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ABSTRACT

The extent to which student financial aid has changed the composition of young people attending and planning to attend college is considered. The income redistribution policies of the 1960s and 1970s included rapid expansion of federal financial aid programs and reflected a shift from the goal of promoting economic efficiency and faster economic growth to the goal of providing greater equity. Data from the annual Current Population Surveys show that little or no change occurred in the ratio of college enrollment rates for youth from families with income below the median relative to youth from families with above-median incomes. Additionally, data from the National Longitudinal Study of the High School Class of 1972 show no real changes in college attendance plans of high school seniors, after controlling for socioeconomic status and ability. It is concluded that student financial aid programs substituted public for private funds, thus reducing the burden of educational costs to college students and their parents. They did relatively little, however, to induce more youth from lower income families to attend college and they impeded economic growth by sacrificing economic efficiency. The major student financial aid programs, their rationale, and expected effects are reviewed. (SW)

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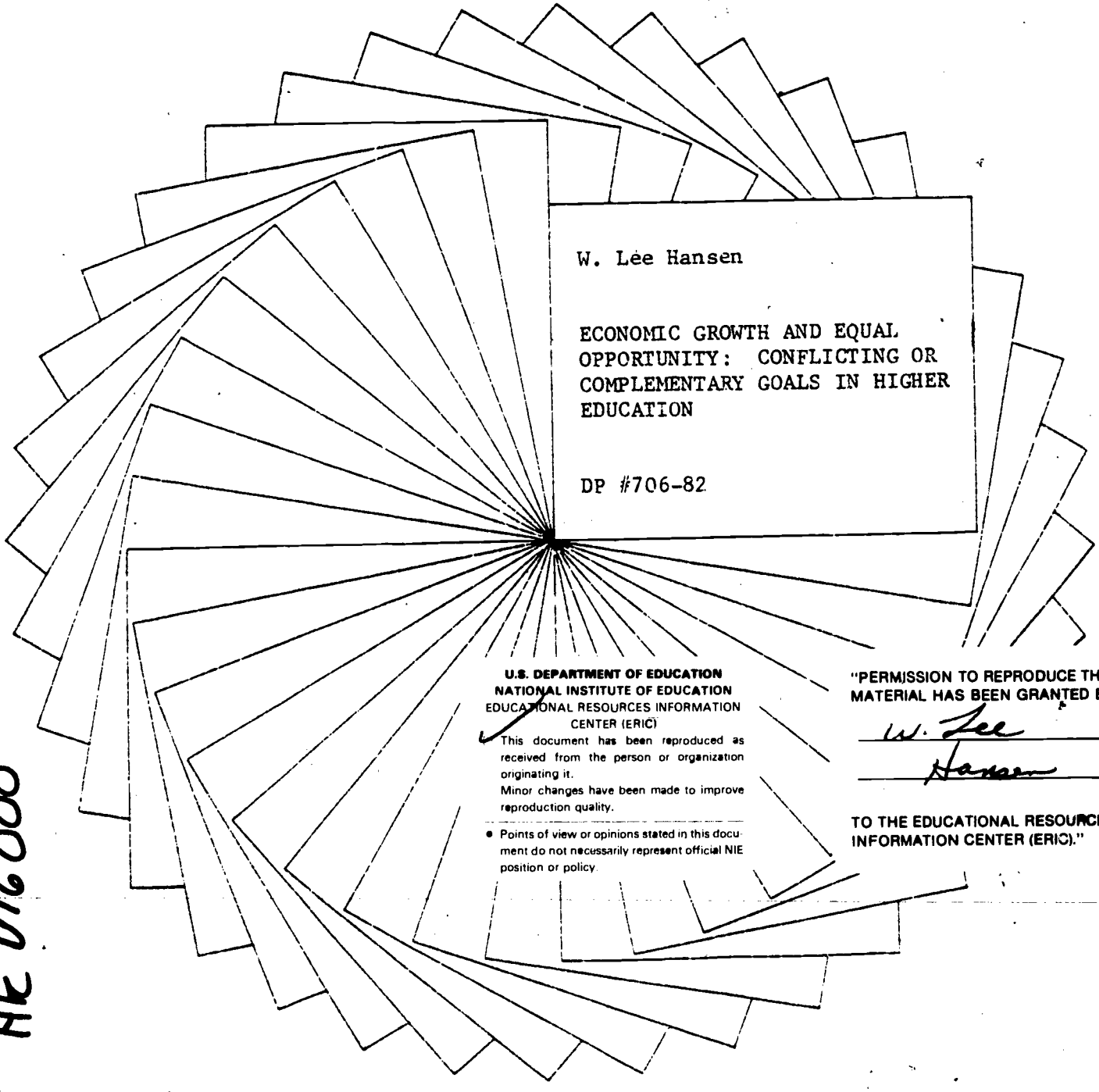

W. Lee Hansen

ECONOMIC GROWTH AND EQUAL OPPORTUNITY: CONFLICTING OR COMPLEMENTARY GOALS IN HIGHER EDUCATION

DP #706-82

Economic Growth and Equal Opportunity:

Conflicting or Complementary Goals

in Higher Education

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ABSTRACT

The income redistribution policies of the 1960s and 1970s, which included rapid expansion of federal financial aid programs for college-age students, reflected a shift from the goal of promoting economic efficiency and faster economic growth to the goal of providing greater equity. The expected effects of student financial aid were to equalize educational opportunities by overcoming the financial barriers to college attendance among youth from lower income families. Whether these programs achieved this purpose and whether they diverted resources from economic growth remain troublesome questions in 1982, the end of a decade when economic growth has slowed dramatically.

The evidence indicates that the expected effects of these programs failed to materialize. Data from the annual Current Population Surveys show that little or no change occurred in the ratio of college enrollment rates for youth from families with income below the median relative to youth from families with above-median incomes. Data from two other surveys (1972 and 1980) show no real changes in college attendance plans of high school seniors, after controlling for socioeconomic status and ability. The analysis uncovers several interesting trends--e.g., increased enrollments of blacks and women--but these trends do not appear to result from more financial aid to poorer youth.

We are forced to conclude that student financial aid programs operated largely as transfer rather than as human investment programs.

By substituting public for private funds, they reduced the burden of educational costs to college students and their parents. They did relatively little, however, to induce more youth from lower income families to attend college. Thus, it appears that these programs may have sacrificed economic efficiency in the quest for greater equality of opportunity, and thus impeded economic growth.

Economic Growth and Equal Opportunity: Conflicting or Complementary Goals in Higher Education

I. Introduction

Among the many explanations offered for the slowing of economic growth in the 1970s and the productivity declines over the past several years is that deliberately pursued redistribution policies begun in the middle and late 1960s diverted resources and attention from the on-going task of stimulating economic growth. This explanation has some appeal in light of the considerable increase in national resources devoted to public programs, particularly those in the social welfare or human services realm which are largely redistributive in character. If this explanation has any validity, we might expect to see some manifestations of it in the higher education sector which historically played a major role in promoting economic growth but beginning in the mid-1960s became a testing ground for redistributive programs.

Whether any conflict exists between the goals of economic growth and redistribution in the provision and financing of higher education is not immediately clear. As economists, we normally assume such conflict and discuss it in the more general terms of efficiency and equity. The prevailing view is that tradeoffs must be made in the pursuit of these two quite different goals. At the moment, however, we have no good basis for assessing the extent to which there is a tradeoff or conflict between these goals in higher education. This issue has not received much attention of late because, with the acceptance by the Executive and Legislative branches of a broader set of redistributive goals since the early 1960s, there has

been a tendency for many economists to take these redistributive goals as a given. Perhaps this is appropriate. But this does not mean that some sacrifices in efficiency do not occur as these redistriubtive goals are pursued.

Another view is that equity and efficiency goals may be complementary, particularly when we are concerned with human investment programs such as higher education. Educating talented youth can contribute to the future growth of aggregate output. If these youth cannot finance their own education because of economic barriers, then a program of financial aid to help them overcome these barriers can be not only equitable but also efficient. Whether real world situations meet this dual test of equity and efficiency is much more difficult to ascertain.

Lack of knowledge about the nature, dimensions, and the effects of the shift from efficiency to equity goals in the provision and financing of higher education motivates this paper. It begins with a review of this shift and then presents a brief history of the major student financial aid programs, their rationale, and expected effects. Attention is then directed to the major purpose of the paper, that of ascertaining the extent to which student financial aid changed the composition of young people attending and planning to attend college--whether it broadened access to higher education opportunities. The paper concludes with some observations on how the growing focus on redistributive policies within higher education has affected education's contribution to economic growth.

II. From Growth to Redistribution--An Overview

Over the years college attendance has been viewed by young people, their parents, and substantial portions of society as a means of enhancing one's earning power, widening one's intellectual and social horizons, and contributing to the larger social welfare. This view, which had long been obvious to casual observers, was formally assimilated into economics during the late 1950s and early 1960s when college attendance came to be viewed as a form of "human investment" (Schultz 1960, 1961; Becker 1962). People deferred taking up regular full-time jobs to attend college in order to build up their knowledge and skills so that subsequently they would be more productive and hence gain higher earnings than if they had gone to work immediately. Of course, below-cost tuition enhanced the attractiveness of higher education which was subsidized by taxpayers for students attending public institutions and by alumni and other donors for students attending private institutions. The economic benefits of college attendance were viewed by individuals and by society as sufficiently large relative to the costs of college to yield rates of return on these human investments that were at least comparable to those available from alternate investments (Becker 1960; Hansen 1963). These findings on private and social rates of return proved to be consistent with those of the growth economists who found educational investment to have been a prime generator of U.S. productivity growth over much of this century (Denison 1962).

