DOCUMENT RESUME

ED 382 088 HE 028 275

AUTHOR	Horton, Nancy; Andersen, Charles
TITLE	Linking the Economy to the Academy: Parallel Trends.
INSTITUTION	American Council on Education, Washington, D.C. Div. of Policy Analysis and Research.
PUB DATE	94
NOTE	13p.
AVAILABLE FROM	American Council on Education, One Dupont Circle, Suite 800, Washington, DC 20036 (single copy $10; 8-issue annual subscription $58).
PUB TYPE	Collected Works - Serials (022)
JOURNAL CIT	Research Briefs; v5 n4 1994
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Economic Factors; Educational Finance; Educational Needs; *Educational Trends; Employment Patterns; Family Income; Federal Aid; *Government Role; *Higher Education; *Paying for College; State Aid; Student Financial Aid; Trend Analysis
IDENTIFIERS	Savings

ABSTRACT

This report highlights recent and projected economic trends that affect higher education, focusing on national economic conditions, government support for higher education, students' ability to pay for college, and labor market trends. It found that the U.S. economy, as measured by the gross domestic product (GDP), is projected to grow at a slightly slower rate between 1992 and 2005 than it did during the 1979-1992 period. The share of GDP spent on higher education reached 3.1 percent in 1992, up from 2.6 percent in 1980. Between 1980 and 1993, federal appropriations for higher education, including research, increased from $30 billion to $33 billion in constant 1993 dollars. However, federal appropriations per full-time equivalent student decreased by about 9 percent in terms of constant 1993 dollars. The share of personal income that went to low- and middle-income families declined between 1980 and 1992, with their savings as a percentage of disposable income also declining. The Bureau of Labor Statistics projects that, with the exception of jobs in the service sector, the jobs expected to experience the most growth between 1992 and 2005 will require high levels of education. (MDM)

AMERICAN COUNCIL ON EDUCATION

Research Briefs

Linking the Economy to the Academy: Parallel Trends

NANCY HORTON and CHARLES ANDERSEN

Education is a key component of any nation's success in the global economy. As noted by Secretary of Labor Robert Reich, "in the new global economy, the only resource that is really rooted in a nation – the ultimate source of all its wealth – is its people. To compete and win, our work force must be well educated, well trained, and highly skilled" (Reich, 1993).

Colleges and universities are essential to the development of the human resources and the skills necessary for the United States to compete in the global economy. At the same time, the academy's ability to educate and train people is affected by trends in the economy.

In preparing for the 21st century, it is important for the higher education community to monitor economic trends and projections as a means of (1) understanding the larger context of events facing colleges and universities and (2) devising appropriate strategies to address issues in higher education.

Nancy Horton interned as an ACE Research Analyst and Charles J. Andersen is a Senior Staff Associate in the Division of Policy Analysis and Research at the American Council on Education (ACE).

HIGHLIGHTS

- The U.S. economy, as measured by the Gross Domestic Product (GDP), is projected to grow at a slightly slower rate between 1992 and 2005 than it did during the 1979–1992 period.
- The share of the GDP spent on higher education reached 3.1 percent in 1991 and remained at that level in 1992 and 1993.
- The federal annual deficit is projected to decrease from $255 billion (4 percent of GDP) in FY 1993 to $223 billion (3.4 percent of GDP) in FY 1994. Policies designed to further decrease the deficit may limit future higher education funding.
- Between 1982 and 1990, the annual change in the Higher Education Price Index (HEPI) was larger than that of the Consumer Price Index (CPI). In 1991 and 1992, the indices changed at essentially the same rate.
- Between 1980 and 1993, federal appropriations for higher education (including research) increased from $30 billion to $33 billion in constant 1993 dollars.
- However, federal appropriations per full-time equivalent (FTE) student decreased by about 9 percent in terms of constant 1993 dollars. In 1980, the figure stood at approximately $3,300; in 1993, at $3,000.
- Over the past 14 years, government funding for higher education in constant dollar terms has increased during periods of economic growth and decreased during periods of economic recession.
- Between 1980 and 1993, state appropriations for current operations in higher education increased from $34 billion to $39 billion in constant 1993 dollars, so state appropriations per FTE student increased slightly in constant dollar terms, from $4,000 in 1980 to $4,200 in 1993.
- The share of personal income in the United States that went to low- and middle-income families declined between 1980 and 1992; their savings as a percentage of disposable income also declined. These trends make it difficult for families in these income brackets to finance their children's college education.
- The Bureau of Labor Statistics projects that, with the exception of jobs in the service sector, the jobs expected to experience the most growth between 1992 and 20[illegible] will require higher levels of education.

This brief highlights recent and projected economic trends that affect higher education. It is organized into four sections:

- national economic conditions;
- government support for higher education;
- students' ability to pay for college; and
- labor market trends.

Together, these sections highlight some of the most important economic issues affecting the current and future status of U.S. higher education institutions.

National Economic Conditions

Gross Domestic Product

The Gross Domestic Product (GDP) measures the value of goods and services produced in the United States. Nominal GDP in 1992 stood at $6.0 trillion. Between 1992 and 2005, the GDP is projected to grow at a slower rate than during the 1979–1992 period (BLS, 1993).

- Between 1992 and 2005, the GDP is projected to grow at an annual rate of 2.2 percent in constant 1993 dollars; in comparison, between 1979 and 1992, the annual rate of growth was 2.5 percent (BLS, 1993).
- The share of GDP spent on higher education reached 3.1 percent in 1991 and remained at that level in 1992. This is slightly higher than the 1980 level of 2.6 percent (Figure 1).

