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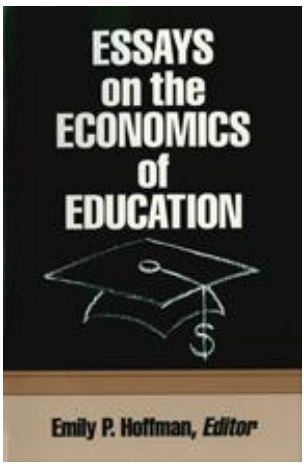
The Financial Squeeze on Higher Education Institutions and Students: The Balance Between Quality and Access



W. Lee Hansen
University of Wisconsin

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The Financial Squeeze on Higher Education Institutions and Students

The Balance Between Quality and Access

W. Lee Hansen*
University of Wisconsin

This paper attempts to illuminate recent discussions about the tremendous financial pressures experienced by students, their parents, and colleges and universities in paying the costs of higher education (McPherson and Shapiro 1991). It does this by placing these developments in the context of long-run pendulum-like swings in society's interest in promoting greater access to higher education and enhancing the quality of the higher education enterprise. These swings are made apparent by using a new approach to organize and analyze the data on higher education finance.[1]

The conclusion that emerges from this analysis is that we are currently in a transitional phase, following a thirty-year period of conflict between proponents of access-equity and of instructional quality. This shift in emphasis toward a joining of quality and access concerns is accompanied by an intense struggle over how the costs of achieving these objectives are to be shared among students, their parents, state and local taxpayers, voluntary contributors, and in the case of student financial aid, higher education institutions and the federal government (Hauptman 1990a, 1990b).

We start by assuming that the goals of higher education are influenced by a wide variety of internal and external forces. Whatever these aims may be, they do not emerge exclusively or even principally from internal analysis, deliberation, and pressures. Rather they grow out of external forces and events. This pattern is reflected in the common practice among educators of moving toward new goals and pushing for increased levels of funding in the wake of external events, such as renewed pressure for increased institutional support after Sputnik, or

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* This paper is part of a larger collaborative effort with my colleague Jacob O. Stampen.

new student financial aid programs after the beginning of the War on Poverty. Each episode is followed by some new event that sets off a reaction in yet another direction, so that the process repeats itself.

Precedent for this view emerges from the research of historians as well as scholars from other disciplines who have tried to capture alternating patterns of change in economics, history, politics, and the like. These analyses use terms such as "tensions," "cycles," "pendulums," "spirals," and "dialectics" to describe the patterns that are uncovered.[2] Observers generally agree about the nature and identity of these cycles, whose life spans average between twelve and seventeen years (Schlesinger 1986, p. 24). They also agree that these cycles alternate between emphasizing public action versus private interest. These oscillations have been described by Hirschman (1982) as the "frustrations of public life" and by others as "liberal versus conservative" eras. Whatever the term, the meaning is generally the same.

The most active exponent of the cycles view is Arthur Schlesinger, Jr., who notes that each cycle "must flow out of the conditions and contradictions of the phase before and then itself prepare the way for the next recurrence."[3] Schlesinger's analysis provides a useful framework for sharpening our research questions concerning recent changes in higher education goals and financing. The principal questions guiding this analysis are: First, how have the goals of higher education changed over the past half century? Second, does investment in higher education respond to changes in these goals? Third, how did changes in the goals and investment in higher education affect quality and access, the sharing of the costs of quality and access between students and society, and the ability of students and their families to finance college attendance?

Two sources of information are at hand to help answer these questions. One is the abundant literature on higher education. That literature can be distilled to reveal broad trends and critical shifts that illuminate the goals and direction of higher education. The results that emerge from such an analysis are difficult to assess because of the varying interpretations that can be given to them. The other is national statistical data on higher education enrollments, expenditure patterns, and the like. Such data reflect both the trends and responses to them just mentioned. The statistical data available for identifying finance-related changes are not ideal. Routinely gathered federal statistics on

higher education finance are incomplete, lack adequate detail, and suffer from definitional changes over time. These problems make it difficult to document in consistent fashion the financial trends as well as systematic changes in these trends.

However, even sometimes difficult to interpret information and imperfect data can yield important insights when the patterns of change can be related to the forces that underlie them. Only by trying to establish such connections is it possible to say something useful about the current policy debate on quality and access in higher education.