These initial findings on the economic benefits of investing in human capital via education led to an explosion of research both here and abroad on the effects of schooling on individual earnings, on rates of return to investment in schooling, and on education's role in stimulating more rapid growth (Blaug 1966, 1970, 1978). Within a few years the economics

of education emerged as a legitimate and flourishing specialty in economics.

While these developments were unfolding, it became apparent that substantial numbers of young people who were qualified for college did not attend because of inadequate financial resources and difficulties in getting access to needed resources (Wolfle 1954; Little 1958, 1959). Below-cost tuition was not sufficient to overcome these deterrents. Of particular concern was the so-called "talent loss," reflecting the fact that many able but poorer young people could benefit from college but were unable to gain access because of their limited financial resources. The evidence also hinted that substantial numbers of qualified but financially poor high school graduates not planning to attend college had more promising futures ahead of them than did wealthier but less able students already enrolled. The very term "talent loss" suggested that removing the financial barriers to college attendance through a relatively small expenditure of public funds would be economically efficient and contribute to economic growth.

In another sense, however, this talent loss could be viewed as a distributional issue. Qualified young people from poor families deserve the same opportunities, it was claimed, as other young people even if the return to such investment might not be all that high. Everyone, by this line of argument, should have equal educational opportunities, that is, not be prevented from attending college for economic reasons. The attainment of such a goal would be reflected by smaller disparities in the probabilities of attending, persisting in, and completing college. While this view commanded some attention in the early 1960s, it lacked persuasiveness because it did not fit easily within the mindset that then dominated policy-making concerns.

All of this was destined to change dramatically. The shift from a

heavy emphasis on efficiency to equity began with the declaration of War on Poverty in 1964 and accelerated rapidly after that. One interpretation of this change is as follows: because of rapid economic growth and the belief that the benefits of economic growth could and should be more widely shared, society had an obligation to help those of its members most in need, as reflected by their low incomes (Harrington 1962). But rather than merely transferring cash benefits to the poor, a more acceptable and, it was hoped, more powerful strategy was adopted (President's Economic Report, 1964). Education, training, and related services were to be provided to poor families and especially to their younger members so as to enhance their skills and knowledge and make it possible for them to earn their way out of poverty. A variety of anti-poverty programs followed, many of which had strong educational and training components (Levine 1977).

Other influences were also significant. A strong push came with the release of the Coleman (1966) report, Equality of Educational Opportunity. This massive study directed attention to the concept of equality of educational opportunity. While the report dealt with the determinants of the cognitive achievement of elementary and secondary students, it stimulated efforts to generalize the concept of equal educational opportunity to higher education as well. Another important influence was the proposed negative income tax. Although not viewed as a means of assuring equal educational opportunity, it led to wider acceptance of the potential effectiveness of transfer payments in augmenting limited incomes to achieve some target level of consumption or to aid in the purchase of human investments, such as health and education, that would enhance the long-run earnings prospects of the recipients.

The shift to a more explicit focus on equity was exceptionally quick.

Within the space of just a few years the question guiding policy makers changed from asking what a program would do to stimulate economic growth to what it might do to help the poor (Lampman 1974). In higher education the concern became that of trying to assure greater equality of educational opportunity as reflected in more equal enrollments rates not only across income groups but also among different race and sex groups. These developments led to the creation by both the federal government and also state governments of student financial aid programs that increasingly used demonstrated financial need as a basis for allocating financial aid to students. The resources available grew quickly. By fiscal year 1980, federal resources for student financial aid amounted to almost $7 billion, with an additional billion provided by state governments, and another two billion from institutions of higher education. The undetermined remaining costs were paid by students and their parents.

The focus of research also shifted. Greater attention was given to disparities in higher education spending and to differential access to college for different population groups (Folger 1970). Higher education came to be viewed by some as a mechanism that redistributed resources from the poor to the rich as a result of cost differences among institutions, selection processes that directed students of different backgrounds into different types of colleges, and the tax structure used to finance higher education (Hansen and Weisbrod 1969; Carnegie Commission 1973). The concept of equity soon became part of the jargon in the economics of higher education (Schultz 1972).

This brief account indicates the profound shift in both thinking and policy that occurred, from a heavy focus on questions of efficiency prior to the middle 1960s to an almost exclusive focus on equity or income

redistribution after that. The speed of this transformation is remarkable. Unfortunately, since no full treatment of the transformation exists, its details must be left for others to tell.

Now, after over a decade in which equity concerns dominated, we appear to be entering a new era. It is likely to be characterized by increasingly sharp conflict over the goals of efficiency and equity. What the tradeoffs are remains exasperatingly unclear because of the absence of systematic efforts to determine whether equity-oriented financial aid programs produced the effects they were designed and created to achieve. Have they stimulated greater proportions of lower income students to attend college and to persist to graduation? Have they helped generate additional private and social benefits for their recipients and for the larger population? Or have they produced side effects that affect adversely the internal productivity of the educational sector? Have they undercut future growth possibilities for the economy as a whole?

These are the questions that come to mind as one reviews the experience of the past two decades. Unfortunately, these questions are difficult to answer because pertinent evidence is so hard to assemble. Therefore, an effort is made in the next sections to narrow the scope of these questions so that some limited evidence can be provided.

III. Types of and Rationale for Student Financial Aid

Before proceeding, it is important to describe the major types of financial aid and the rationale for each of them. Financial aid for college students takes two principal forms. One is the less apparent and sometimes forgotten across-the-board subsidy that reduces tuition below the cost of instruction. This subsidy is provided by taxpayers who defray anywhere from two-thirds to three-fourths of the cost of instruction for students enrolled in public colleges and universities. Students attending some private colleges and universities also pay much less than the full cost of instruction and in effect are subsidized. The amount of the subsidy depends on the size of the institution's endowment, the generosity of alumni and others, and the ingenuity of colleges in raising funds; in some states, public support is also provided to private institutions. This means that private college students pay on average as much as 100 percent and as little as perhaps 40 percent of instructional costs. Considerable variation also exists among students at different institutions in the size of these subsidies.

Despite the existence of these subsidies, students and in most cases their parents must incur the direct costs of college attendance, including tuition, books, room and board, and related costs that may approximate the size of the tuition subsidy. This does not include the additional opportunity costs (earnings foregone) over and above maintenance costs (room and board).

A now all-but-disappeared form of financial aid for undergraduates is what used to be called scholarships. Scholarships were typically offered to freshman applicants and to continuing students with outstanding academic

records. Often these funds were targeted to outstanding students who came from poor families. Given limited resources, scholarships rewarded talented students from poor families, in the apparent belief that emphasis should be put upon past academic performance and financial status rather than on financial need alone. Funds for these scholarships came from monies available to colleges and universities. Awards generally did not exceed the costs of attendance. Usually they were considerably less and were viewed as aid that by itself would hardly be sufficient to permit scholarship recipients to enroll unless they had other resources.

The other form of financial aid -- grants, loans, and employment -- goes directly or through institutions to individual students and is based almost exclusively on financial need. The amount of such aid ranges from nothing to 100 percent, and sometimes even higher, of the usually recognized costs of attending college (tuition, fees, books, and room and board). Because no one source of financial aid is large enough to meet the costs of college, and because of differing eligibility for these several types of aid, students receive a "package" of financial aid (i.e., some mix of grants, loans, and work) that may or may not fully meet their financial need. The distribution of financial aid reflects to a considerable extent the economic position of students and their families, the choice of students as to the college they attend, and the availability of financial aid resources. The extent to which student-directed financial aid represents a subsidy depends in part on type of aid received. Work study offers no subsidy to students (the subsidy goes to employers) but does provide students with employment opportunities that otherwise might not exist. Grants represent a full subsidy for whatever proportion of the costs of attendance they meet. Loans carry different repayment obligations, with more favorable interest

and repayment conditions for guaranteed loans than other loans from private lenders. Thus, loans provide subsidies to recipients and to the lending institutions which provide the loans.

Several purposes are served by financial aid, in addition to shifting part of the costs of college attendance from students (and their parents) to taxpayers. Across-the-board subsidies are justified by economists and others on the ground that without them a less-than-optimal amount of education would be demanded because individuals would take account only of the private returns they expected to receive as they made decisions about attending college. To the extent that higher education produces valuable external benefits that spill over to other people, the realization of these benefits can be assured only through subsidies that lower the cost to individuals and thereby encourage more young people to make larger purchases of higher education (Orwig 1971; Bowen 1977; Breneman and Finn 1978).

Need-based student financial aid is seen as (1) enhancing equality of opportunity, which is defined as (a) greater access to postsecondary education, (b) wider student choice among educational options, and (c) greater persistence in school; and (2) easing the financial burden of college costs for particular types of families, most notably low or low and middle income families (Congressional Budget Office 1980). These terms are rather vague. Can we be more precise about what these terms mean? Under (1), "access" seems to mean that qualified students should not be denied the opportunity to attend college because of limited financial resources; "choice" means that cost differentials among institutions, both public and private, should not influence decisions of young people about which college they attend; "persistence" means that qualified students making acceptable progress should not by reason of limited financial resources be unable to complete their

degrees. Another way to think about financial aid is to view it simply as reducing the price of higher education, thereby causing an increase in the quantity of education demanded. Under (2) there is little to be said. Obviously, low family incomes inhibit student access, choice, and persistence. Financial aid reduces the schooling costs that families might otherwise pay and thereby frees up money for other purchases.

"Greater" access, "wider" choice, and presumably "greater" persistence are laudatory goals, but, since they are probably impossible to attain completely, what can we take as indicative of movement toward their attainment? Unfortunately, these terms have not been given operational meaning, thereby making it difficult to know whether these objectives have been attained.