Inflation

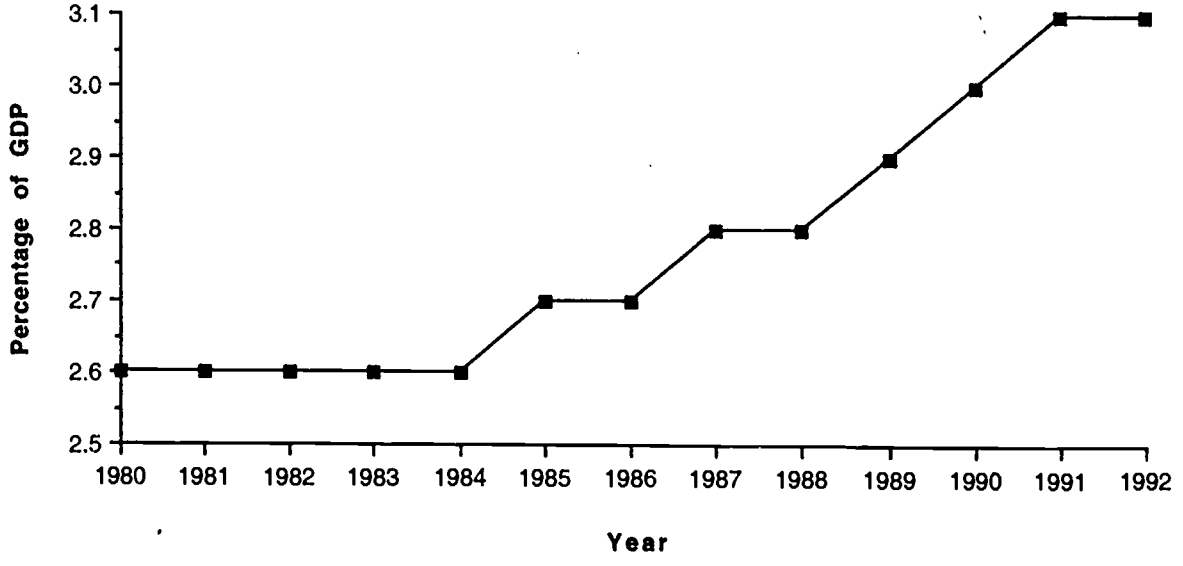
Consumer Price Index

In the last 20 years, the United States has experienced periods of both high and low inflation as measured by the urban consumer price index (CPI).

- The rate of inflation as measured by the CPI dropped from 5.4 percent in 1990 to 3.0 percent in 1993. Eleven years before (1982), it had been twice as high (6.2 percent) (Council of Economic Advisers, 1994).
- The Congressional Budget Office (CBO) projects that the CPI will grow by only 2.7 percent in 1994, by 3.0 percent the following year, and then will grow annually by 3.1 percent from 1996 to 1999 (CBO, 1994). The fragility of such projections must be considered; annual CBO forecasts of the inflation rate as measured by the CPI for the years 1982–1991 had an average error rate of about one percentage point (CBO, 1993).

Figure 1

Total Expenditures for Higher Education as a Percentage of GDP, 1980–1992



Source: National Center for Education Statistics, *Digest of Education Statistics 1993*, p. 36.

Higher Education Price Index

The Higher Education Price Index (HEPI) measures average changes in the costs of goods and services that colleges and universities purchase.

- Between 1982 and 1990, the annual change in the HEPI was, on average, 1.3 percentage points higher than the annual percentage change in the CPI. In 1991 and 1992, however, the annual percentage change in the HEPI was about equal to the CPI inflation rate (NCES Digest, 1993) (Figure 2).

- In 1992, colleges and universities paid 8.7 percent more for goods and services than they did in 1990, and 97.5 percent more than they did in 1980. This compares with an increase in the CPI of 8.8 percent between 1990 and 1992, and of 78.1 percent between 1980 and 1992.

Federal Budget

Total Federal Budget

The Congressional Budget Office (CBO) divides the federal budget into two general categories: (1) entitlements and other mandatory spending and (2) discretionary spending.[1] Entitlements and other mandatory spending consist overwhelmingly of benefit programs, such as Social Security, Medicare, and Medicaid. Spending for these programs is controlled by eligibility rules and benefit formulas. Each year Congress must provide enough money to pay the amount required by the application of these rules and formulae. Discretionary spending encompasses those activities whose budgets are controlled by annual appropriation bills. These include domestic programs such as higher education and virtually the entire budgets for defense and international affairs.

Entitlements and Other Mandatory Spending

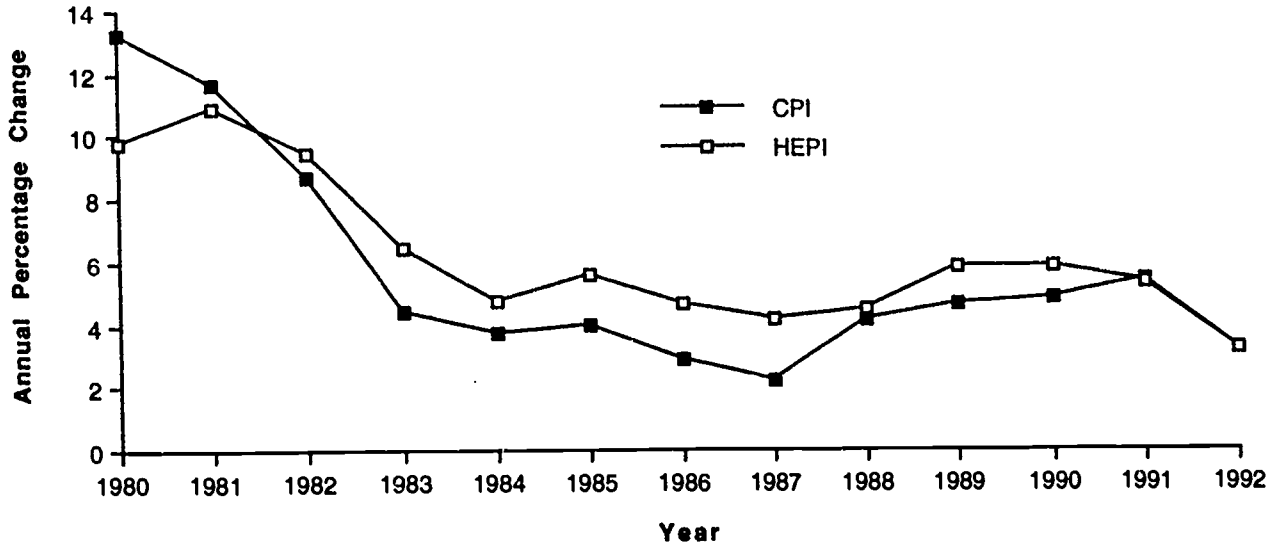
- Entitlements and other mandatory spending as a percentage of GDP were 11 percent ($292 billion) in 1980, 10.3 percent ($567 billion) in 1990, and 12.1 percent ($761 billion) in 1993. CBO predicts that, as a percentage of GDP, entitlements and other mandatory spending will increase to 12.8 percent ($1,099 billion) in 1999 (CBO, 1994).

- From 1994 to 2004, CBO projects that outlays for the two largest entitlement programs, Medicare and Medicaid, will climb steadily by 10 percent or more every year. They also will climb as a percentage of GDP: from 3.7 percent in 1994 to 6.3 percent in 2004.