Cross Currents in Higher Education

American higher education over the past half century has been buffeted by a combination of demographic, social, political, and economic forces. Some of these forces are separable whereas others are closely linked. The linking of these forces may have been most obvious in the 1930s and 1940s. During the depression of the 1930s, college enrollments grew more slowly than they had in the past, and with the beginning of World War II they dropped substantially. Immediately after the war enrollments shot upward as a direct response to the GI Bill. Another view is that much of this gain served to "make up" for the slower enrollment growth of the 1930s and early 1940s.

After World War II, demographic factors emerged as a stronger element for change. By the early 1950s, most of the World War II veterans had passed through the educational system. Enrollment levels remained relatively stable until the late 1950s, due to the slow growth in the size of the traditional college-age population, and gradually increased into the early 1960s. An explosion of enrollments occurred in the mid-1960s as the post–World War II "baby boom" population reached maturity. Enrollments rose even more sharply, as interest heightened about increasing the enrollment of previously under-represented ethnic minorities as well as women. This increase continued through the 1970s, although the rate of growth slowed considerably. By the early to mid-1980s overall enrollment growth came to a virtual halt, and remained relatively unchanged for a few years; recently it has

renewed its upward climb. Enrollment declines attributable to the declining size of the traditional college-age population were offset by increased college attendance among people age twenty-five and above. Meanwhile, college participation rates for most minority groups have declined since the mid-1970s, as they have for males generally; at the same time, significant gains occurred for females.

Political forces have also exerted a powerful influence on the growth of higher education in the United States and are revealed most immediately in governmental actions. Ultimately, however, these actions reflect even more powerful forces, namely, the changing priorities of the citizenry who determine the focus of political action and availability of resources for higher education. The need to compete with the Soviets after Sputnik helped expand state and local resources for higher education. The same was true of concerns about broadening access for minorities and economically disadvantaged in the late 1960s and early 1970s. These efforts proved effective in galvanizing public opinion and bringing about the allocation of more federal resources to higher education. The student unrest experienced by higher education in the late 1960s and early 1970s probably had the opposite effect. Whether the current view that higher education can be an effective instrument for enhancing our international competitive situation—which would thereby increase the resources allocated to higher education—is valid or not remains unclear.

The economic environment also plays a key role in the shaping of higher education. Periodic wars and recessions have affected the tax revenues of the federal as well as state and local governments and have also had an impact on private contributions. As a consequence, the resources available to higher education institutions have fluctuated in often unpredictable ways. More important, competition from other state and local programs has reduced the relative allocation of resources to higher education. The productivity slowdown that began in the early 1970s made conditions even worse.

Though external forces are critical, it is also apparent that higher education has sought to chart its own course. Such efforts are reflected in a long series of reports that articulate the goals and aspirations of academic institutions.[4] Closely related are the periodic attempts made by economists, historians, and other social scientists to offer new ideas and interpretations that stir the air and stimulate thinking about the

course of higher education—among them the current debate about diversity and cultural values.

Periods of Analysis

To facilitate this analysis we have defined four distinct periods which emerge out of our review of the qualitative material. The first period begins in the late 1930s and continues into the early 1950s. It reflects growing concerns about access to college, culminating with the GI Bill and its enormous impact on enrollment after World War II.

The second period begins in the mid-1950s and continues to the mid-1960s, thus capturing the enormous expansion of the higher education sector. It also picks up the emphasis on the elusive dimension of quality that was spurred by concern about America's lagging technology in the face of the Soviet launching of Sputnik. In addition, it reflects the widely publicized studies by economists establishing the link between investment in education and economic growth.

The third period, from the mid-1960s to 1980–81, embraces the search for ways to expand opportunities for students to attend college. The first phase began with the initiation of federal student aid programs in 1965 and culminated with the federal decision in 1972 to establish a national need-based student aid system. It was followed in the late 1970s by what can best be described as a phase of consolidating the financial aid system and confronting other equity-related problems, as exemplified by the Middle Income Student Assistance Act of 1978.

The fourth period began in 1980–81 and continues to the present. It represents the beginning of a sharp swing away from access to concerns about the quality of instruction, efficient use of resources, and once again education's role in economic growth. At present we may be entering a new phase, as concerns about access compete more actively with the push to improve quality.

These periods and their alternating swings between quality and access closely correspond to Schlesinger's pendulum-like political cycles mentioned earlier. Since the late 1940s, when society promoted increased college attendance, higher education sought to expand

access. When society promoted economic development and national security, higher education sought to improve quality.