Consider first the matter of "greater access". The typical pattern of attendance rates by parental income is shown by line B in Figure 1 which already takes into account the presence of across-the-board subsidies: line A depicts presumed attendance rates by family income level in the absence of across-the-board subsidies. Now we introduce student financial aid. Direct student aid conditioned on family income is assumed to cause line B to pivot around some point, such as X, the breakeven point, with the new segment shown as line C. While this description seems plausible, little or no effort has ever been made to give empirical content to the pattern of enrollment with and without across-the-board subsidies and in the presence of student financial aid.

Much the same can be said about "wider choice" and "greater persistence." What would be the distribution of students by type of institution -- public versus private, 2-year versus 4-year versus university, small versus large, etc. -- if wider choice and greater persistence were attained? Given the importance of tastes in selecting a college, there are enormous

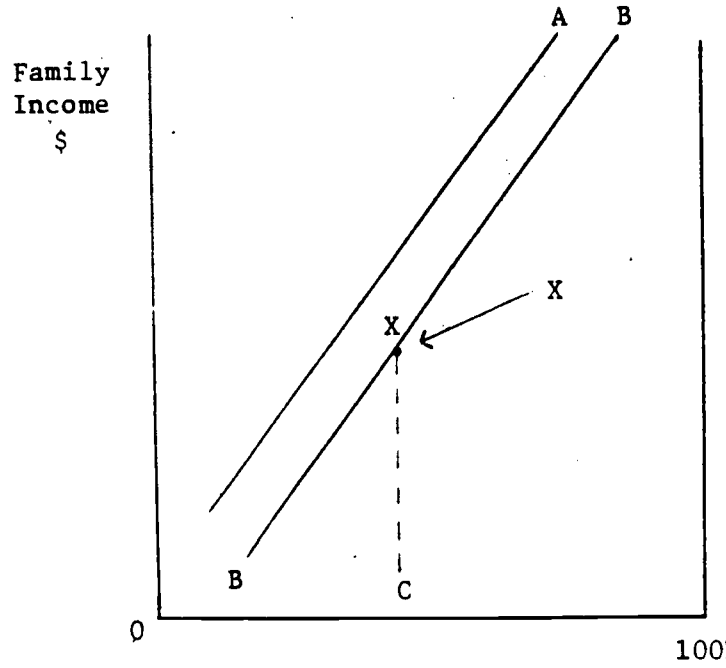
difficulties in trying to give operational meaning to these terms. As an example, does greater persistence mean that graduation rates should be similar for students irrespective of family income levels? Are we talking about persistence levels through the first year of college, the first two years, or the full four years and a diploma? How much change is required before we feel that student financial aid is accomplishing these objectives?

To sum up, these objectives and their operational meaning remain quite fuzzy. This creates great difficulties for anyone, including Congress, who attempts to evaluate the accomplishments of these programs. But even if the goals had been given more specific meaning, we would still experience difficulty figuring out what would have happened in the absence of these programs, i.e., what is the counterfactual? Unless the counterfactual is spelled out beforehand -- and this is both a difficult and hazardous undertaking -- subsequent evaluators must try to reconstruct the expectations of those who decided these issues. This too is difficult and at times impossible to do satisfactorily.

We face the same difficulty in current discussions of student financial aid: if these programs are cut back or eliminated, what would be the effects on access, choice, and persistence? With respect to choice, will the enrollment function in Figure 1 shift from the BXC function back to BXB? Or might it remain relatively unchanged? If it remained unchanged, would this reflect a shift in tastes or attitudes among low income families about the desirability of higher education for their children? Or might it reflect great efforts on the part of students and their parents to offset cutbacks in financial aid by increased work activity, drawing on assets, and so on?

Figure 1

Illustrative College Attendance Rates by
Family Income With and Without Student Financial Aid Programs



Percent of Age Group or Eligibles Attending

A = without financial aid

B = with across-the-board financial aid

C = with need-based financial aid

X = breakeven point

IV. Evolution of Student Financial Aid

A full account of the evolution of student financial aid has yet to be written. We do know that what was traditionally viewed as a matter of individual and family concern became transformed, in the mid-to-late 1960s, to a general societal concern for assisting students largely through low-cost loans and work-study funds, and in the early 1970s, to a special concern for providing cash grants to qualified but poor students so that they might attend college. These programs grew steadily, culminating with passage of the 1980 amendments to the Higher Education Act of 1965, which provided a detailed program for further expansion of federal support to the mid-1980s. With the new administration in 1981, these federal programs are being cut back and some may even be discontinued.

Until quite recently, parents traditionally played a major role in paying the college attendance costs of their children. Students also contributed, often earning much of their own expenses by working while attending school and in the summers; in some cases they found it necessary to spend a year or two working before enrolling in college. Colleges and universities typically maintained small scholarship and loan funds, often from bequests provided by former graduates and corporations, to help underwrite some part of the costs of attendance for a few able but financially poor students. In addition, there are heart-warming instances of friends, eminent townspeople, and others helping to send promising young people to college by paying a part of their expenses.

This informal system began to change in the early 1950s when competition for able students intensified. A number of private colleges, notably the Ivy League colleges, came to the conclusion that competing for the same students with their limited scholarship funds was not a wise approach and that more efficient methods of allocating their limited resources had to be

established. This led them to begin taking into account the financial needs of students, with the help of a financial needs analysis system developed for them by the College Scholarship Service. Colleges and universities still made most of their financial aid awards, then called "scholarships," on the basis of academic merit.

With the advent of Sputnik and the subsequent enactment of the National Defense Education Act of 1958, a major shift took place. This legislation offered low-cost, federal loans to students entering certain academic programs in college. These loan obligations could be reduced considerably if individuals opted to enter into some critical training program or occupation after graduation. In making these awards, no consideration was given to financial need; the objective was to stimulate the flow of qualified young people into activities that were viewed as in the national interest.

Meanwhile, the perennial difficulties of mobilizing the resources required to support students while in college led a number of states to establish loan programs and, in some cases, guaranteed loan programs for residents. These subsidized programs, designed to facilitate human resource investment, sought to reduce if not eliminate the difficulties students experienced in obtaining loans from private lenders who were quite properly concerned about the lack of collateral of people planning to invest in the development of their intellectual skills.

Despite periodic discussion of the need for more federal support in the early 1960s, the first major legislation to provide substantial federal monies for student financial aid came with passage of the Higher Education Act of 1965. The purpose of this legislation was to establish a federal guaranteed student loan program. A variety of factors helped produce this legislation. New York State's favorable experience with a guaranteed student

loan program showed that such a program could work; loans for college students were seen by opponents of a tuition tax credit as a less costly and much more useful program to support higher education; and finally, strong support came from then-President Lyndon B. Johnson, who believed firmly in student loans but on a limited scale. One can also view the legislation as a political response to the large successive waves of the baby boom reaching college age. In any case, the federal government entered the student aid business by providing subsidized loans guaranteed in case of student default, with eligibility limited to students from families with incomes of under $15,000. Congress also incorporated into this legislation a part of the package of poverty proposals passed the year before, principally a small program of Economic Opportunity Grants targeted for low income youth to help them pay the costs of college and work-study funds, also for low income youth.

It is interesting to note that Educational Opportunity Grants, while targeted on students from poor families, also emphasized that recipients should "show evidence of academic or creative promise." In other words, the focus on students from low income families was conditioned on some measure of quality, a reflection of the continuing concern from the early 1960s over "talent loss."

The emphasis on the War on Poverty and on the plight of minorities quickly led to a recasting of priorities by higher education which, after experiencing substantial injections of public funds for new buildings and research, wanted to gain federal support for institutional costs.

The changing goals were reflected in several ways. First, the 1967 amendments to the Higher Education Act called for a study to recommend means of "making available a post-secondary education to all young Americans who qualify and seek it." The terms "qualify and seek" are quite different from the 1965 language "show evidence of academic or creative promise."

Second, and much more important, this new set of goals was reflected in a paper by Clark Kerr (1968) who had just assumed direction of the newly created Carnegie Commission on Higher Education. He called for a massive expansion of federal spending for higher education by 1976, with up to $5 billion for student financial aid to assure greater equality of educational

opportunity. Shortly afterwards, Kerr's Carnegie Commission (1968) issued its first report, Quality and Equality: New Levels of Federal Responsibility in Higher Education. This was followed shortly thereafter by a report from an Advisory Task Force of the Department of Health, Education and Welfare (1969) directed by Alice Rivlin with a somewhat similar title: Toward a Long Range Plan for Federal Support of Higher Education. These reports called for a substantial expansion of federal monies for a need-based grant system, an expanded work-study program, an enlarged student loan program, direct institutional grants tied to the number of students receiving federal support, and related proposals. These two reports made it quite clear that a central purpose of their recommendations which were carefully spelled out and costed was to achieve greater equality of educational opportunity. Similar recommendations began to emerge from the various states, such as the full-fledged financial aid proposal for Wisconsin developed by Hansen and Weisbrod (1971).

The weight of these recommendations, combined with redistributive sentiments and large cohorts of "baby boom" children of college age, brought action. Congress began to consider ways of providing institutional aid and, particularly, student financial aid that would be targeted to student need. Institutional aid was considered but quickly rejected. Instead, attention was concentrated on aid to students. There soon materialized the 1972 amendments to the Higher Education Act which established the Basic Educational Opportunity Grant program to provide direct grants to students based on financial need (Gladieux and Wolanin 1976).

Further changes in student financial aid programs were made through the 1970s, especially by the Middle Income Student Assistance Act of 1978 and the 1980 Higher Education Act Amendments. The former loosened slightly the income eligibility criteria for BEOG funds but even more important

eliminated them completely for student loans. As a result, the careful targeting of federal student financial aid was reduced (Hansen and Lampman 1982, 1974). The 1980 amendments also offered for the next four years a patterned program of increases in BEOG funds per student, and they altered the eligibility criteria such that program costs could be expected to rise more sharply than they had in the past.

