assess the relative value of departments, programs, and systems in order to reallocate scarce resources.

In our view, the most pressing reform needed today in the higher education sector is the redesign of the governance structure of institutions so that decision makers can think and act strategically. In particular, colleges and universities must

1. **Improve performance-based assessment.** Academic institutions must develop a process of assessing the costs and benefits of providing all services. The goal of this effort is to provide an integrated information system about all costs, including capital costs and the value-added to students of their educational experience. We believe that unless higher education leaders move toward systematic performance-based assessment, the higher education sector will not be able to compete effectively with other demands on public funding in the future.

2. **Define and measure faculty productivity.** Productivity in higher education is, of course, difficult to define, but analysis needs to be conducted to identify productivity measures for education in general and for faculty in particular. The average teaching load in major research universities, for example, has been reduced from about eight courses a year to four or five. Institutions must calculate the effect of such changes on costs and benefits. No fundamental restructuring can occur until the current incentive system governing faculty behavior is changed.

3. **Improve internal accountability in financial management.** Budgeting and fund accounting systems, for example, are now completely separate. They should be reconciled so that higher education leaders have access to timely "profit and loss" information in areas for which they provide oversight.

Recommendation 3:

As part of their overall restructuring, colleges and universities should pursue greater mission differentiation to streamline their services and better respond to the changing needs of their constituencies.

Greater mission differentiation among postsecondary education institutions and systems is the only way to ensure effective and efficient provision of all teaching and research functions over the next several decades. The current mission "creep"—e.g., community colleges attempting to become four-year degree-granting institutions, state universities becoming research centers, and research universities offering remedial instruction—violates the mission differentiation principle.

If higher education institutions and systems focus on their points of comparative advantage within the overall ecology of higher education, both productivity and improved quality will result. Specifically, the community colleges, undergraduate universities, and research universities should embrace different missions, give priority to activities central to those missions, and reduce or eliminate more-marginal activities.[11] We recommend the following specifics:

1. **Community colleges should take a leadership role in workforce preparation.** They need to expend more effort on education and training targeted to multiple constituencies, particularly workforce preparation, adult education, remedial education, and English as a Second Language. As our analysis suggests, one of the nation's most pressing social needs is improving the education level of all socioeconomic groups to avoid creating a larger and more permanent underclass. Institutions of higher education need to become more active partners in this enterprise. Because employers, high schools, and local governments are important stakeholders, community colleges should develop long-term strategic partnerships with these entities. We recommend that Congress and the states continue to provide incentives for employers, high schools, local authorities, and colleges to work together in designing and funding school-to-work programs that reach out to the community at large and to underrepresented groups in particular.

   As part of this initiative, colleges need to identify, strengthen, and give visibility to programs already focused on this outcome. These should be continued, improved, and built upon. To encourage commitment to such socially responsive initiatives, colleges should evaluate and reward faculty work in ways that provide the right incentives.

2. **State undergraduate institutions should take the lead in teacher training and areas related to regional economic development.** Eligibility for college will not improve among low-income socioeconomic groups unless K–12 school reform succeeds, and training and retraining of K–12 teachers is a prerequisite to that success. Recent studies show that teacher training in America is in disarray. We believe the most effective response to this national problem is for state undergraduate institutions to assume central leadership for teacher training and to make teacher training one of their highest priorities. In addition, faculty of state undergraduate institutions should be encouraged to assume a stronger leadership role in research and technical assistance for regional economic development. This applied research capability will enable these institutions to relate to the needs of the regions in which they exist.[12] The independent college sector should focus on its comparative advantage: the liberal arts undergraduate mission.

[11] *A Framework for Linking Resources to Mission in Higher Education*, provided in this report's volume of supporting analysis, presents a set of analytic tools useful for any institution or system of higher education contemplating changes in its mission.

[12] This is especially pertinent in fast-growing states having large urban populations and economically depressed areas.

3. **The major research universities should focus on the promotion of research and graduate education.**

To help maintain the critical funding needed to support research, a National Research University Act should be passed that allows federal investment in research to be concentrated in the nation's top-ranked research universities. Unlike its international competitors such as Japan and Germany, which direct their scarce federal resources to a few elite research groups, the United States spreads its dwindling federal dollars among more than 800 universities and laboratories. From 1976 to 1995, research funding grew only slightly, but the number of institutions receiving this funding increased by several hundred. Even more important, most of the institutions now receiving federal support for research are not even Carnegie-rated research and doctorate-granting universities.[13] This poorly targeted funding may not have mattered much in the golden years of U.S. science and technology development, but now, with the decline in federal support of research, it may be a serious threat to the long-term health of the nation's economy.[14]

Recommendation 4:

Colleges and universities should develop sharing arrangements to improve productivity.

As increased mission differentiation is achieved, a greater sharing of resources will lead to improved productivity of the entire higher education system:

1. **Alignment.** Seamless alignment of undergraduate requirements, transfer requirements, and joint teaching and degree-producing arrangements between community colleges, state undergraduate universities, and public research universities is now technically feasible and should be achieved over the next decade. Given the benefits of the new educational technologies afforded by the Internet, it is time for intersegmental alignment of undergraduate instruction to be encouraged by policymakers inside and outside higher education. Achievement of this goal alone would substantially increase undergraduate participation rates.