The resulting swings do not necessarily emerge as sharply as the political cycles approach would suggest. Thus, they cannot be precisely dated in every case. Moreover, the data reflect the aggregation of not only changes in societal attitudes and behavior but also the perceptions of change emerging within higher education institutions and the actions these perceptions generate. Here we must ignore these micro-level underpinnings of these changes, even though they constitute an important part of the story.

Analytical Framework

With the time periods for this analysis established, we turn to the data in hopes of learning whether changing political-social-economic conditions and the accompanying societal mandates exerted any effect on resource allocation in higher education. We begin by describing the structure of the nation's investment in higher education institutions and in student support. We then examine higher education expenditures and revenues in an effort to highlight major trends and the interplay between the external and internal forces affecting resource allocation within the higher education sector. This information paves the way for measuring the burden of higher education costs and how these costs are shared among students/parents, state and local taxpayers/private donors, and also federal taxpayers, through federal student financial aid programs.

Our first task is to define proxy measures for the concepts of quality and access in the context of higher education finance. For purposes of this analysis, instruction-related costs are viewed as an indicator of efforts to promote quality. Tuition and fees, less student financial aid funds, are viewed as an indicator of efforts to improve access.

We recognize that these magnitudes are at best crude proxies for what we really want to measure. Rather than total student aid, we would prefer to focus on the portion of aid that enables young people from lower income families to undertake and continue with their higher education; in the absence of such aid, they would not be able to

do so. Similarly, rather than concentrating our analysis on all instruction-related expenditures, we would prefer to focus on the portion of those expenditures that "makes a difference" in quality (i.e., that produce greater and more lasting increments of student learning).

Even more important is the extent to which changes in these categories of expenditure affect quality and access. Spending more or less would obviously change the dollar totals. Whether, for example, additional expenditures would enhance quality or improve access is more difficult to say, given the complexity of higher education management.[5] Nonetheless, for purposes of this analysis we shall take the dollar totals and changes in them as crude indicators of the relative priority given to quality and access in higher education.

If we are to determine who pays the instruction-related costs of higher education, then it becomes essential to identify how these costs are split between students and others. Thus, we must separate that portion of the costs paid by students through tuition and fees from that paid by taxpayers and private donors. The portion of instruction-related costs not paid by students is described as the nonstudent share, i.e., total expenditures paid by taxpayers for public institutions, and by voluntary contributions for private institutions. It should be obvious that there is no fixed distribution of these costs; their sharing can easily shift as conditions change.

The sharing of costs has still another dimension. It concerns the extent to which the share of instruction-related costs paid by students is offset by student financial aid. If we think of tuition and fees as the gross share of institutional costs paid by students, we can describe the net share as tuition and fees less student financial aid. The smaller the net share of total instruction-related costs paid by students, the greater the emphasis on access.

The Data

We rely heavily on official data from the Department of Education and its predecessor, the U.S. Office of Education. Because of changes in the data collection systems as well as periodic alterations in the definitions of expenditures and revenues, the detailed data are not com-

pletely comparable over the almost 50-year period under study. Nonetheless, the broad categories employed here are generally consistent. We caution readers that this analysis for all of higher education obscures potentially important differences between public and private-independent institutions; these differences will be examined in a subsequent paper.

We also utilize data on student financial aid. With the development of state-based student aid programs in the late 1950s, federal funding under the National Defense Education Act of 1958, and the major financial aid programs of the federal government beginning in the mid-1960s, these additional resources, which for the most part go directly to students, are not fully captured in the institutional data. To remedy this defect, we draw upon data on student aid expenditures compiled by the College Board beginning in the early 1970s. We have extended these data back to the late 1930s, and in the case of veterans' benefits provided through the GI Bill, back to the mid-1940s.

An unresolved problem with the financial aid data lies in figuring out how to eliminate from the totals those funds distributed to students attending proprietary schools. Such schools, and there are many more of them than there are colleges, are not included in the institutional data on expenditures and revenues. For this reason, the student financial aid data overstate the resources devoted to broadening access. This overstatement may have grown to as much as 15 percent of the total since the 1970s, as eligibility for student aid was expanded beyond higher education to include all of postsecondary education. (Work is underway to separate out student aid expenditures for students attending proprietary institutions).

The total value of resources for higher education is best captured by institutional data on expenditures shown in table 1 and by the College Board data on the amounts of aid provided to students shown in table 2. One difficulty arises with these data; serious overlap exists between the "scholarships and fellowships" item in the institutional data and the "institutional and other grants" item in the College Board data. Because the data are not quite comparable, we proceed under the assumption that the amounts of scholarships and fellowships shown in the institutional data are correct, and that the College Board totals are accurate. This requires subtracting the total of scholarships and fellow-

ships from total institutional spending before attempting to aggregate these two sources of data.