With the election of the Reagan Administration and its program of substantial budget cuts, all bets for the future are off (Froedga 1981). BEOG levels have been reduced, interest rates on student loans have been raised, and more budget cuts are anticipated. While the picture is still highly uncertain, it appears that major reductions will be made in what has been the substantial federal commitment of funds to support equality of educational opportunity (Chronicle of Higher Education, 1982 issues).

As of late 1980 a variety of federal student financial aid programs were in place. These programs are described as they existed in late 1980.

1. National Direct Student Loans (NDSL)

Established under the National Defense Education Act of 1958, this program provides low-interest loans to students enrolled at institutions eligible for participation. These loans are made through institutions. Student eligibility is based on financial need. Interest is set at 3 percent, with the start of repayment deferred until nine months after a student completes school.

2. Guaranteed Student Loans (GSL)

The Higher Education Act of 1965 established a program of federally guaranteed loans offered by private and nonprofit lenders. For students from families with incomes of less than $15,000, loans were offered at subsidized rates of interest (6 percent originally and 7 percent since 1968) and in addition permitted the deferral of interest payments until after the borrower completed college. Students with higher family incomes could borrow but had to pay 7 percent interest from the date of the loan. Loan maximums were originally $1,000 per year but have since been raised to $2,500 per year. The most important changes in the program came in 1978 with the removal of the limit on family income; all borrowers became eligible for the in-school subsidy as well as the much lower than market rate of interest.

3. College Work Study (CWS)

Although established by the Economic Opportunity Act of 1964, the work study program was transferred to the Office of Education under the Higher Education Act of 1965. Work study programs provide funds to colleges and universities, enabling them to pay up to 80 percent of the costs of employing students from low-income families in jobs primarily but not exclusively on campus. In recent years students could earn up to a maximum of $2500 per year. In addition to providing earnings, it was hoped that the job experience gained would enhance the subsequent employability of CWS participants.

4. Supplementary Educational Opportunity Grants (SEOG)

This program, begun under the name of Educational Opportunity Grants in 1965 and recast slightly in 1972, provides funds to institutions for disbursement to students with exceptional financial need who also maintain a high level of academic performance (in the upper half of their class). Institutions are required to match the federal funds. Grants range from $200 to $1,500 per year, with a $4,000 maximum for the education of any particular student. Recipients must be enrolled at least half time.

5. Basic Educational Opportunity Grants (BEOG but renamed Pell Grants)

Established by the 1972 amendments, the BEOG program provides grants to students enrolled at least half time in college or postsecondary education. The amount of these grants is based on financial need and originally could not exceed $1,400 or 50 percent of the cost of attending college, whichever was least. The amount of the grant is determined on the basis of financial need, which takes into account parental income, assets, family size, and other pertinent expenditures. Various changes have been made in this program over the years, principally through raising the maximum amount of the grant from $1,400 to $1,800, broadening eligibility by family income level from $15,000 to almost $28,000, and altering the elements in the formula for determining financial need.

6. State Student Incentive Grants (SSIG)

This program was also established in 1972, with the federal government matching state contributions, to provide grants of up to $1,500 per academic year based on financial need.

7. State and Institutional Programs

The dominance of federal legislation obscures the important role played by various states and by individual institutions. Not only did some develop their own student loan and grant programs well before the federal government, but the newly developed federal programs were often tailored after already successful state and institutional programs. States and institutions operated what were essentially scholarship programs but in the 1970s these were rapidly converted to need-based grant programs.

The growth of these programs is shown by Table 1. Until 1973 loan funds represented from 60 to 70 percent of all federal appropriations for student

financial aid. But with the advent of SEOG and BEOG in the early 1970s, the balance shifted, with loan appropriations ranging between 30 and 40 percent of the total (the sum of columns 1 and 2 divided by column 7).

If instead we consider not loan appropriations but loan volume, then loans represented 70 to 80 percent of total federal aid until 1973, after which the proportion dropped to about 40 percent but climbed steeply to well over 60 percent as loan volume increased sharply beginning in 1979, after the family income limitation was removed (the sum of columns 1 and 8 divided by column 9).

The evolution of student financial aid programs can be summarized with the help of Figure 2 which shows a series of grids describing the college-age population by ability quartiles in the rows and economic status quartiles in the columns. The distribution of student financial aid funds is indicated by the slash marks.

Prior to 1965 student financial aid took the form of scholarships and loans which were distributed largely to High ability students and especially among them to students from Low economic status families. Beginning in 1965 a new focus was added, that of directing some aid to students from Low economic status families, with some attention to ability. By about 1970 the scholarship concept was discarded, with those funds redirected to Low status students without,or at least with less,regard to ability.

The next transformation occurred in 1972 when need-based aid expanded greatly with passage of BEOG. The 1978 Amendments further opened up eligibility for BEOG and made GSL loans available to virtually anyone who wanted them.

These changes are quite dramatic. Most apparent is the shift in targeting after 1965 and the move beginning in 1978 to spread eligibility much more broadly.

Table 1

Growth of Appropriations for Major Federal Student Financial Aid Programs, Fiscal Year 1964 to 1981
(in millions of dollars)

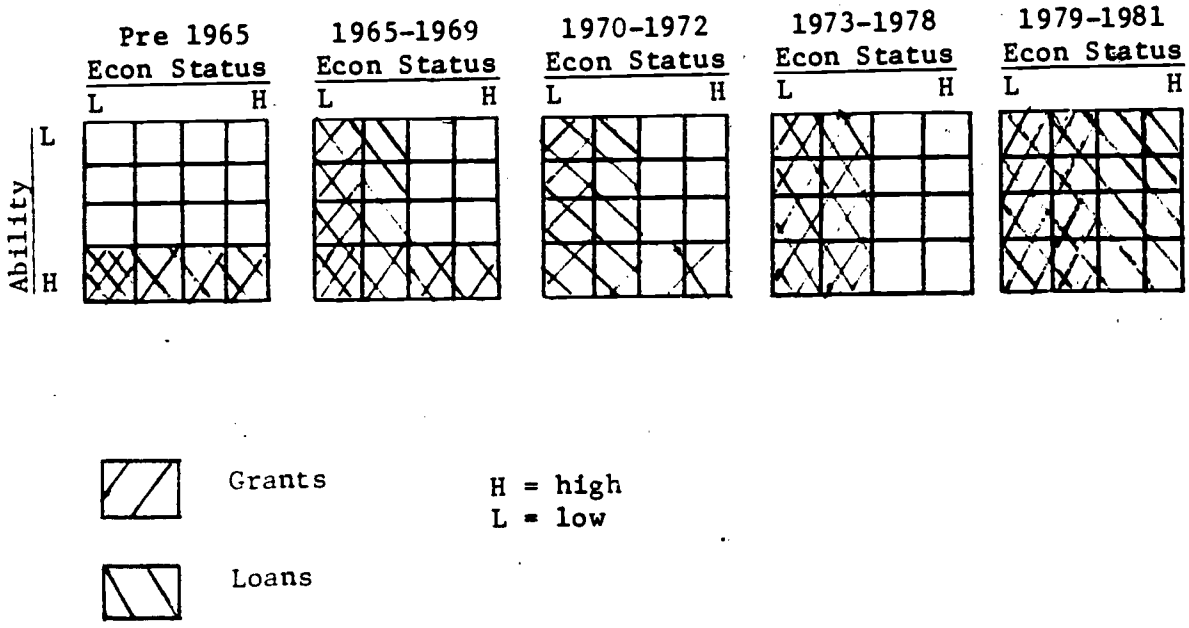
Fiscal Year	NDSL (1)	GSL (2)	CWS (3)	SEOG (4)	BEOG (5)	SSIG (6)	Total Appropriations (7)	GSL Loan Value (8)	Total Funds Available (9)
1964	0	0	0	0	0	0	0	0	0
1965	0	0	56	0	0	0	56	0	56
1966	182	10	99	0	0	0	291	77	358
1967	192	43	134	0	0	0	369	248	574
1968	193	40	140	0	0	0	373	436	769
1969	193	75	140	0	0	0	408	687	1020
1970	195	73	152	0	0	0	420	840	1187
1971	243	161	158	0	0	0	562	1044	1445
1972	317	209	427	0	0	0	953	1302	2046
1973	293	292	270	0	122	0	977	1199	1884
1974	298	399	270	210	475	20	1672	982	2255
1975	329	594	420	240	840	20	2443	1208	3057
1976	332	808	390	240	1326	44	3140	1735	4067
1977	323	357	390	250	1903	60	3283	1470	4396
1978	326	480	435	270	2160	64	3735	1648	4903
1979	329	945	550	340	2458	77	4699	2250	6004
1980	301	1609	550	370	2320	77	5227	4840	8458
1981	201	2312	550	370	2309	77	6020	5100	8808

Source: Office of Evaluation and Program Management, Annual Evaluation Report, Vol. II, Fiscal Year 1980, U.S. Department of Education, 1981, pp. 135-188.

Column 7 is the sum of columns 1-6; Column 9 is the sum of columns 1, 3-6, and 8.

Figure 2

Evolution of Targeting of Student Financial Aid
by Economic Status and Ability Quartiles,
Pre 1965 to 1980



V. Predicted Effects of Student Financial Aid

Two studies have been located that attempt to estimate the additional enrollment induced by national need-based programs of student financial aid. The first estimate was made by Folger, Astin, and Bayer (1970) based on Project Talent data for the early 1960s and reflects concern with the loss of talent. The second by Hartman (1972) is an analysis of the BEOG program when it was under consideration by Congress.

