This newsletter issue focuses on the roles played by higher education finance and student financial aid in ensuring broad access to higher education. Specifically, the report discusses trends in family income and college costs that affect the need for student aid. The report finds that income remains a primary determinant of students' educational opportunities. Students from higher income families enroll in college at rates three to four times greater than students from lower income families. Government student aid programs have not successfully overcome financial barriers to college and significantly increased the college enrollment rates of students from lower income families. Colleges themselves, through institutionally funded grants, provide an important part of the access currently available to low-income students. College is becoming less and less affordable for lower income and middle income families. Because a high and increasing proportion of all American children are in lower income families, their access to college is likely to erode unless action is taken. Overcoming the financial barriers to college will require increasing amounts of student aid and guidelines that carefully target aid to the neediest students. Seventeen graphs present college-going rates by family income, percent of young adults enrolled in college, and trends in college costs. (JDD)
The Higher Education Extension Service (HEES) is committed to ensuring broad access to higher education and enabling all students to achieve their full potential. This year, Review focuses on the roles played by higher education finance and student financial aid in achieving those goals.

Preparing for the remainder of this last decade of the twentieth century and the first decade of the twenty-first century, a number of national and state commissions, as well as higher education associations and educators, are publishing a new cycle of reports on higher education finance. Most of these reports focus inward, on the requirement that higher education "do more with less," given that tight fiscal constraints are likely to prevail for the foreseeable future. To create greater value to satisfy students, parents, private sources of support, and the governments that pay for college education, higher education must streamline its operations and increase productivity.

HEES argues that this inward focus, while absolutely necessary, is by itself insufficient in the public policy arena. Higher education must also look outward, and ask much more profound questions about the place of higher education among national investment priorities.

This is the second HEES report to put student aid issues into a larger economic context. The first, published in the winter of 1993 (Volume 4, Number 1), discusses the impact of the federal budget deficit on the funds available for student aid. This second report discusses trends in family income and college costs that affect the need for student aid.

Carole Morning

**Institutional Issues**

**Access to College: The Role of Family Income**

**Introduction**

More than twenty years ago, in 1972, the United States made a major national commitment to broaden access to higher education. The instruments created to accomplish this goal were need-based student aid programs intended to help overcome the financial barriers that prevented those with low income from enrolling in college.

In recent years, a great deal of attention has been paid to disparities in education participation rates among different racial and ethnic groups. In this report, however, attention is drawn to the original mission of the student aid programs—to overcome differences in participation rates resulting from differences in student family income.

After two decades of need-based student aid, income appears to remain a primary determinant of students' educational opportunities. Students from higher income families continue to enroll in college at rates three to four times greater than students from lower income families, as shown on Figure 1.

How much progress, then, has been made since the inception of need-based student aid programs intended to broaden access to higher education for low-income families? Just a little.

This report advances the following propositions:

1. Differences by income level persist in:
   - preparation for college-level work
   - access to college
   - choice of institution
   - patterns of enrollment, and, by virtue of the foregoing,
   - educational attainment.

2. Government student aid programs have not been successful in overcoming financial barriers to college and significantly increasing the college enrollment rates of students from lower income families.

3. Colleges themselves, through institutionally-funded grants, are providing an important part of the access currently being available.

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1 Much of the analysis in this report, including Figure 1, is based on Census survey data on the income of primary families of 18-24 year-old dependents. The Census Bureau reports in the Current Population Report Series P-60 Number 460 that there were 24,852,000 civilian noninstitutional people age 18-24 in October 1990. Of these, 20,104,000, or close to 80 percent, were in primary families. The remaining 18-24 year-olds of whom 6,581,000, or slightly less than a third, were enrolled in college, both full-time and part-time.

These traditional college-age people represented close to 60 percent of college enrollment in 1990. Thus, the data presented here do not describe the characteristics of the entire college student population. They do, however, represent a large part of the student population that receives financial aid. As a consequence, these data are better for analyzing the impact of student financial aid than those that include older students.