[13]The top 30 science and engineering departments garner 70 percent of federal research support while the other 30 percent is shared among several hundred other such departments.

[14]We leave open to public debate the most appropriate mechanism for implementing this reform. One option would be for the National Science Foundation to request universities to provide their qualifications in each research area. The Foundation could then identify the most qualified in each area and guarantee them a minimum level of support. Another option would be for the federal government to provide funding to graduate students for vouchers that could be used at the institution of their choice. The resulting competition would effectively decrease the fragmentation of funding to research universities. Whatever the mechanism, we believe there is great value in concentrating scarce dollars in the most worthy institutions. This does not mean, however, that elite research universities need not improve their efforts to diversify the ethnic makeup of their faculties. The failure to tap potential top-level scientific talent from all segments of society remains a significant barrier to full realization of America's human capital.

2. **Classes.** Every college and university teaches microeconomics at the freshman level; virtually every research university offers several introductory statistics courses. Departments and universities should collaborate to pool introductory courses and instructors as a way to save resources and provide the best instruction available in the subject. Use of the Internet may facilitate this task.

3. **Services.** Joint outsourcing of functions ranging from physical plant maintenance, electric power, health care, and police protection to joint purchasing of instructional and research equipment and supplies should be encouraged.

4. **Infrastructure.** Free-standing, separate physical plants—and, if they are public institutions, the system administrations that govern them—are currently an unquestioned requirement. In the coming cyberspace age, physical space will assume less importance. Combining all or parts of physical plants of, say, state undergraduate universities and community colleges that serve the same geographical area could save considerable resources.

5. **Libraries.** Substantial savings and improved library services can be obtained by focusing on the software needed to place library resources on the Internet rather than continuing to support individual research library collections.

Recommendation 5:

It is time to redefine the appropriate level of education for all American workers in the 21st century. All citizens planning to enter the workforce should be encouraged to pursue—as a minimum—some form of postsecondary education or training.

Almost a century ago, Americans established a high school education as the basic educational requirement for all citizens. At that time, the telegraph was the height of communications technology and the telephone was on the horizon but far from an everyday instrument. Engineers and scientists looked to their slide rule as the best instrument for advanced calculations. Today, computers, the Internet, and a host of advanced technologies are everyday work tools. Clearly, it is time to recognize that the required educational level of a century ago is no longer adequate for preparing the modern workforce.

Instead of retaining the traditional sharp distinction between the bachelor's degree and all other nondegree categories, we find it preferable to think in terms of a continuum of learning activities appropriate for attaining specific goals. In the future, the focus should be on the attainment of more specific, measurable knowledge sets, rather than on simple attainment of a bachelor's degree. It is time to encourage the rich range of subbaccalaureate opportunities that can provide millions of citizens with the tools needed to survive in the emerging high-skill economy. ◆

Supporting Documents

Benjamin, Roger, and Stephen J. Carroll, *A Framework for Linking Resources to Mission in Higher Education*, DRU-1623-IET, Santa Monica, Calif.: RAND, January 1997.

Benjamin, Roger, and Stephen J. Carroll, "Impediments and Imperatives in Restructuring Higher Education," *Education Administration Quarterly*, Vol. XXXII, Supplemental, December 1996, pp. 705–719.

Carroll, Stephen, and Eugene Bryton, *Higher Education's Fiscal Future*, DRU-1601-IET, Santa Monica, Calif.: RAND, February 1997.

Elms, Debbie, *Preliminary List: Higher Education Indicators—Resources Available*, DRU-1597-IET, Santa Monica, Calif.: RAND, February 1997.

Gates, Susan, and Ann Stone, *Understanding Productivity in Higher Education*, DRU-1596-IET, Santa Monica, Calif.: RAND, February 1997.

Guess, Gretchen, and Stephen Carroll, *Patterns in Federal Support for R&D: 1973–1994*, DRU-1598-IET, Santa Monica, Calif.: RAND, February 1997.

McArthur, David, and Matthew Lewis, *Untangling the Web: Applications of the Internet and Other Information Technologies to Higher Education*, DRU-1401-IET, Santa Monica, Calif.: RAND, January 1997.

Way-Smith, Susan, *Information and Resource Systems for Higher Education: A Briefing*, DRU-1599-IET, Santa Monica, Calif.: RAND, February 1997.

About the Council for Aid to Education

The Council for Aid to Education is a national nonprofit organization. Its mission is to enhance the effectiveness of corporate and other private sector support in improving education at all levels and to help education institutions more effectively acquire private support for their programs.

CAE carries out its mission in three ways:

- It provides corporations with advice and assistance in identifying and developing effective national, regional, and local programs of education support;
- It collects, interprets, and disseminates data on educational philanthropy for the funding community, for educators and education policymakers, and for government decision makers;
- It offers analysis and commentary on key aspects of education policy and practice.

CAE activities are supported by grants and donations from corporations and private foundations and by the sale of publications and services. The Council disseminates its work widely to corporations, the education community, the media, and the general public.

CAE is an independent subsidiary of RAND, a nonprofit institution that seeks to improve public policy through research and analysis. ◆

NOTICE

REPRODUCTION BASIS

[X] This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

[ ] This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").