Folger asked what effect a financial aid program would have if it met the financial needs of all lowest quintile SES* students in the top half of their high school class. If half of those eligible for aid responded, enrollment would rise by 8 percent. Of course, all of the enrollment increase would be for low quintile SES students and hence for low income students. If we broadened Folger's approach, to bring the enrollment rates of low and middle SES quintiles up to those of the middle SES quintile, but only for youth in the upper three quintiles on the ability scale, enrollment would increase by about 10 percent. Whichever estimate is chosen, the enrollment increases are not insignificant.

Hartman's estimates are more pertinent to the focus of this paper in that he was concerned with the impact of the BEOG program as it was finally adopted. Working with enrollment rates by family income level, he showed that if the BEOG program brought the enrollment rates of youth from lower income families up to the enrollment rate for the then $10,000-$14,999 income class (based on the reasonable assumption that BEOG would give potential students the buying power of a family in this income class), the overall enrollment rate would increase by 20 percent. Enrollment rates for youths from lower income families would rise by even more since all of the overall

*socioeconomic status

increase would be concentrated at the low end of the family income distribution. This means, for example, that the enrollment rates of youths from the lowest income families (under $3,000 family income) would rise from 13 to 41 percent, a more than 200 percent increase. Hartman's more conservative assumptions produce overall enrollment increases of 13 and 9 percent; for the lowest income group, its enrollment rates would rise by approximately 100 percent and 50 percent, respectively.

The point of this section is to indicate that predicted effects of financial aid programs, in particular their impact on enrollment rates of lower SES and lower income high school graduates, are not small. They are clearly large enough to show up in any comparisons of pre-and post-program data. To the extent that other program changes also occurred, notably the removal of the income cap on eligibility for GSL funds, enrollment rates for youth from higher income families may also have increased somewhat. But given the relatively high enrollment rates as we move up the income scale, the potential magnitude of the response is constrained. In short, those who predicted that the program would expand enrollments made it quite clear that the effects would not be negligible.

VI. Evaluation of Student Financial Aid Program Effects

The Department of Education has made continuing efforts to evaluate the effectiveness of federal student financial aid programs in promoting the goal of greater equality of opportunity, particularly the dimensions of access and choice. The evidence used is summarized here to set the stage for the subsequent sections of this paper (Office of Evaluation and Program Management, 1981, Vol. II).

The first type of evidence examined is enrollment rates of young people age 18-24 years from the early and mid-1970s through 1978 (the most recent year spanned by this report.) It is pointed out that (1) the enrollments of blacks and Hispanics rose somewhat relative to whites and (2) the enrollments of dependent students from families with incomes of $15,000 and above fell off while enrollment rates for youth from lower income families maintained themselves. The report is properly cautious in not drawing any conclusions about access or choice from these data. Nevertheless, the inclusion of these data could suggest that the results are viewed as mildly supportive of the access objective.

The second type of evidence is less direct. It is based on an assessment of the difficulty students are likely to experience in financing the student burden--that part of the cost of attendance that remains after taking account of parental contributions and grant funds. This student burden can be met by loans, earnings from parttime work while in school, and summer savings. Two types of conclusions are drawn from these calculations of student burden. One is that the size of the burden is quite manageable at 2-year and 4-year public institutions for both dependent and independent students. This means that the access objective has been reasonably accomplished. The other is that students at private institutions would have to incur greater debt

and make greater sacrifices but this would not impose unmanageable burdens on them. Thus, the choice goal is to a large extent being achieved.

These conclusions have to be qualified when the full range of student budgetary categories is considered, including the "over $6,000" category where the student burden is quite substantial. The analysis assumes that parental contributions were forthcoming in the stipulated amounts, that parttime employment yielded as much as $1,350 based on working at the minimum wage for 15 hours a week during the school year, and that summer work yielded $500 in savings for college. However, no information is provided about whether these various funds materialized and whether students did indeed avail themselves of the various loans available to them. On the other hand, because estimates of the student burden are based on the financial aid information of students who are already enrolled at these high cost schools and are receiving financial aid, this indicates that the student burden, whatever its size, is somehow being financed and, thus, it cannot be an unmanageable burden! Unfortunately, we are offered no data on students who are not receiving financial aid; such data would permit us to compare their burdens with those of aid recipients. It is entirely possible that these students not receiving aid could be more heavily concentrated at lower cost schools where their burden would be less; their inability to qualify for financial aid would manifest itself in the choice of less expensive institutions. It is also unfortunate that we lack information on young people not attending college, either because they could not afford it in the beginning or because they had been forced to drop out for lack of adequate financial resources.

In short, the conclusions about the effects of student financial aid programs on access and choice speak only to the allocation of the costs of attendance among already enrolled students. Whether additional students

have been drawn into higher education is not addressed in the Department of Education analysis.

VI. A Closer Look At Access

Two standards can be used to assess the effectiveness of student financial aid programs in widening access to college. These standards involve comparing enrollment rates to ascertain whether and to what extent the composition of college-age youth attending or planning to attend college has changed as a consequence of the greater availability of federally-provided student financial aid.

The first of the standards compares enrollment rates for college-age youth from above and below median income families, on the assumption that need-based financial aid should raise the enrollment rates of lower income relative to higher income youths. This follows from the discussion in Part III of this paper and Figure 1 in particular, which suggested that the establishment of financial aid programs would produce a twist in the relationship between family income and enrollment rates.

The second standard compares planned and realized enrollment rates for high school seniors by socioeconomic status and ability. This follows up on the presentation in Part IV of this paper and particularly Figure 2, which shows how the evolution of student financial aid programs might be expected to have altered the composition of college students.

Application of these standards requires examining several sources of pertinent data and making comparisons over time periods that are most likely to reveal the effects of more abundant student financial aid. The data we employ come from two sources: One is the annual October Current Population Survey data on school enrollments, which provide extensive information for dependent youth age 18-24 on their enrollment by race, sex, and family income. The other source of data is two longitudinal surveys of high school seniors. The 1972 National Longitudinal Study of the High School Class of 1972 (NLS)

provides extensive baseline and followup data over the rest of the decade. The High School and Beyond--A National Longitudinal Study of the 1980s is barely underway, with its first followup this spring (1982). As a result, comparisons of enrollment patterns in these two longitudinal surveys will be incomplete until the first followup data become available later this year or early in 1983. Nonetheless, we can make some comparisons of enrollment expectations, using the 1980 baseline data.

To make the data analysis as comparable as possible, we utilize CPS data for the early 1970s (an average of 1971 and 1972) and the late 1970s (an average of 1978 and 1979, the most recent years for which data are available). The initial period in both data sets precedes implementation of the BEOG program, whereas the end period reflects the changes resulting from the Middle Income Student Assistance Act (1978).

A. Enrollment Rates By Family Income Levels Based on CPS Data

The impact of student financial aid should manifest itself by raising the enrollment rates of low income college-age youth relative to high income college-age youth. Isolating such changes is difficult because family incomes have risen sharply, largely as a result of the inflationary environment of the 1970s. Hence, enrollment rates for particular family income classes are not directly comparable over time. To circumvent this difficulty enrollment rates have been calculated for young people age 18 to 24 from families with incomes above and below the median level of income for those families whose children are eligible or qualified to attend college. The use of median income makes this a rather crude analysis. While the lower family income quartile could have been used, the results would be more heavily affected by the linear interpolation procedures that must be applied

to the published data which groups families by rather wide revenue classes. On the other hand, because eligibility for student financial aid extends up to at least the level of median income, this cutoff seems more appropriate than using the bottom quartile.

Several comments need to be made about the quality of the data. Aside from the usual hazards of working with survey data whose standard errors are large because of the relatively small number of observations in each cell, family income data are available only for those college students who are classified as dependents. However, the "dependent" definition used in the CPS does not necessarily coincide with the dependent definition used in determining eligibility in student financial aid programs. To the extent that young people may be leaving home earlier than in the past, there could be some systematic bias in the data. Difficulties also arise because of the broad age category used, age 18-24. Since college lasts no more than four years for most young people attending college, enrollment rates will reflect graduate enrollments to some extent, difference in persistence, and differences in the duration of student programs (2-year versus 4-year programs). For these and other reasons, the data are at best only roughly indicative of the true enrollment patterns that are of interest here.

Enrollment Rates for Family Units With Dependent Students. Table 2 displays the various enrollment data that will be used in this analysis. Here the focus is on college enrollment rates for families with one or more dependents age 18-24. No allowance is made for the number of dependents per family; thus, this is a less precise indicator than that which follows later.

The top two lines show how enrollment rates changed through the 1970s. Overall, there was a sizeable drop in the enrollment rate from 37.9 to 33.8 percent. White enrollment rates fell considerably while those for blacks

Table 2

College Enrollment Rates for Families with One or More Dependents Age 18-24

Overall Enrollment Rates	Whites	Blacks	Whites + Blacks
1. 1971/1972	40.4%	22.5%	37.9%
2. 1978/1979	35.7	24.0	33.8
Enrollment Rates for Below and Above Median Families			
3. 1971/1972 Below	28.1	20.0	26.6
4. 1971/1972 Above	50.4	33.6	49.7
Enrollment Rates for Below and Above Median Families			
5. 1978/1979 Below	24.8	20.4	24.0
6. 1978/1979 Above	44.1	40.1	43.9
Ratios of Below to Above Rates			
7. Line 3/4	.56	.60	.54
8. Line 5/6	.56	.51	.55

Source: Calculations by author from data published in annual October reports of U.S. Department of Commerce, Bureau of the Census, Current Population Reports; Population Characteristics--Social and Economic Characteristics of Students. Data for 1971 (Series P-20, no. 241) are from Table 13, p. 38; for 1972 (Series P-20, no. 260) from Table 11, p. 39; for 1978 (Series P-20, no. 346) from Table 12, p. 39; for 1979 (Series P-20, no. 360) from Table 12, p. 36.

displayed a partially offsetting increase. The next four lines (3-6), showing enrollment rates for below and above median income families in both periods, indicate that white enrollment rates fell for both categories of families, while for blacks the enrollment rate for high income families rose appreciably. The roughly offsetting magnitudes of change, shown in the bottom two lines (7 and 8), caused the white ratio of below to above median income enrollment rates to remain constant. For blacks, by contrast, it dropped substantially.