The Bureau of Census provides data on characteristics of the population by income level only for separate groups defined by the nature of the economic unit to which they belong. Dependent and independent student data cannot be combined in a meaningful way because of the inherent confusion that would be created by adding together income distributions based on parental income and distributions based on the students' own, or students' and spouses' own, household incomes.
The Impact of Income on College Enrollment and Educational Attainment

Historically, family income has made a significant difference in college-going rates. In years past, sons and daughters of lower income families rarely considered going to college. Then in 1972, Congress expanded need-based student aid programs to help overcome the financial barriers to college enrollment by enacting the Basic Educational Opportunity Grant Program, subsequently renamed the Pell Grant Program.

Now, after twenty years of experience with need-based student aid programs, it is important to take another look to see if the earlier large income differences in college-going rates have been reduced.

The relationship between family income and college enrollment is complex. Very simply, the college-going rate is the percentage of a population group enrolled in college. Attention should be paid, however, to the selection of the population base for calculating the percentage. Differing bases result in differing college-going rates with differing policy implications.

To illustrate, the total number of 18-24 year-olds is generally used in calculating the overall U.S. college-going rate. However, a significant number of 18-24 year-olds are still enrolled in high school and this share of students differs significantly by income, race, and gender. Since they are enrolled in high school and not able to enroll in college, they might be removed from the population base before calculating the college-going rate. Further, some 18-24 year-olds already have four-year college degrees. They might also be taken out of the base.

Removing people still enrolled in high school and people who already have four-year degrees from the population base used to calculate college-going rates has two effects: (1) to raise college-going rates, and (2) to widen the differences between the college-going rates of the lower-income and the higher-income families.

4. College is becoming less and less affordable, not only for lower income families but for middle-income families, as well.

5. Because a high and increasing proportion of all American children are in lower income families, their access to college is likely to erode unless action is taken.

6. Overcoming the financial barriers to college will require increasing amounts of student aid and, most important, new guidelines that more carefully target aid to the neediest students.
and college-going rates in 1970 (a base-line for comparison before the expansion of the need-based programs) and in 1990 (after the re-focusing of the aid programs on the neediest students) is illustrated in Figure 2.

Three observations can be made from this Figure. First, the college-going rate of the very lowest income group has been brought up to approximately the rate of the next to the lowest income group—that is, raised about five percentage points. Second, the overall relationship between income and college-going rates over the rest of the income spectrum in 1990 remains disappointingly close to the relationship found in 1970. Third, the vast differences in college-going rates of students from higher income families and lower income families remain. Again, college-age youth from higher income families are about three times more likely to enroll in college than if they are from lower income families.

When data are reported for broad income groups labeled “lower income” they refer to families with incomes below $20,000 in 1990, which account for roughly a quarter of the total number of families. “Middle income” is used to characterize the middle 50 percent of families with incomes from $20,000 up to $50,000. “Higher income” applies to families with income of $50,000 and above, which represent about a quarter of all families.

Income and Preparation for College

The opportunity to enroll in college is dramatically affected by choices made by or for students in elementary and secondary schools that determine whether they prepare for college. Family income affects those choices.

For example, family income has a strong impact on whether students drop out of high school without a diploma, as shown on Figure 3. As family income rises, the percentage of dropouts declines.
steadily. In 1990, almost one-quarter of lower income students had dropped out of high school before graduating, a rate over ten times that of the highest income groups.

Family income also has a marked effect on whether a student remains in high school, below the expected grade level reached on average by students at specific ages, after their classmates have graduated. Well over one-third of the 18-24 year-olds from low-income families reported in Census statistics as "enrolled" are enrolled in high school, not college. Only about 5 percent of the 18-24 year-old students from high-income families are still enrolled in high school, as shown on Figure 4. Inadequate or inappropriate pre-college learning experiences and the resultant low academic achievement reduce the potential college-going pool of low-income students by about a third, even before students reach the traditional college age.

**Income and Access.** Factors associated with post-secondary education also impact students from lower income families. Generally, the lower the family income, the higher the likelihood that students will attend a two-year college, as shown on Figure 5. Some low- and middle-income students, but few high-income students, start taking classes at a two-year college.