Table 1. Alternative Measures of Expenditures by Institutions of Higher Education, 1988-89 (in billions)

Type of expenditure	Current fund	Educational and general	Instruction-related
Instruction	$38.8	$38.8	$38.8
Academic support, including libraries	8.9	8.9	8.9
Student support	5.8	5.8	5.9
Institutional support	11.5	11.5	11.5
Operation & maintenance of plant	8.7	8.7	8.7
Mandatory transfers	1.5	1.5	1.5
Public service	4.2	4.2	---
Research	11.4	11.4	---
Scholarships & fellowships	5.9	5.9	---
Auxiliary enterprises	12.3	---	---
Hospitals	11.8	---	---
Independent operations	3.0	---	---
Total	$123.9	$96.8	$75.3

SOURCE: U.S. Department of Education, unpublished data.

Before continuing, it is helpful to know the overall level of resources devoted to quality and access. In 1988–89 (the most recent years for which complete institutional data are available) total current fund expenditures reached $123.9 billion. Total expenditures on student financial aid reached $25.5 billion. The total resources devoted to quality and access add up not to the sum of these two numbers, which

is $149.4 billion, but rather to $143.5 billion; this makes allowance for the $5.9 billion "overlap" mentioned above (see table 3). Overall, these expenditures represent 2.93 percent of gross domestic product (GDP).

This figure is misleadingly high because total current fund expenditures include an array of activities that are not directly related to the instructional activities of colleges and universities. A closer approximation to the costs of interest for this analysis is provided by what are called educational and general expenditures. This amount is arrived at by subtracting from total current fund expenditures the costs of operating auxiliary enterprises, hospitals, and independent operations, all of which are activities bearing little or no direct relationship to the instructional missions of colleges and universities. The result is that educational and general expenditures, which in 1989–90 totaled $96.8 billion, are 22 percent lower than the total current fund expenditures (see table 3).

Table 2. Financial Aid Expenditures for Postsecondary Education, 1988-89 (in billions)

Type of student aid	Amount
Federal supported programs	
Generally available aid	
Grants, loans, work study, institutional aid	$18.4
Specifically directed aid	
Veterans, military, etc.	1.5
State grant programs	1.6
Institutional and other grants	4.0
Total	$25.5

SOURCE: The College Board, *Trends in Student Aid: 1981 to 1991*, August 1991, Table 1.
NOTE: The amounts shown above include some aid awarded to students attending proprietary schools which are not included in the data for institutions of higher education. Hence, the student aid data overstate the amounts of aid available to college students. The magnitude of the overstatement is in the 15 percent range.

While educational and general expenditures come closer to the mark, they still include activities that go well beyond instruction. Two types of expenditures need to be excluded. One is for public service activities directed to external audiences; included would be such things as extension activities carried on by land-grant institutions. The other

is for research, a central activity of major research universities and typically carried out with the help of external funding. The fact that research produces new knowledge, some of which filters back into instruction through the teaching done by researchers and through the professional journals and textbooks used by countless students across all types of colleges and universities, suggests that some part of research activity is instruction-related. Because it would be so difficult to assess the impact of research on instruction for undergraduates in particular, no attempt is made to allocate any part of research expenditures to instruction.

Table 3. Overall Institutional and Student Financial Aid Expenditures on Higher Education, 1988-89 (in billions)

Expenditures	Institutional data: Total (1)	Institutional data: w/o SFA (2)	Student financial aid expenditures (3)	Total expenditures unduplicated (4)	Total expend'tures as percent of GDP (5)
Current Fund	$123.9	$118.0	$25.5	$143.5	2.93%
Education & general	96.8	90.9	25.5	116.4	2.38%
Instruction-related	N/A	75.3	25.5	100.8	2.06%

SOURCE: Calculated from published and unpublished data from the U.S. Department of Education and the College Board.
NOTE: Column 4 is sum of columns 2 and 3.

After excluding expenditures on public service and research (see table 1), we arrive at instruction-related expenditures (shown in line 3 of table 3) which in 1988–89 amounted to $75.3 billion. When combined with the student aid total, we find that expenditures of $100.8 billion on quality and access represent 2.06 percent of GDP (table 3). To provide a point of comparison, total current expenditures on K–12 education accounted for 4.2 percent of GDP.