These results are difficult to interpret. It is clear that we do not observe a general rise in the enrollment rates of lower to higher income students as we might have expected. And the sharp rise in the enrollment rate of high income blacks seems unlikely to have resulted from student financial aid, given that such aid is for the most part heavily targeted to lower income students. So, though our expectations did not materialize, we have no obvious interpretation for the results in Table 2.

Enrollment Rates for Dependent Students. In Table 3 emphasis is shifted to enrollment rates for dependent students age 18-24. Looking first at the data by race, we observe that, overall, white enrollment rates fell a bit while those for blacks rose. But whereas white enrollment rates fell for students in both below and above median income families, the enrollment rates for below and above median income black students rose, particularly for above median blacks in 1978/1979 (lines 3-6). As a consequence, the ratio of enrollment rates in lines 7 and 8 drop slightly for whites and by over one-tenth for blacks. Hence, it is not clear that youth from lower income families were pulled into college relative to students from higher income families.

Shifting our focus now to gender differences, we find a somewhat

Table 3

College Enrollment Rates for Dependents From Families with Dependents Age 18-24

Overall Rates	Whites	Blacks	W + B	Males	Females	M + F
1. 1971/1972	26.4%	18.4%	25.5%	31.2%	20.6%	25.5%
2. 1978/1979	25.9	20.0	25.1	26.8	23.8	25.2
Rates for Below and Above Median Students						
3. 1971/1972 Below	16.0	16.1	16.0	29.8	12.4	16.1
4. 1971/1972 Above	35.1	25.2	34.4	40.5	29.6	34.9
Rates for Below and Above Median Students						
5. 1978/1979 Below	15.3	17.1	15.7	17.9	15.2	16.4
6. 1978/1979 Above	34.9	29.8	34.6	37.9	38.1	38.0
Ratios of Below to Above Rates						
7. Line 3/4	.46	.64	.47	.51	.42	.46
8. Line 5/6	.44	.57	.45	.47	.40	.43

Source: October Current Population Reports; see Table 2. Data for 1971 (Series P-20, no. 241) are from Table 14, p. 40; for 1972 (Series P-20, no. 260) from Table 12, p. 42; for 1978 (Series P-20, no. 346) from Table 13, p. 41; for 1979 (Series P-20, no. 360) from Table 13, p. 38.

different story. Enrollment rates for males fell while those for females rose. Whereas enrollment rates of below and above median income students fell for men and rose for women, the net effect is a decline in the overall ratio for men and women combined.

Once again, the trends run counter to our expectations that student financial aid would increase enrollment opportunities for lower income youth.

Enrollment Rates for Dependents Who Are High School Graduates. The use of all dependents age 18-24 as a basis for the preceding calculations ignores the reality that some of these dependents are not eligible for college because they did not graduate from high school. To clarify what has happened, enrollment rates have also been calculated for dependents who are high school graduates. The results which are shown in Table 4 parallel those in Table 3.

Several results deserve comment. First, the enrollment rates shown in Tabel 4 are all higher than those shown in Table 2; this is because we subtract from the denominator those dependents who are not high school graduates. The higher the fraction of dependents age 18-24 who are not high school graduates, the larger the increase in the enrollment rates. Thus, the overall enrollment rates (lines 1 and 2) rise for blacks relative to whites and for males versus females, given that high school completion rates are lower for blacks and for males. Second, whereas female enrollment rates are in all cases lower than those for males, overall as well as for those above and below the median income level, we note a different pattern for blacks versus whites. Enrollment rates for black high school graduates from families with below median incomes are actually higher than for similar whites (see lines 3 and 5 for whites and blacks). This is not the case, however, for black high school graduates from above median income families. More surprising is the fact that while the enrollment rate for lower income black high school graduates rose slightly from 1971-1972 to 1978-1979, the enrollment rate for higher income black high school graduates rose by a

Table 4

College Enrollment Rates for Dependents from Families with Dependents Age 18-24 Who Are High School Graduates

Overall Rates	Whites	Blacks	W + B	Males	Females	M + F
1. 1971/1972	32.8%	28.8%	32.4%	40.1%	26.1%	32.5%
2. 1978/1979	31.9	29.9	31.6	34.6	29.5	31.9
Rates for Below and Above Median Dependents						
3. 1971/1972 Below	22.5	26.7	23.3	30.9	17.8	23.5
4. 1971/1972 Above	41.9	34.3	41.5	48.4	35.1	41.5
Rates for Below and Above Median Dependents						
5. 1978/1979 Below	21.5	27.3	22.5	25.8	20.7	22.9
6. 1978/1979 Above	40.9	37.9	40.7	42.1	39.6	40.9
Ratios of Below to Above Rates						
7. Line 3/4	.54	.78	.56	.64	.51	.57
8. Line 5/6	.53	.72	.55	.61	.52	.56

Source: See Table 3.

considerably greater margin. The net effect is a sharp decline in the enrollment ratio for blacks (lines 7 and 8) and a much smaller decline for whites, with no real change for whites and blacks combined.

Third, the story for women is roughly the same as in Table 2. Enrollment rates fall over the period for men and they rise for women (lines 1 and 2). The ratios of the below to above median enrollment rates (lines 7 and 8) show that despite heavily targeted financial aid, the enrollment ratio for women held constant while that for men dropped somewhat. Again, these patterns run counter to our expectations.

Summary. This initial foray into the widely used and readily available CPS data indicates no clearcut effect of student financial aid in causing enrollment to increase more markedly for youth from lower income families relative to higher income families.

B. Enrollment Plans by Income, Socioeconomic Status, and Academic Ability

Having already examined whether the distribution of enrollments by family income changes from the early to the late 1970s, we next want to consider whether the composition of college enrollments changed in other ways. In particular, we are interested in knowing whether the growing availability of need-based financial aid stimulated the college-going plans and enrollment of the more academically promising young people from lower income or lower socioeconomic status families. This question is important because it reflects a long-standing concern about talent loss, recent concern about educational quality, and the critical role of financial aid in producing selective increases in college enrollment rates.

We now shift attention from the CPS data to longitudinal data, namely the National Longitudinal Study of the High School Class of 1972 (NLS) and

High School and Beyond -- A National Longitudinal Study of the 1980s (HSB). As noted earlier, these studies gathered exhaustive information on high school seniors while they were still in high school. The NLS base-year data base has been augmented through periodic followup studies. The HSB study completed its first two-year followup in Spring 1982, the results of which are not yet available. This means that for now we can only compare college plans, not actual enrollments. Although planned and actual enrollments are likely to differ, and for a variety of reasons, there is no reason to expect systematic differences from 1972 to 1980.

One other comparable body of data is available but will not be utilized here. This is the Project Talent (PT) study which also surveyed a substantial number of high school seniors in 1960 and followed their careers over the next 16 years. While some published tables are available from the PT study, most of them differ from those presented here. Moreover, because of difficulties in getting access to the PT data, a detailed examination of them will be deferred for another time.

The NLS and HSB studies differ slightly, but they are in close enough agreement to permit comparisons of data from them; such comparisons have already been made (National Center for Education Statistics, 1981). Individuals are classified by socioeconomic status, family income, academic ability as measured by a brief test, and the usual demographic variables such as sex and race. Information on college plans came from the following questions. In 1972 seniors were asked "...circle one number for the highest level of education...you plan to attain." In 1980 seniors were asked "As things stand now, how far in school do you think you will get?" These are viewed here as being equivalent for purposes of comparison. It should be pointed out that because some seniors either did not know or report

their plans, they have been excluded in producing the various tables that follow. Also excluded are seniors who did not report on the particular variables used in constructing the tables.

Enrollment Expectations by Family Income. Our first comparison follows the format of those in the previous section by displaying enrollment plans for high school seniors from below and above median income families for 1972 and 1980, based on the two longitudinal studies. Table 5, Panel A, shows information for high school seniors expecting to obtain a four-year degree or more whereas Panel B shows information for high school seniors who expect to participate in any kind of postsecondary education. The key data are in the form of the ratios of expected enrollment rates for youths from below to above median income families (lines 7 and 8).

For those planning to complete four-year degrees or more, the ratios of those from below to above median family incomes drop for whites and for males whereas they rise for blacks and women. Our expectation is that the ratios would have risen for all groups because of the greater availability of student financial aid funds. It is conceivable that financial aid was more heavily targeted to blacks and that financial aid provided a greater inducement to women than to men. We have no way, however, of verifying such possibilities with these data.

For those planning to enter some kind of postsecondary education, the data in Panel B provide conflicting results. The ratios of expected enrollment rates are down somewhat for whites, males, and females, and are up only slightly for blacks. What is most surprising is the higher percentage of blacks than whites expecting to enter postsecondary education in both 1972 and 1980 (and also to complete at least four-year degrees but only in 1980; see Panel A). This may be the most startling finding from these data.