Often, the choice of a two-year public college is intended to be a cost-saving strategy. If, however, the articulation between the two-year and the four-year programs is not well organized, starting at a two-year college frequently causes students to take longer to earn the four-year degree, with a consequent delay in entering the workforce. This delay—resulting in more years of college tuition, higher dropout rates, and reduced lifetime earnings—can render the transfer strategy very costly. Comparatively more lower income students are likely to bear these costs.

**Income and Educational Attainment.** Few students at any income level earn a baccalaureate
degree in four years. A recent study by Oscar F. Porter, published by the National Institute of Independent Colleges and Universities, found that only 41 percent of a High School and Beyond sample of 1980 high school seniors who began college had received a bachelor's degree within six years. After four years of college, however, students appear to be distributed by family income in much the same way as they began college, as may be seen by comparing Figure 6 with Figure 1.

However, at the fourth year there are significant differences between lower and higher income students in academic classification and accumulated course credits. Porter's study indicates that, of students in the bottom socioeconomic status (SES) quartile, only 27 percent (in independent institutions) to just over 31 percent (in public institutions) persist to college completion as compared to 50 percent (in public institutions) to over 65 percent (in private institutions) of those students in the top SES quartile.

**Middle Income Squeeze**

The effects of less income than is needed to pay for college are experienced by students from middle-income families as well as by those from low-income families. The effect of lower income is to bar access to college almost completely. The effect of college financial pressures on students from middle-income families — many of whom are not eligible for student aid, or at least for adequate student aid — shows up in their patterns of participation.

With few exceptions, a higher percentage of students from middle-income families, than from lower or higher income families, go to college part-time, as shown on Figure 7.

Figure 8 indicates that their pattern of part-time enrollment leads to the predominance of middle-income students at the fifth year level. At that point proportionately more high-income students may have graduated and low-income students dropped out.

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**FIGURE 7**

**PERCENT OF COLLEGE STUDENTS WHO ARE ATTENDING PART-TIME BY PARENTAL FAMILY INCOME IN 1990**

Dependent Family Members Age 18-24


**FIGURE 8**

**PERCENT OF 18-24 YEAR OLDS WHO ARE ENROLLED IN A 5TH YEAR OF COLLEGE BY PARENTAL FAMILY INCOME IN 1990**

Dependent Family Members

A higher percentage of students from lower-middle-income families who are enrolled in college attend public institutions, than those from either high- or low-income families as shown on Figure 9. In some cases, as high a percentage of low-income students as of middle- or high-income students are enrolling in private colleges and universities, suggesting that private institutions are an important source of financial aid for low-income students. Private colleges and universities currently provide students with close to $55 billion in financial aid, almost all of it in the form of grants, which helps to compensate for federal student aid programs that are insufficient to meet the costs of attending college.

Census data on the characteristics of students provide detailed information about enrollment patterns by sector and by type of institution. These data show the distribution of enrollment between public and private colleges of students both full-time and part-time, ages 18-24, who are members of primary families. These students represent more than three-quarters of all students ages 18-24 who are enrolled in college. Considering all of these students and combining all family income levels, just under 80 percent are enrolled in public institutions and just over 20 percent are enrolled in private institutions. A substantial percentage of students from high-income families is enrolled in public colleges and universities, indicating that these students are taking advantage of the lower tuition at publicly supported institutions. In 1990, the total number of students ages 18-24 who were members of primary families was 6.6 million. Of these, about 2.4 million students — or a little over one-third — were reported to have family incomes of $50,000 or more. Of the students from higher income families, approximately three-quarters, or 1.9 million, are enrolled in public institutions and one-quarter, or 0.5 million, are

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The data are obtained from the Current Population Survey (CPS) which samples approximately 60,000 households. The survey results are weighted to represent the total civilian noninstitutional population.
enrolled in private institutions.