We also need to know the amount of tuition and fees paid by students. This information comes from the institutional revenue data. In 1988-89 tuition and fee revenue amounted to $30.8 billion. To the extent that instruction-related expenditures amounted to $75.3 billion, the tuition and fees component of revenue covered 40.9 percent of these costs. The remaining revenue used to pay instruction-related costs is provided largely by state and local governments in the case of

public colleges and universities and by private donors in the case of private institutions. While both instructional costs and tuition rates differ appreciably among public and private institutions, these differences are ignored here.

Normalizing the Data

Before moving ahead with the analysis, the data must be normalized in order to facilitate comparisons over time. Instruction-related expenditures must be adjusted for changing enrollment levels. This is done by constructing a new measure, instruction-related expenditures per full-time equivalent (FTE) student. It is important to use FTE enrollment because of the sharp increase in the proportion of part-time students since the 1970s.

To assess the strength of efforts to enhance both quality and access we need some standard against which to make comparisons. The ideal would be a measure of changes in the relative capacity of the economy to finance quality and access in higher education. Such a measure makes it possible to avoid having to correct for price level changes because it converts the data from nominal to relative values.

Since GDP provides such a convenient and well-understood measure of aggregate output and hence aggregate capacity to pay, we utilize GDP per employed member of the civilian labor force (CLF) as an indicator of the public's capacity to pay. GDP is preferable to other widely used measures because it reflects the value of all goods and services produced in the economy; it can also be related more directly to frequently made comparisons of higher education expenditures. Thus, GDP per member of the CLF provides a rough measure of the ability of the average worker to provide tax and nontax support for higher education.

The final step requires us to express the various cost measures, such as instruction-related cost per FTE student, as a percent of GDP per member of the CLF. With these measures it becomes possible to highlight relationships among the level of instruction-related costs, who pays for them, and how financial aid affects the student share of these

costs. This information makes it possible to offer a preliminary assessment of society's efforts to promote quality and access simultaneously

The Results

The key measures needed for this analysis are expressed as a percent of GDP per member of the CLF and are presented in table 4. The first column shows instruction-related costs per FTE as a percent of GDP/CLF. These costs rose steadily from 1947–48 to 1972–73, dropped in 1976–77, began increasing again after that, and by 1988–89 exceeded the previous high in 1972–73. Within the framework presented here, it appears that investment in quality increased steadily through the early 1970s, dropped off a bit later in the decade, and then began rising again. The rise in the 1980s proved to be steep, when emphasis once again shifted to improving the quality of higher education.

The access story is more difficult to follow because of its several distinct components. The first is the pattern of change in tuition and fees. The second is institutional aid, which colleges and universities provide out of their own resources. The third is other student aid, which comes largely from veterans' benefits, social security benefits for eligible college students, and federal student aid programs.

Further clarification is necessary concerning these three sources of other student aid. Veterans' benefits provided a major stimulus to college attendance immediately after World War II, again but to a lesser extent after the Korean War, and yet again but to an even smaller degree after the Vietnam War. The benefits available to World War II veterans included a monthly stipend plus government payment of all tuition and fees. The fact that the "other aid" was so great right after the end of World War II is not surprising; approximately half of all college students at the time were veterans. Their benefits included government-paid tuition of up to $500 per year and a monthly allowance which for a single veteran without dependents provided $65 per month. The impact of veterans' benefits diminished through the 1950s because fewer Korean War veterans attended college under a somewhat different GI Bill set up to deal with this new group of veterans.

Under this legislation veterans were not reimbursed for their tuition and fees, though the monthly stipend for a single veteran had risen to $105 per month. By the late 1950s the amount of funding provided through such benefits had greatly diminished. This aid increased again in the late 1960s and early 1970s as Vietnam War veterans enrolled and was based on GI Bill benefits similar to those given to Korean War veterans.

Table 4. Instruction-Related Costs, Tuition and Fees and Student Financial Aid Per Full Time Equivalent (FTE) Student Relative to Gross Domestic Product (GDP) Per Member of the Civilian Labor Force (CLF) (in percent)

Academic year	Instruction-related costs (1)	Tuition and fees (2)	Institutional aid (3)	Other aid (4)	Total student aid (5)
1947-48	13.2	3.5	0.5	12.5	13.0
1951-52	14.5	4.3	0.7	6.4	7.1
1957-58	15.3	5.3	0.7	2.4	3.1
1965-66	16.8	6.3	1.0	0.9	1.8
1972-73	18.4	6.2	1.4	4.9	6.2
1976-77	17.8	6.1	1.2	5.8	7.0
1980-81	18.1	6.3	1.1	6.5	7.6
1984-85	19.1	7.3	1.3	5.2	6.5
1988-89	20.1	8.2	1.6	5.2	6.8

SOURCES: Calculated from published and unpublished data from the U.S. Department of Education and the College Board. Data on GDP and CLF are from various issues of the Economic Report of the President.