Table 5

Percentages of High School Seniors to Obtain Various Amounts of Postsecondary Education by Race and Gender, 1972 and 1980

A. Completing a Four-Year Degree or More

	Whites	Blacks	Males	Females
Overall Rates				
1. 1972 4-year degree or more	52.5	52.0	56.8	46.6
2. 1980 4-year degree or more	46.7	49.0	48.4	45.8
Rates for those Below and Above Median Family Income				
3. 1972 Below	45.0	48.7	45.5	37.3
4. 1972 Above	69.7	69.5	66.9	64.0
Rates for those Below and Above Median Family Income				
5. 1980 Below	35.0	45.5	37.9	36.3
6. 1980 Above	57.2	59.3	57.8	57.1
Ratios of Below to Above Median Family Income				
7. 1972 Below/1972 Above	.65	.70	.68	.58
8. 1980 Below/1980 Above	.61	.77	.66	.64

B. Attending Some Form of Postsecondary Education

	Whites	Blacks	Males	Females
Overall Rate				
1. 1972	82.2	84.2	85.2	78.4
2. 1980	80.8	83.6	80.1	82.5
Rates for those Below and Above Median Family Income				
3. 1972 Below	75.7	82.8	79.3	73.4
4. 1972 Above	88.1	91.8	90.6	84.4
Rates for those Below and Above Median Family Income				
5. 1980 Below	73.8	81.8	73.3	73.3
6. 1980 Above	87.1	88.6	86.1	88.6
Ratios of Below to Above Median Family Incomes				
7. 1972 Below/1972 Above	.86	.90	.88	.87
8. 1980 Below/1980 Above	.85	.92	.85	.83

Source: Calculations by author from data files for National Longitudinal Study of the High School Class of 1972, U.S. National Center for Education Statistics (NCES), 1st. ed. (Princeton: Education Testing Service; Triangle Park, N.C.: Research Triangle); and from High School and Beyond: Student File 1980, 1981 ed. (Chicago: National Opinion Research Center). Distributor for both files is NCES, Washington, D.C.

Overall Enrollment Expectations by SES, Ability, Sex, and Race. Comparable published information is available from the NLS and HSB on the educational expectations of high school seniors who can be categorized in several other ways. Thus, the percentages of seniors expecting to complete at least a four-year degree are shown in Table 6. By ability level we observe little or no absolute or relative change from 1972 to 1980. The same can be said when seniors are classified by SES. The percentages rose slightly for blacks and Hispanics but dropped a bit for whites. By sex, the male percentage went down while that for females rose. Again, the changes are not so large as to suggest changes from 1972 to 1980 that can easily be associated with the greater availability of student financial aid.

Detailed Enrollment Expectations by SES and Ability. We now turn to more detailed data on the enrollment expectations of high school seniors tabulated simultaneously by SES and ability. We follow the format of Table 6 by collapsing the middle two SES and ability quartiles as is done by the National Center for Education Statistics (1981). This serves to highlight changes in the top and bottom SES and ability quartiles. Admittedly, this approach may hide some changes that occur from 1972 to 1980 but with the offsetting gain of reducing the amount of data to be scanned.

Before turning to the results, it is important to indicate our expectations as to what we might find. As with the data on enrollments and enrollment expectations by family income level, we would expect financial aid to reduce the barriers to attendance among students from the lowest SES quartile relative to the highest SES quartile. This would lead to a relative rise (i.e., relative to the highest quartile) in the percentages of seniors from the lowest SES quartile planning to complete or attend the various levels of postsecondary education.

Table 6

Percentages of High School Seniors Expecting To Complete At Least a Four-Year Degree, By SES, Ability, Race, and Sex, 1972 and 1980

	1972	1980
All	45.9	46.0
SES - Low Quartile	26.3	26.2
Middle Two Quartiles	40.4	41.9
High Quartile	74.2	75.8
Ability - Low Quartile	18.6	19.6
Middle Two Quartiles	41.2	42.1
High Quartile	77.4	79.1
Sex - Male	51.6	47.2
Female	41.5	44.9
Race - White	47.2	45.6
Black	46.2	47.5
Hispanic	34.1	36.0

Source: National Center for Education Statistics, The Condition of Education, 1981, U.S. Department of Education, Table 3.1, p. 126.

Our expectations as to changes in enrollment plans by ability are less clear. There is nothing in the way financial aid programs are structured to suggest that they select on any measure of academic ability, other than that youths seeking admission must meet the academic standards of the college or university they expect to attend and,once there,maintain some minimum grade-point average. Because four-year schools have stricter admission standards than do two-year colleges, we would expect to find smaller changes at the middle and higher ability levels for youth planning to complete four or more years of college. By contrast, the lesser selectivity of two-year colleges and the complete absence of selectivity for other postsecondary institutions implies greater relative increases at the middle and low ability levels.

What about possible changes by gender and race? By gender, it is conceivable that the availability of financial aid enables larger proportions of low SES women to attend college, through overcoming the barrier frequently imposed by limited family resources and preferences, which lead to greater educational outlays for sons than daughters. By race, it is possible that the growth of special programs for minority students have encouraged more blacks relative to whitesto attend some kind of postsecondary education. Thus, we might expect more pronounced changes in enrollment expectations for low SES females and blacks than for low SES males and whites.

We turn now to the results. Data on enrollment expectations of seniors classified jointly by SES and ability in 1972 and 1980 are presented in Table 7. The data of most interest are in the left-hand column of each panel;

Table 7

Percentages of High School Seniors Expecting To Obtain Various Amounts of Postsecondary Education, By SES and Ability, 1972 and 1980

Ability	1972 SES L	M	H	1980 SES L	M	H
A. Expect to Complete at Least A Four Year Degree						
L	18	19	34	15	18	39
M	28	39	65	29	38	67
H	60	69	90	57	72	91
B. Expect to Enter a College Program						
L	29	33	52	28	34	62
M	40	56	80	46	58	82
H	70	80	95	73	84	96
C. Expect to Enter Some Form of Postsecondary Education						
L	57	64	76	55	66	81
M	66	79	92	71	82	94
H	86	91	98	85	94	99

Source: See Table 5.

this shows expected enrollment rates of seniors from the low SES quartile by ability groupings--the bottom, middle two, and high quartile. For these low SES seniors expecting to complete at least four years of college (Panel A), there are slight declines from 1972 to 1980 for the top and bottom quartiles. For those planning to enter a college program (including those with plans to complete a four-year degree), shown in Panel B, there is a perceptible increase for the middle ability group and a small increase for the top ability quartile. For seniors who plan to enter some form of post-secondary education (including vocational, trade, or business schools, as well as college programs and completion of a four-year degree), shown in Panel C, there is a mild increase only for the middle ability group. The most dramatic and consistent change elsewhere in the table is for the high SES-low ability cells in all three panels. We should not fail to note some slight increases scattered elsewhere: Panel A, medium SES-high ability; Panel B, middle SES-high ability; and Panel C, middle SES-middle ability.

What can we conclude from these results? One interpretation is that the availability of financial aid did have its principal effects, though still rather slight, on middle ability students from low SES families. The small increases for middle SES seniors in the middle and high ability groups are consistent with this view, inasmuch as financial aid is not that sharply targeted to the low SES group alone. At the same time, the increases for high SES-low ability students are not consistent with this interpretation (one possible interpretation of this unexpected change is that high SES parents with not too talented children want them to attend college as a kind

of defensive measure, in the hope that the resulting credential will overcome limited ability). Some of the other small increases for high SES-middle ability seniors are also not consistent with the financial aid explanation. After reviewing all of the evidence, however, one can hardly make a persuasive case that the availability of financial aid had any dramatic effect on the composition of high school seniors planning further education. Indeed, the enrollment plans of seniors from low SES families still remain well below those from middle and higher SES families.

Similar data by gender are shown in Table 8. It appears that for males a reduction occurred from 1972 to 1980 in plans to attend postsecondary education, with the largest absolute declines for low SES seniors occurring among the low and middle ability groups, at all levels of schooling. To the extent that overall enrollment expectations fall, the declines also show up clearly for the middle SES groups except for high ability seniors. For low SES females, we note sizeable increases in enrollment expectations for middle ability students. We also note substantial increases for females in the middle and high SES groups, without respect for ability. All of this evidence confirms the narrowing of gender differences in enrollment expectations, brought about by a combination of decreased expectations for males and increased expectations for females. There is little support for the expectation that the greater availability of student financial aid would have altered somewhat the enrollment expectations of low SES female high school seniors.

Table 8

Percentages of High School Seniors Expecting to Obtain Various Amounts of Postsecondary Education by SES, Ability, and Gender, 1972 and 1980

	1972						1980					
	Males			Females			Males			Females		
	SES			SES			SES			SES		
	L	M	H	L	M	H	L	M	H	L	M	H
A. Expect to Complete At Least Four Years of College												
L	21	21	37	16	17	30	12	15	40	17	20	38
M	33	46	69	25	32	61	30	38	67	28	38	68
H	59	76	92	60	63	88	59	74	91	56	69	92
B. Expect to Enter a College Program												
L	30	36	51	28	31	53	23	28	56	31	41	69
M	44	61	81	36	51	79	41	53	79	49	62	84
H	68	85	97	71	75	93	73	83	95	73	86	96
C. Expect to Enter Some Form of Postsecondary Education												
L	58	67	80	56	60	71	49	61	77	59	73	85
M	71	83	93	62	74	90	69	79	94	73	84	95
H	87	95	99	86	88	98	86	94	99	85	94	99

Source: See Table 5.

We turn finally to the data by race, shown in Table 9. It is difficult to make a strong case that lower SES white seniors experienced sharp increases in enrollment expectations. The gains for middle ability students in Panels B and C are countered by declines for low and high ability students in Panel A. Again, the gains for high SES-low ability students show up clearly. The results for low SES blacks are essentially unchanged in Panel A and Panel C; the only sizeable change is for middle SES students in Panel B. Beyond these changes the 1972 and 1980 cells are remarkably similar. All this suggests no apparent change resulting from the greater abundance of financial aid.