- From 1994 to 2004, entitlements and other mandatory spending *other than* Medicare and Medicaid are expected to stay roughly constant as a share of GDP. During this period, the largest non-health care entitlement program, Social Security, will remain at 4.8 percent of GDP.

Figure 2

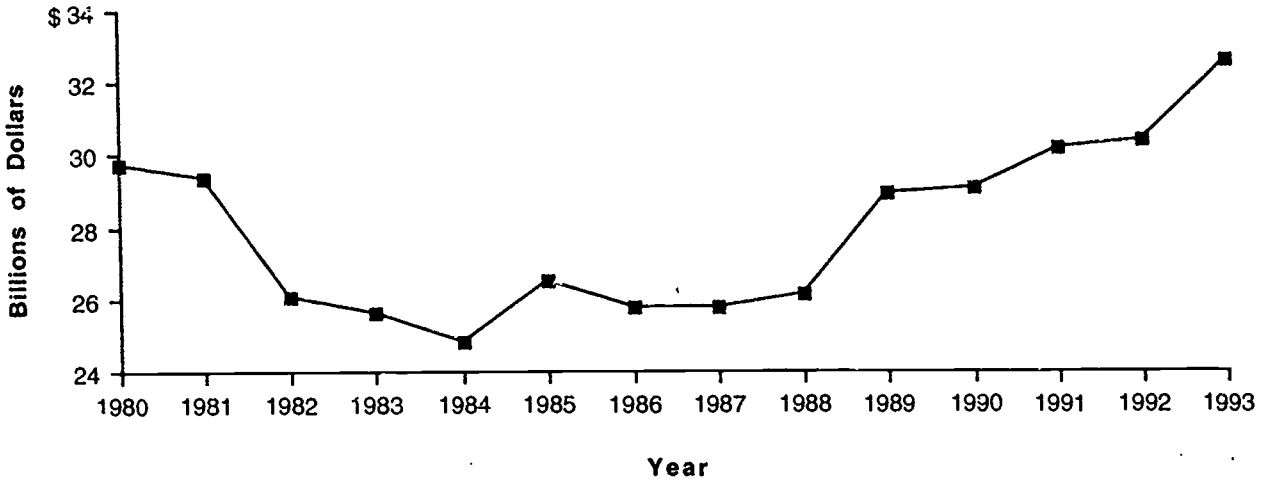
Annual Percentage Change in CPI and HEPI, AYs 1980–1992



Source: National Center for Education Statistics, *Digest of Education Statistics 1993*, p. 43.

Figure 3

Federal Appropriations for Higher Education, FYs 1980–1993 (in constant 1993 dollars)



Source: National Center for Education Statistics, *Digest of Education Statistics 1993*, p. 363.

Discretionary Budget

- The share of the federal budget for discretionary spending declined between 1980 and 1994; in FY 1980, discretionary spending accounted for 46.8 percent of total budget outlays, compared to an estimated 36.8 percent in FY 1994 (CBO, 1994).

- In FY 1993, federal discretionary spending stood at $543 billion and is expected to remain at this same level in FY 1994 (CBO, 1994). Education accounted for 4.2 percent of discretionary spending in 1993 and is estimated to total 4.5 percent in FY 1994 (Sumberg, 1994; CBO, 1994).

- CBO projects that discretionary spending will decline as a share of GDP between 1994 and 2004. As a result of the spending cap policy in effect through 1998, discretionary spending will barely grow in constant dollar terms, and will fall from 8.2 percent of GDP in 1994 to 6.7 percent in 1998. After the spending caps expire in 1998, CBO projects discretionary spending to continue to decline as a percentage of GDP (to 6 percent in 2004). However, from 1998 to 2004, the decline in discretionary spending will not be enough to offset the concomitant increase in spending for Medicare and Medicaid health care programs (CBO, 1994).

Federal Budget Deficit

- The Economic Report of the President reports that from 1980 to 1993, the federal annual deficit increased from $74 billion to $327 billion and the gross federal debt increased from $909 billion to $4.4 trillion (Council of Economic Advisers, 1993).

- In FY 1993, the federal annual deficit reached $255 billion, or 4 percent of GDP. Annual deficits are expected to decline steadily until FY 1996, when that year's deficit is projected to reach $166 billion, or 2.2 percent of GDP. This will be followed by increases until FY 1999, when the deficit is projected to reach $204 billion (2.4 percent of GDP) (CBO, 1994).

Government Support for Higher Education

Total funding for higher education at both the federal and state levels has increased in real terms since the 1980s. However, the level of future federal and state funding is uncertain, especially in light of deficit control policies and competing priorities such as health care, law enforcement, and correctional facilities.

Federal Appropriations

- Total federal appropriations as measured in constant 1993 dollars for *all of education* declined between

FY 1980 and FY 1990, from $60.7 billion to $57.2 billion. Between FY 1991 and FY 1993, total federal appropriations for *all of education* increased, from $61 billion to $68.4 billion (in constant FY 1993 dollars) (NCES Digest, 1995).

- Federal appropriations for *higher education* increased in constant dollars from $29.1 billion in 1990 to $32.6 billion in 1993, with increases shared by both "postsecondary programs" (12.6 percent) and "research" (11.6 percent) (Figure 3).

- Federal appropriations for higher education were approximately the same (in constant dollars) in FY 1980 ($29.8 billion) and FY 1990 ($29.1 billion) although the "mix" had changed, with a 37 percent increase in "research" and a 23 percent drop in "postsecondary programs" (NCFS Digest, 1995).

  - However, the pattern changed from the early 1980s to the late 1980s. Between 1980 and 1984, federal appropriations for higher education decreased by 17 percent (from $29.8 billion to $24.8 billion in constant dollars). Most of that drop was due to a decrease in two higher education programs: Social Security benefits for postsecondary students and student benefits for Vietnam-era veterans. Funds for "research" actually increased from 1981 to 1984.

  - Between 1984 and 1990, federal appropriations for higher education increased in constant dollars from $24.8 billion to $29.1 billion. Funding for "postsecondary programs" increased by 8.6 percent (from $13.9 billion to $15.1 billion), while funding for "research" increased by 28 percent (from $10.9 billion to $14 billion).

- When adjusted for inflation, federal appropriations per full-time equivalent (FTE) higher education student (includes students enrolled at public and private institutions) were slightly higher in 1980 than in 1993 ($3,300 vs. $3,000) (Figure 4).