**Children in Lower Income Families**

The distribution of families by income level is changing in the United States, with an increasing percentage of high-income families and a decreasing percentage of middle-income families. According to the most recent Census data, the percentage of families with incomes below $20,000 income has not increased over the last several decades, as shown on Figure 10. Not shown on Figure 10, but on Census tables providing more detailed income categories, is the fact that there is currently a slightly larger share of families in the very lowest income category of “under $5,000” than there was in the mid-1970s.

The number and share of all children who are growing up in families below the poverty level has increased, however. Documented by data published by the Bureau of the Census in October 1993 is the fact that 14.6 million children were living in poverty in 1992. The trend in the number of children living below the poverty line is shown on Figure 11. It is shocking to realize that there were a larger number and larger share of children living in poverty in the United States at the beginning of the 1990s than there were at the end of the 1970s. There are close to 4 million more children living in poverty today than there were at the end of the 1970s. There is also a higher percentage of children living in poverty, 21.9 percent in 1992, than there was during the period when the anti-poverty programs were introduced in the 1960s when the poverty rate for children was brought down to around 14 percent.

According to these new Census data, of the 21.9 percent of all children living in poverty, 16.9 percent were white children, 46.6 percent were black, and 39.9 percent were Hispanic.

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FIGURE 13
COMPARATIVE TRENDS IN THE COST OF ATTENDING COLLEGE BY SECTOR


FIGURE 14
TRENDS IN THE COST OF COLLEGE COMPARED WITH TRENDS IN INCOME TO PAY FOR COLLEGE


To put the U.S. statistics on children in poverty into a global context, the first annual report of the United Nations Children’s Fund on the Progress of Nations in improving the well-being of children reaches the shocking conclusion that “With 20% of its children living below the national poverty line, the United States has more than double the child poverty rate of any other industrialized country.”

One-third of the children in this country in the early 1990s are being raised in families with incomes below $20,000, not much more than half of the median family income. A comparison of the distribution, by family income level, of all children, compared with the distribution of all families, is shown on Figure 12.

Of course, there is a relationship between family income level and the age of the householder. Younger families with children have the lowest incomes and older families without children have the highest incomes.

Because an increasing share of all American children are growing up in lower income families, broader access will mean that an increasing share of college-bound young people will need financial assistance to pay for their higher education.

Financing Higher Education: The Decreasing Affordability of College

The cost of attending college increased sharply in the 1980s and the increases are continuing into the 1990s. Trends in the current-dollar cost of attending college for one academic year are shown on Figure 13 for each of the sectors of higher education.

The trends in college costs (still in current dollars) are indexed, with 1982-83 set to equal 100, on Figure 14. This figure compares the trends in college costs with the trend in median family income (also in current dollars), as one measure of trends in the relative ability to pay for college. During the 1980s, and so far in the 1990s, the increase in the cost of attendance has considerably outpaced the increase in family income available to pay these costs.

It should be stressed, however, that tuition costs are being driven up primarily because of shortfalls in non-tuition revenues, including shortfalls in state appropriations, and only to a limited extent because of increases in institution-
al spending for faculty salaries, supplies, and equipment. Colleges and universities make up much of the loss in non-tuition revenues by increasing tuition charges.

Now, however, institutions are finding it difficult to increase expenditures for higher faculty salaries or capital improvements. Either they will have to cut the amount of money allocated to student aid — thereby reducing the number or changing the mix of assisted students who can attend — or greatly increase productivity, or raise tuition still higher.

**Shortfalls in Federal Student Aid Funding**

**Shortfalls.** Student aid is packaged for students, with Pell Grants usually forming the foundation of the aid package. As shown on Figure 15, Pell Grants are providing a smaller and smaller share of the total cost of college attendance. A Pell grant, on average, now covers less than 10 percent of the cost of attending a private college, and between 20 and 25 percent of the cost of attending a public college. The share of the cost of attending a public two-year college covered by an average Pell grant had held at slightly above 40 percent of the total through most of the 1980s, but beginning in 1991-92 this share dropped to around 35 percent.