Summary. This review of data on enrollment expectations has failed to produce any strong evidence that the greater availability of student financial aid from 1972 to 1980 altered the college-going plans of high school seniors differentially by SES and ability. While some of the minor increases for low SES students are consistent with the effect of financial aid, there are enough other changes for middle and high SES students to cloud any conclusion that might be drawn about the efficiency of student financial aid in affecting access.

Table 9

Percentages of High School Seniors Expecting To Complete Various Amounts of Postsecondary Education by SES, Ability, and Race, 1972 and 1980

	1972						1980					
	White			Black			White			Black		
	SES			SES			SES			SES		
	L	M	H	L	M	H	L	M	H	L	M	H
A. Expect to Complete At Least Four Years of College												
L	9	16	31	32	42	70	6	12	34	27	41	56
M	22	38	65	55	72	91	22	35	66	57	67	84
H	58	69	91	85	89	85	53	71	91	83	86	89
B. Expect to Enter a College Program												
L	17	30	51	45	61	70	16	28	59	43	57	79
M	33	55	80	62	77	91	40	56	81	72	77	90
H	68	79	95	87	94	100	70	84	96	90	96	97
C. Expect to Enter Some Form of Postsecondary Education												
L	44	61	73	76	85	90	43	61	79	70	83	94
M	61	78	91	88	94	95	66	81	94	91	93	96
H	85	92	98	100	97	100	84	94	99	97	100	100

Source: See Table 5.

VII. Concluding Observations

On the basis of the foregoing discussion, what can we say about the relationship between education and economic growth? The most we can do is offer several suggestions about this relationship.

First, the evidence assembled here suggests that the expansion of federal financial aid programs and their targeting toward youth from lower income and lower status families did not alter to any appreciable degree the composition of the postsecondary education students or the college enrollment expectations of high school seniors over the 1970s. While enrollment rates have risen somewhat for blacks and for females, it is not obvious that these changes reflect responses primarily to increased student financial aid.

Second, the failure of enrollments and enrollment plans to move in directions consistent with greater student financial aid resources is difficult to explain. One possibility is that student financial aid is not sufficiently generous to prompt any appreciable response, that is, to attract into college young people who might not otherwise have attended or planned to attend. Estimates made elsewhere of the effects of student financial aid on the internal rate of return to the educational investment of individuals indicate that, at most, the rate of return to financial aid recipients might have risen by one and one-half to two percentage points (Hansen, 1982). It is not obvious that such increases are sufficient to evoke any substantial response in attracting additional young people into college.

Another possibility is that if there had not been an increase in financial aid, enrollment rates and enrollment expectations for students from lower income families would have been lower than they

were in the late 1970s. This possibility requires more systematic investigation. Still another possibility is that the data are confounded by the tendency of more young people to seek "independent" status for purposes of gaining financial aid. Those who would profit most from this change are not youth from low income families who would qualify for aid anyway but rather those from higher income families who could obtain financial aid only by severing their link to their parents (Hansen and Lampman, 1982).

As usual, then, we are left with a new set of questions that must be pursued before we can be satisfied that we understand what happened and why it happened. We must still start with the failure to observe more pronounced changes in enrollment patterns that would be consistent with the increased provision of student financial aid. As noted earlier, this came as a surprise to me and to many other observers of the program. To the extent that these expectations have not been fulfilled, and assuming that there is no other explanation for the absence of change, we are forced to conclude that student financial aid simply operated as a transfer program--that by substituting public for private funds it reduced the financial burden of college for parents and students without inducing additional enrollments or even changing the mix of present enrollments.

Aside from the lack of discernible impact, the program has entailed real costs. These include the administrative costs and the time costs (of students) associated with these programs. In addition, it can be argued that our focus on greater equality of opportunity in higher education has been costly because of the gap between our expectations and what has been accomplished. Thus, it appears that economic efficiency has been sacrifited in the pursuit of greater equity.

It is impossible, however, to offer any estimate of how much economic growth may have been slowed in the recent past, or is likely to be slowed in the future, because of these redistributive efforts. We simply do not know enough about these linkages to warrant making any statements one way or the other. At the same time one senses that the tremendous energy and attention given to pursuing the objective of greater equality of educational opportunity has diverted attention from improving the quality of the higher education enterprise.

Whatever may have occurred over the past two decades of concern with issues of equity rather than efficiency, I sense a return to concerns about efficiency and economic growth. This will no doubt begin manifesting itself in the way we view higher education. What this will mean for the composition of college enrollments, and, more important, the subsequent achievement of those who attend college, remains unclear. Will this redirection of activity spur economic growth? If it does, what is the mechanism by which schooling stimulates growth? These are old questions that have in recent years received too little consideration.

References

Becker, G.S. "Underinvestment in College Education." American Economic Review, May 1960.

Becker, G.S. "Investment in Human Capital: A Theoretical Analysis." Journal of Political Economy: Supplement, October 1962.

Blaug, Mark. Economics of Education: A Selected Annotated Bibliography. New York, Pergamon Press, First Edition 1966; Second Edition 1970; Third Edition 1978.

Bowen, Howard R. Investing in Learning. San Francisco: Jossey-Bass, 1971.

Breneman, David and Chester Finn. Public Policy and Private Higher Education. Brookings Institution, 1978.

Carnegie Commission on Higher Education. Quality and Equality: New Levels of Federal Responsibility for Higher Education. New York, McGraw-Hill, 1968.

Carnegie Commission on Higher Education. Higher Education: Who Pays? Who Benefits? Who Should Pay? New York: McGraw-Hill, 1973.

Coleman, James S., et al. Equality of Educational Opportunity. Washington, U.S. Government Printing Office, 1966.

Congressional Budget Office. Federal Student Assistance: Issues and Options. Washington: U.S. Government Printing Office, March 1980.

Denison, Edward F. The Sources of Economic Growth and the Alternatives Before Us. Committee for Economic Development, Supplementary Paper No. 13. New York, CED, 1962.

Economic Report of the President 1964. Washington, U.S. Government Printing Office.

Folger, John K., Helen S. Astin, and Alan E. Bayer. Human Resources and Higher Education. New York: Russell Sage Foundation, 1970.

Froedga, Eugenia. "Education", in Agenda for Progress: Examining Federal Spending by Eugene J. McAllister (editor). Washington: The Heritage Foundation, 1981.

Gladieux, Lawrence E. and Thomas R. Wolanin. Congress and the Colleges. Lexington, Mass., D.C. Heath, 1976.

Hansen, W. Lee. "Total and Private Rates of Return to Investment in Schooling." Journal of Political Economy, April 1963.

Hansen, W. Lee and Burton A. Weisbrod. Benefits, Costs, and Finance of Public Higher Education. Chicago: Markham, 1969.

Hansen, W. Lee and Burton A. Weisbrod. "A New Approach to Higher Education Finance," in M.D. Orwig (ed.), Financing Higher Education: Alternatives for the Federal Government. Iowa City: American College Testing Program, 1971.

Hansen, W. Lee and Robert J. Lampman. "Basic Opportunity Grants for Higher Education." Challenge, November/December 1974.

Hansen, W. Lee and Robert J. Lampman. "Good Intentions and Mixed Results: An Update on the BEOG Program Eight Years Later," forthcoming in Robert H. Haveman and Julius Margolis (eds.), Public Expenditure and Policy Analysis. New York, Rand McNally, 1982.

Hansen, W. Lee. "Student Financial Aid and the Returns to Educational Investment." April 1982. Department of Economics, University of Wisconsin-Madison.

Harrington, Michael. The Other America: Poverty in the United States. New York: Macmillan, 1962.

Hartman, Robert W. "Higher Education Subsidies: An Analysis of Selected Programs in Current Legislation," from The Economics of Federal Subsidy Programs, A Compendum of papers submitted to the Joint Economic Committee, Part 4, Higher Education and Manpower Subsidies. 92 Cong. 2 Sess. 1972, Washington: U.S. Government Printing Office.

Kerr, Clark. "New Challenges to the College and University," in Kermit Gordon (ed.), Agenda for the Nation. Washington: The Brookings Institution, 1968.

Lampman, Robert J. "What Does It Do For the Poor? - A New Test for National Policy." The Public Interest, Winter 1974.

Levin, Henry M. "A Decade of Policy Developments in Improving Education and Training for Low-Income Populations," in Robert H. Haveman, A Decade of Federal Antipoverty Programs: Achievements, Failures, and Lessons. New York: Academic Press, 1977.

Little, J. Kenneth. A Statewide Inquiry into Decisions of Youth About Education Beyond High School. Madison: School of Education, University of Wisconsin, 1958.

Little, J. Kenneth. Explorations into the College Plans and Experience of High School Graduates. Madison: School of Education, University of Wisconsin, 1959.

National Center for Education Statistics, The Condition of Education. Department of Education, Washington, D.C., 1981.

Office of Evaluation and Program Management. Annual Evaluation Report, Fiscal Year 1980, Vols. I and II. Department of Education, Washington, D.C., 1981.

Orwig, M.D. (ed.). Financing Higher Education: Alternatives for the Federal Government, Iowa City: American College Testing Program.

Schultz, T.W. "Capital Formation by Education." Journal of Political Economy, December 1960.

Schultz, T.W. "Investment in Human Capital." American Economic Review, March 1961.

Schultz, T.W. (ed.). "Investment in Education: The Equity-Efficiency Tradeoff." Journal of Political Economy, Supplement, May/June 1972.

Task Force of the Department of Health, Education, and Welfare. Toward a Long Range Plan for Federal Financial Support of Higher Education. Washington, Department of Health, Education, and Welfare, January 1969.

Wolfle, D. America's Resources of Specialized Talent. New York: Harper and Bros., 1954.