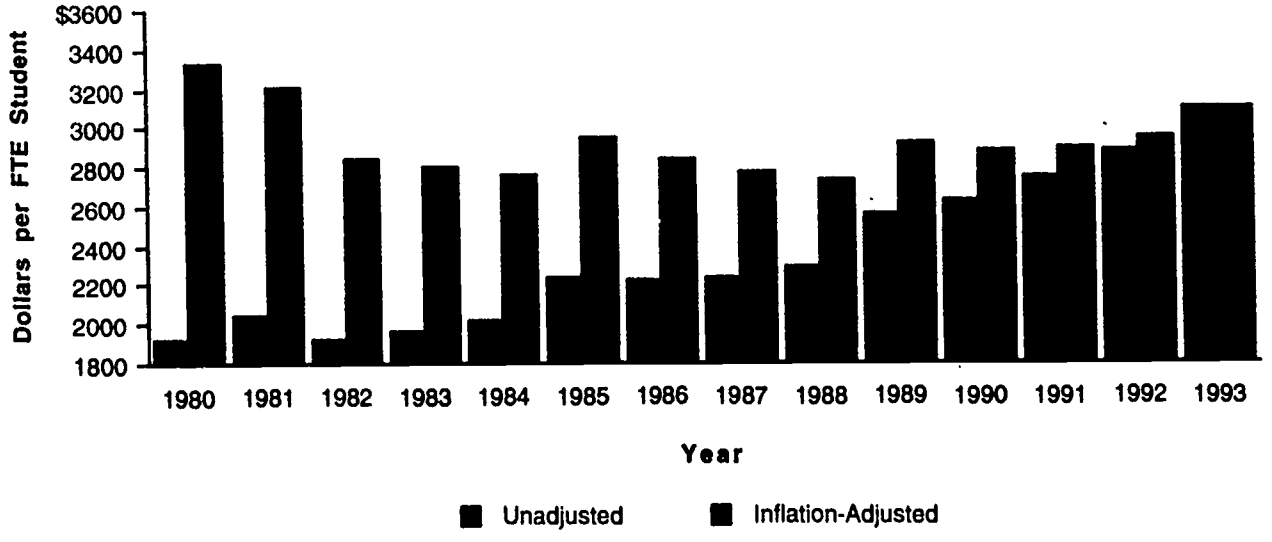
State Expenditures

- In FY 1992, approximately 9.2 percent of state tax revenues were allocated to higher education. Just two years earlier, in FY 1990, 10 percent of state budgets had been allocated to higher education, and a decade before, in FY 1980, 11.3 percent (Andersen, 1994).

- In the last two years, FY 1993 and FY 1994, state appropriations for higher education spending have kept pace with inflation; the average budget increase for state higher education funds was approximately 3.6 percent. Full-time equivalent enrollment remained about the same in both years (Sweeney, 1994).

Figure 4

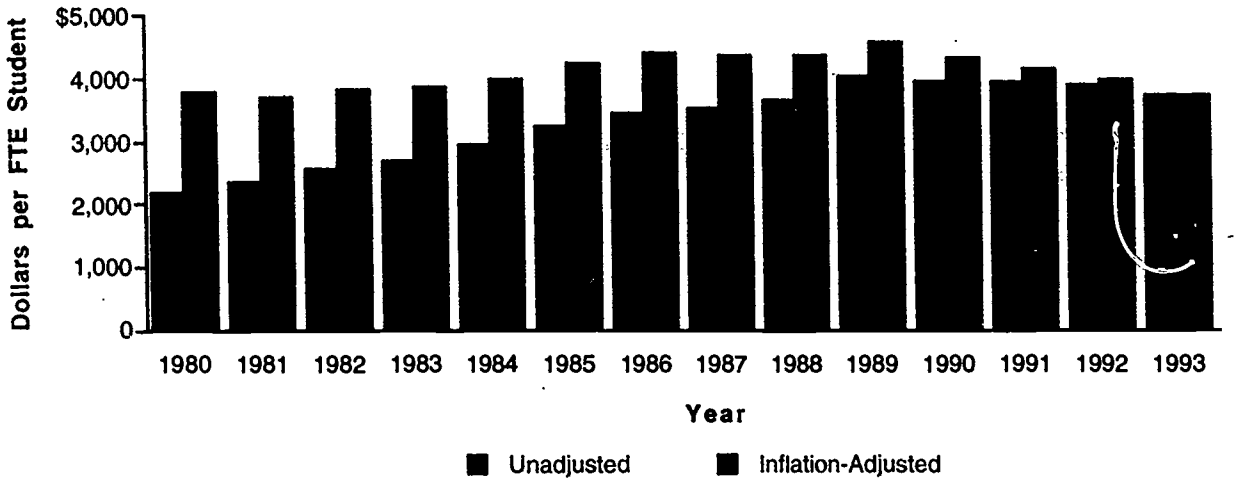
Federal Appropriations (Including Pell Grants) per FTE Higher Education Student: FYs 1980–1993



Source: National Center for Education Statistics, *Digest of Education Statistics 1993*, p. 363.

Figure 5

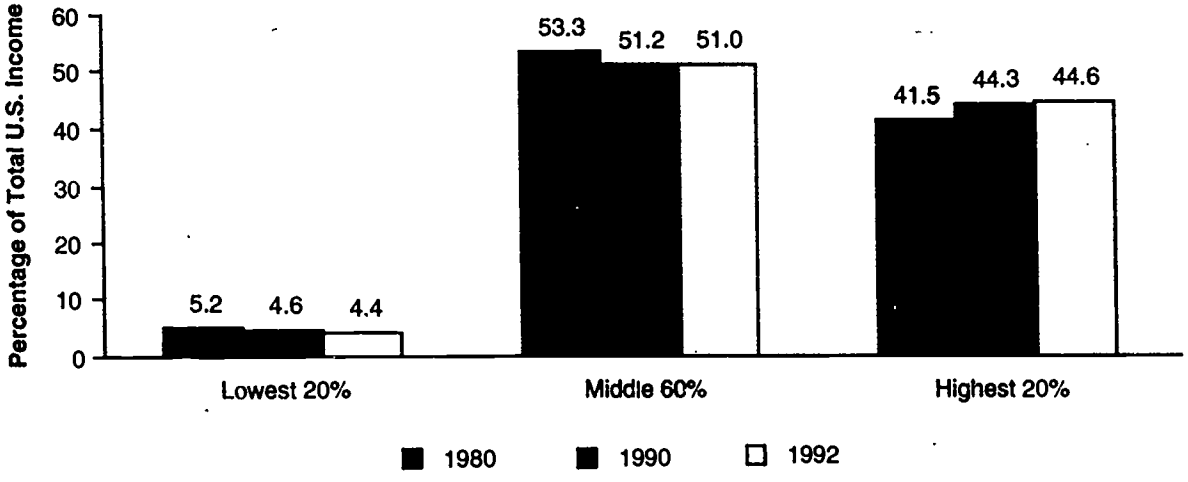
State Appropriations per FTE Student at Public Colleges and Universities: FYs 1980–1993



Source: Research Associates of Washington. *State Profiles: Financing Public Higher Education 1978 to 1993.*

Figure 6

Percentage Distribution of Family Aggregate Income by Quintile: 1980, 1990, 1992



Source: Bureau of the Census, *Money Income of Households, Families, and Persons in the United States: 1992*, p. B-13.