NOTE: Calculations for years prior to 1965-66 are based on GNP rather than GDP.

Since the shift to an all-volunteer army in the early 1970s, it has been more difficult to view veterans' educational benefits as a form of student financial aid. Instead, such benefits can be considered a part of the military compensation package, a sort of deferred wage payment granted in the form of educational benefits. Another argument for not including veterans' benefits in student aid is that these benefits to veterans of World War II, Korea, and Vietnam represented an effort by society to make up for the well-below market wages paid to the many

men who had been drafted into military service. For the purpose of this analysis, however, veterans' educational benefits are viewed, as they are by the College Board, as a component of student financial aid.

Social security benefits for eligible dependents began in 1965 and were finally phased out in the early 1980s. These benefits are more problematic because they were confined to college students age eighteen to twenty-one. After the establishment of need-based Pell Grants in 1972, the rationale for continuing social security benefits was seriously undermined. It took a decade before Congress finally voted to eliminate them.

More important than the aid provided by institutions, at least since the mid-1960s, is that offered by the federal government through grants, loans, and work-study programs. The development of student aid programs dates from 1964 when anti-poverty legislation established work-study programs, and a year later when the Higher Education Act of 1965 established the Guaranteed Student Loan program and a series of related institution-based aid programs. This was followed by another major initiative in 1972, when Congress passed legislation to create what are now called Pell Grants.

The data on institutional student aid, other student aid, and total student aid appear in columns (3), (4), and (5) of table 4. The results are expressed as aid per FTE student as a percent of GDP/CLF. Institutional aid grew sharply through the early 1970s. Thereafter, the percentage remained roughly constant through the middle 1980s, when it increased quite sharply. Other aid varied more widely in response to changes in the level and mix of veteran's benefits and federal student aid programs. The precipitous drop from 12.5 percent in 1947–48 to 0.9 percent in 1965–66 is a result of the drying up of veterans' benefits. So also is the sharp increase by 1972–73 as federal student aid programs expanded and veterans' benefits expanded once again. Federal aid continued increasing to 1980–81. Since then other aid declined, falling back close to its 1972–73 level.

The pattern of change in total aid is dominated by movements in other aid. Nonetheless, changes in institutional and other aid may move together or in opposite directions. Since 1980–81 the decline in other aid was partially offset by increased institutional aid. Some would argue that the decline in other aid pushed institutions to provide more aid from their own budgets. Another explanation is that increased

student aid from institutions represented an effort to ameliorate the sharp increases in tuition and fees that were then taking place.

The impact of student aid on access is revealed in table 5. Column (2) shows tuition and fees that can be described as the gross student share of instruction-related costs. Column (3) shows the net student share, which is tuition and fees less institutionally-provided student financial aid. Column (4) shows what can be called the net net student share, which is tuition and fees after subtracting both institutional and other student aid. Negative values in column (5) indicate that total student aid exceeded total tuition and fees paid by students, whereas positive values indicate the opposite.

Table 5. The Burden of the Costs of Higher Education; Based on Costs Per Full-Time Equivalent (FTE) Student Relative to Gross Domestic Product (GDP) Per Member of the Civilian Labor Force (CLF) (in percent)

Academic year	Instruction-related costs (1)	Gross student share: tuition and fees (2)	Net student share, incl. inst. aid (3)	Net net student share, incl. all aid (4)
1947-48	13.2	3.5	3.0	-9.4
1951-52	14.5	4.3	3.6	-2.8
1957-58	15.3	5.3	4.6	2.2
1965-66	16.8	6.3	5.3	4.5
1972-73	18.4	6.2	4.8	-0.0
1976-77	17.8	6.1	4.9	-0.9
1980-81	18.1	6.3	5.1	-1.3
1984-85	19.1	7.3	6.0	0.8
1988-89	20.1	8.2	6.6	1.4

SOURCES: Calculated from published and unpublished data from the U.S. Department of Education and the College Board. Data on GDP and CLF are from various issues of the Economic Report of the President.