**Adjusting Student Aid for Inflation.** According to government statistics compiled by The College Board, the federal government provided over $27 billion in student financial aid in 1992-93, up from just over $13 billion in 1982-83. That appears to be a substantial increase, as reported in current dollars not adjusted for inflation. But the trend in the amount of student aid awarded should be analyzed in dollars of constant purchasing power.

The adjustment of student aid for inflation may appear to be just a technical matter, but it is not. The College Board, the most-quoted source of information on trends in student aid, compiles current dollar data on student aid and then adjusts the current dollars for inflation using the Consumer Price Index for All Urban Consumers, the CPI-U. Because the public, including the politicians and the press, is familiar with the Consumer Price Index, its use generally is not questioned. To be technically correct, as well as more realistic, the adjustment of
student aid for inflation should be made using an index based on a market basket of goods and services that reflects the actual purchases students make with their student aid funds, rather than the items in the market basket for all urban consumers. Students spend most of their student aid funds on tuition and room and board. An index of student costs should weight these expenditures quite heavily. But most student costs have only a small weight and some student costs no weight at all in the CPI-U.

Figure 16 shows the cost of attending college compared with the trend in the Consumer Price Index. The figure demonstrates that the cost of attendance in every sector increased significantly faster than the CPI-U. Thus, using the CPI-U to adjust student aid funds for inflation considerably understates the erosion of student aid purchasing power and unrealistically minimizes the financial pressures felt by students.

Figure 17 shows trends in the total amount of student aid awarded to students over the last decade. It demonstrates that it matters a great deal how adjustments for inflation are made. The top line in Figure 17 shows the amount of student financial aid awarded each year from 1982-83 to 1991-92 in current dollars, as reported by the federal government and compiled in The College Board's latest annual publication on trends in student aid. The middle line in Figure 17 shows the trend in student aid adjusted for inflation using the CPI-U. The bottom line shows the trend in student aid adjusted for inflation using an estimated student cost index. The index, including tuition and room and board expenses, was constructed from cost of attendance data compiled by The College Board for each sector, and is weighted by enrollment in each sector.

Refinements could be made in the index, including the addition of books, the cost of which has also gone up much faster than the overall CPI-U, and transportation, which has gone up more slowly. But even the estimated student cost index confirms the important point that conclusions about trends in student aid depend significantly on which index is used to adjust student aid for inflation.

The difference between adjusting student aid using the CPI-U and using a student cost index cumulates to about $20 billion over the period from 1982-83 to the present. This means that federal government statistics report close to $20 billion more in student aid than students actually received in real purchasing power as measured by their real expenses.

Summary of Findings

Family income continues to make a significant difference in whether, when, and on what path students pursue higher education. Young people from lower income families are still more than ten times as likely to drop out of high school or graduate without adequate preparation for college. Thus, the pool of potential applicants to college from the lowest income groups is reduced by as much as one-third at the outset. Further, the time most of the students from higher income families have graduated from high school and entered college, many students from lower income families are still enrolled in high school, struggling to graduate. A much higher percentage of students from lower income families attend two-year colleges, and far fewer pursue graduate studies.

Students from middle-income families also experience difficulties in financing their college education as indicated by the fact that comparatively higher percentages of middle-income students enroll in public colleges and attend classes part-time.

Thus, based on family income, wide differences in college-going rates that existed before the implementation of need-based student aid programs persist today. Students from higher income families are still as much as three times more likely to enroll in college than are students from lower income families.
Student aid programs have not been adequately funded and they have yet to achieve the goal of overcoming barriers to the participation of lower income students. The inadequacy of student aid is demonstrated most accurately when aid is measured in terms of its purchasing power to cover the costs students actually face. Using a student cost index instead of a general Consumer Price Index to adjust student aid dollars for inflation leads to the conclusion that students actually received close to $20 billion less in the purchasing power of their aid than has been publicly reported. This shortfall makes a critical difference in the appraisal of whether the student aid programs do — or could — achieve their mission.

If educational and other reforms actually were to succeed if more students from low-income families graduated from high school prepared for college-level work, and if more low-income students attempted to enroll in college, the shortfalls in student aid funding would be even greater than they are now.

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Bibliography