- Inflation-adjusted state appropriations for higher education expenditures per FTE student at public colleges and universities were approximately the same in 1980 as in 1993 ($4,029 vs. $4,164); they were highest in 1989 ($4,766) (Figure 5).

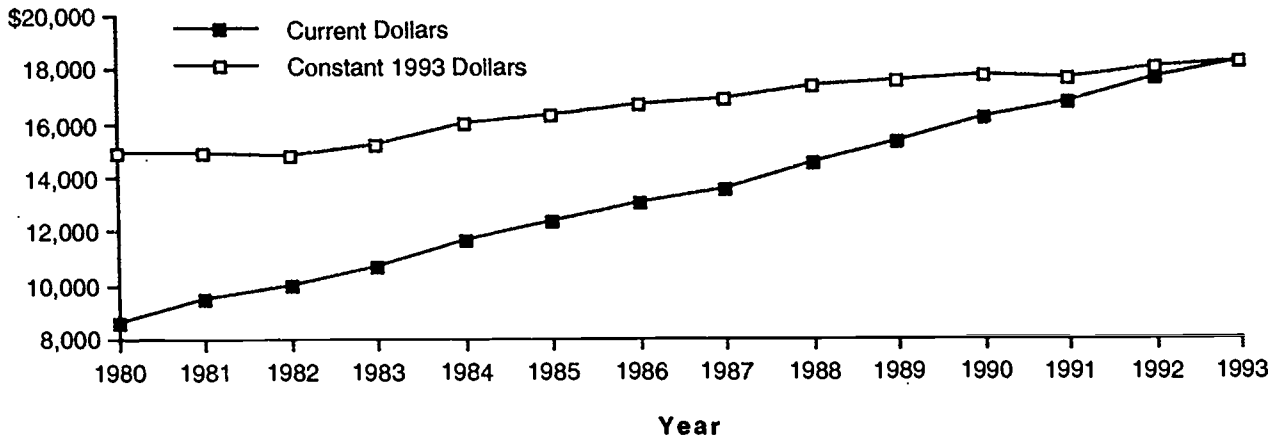
- From FY 1992 to FY 1993, 17 states experienced a decline in state appropriations to higher education. However, by FY 1994, only eight states reported a decline from the previous year (Hines, 1993).

Students' Ability to Pay for College

The ability of families to pay for a college education is reflected in several economic indicators, such as median family income, per capita disposable income, rate of savings, and the availability of student aid. Unfortunately, another critical element – the desire and willingness of students and/or families to make the financial commitment necessary for higher education – has no available proxy.

Figure 7

Per Capita Disposable Income, 1980–1993
(Current and 1993 Dollars)



Source: Council of Economic Advisers, *Economic Report of the President*, January 1993, p. 377 (1980–89 data), and Council of Economic Advisers, *Economic Indicators*, May 1994, p. 6 (1990–93 data).

Family Income

Median family[2] income increased during the 1980s, but decreased from 1990 to 1992 (Census, 1992).

- In 1992, median family income was $36,812. This represents a 0.6 percent constant dollar decrease from the 1991 figure of $37,021, and a 3 percent drop from 1990, when it was $37,950.

- From 1980 to 1990, after adjusting for inflation, median family income increased by 5.9 percent, from $35,839 to $37,950. Median family income was highest in 1989, at $38,710 in constant (1992) dollars.

- Female-headed families with no spouse present reported the lowest median income in 1992: $17,221. They represented 17.5 percent of all families in 1992, up from 15 percent of families in 1980.

- In 1992, median family income varied considerably by race and ethnicity. White families had a median income of $38,909, compared with $23,901 for Hispanics and $21,161 for African Americans.

Lower-income and middle-income families are losing ground; the distribution of income has shifted (Census, 1992).

- In 1980, the top one-fifth of all families received 41.5 percent of total income. Ten years later, they received 44.3 percent, and by 1992, 44.6 percent (Figure 6).

- In comparison, the middle three-fifths of all families ranked by income received 53.3 percent of all income in 1980, but only 51.2 percent in 1990, and 51 percent in 1992.

- The bottom fifth of all families received only 5.2 percent of all income in 1980, 4.6 percent in 1990, and 4.4 percent in 1992.

Shapiro and Greenstein (1991), in their research on poverty, note that factors contributing to the disparities in the share of income include: sharp increases in capital gains income by wealthy households; reductions in government benefits programs (e.g., AFDC); and the wage and salary gap between high earners and other Americans.

Per Capita Disposable Personal Income and Savings

- In 1993, per capita disposable personal income[3] in current dollars was $18,225, up 3.5 percent over the 1992 figure of $17,615. However, when adjusted for inflation, per capita disposable personal income was up less than 1 percent (from $18,066 to $18,225) (Figure 7).

- During the period 1980 to 1990, per capita disposable personal income increased by nearly 20 percent in constant 1993 dollars (from $14,855 to $17,764). From 1990 to 1993, per capita disposable personal income increased by only 2.5 percent, from $17,764 to $18,225 (Council of Economic Advisers, 1993).

- Savings as a percentage of disposable income is generally very modest; individuals today save less of their income than they did 10 years ago. In 1993, savings represented 4 percent of disposable personal income. By contrast, back in 1980, an average of 7.9 percent of a person's income went to savings (Figure 8).

Student Aid

During the period 1980–1993, the federal government's share of aid declined, while institutions increased their share.

- In academic year 1992–93, total available student aid stood at $34.6 billion, an 8 percent increase over the previous academic year. When adjusted for inflation, the total amount increased by almost 5 percent. During the same period, FTE enrollment increased by 2.8 percent (College Entrance Examination Board, 1993).[4]

- During the period 1983–84 to 1992–93, the share of student aid provided by the major sources of aid changed perceptibly (Figure 9):

  - federal government aid declined from 80.7 percent to 73.7 percent;
  - state government aid decreased slightly, from 6.3 percent to 6.15 percent;
  - institutional aid[5] increased from 13 percent to 20.2 percent.