With this as background, we come back to the quality-access tradeoff. With respect to quality, the increasing figures from 1947–48 through 1972–73 (column (1) of table 5) suggest that quality was ris-

ing. This rise was followed by a decline that continued through the early 1980s. However, the trend has been upward since the late 1970s.

Meanwhile, the focus on access was exceptionally strong in the late 1940s and early 1950s. It dropped off sharply through the late 1950s and continued doing so into the middle 1960s. With passage of the Higher Education Act of 1965, the pattern suddenly reversed itself, as evidenced by a sharp fall in the net net-student share, to zero in 1972–73 and even lower through the remainder of the decade. Since 1980–81 the aggregate amounts invested in student aid have fallen short of total tuition revenue.

The resulting pattern can be summarized as follows:

Periods	Quality	Access
WW II to 1947–48	Presumably high	Rising
1947–48 through 1965–66		Falling
1947–48 through 1972–73	Rising	
1965–66 through 1980–81		Rising
1972–73 to 1980–81	Falling	
1980–81 to 1988–89		Falling
1976–77 to 1988–89	Rising	

In general, when the emphasis on access falls, the emphasis on quality rises, and vice versa.

Sharing the Costs

How are the costs of achieving quality and access being shared? Table 6 can help answer this question. One view of this sharing is provided by columns (1) and (2), which indicate the division of instruction-related costs between students and others—meaning mostly taxpayers for public institutions and voluntary contributors for private institutions. The student share rose steadily through 1965–66, dropped off a bit and then remained relatively constant through 1980–81, and afterward increased once again to its highest level ever. The magnitude

of the increase rose from about one quarter to slightly more than 40 percent of instruction-related costs.

Table 6. Sharing the Costs of Higher Education, Based on Costs Per Full Time Equivalent (FTE) Student Relative to Gross Domestic Product (GDP) Per Member of the Civilian Labor Force (CLF) (in percent)

Academic year	Gross student share tuition and fees (1)	Non-student share: taxpayers institutional and donors (2)	Other aid (3)	Total aid (4)	Aid (5)
1947-48	26.3	73.7	3.5	94.6	98.1
1951-52	29.7	70.3	4.7	43.9	48.7
1957-58	34.6	65.4	4.9	15.6	20.4
1965-66	37.5	62.4	5.8	5.2	10.9
1972-73	33.6	66.4	7.3	26.4	33.7
1976-77	34.2	65.8	6.7	32.5	39.2
1980-81	34.6	65.4	6.3	35.8	42.1
1984-85	38.0	62.0	6.6	27.3	33.9
1988-89	41.0	59.0	7.9	26.1	33.9

SOURCES: Calculated from published and unpublished data from the U.S. Department of Education and the College Board. Data on GDP and CLF are from various issues of the Economic Report of the President.

The reasons why the student share increased so dramatically need to be examined. Several explanations come to mind. One is that it may have been politically more difficult to increase nonstudent assistance than student contributions. When revenue is tight because of rising demands for other publicly provided goods and services and the reluctance of taxpayers and donors to provide more funds, it is easier to increase the tuition of already-enrolled students who, because of the large economic benefits of college looming ahead, sense that they must pay. Another plausible explanation is that because private benefits to college attendance are so apparent while the social benefits are more difficult to document, society has been moving to require students, the most direct beneficiaries of college, to pay an ever larger share of the

instructional costs. These and other possible rationales obviously require more careful study.

Another way to examine the sharing of these costs is to compare instruction-related expenditures with institutional and other aid, as seen in table 6. Column (3) shows that institutional aid has always provided a relatively small share of total instruction-related expenditures. Interestingly, institutional aid increased steadily through 1972–73 and then dropped off, no doubt because of the growth of federal student aid. However, institutional aid resumed its steady increase from 1980–81 through 1988–89, as institutions allocated to student aid more of their additional revenue from tuition and fees.

The patterns of change in other aid and total aid are similar to those shown in tables 4 and 5. Total aid about equalled total instructional costs in 1947–48 but then fell to almost nothing by 1965–66. With the beginning of federal student aid programs in 1965–66 a sharp increase occurred, which continued through the 1980s. Since then other aid dropped, largely as a result of the slow growth of federal student aid funds.