- In 1992–93, the Federal Family Education Loans Program[6] (formerly the Guaranteed Student Loan program) was the largest single source of aid ($15 billion), representing 43 percent of all available aid (College Entrance Examination Board, 1993).

Labor Market Trends

Projections indicate that employment will increase more during the 1992–2005 period than it did during the previous 13 years. These projections were made by the Bureau of Labor Statistics even as the economy was only sluggishly recovering from the 1991 recession.

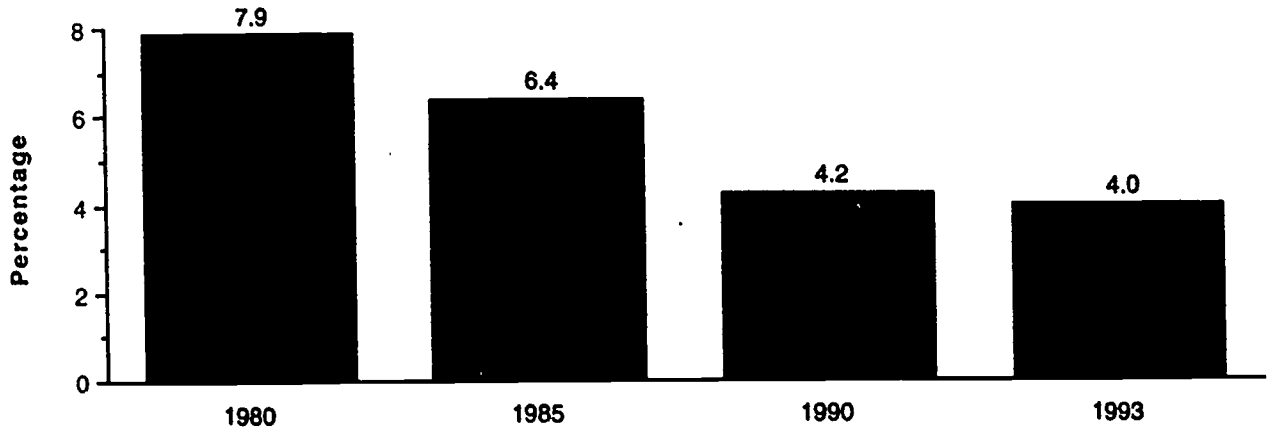
- According to the Bureau of Labor Statistics, 26 million jobs will be added to the labor market between 1992 and the year 2005. Overall, the number of jobs in the labor market will grow by 22 percent (Silvestri, 1993).

- In comparison, between 1979 and 1992, the number of jobs in the labor market grew by 19 percent (Silvestri, 1993).

- However, the annual rate of labor force[7] growth is expected to decrease slightly. Between 1979 and 1992, the labor force grew at an annual rate of 1.5 percent, compared with a 1.3 percent annual growth rate projected for the next 13-year period (1992 to 2005). Of this growth, 1.0 percent is attributed to population increases, and 0.3 percent to labor force participation

Figure 8

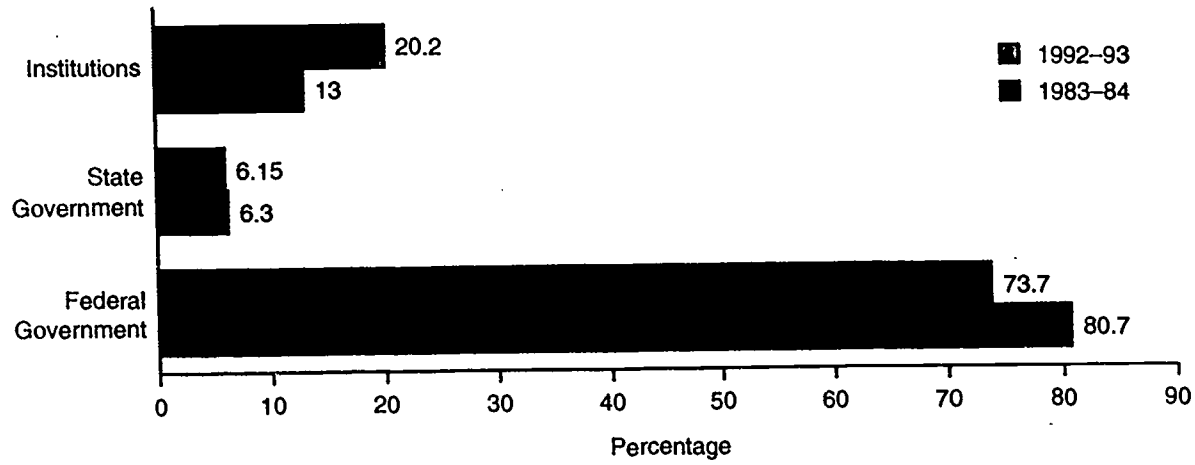
Savings as a Percentage of Disposable Income: 1980, 1985, 1990, 1993



Source: Council of Economic Advisers, *Economic Report of the President*, January 1993, p. 376 (1980–89 data), and Council of Economic Advisers, *Economic Indicators*, May 1994, p. 6.

Figure 9

Percentage of Student Aid Provided by Federal Government, State Government, and Institutions, 1983–84 and 1992–93



Source: College Entrance Examination Board, *Trends in Student Aid: 1983 to 1993*, September 1993, p. 4.

increases. These figures are about the same as in the 1979–1992 period (Fullerton, 1993).

The major occupational groups projected to show faster-than-average annual rates of growth from 1992 to 2005 are: professional specialty; technical and related support; service; and executive, administrative, and managerial. Generally, these occupations require some higher education (with the exception of service occupations) (BLS, 1993).

- In 1992, these occupations (excluding service) accounted for over one-fourth (27 percent) of total employment. Between 1992 and 2005, they are expected to account for 40 percent of the increase in employment.

  - Professional specialty workers such as lawyers and doctors will be the fastest growing occupational group and will account for nearly one-quarter of the growth in jobs over the 1992–2005 period.

With the exception of the rapidly growing service worker occupational group, occupational groups having the lowest educational attainment and the lowest earnings are projected to have the lowest rates of growth.

Participation in the Labor Force

Generally, labor force participation[8] is expected to continue to increase from 1992 to 2005 at approximately the same rate as from 1979 to 1992.

- Between 1992 and 2005, the labor force participation rate is projected to increase 2.5 percentage points, from 66.3 percent to 68.8 percent. From 1979 to 1992, labor force participation rose 2.6 percentage points, from 63.7 percent to 66.3 percent (Fullerton).

- The labor force participation rate varies considerably between men and women, but that difference is narrowing. Between 1979 and 1992, the labor force participation rate for men declined nearly 2 percentage points, from 77.8 percent to 75.6 percent, while the rate for women increased 6.9 percentage points, from 50.9 percent to 57.8 percent. By 2005, the labor force participation rate for men is projected to decline even further, to 74.7 percent, while the participation rate for women will climb to 63.2 percent (Fullerton).

Labor Market Shares

The labor force of the 1990s and beyond will be more diverse. Women and minorities are projected to account for a larger component of the labor force in 2005 than they did in 1992 (BLS, 1993).

- Hispanics are expected to increase their share of the labor force, from 8 percent in 1992 to 11 percent in 2005.

- Asian Americans also are projected to increase their share, from 3 percent in 1992 to 5 percent in 2005.

- White non-Hispanics will make up a smaller share of the labor force in 2005 than in 1992, declining from 78 percent to 73 percent of the labor force.

- Women will account for a larger share of the labor force, increasing from 46 percent in 1992 to 48 percent in 2005.

Conclusion

As with any major industry, the financial health of colleges and universities has been highly correlated with the economy. Government funding for higher education in terms of constant dollars has increased during periods of economic growth and decreased during periods of economic recession. Because the economy now seems to be gradually recovering, many colleges and universities today no longer face the financial "crisis" they did just a few years ago. However, college and university finances are far from rosy. While both state and federal government funding has increased in real terms since 1990, growth rates have not approached the levels seen in the 1980s. In addition, if higher education and its funders respond to financial needs by increasing student charges and capping student aid — options that have been and are being used — some students and their families may decide to start planning for college earlier, alter savings strategies, change consumption patterns, and put aside larger proportions of their income for higher education.

Economic projections indicate that the economy will continue to grow during the coming decade. If past trends continue, this should translate into further improvements for college and universities. However, future government support for higher education may be restricted by policies that limit spending in order to control budget deficits. In addition, higher education faces increased competition from other national and state priorities, such as health care, law enforcement, and correctional facilities.

While the economy drives the financial health of colleges and universities, colleges and universities vitalize the economy. Projections indicate that the fastest growing occupations over the next decade will require at least some college education. Therefore, the extent of future economic growth depends, at least to some degree, on the ability of colleges and universities to train the future work force.

Endnotes

[1]Other categories include offsetting receipts, deposit insurance spending, and net interest spending.

[2]The Bureau of the Census defines families as groups of two persons or more (one or more of whom is the householder) related by birth, marriage, or adoption, and residing together; all such persons (including related subfamily members) are considered as members of one family.

[3]Disposable personal income is personal income (current income received by persons from all sources minus their personal contributions for social security insurance) less tax payments and certain personal payments to general government that are treated as taxes (passport fees, fines and forfeitures, etc.). Division of total disposable personal income by the total population results in the per capita disposable personal income figure.

[4]Data showing constant dollar amounts of aid per FTE recipient are not available. The College Board report shows such figures for major federal programs. Constant (1992) dollar aid per recipient increased in only two programs (Supplemental Educational Opportunity Grants [SEOG] and Supplemental Loans for Students [SLS]) of the eight described. The increase in the SEOG program was 8.7 percent; that of the SLS program was less than one-half of 1 percent. But the per-student total amount received from grants, loans, and work-study cannot be calculated from these data because of the unique composition of each student's aid "package."

[5]Institutional student aid includes awards from the institution's own funds, as well as scholarships, fellowships, and trainee stipends from government and private programs that allow the institution to select the recipient.

[6]The Federal Family Education Loans Program includes Stafford Loans, Supplemental Loans for Students (SLS), and Parent Loans for Undergraduate Students (PLUS).

[7]Labor force is defined as those noninstitutionalized civilian members of the population 16 years of age and over who are either working or currently actively looking for work. The size of the civilian labor force in 1992 was 127 million out of a total civilian noninstitutionalized population 16 years of age and over of 192 million.

[8]The term "labor force participation rate" is the number of people 16 years of age and over that are either employed or actively seeking employment as a *percentage* of the noninstitutionalized civilian population. In 1992, the labor force participation rate was 66 percent.

Resources

The National Center for Education Statistics (NCES) annually publishes a compendium of education statistics; the most recent publication is the *Digest of Education Statistics, 1993*. This publication provides data on higher education trends including: higher education expenditures; enrollment by age, sex, and race; number of institutions; degrees awarded; and other data collected by NCES through its various surveys. For further information, contact the U.S. Department of Education, NCES at (800) 424-1616.

Current Population Reports, published by the Bureau of the Census, provides data on (1) median family income by race, ethnicity, level of education, and family type, and (2) the share of aggregate income. The data are reported

annually in *Money Income of Households, Families, and Persons in the United States*, Consumer Income Series P-60. For further information, call (301) 763-8576.

Several recent publications look at higher education and its impact on the economy. These include: Katherine H. Hanson and Joel W. Meyerson, eds., *Higher Education in a Changing Economy* (New York: American Council on Education and Macmillan Publishing Company, 1990); K. Scott Hughes, Carol Frances, and Barbara J. Lombardo, *Years of Challenge: The Impact of Demographic and Work Force Trends on Higher Education in the 1990s* (Washington, DC: National Association of College and University Business Officers, 1991); Clark Kerr, *Troubled Times for American Higher Education: The 1990s and Beyond* (Albany: State University of New York Press, 1994); and Clark Kerr, *Higher Education Cannot Escape History: Issues for the Twenty-First Century* (Albany: State University of New York Press, 1994).

The Center for Higher Education Policy and Finance of the American Association of State Colleges and Universities (AASCU) conducts an annual budget and fiscal survey. This survey asks questions on current and expected future economic conditions in the states and their effect on higher education. For further information, contact Robert Sweeney at (202) 293-7070.

Every other year, the Bureau of Labor Statistics develops projections that include data on the labor force by age, sex, and race/ethnicity; growth in the real gross domestic product (GDP) by major demand category; and changes in employment by occupation. These projections usually are published in a special issue of the *Monthly Labor Review*. For further information, contact the Bureau of Labor Statistics at (202) 606-5900.

The Council of Economic Advisers publishes past and present economic data in two notable publications, *The Economic Report of the President* and *Economic Indicators*. The *Economic Report of the President* is published in January of every year, while *Economic Indicators* is published monthly. To order copies, contact the U.S. Government Printing Office at (202) 783-3238.

Bibliography

Andersen, Charles J. *State Revenues and Higher Education Appropriations, 1980–1992*. Research Brief No. 5. Washington, DC: American Council on Education, 1994.

Bureau of the Census. *Money Income of Households, Families, and Persons in the United States: 1992*. Current Population Reports, Series P-60-184. Washington, DC: Government Printing Office, 1993.

Bureau of Labor Statistics. *Occupational Outlook Quarterly*. 37:3 (Fall 1993): 2–44.

College Entrance Examination Board. *Trends in Student Aid: 1983 to 1993*. Washington, DC: Washington Office of The College Board, September 1993.

——. *Trends in Student Aid: 1963 to 1983*. Washington, DC: Washington Office of The College Board, December 1983.

Congressional Budget Office. *The Economic and Budget Outlook: Fiscal Years 1995–1999*. Washington, DC: Government Printing Office, January 1994.

——. *An Economic and Budget Outlook Update*. Washington, DC: Government Printing Office, September 1993.

Council of Economic Advisers. *Economic Indicators*. Washington, DC: Government Printing Office, May 1994.

——. *Economic Report of the President*. Washington, DC: Government Printing Office, January 1993.

Fullerton, Howard N. "Another Look at the Labor Force." *Monthly Labor Review*. 116:11 (November 1993): 31–40.

Hanson, Katherine H. and Joel W. Meyerson, eds., *Higher Education in a Changing Economy*. New York: American Council on Education and Macmillan Publishing Company, 1990.

Hines, Edward R. *State Higher Education Appropriations: 1993–94*. Denver, CO: State Higher Education Executive Officers, February 1994.

Hughes, K. Scott, Carol Frances, and Barbara J. Lombardo. *Years of Challenge: The Impact of Demographic and Work Force Trends on Higher Education in the 1990s*. Washington, DC: National Association of College and University Business Officers, 1991.

Kerr, Clark. *Higher Education Cannot Escape History: Issues for the Twenty-First Century*. Albany: State University of New York Press, 1994.

——. *Troubled Times for American Higher Education: The 1990s and Beyond*. Albany: State University of New York Press, 1994.

National Center for Education Statistics, U.S. Department of Education. *Digest of Education Statistics*. Washington, DC: Government Printing Office. Issued annually.

——. *Federal Support for Education: Fiscal Years 1980 to 1992*. Washington, DC: Government Printing Office, February 1993.

——. *Projections of Education Statistics to 2004*. Washington, DC: Government Printing Office, October 1993.

Reich, Robert B. "Strategies for a Changing Work Force." *Educational Record*, 74:4 (Fall 1993): 21–23.

Research Associates of Washington. *State Profiles: Financing Public Higher Education 1978 to 1993*. Washington, DC: 1994.

Shapiro, Isaac and Robert Greenstein. *Selective Prosperity: Increasing Income Disparities Since 1977*. Washington, DC: Center on Budget and Policy Priorities, 1991.

Silvestri, George T. "Occupational Employment: Wide Variations in Growth." *Monthly Labor Review*, 116:11 (November 1993): 58–86.

Sumberg, Alfred D. *Education Budget Alert for Fiscal Year 1995*. Washington, DC: Committee for Education Funding, 1994.

Sweeney, Robert. *Report of the States*. Washington, DC: American Association of State Colleges and Universities, 1994.

The ACE Research Brief Series

The Division of Policy Analysis and Research of the American Council on Education publishes the ACE Research Brief Series, a collection of short papers exploring timely and pertinent issues in higher education. Current topics include trends in the hiring of minority faculty, women in higher education, public sector enrollment and degrees, Latinos in higher education, a profile of baccalaureate colleges, and economic trends and higher education. The series is published eight times a year and is available for $58 for one year, $106 for two years, or single copies for $10. ACE member institutions receive a 10 percent discount.

Elaine El-Khawas, *Vice President, Policy Analysis and Research* Ebo Otuya, *Editor, Research Brief Series*

1990

- No. 1—Faculty Salaries in Perspective
- No. 2—Students Who Work: A Profile
- No. 3—Racial and Ethnic Trends in College Participation
- No. 4—Community and Junior Colleges: A Recent Profile
- No. 5—College Graduates in the Labor Market: Today and the Future
- No. 6—A Decade of Change: The Status of U.S. Women Doctorates: 1978-1988
- No. 7—Enrollment by Age: Distinguishing the Numbers from the Rates
- No. 8—Campus and Student Assessment

1991

- No. 1—Higher Education Expenditures and Participation: An International Comparison
- No. 2—Academics Bargaining Collectively: Some ABCs
- No. 3—College Going, Persistence, and Completion Patterns in Higher Education: What do We Know?
- No. 4—Asian Americans in Higher Education: Trends and Issues
- No. 5—Senior Faculty in Academe: Active, Committed to the Teaching Role
- No. 6—Endowments: How Big and Where
- No. 7—Higher Education and Infrastructure: The Federal Role
- No. 8—The Higher Education Enterprise

1992

- No. 1—Master's Degree Students and Recipients: A Profile
- No. 2—Economic Trends and Higher Education
- No. 3—American Indians in Higher Education
- No. 4—What is the Service Sector?
- No. 5—Student Financial Aid: The Growth of Academic Credit's Other Meaning
- No. 6—Students in the Humanities
- No. 7—Community College Faculty: A Profile
- No. 8—Part-Time Students: Trends and Issues

1993

- No. 1—Outside the Classroom: Students as Employees, Volunteers and Interns
- No. 2—Women in Higher Education: Where do We Stand?
- No. 3—Public Sector Enrollment and Degrees
- No. 4—Latinos in Higher Education
- No. 5—A Contemporary Profile of Baccalaureate Colleges
- No. 6—Employment and Hiring Patterns for Faculty of Color
- No. 7—Developing Our Future: American R&D in International Perspective
- No. 8—Production of Minority Doctorates

1994

- No. 1—Today's College Students: Varied Characteristics by Sector
- No. 2—Labor Force Participation of Older College Graduates
- No. 3—African Americans in Higher Education
- No. 4—Linking the Economy to the Academy: Parallel Trends

Ordering Information

To order, make check payable to: American Council on Education. *All orders must be prepaid. No purchase orders accepted.* Mail to: 1994 Research Brief Series, American Council on Education, Department 36, Washington, DC 20055-0036 • Telephone: (202) 939-9385