Interpretation/Summary and Discussion

In examining the goals and financing of higher education over the past half century, we find cyclical patterns of change. These changes reflect cycles similar to those noted by Schlesinger, cycles that may also exist in other areas of economic activity. For higher education, however, these cycles translate essentially into two alternating mandates, one to improve quality and the other to improve access. Such cycles can be viewed as representing normal variation within the system.

Over the period since World War II, the rate of investment in higher education has risen considerably. As shown in table 7, investment rose from less than 1 percent prior to the middle 1960s, when it first exceeded 1 percent; since 1972–73 it has been stabilized at 1.5 percent. Much of the increase came from the expansion of higher education enrollments which more than quadrupled. As a percentage of the civilian labor force, the number of FTE students slightly more than dou-

bled. Overall, quality increased as shown earlier in table 4, with instructional costs rising from 13.2 to 20.1 percent. This is an impressive gain, occurring as it did when enrollment increased so dramatically. Thus, quality and access improved substantially over the period as a whole.

Table 7. Indicators of Expansion of Investment in Higher Education

Academic year	Instruction-related expenditures as a percent of GDP (1)	All student aid as a percent of GDP (2)	FTE enrollment (in millions) (3)	Total investment in higher education as a percent of GDP (4)	FTE enrollment as a percent of CLF (5)
1947-48	0.49	0.48	0.07	2.3	3.7
1951-52	0.45	0.21	0.66	1.0	3.1
1957-58	0.60	0.12	0.72	2.6	3.9
1965-66	1.04	0.11	1.15	4.7	6.2
1972-73	1.49	0.50	1.99	7.3	8.1
1976-77	1.50	0.59	2.09	8.1	8.4
1980-81	1.47	0.62	2.09	8.8	8.1
1984-85	1.48	0.50	1.98	9.0	7.8
1988-89	1.54	0.53	2.07	9.5	7.7

SOURCES: Based on data from U.S. Department of Education and Economic Report of the President.

What we find particularly interesting is how changes in the goals of higher education affected quality, access, and the sharing of costs between students and society. The relative constancy until recently in the gross student share, represented by tuition and fees, and the systematic changes in instruction-related costs and the net student share, are remarkable. The fact that these latter two measures displayed such variation is an interesting commentary on the changing priorities in higher education finance. Equally surprising is the fact that total student financial aid exceeded combined tuition and fee revenues in two quite different time periods—through most of the 1970s and also much earlier, just after World War II.

If the late 1960s and 1970s was a period of concern about access, the concern of the 1980s was with quality. By the measures adopted for this analysis, quality declined in the 1970s and increased in the 1980s, whereas access increased in the 1970s and decreased in the 1980s. It should be noted, however, that increased investment in quality in the 1980s was small relative to the increase in access from the mid-1960s to the mid-to late-1970s. As a result, little has materialized in the way of quality gains.

Throughout the 1970s the push for wider access through increased student aid brought with it pressures to hold down tuition increases. As a result, additional demand for higher education was stimulated, which brought enrollments to even higher levels in a period when constrained budgets made it increasingly difficult to hire additional faculty. As support for instruction-related costs lagged, the principal casualty was faculty salaries, which fell dramatically in real terms through the 1970s and into the early 1980s (Hansen 1986).

By the early 1980s the results of this process were becoming more evident. Though increased student aid may have helped stimulate enrollments, it was not clear that it had done much to stimulate the enrollment of young people from lower income families.[6] Nonetheless, institutions needed more resources to hire faculty in an ever tighter labor market. As faculty salaries rose, instructional costs began to climb. Simultaneously, student aid resources contracted in relative terms.

The 1980s saw the absence of increases in traditional forms of financial support, which meant that tuition and fees had to be raised. To deal with the hardship created by this response, institutions began providing additional financial aid out of their own resources. Increasingly, however, the resolve to continue this practice appears to be weakening. Despite the growing emphasis on quality, society's investment in it increased only slightly in the 1980s because overall resources for higher education remained tight.

During the 1980s, a shift in public and institutional priorities away from access and toward quality appeared to be underway. This move was financed largely by students through tuition increases rather than by traditional sources of support, such as state and local taxpayers and private donors. In an attempt to respond to the growing concern about quality, institutions have been forced to find whatever financial support

they could. In the absence of other support, tuition and fees were raised.

An unresolved question is how much the emphasis on access in the 1970s contributed to the nation's goal of enhancing equal educational opportunity. Indeed the net cost of college attendance declined sharply for young people with incomes low enough to qualify for student aid; this proved to be a major accomplishment. While college participation rates for low-income students did not increase, evidence for the early 1980s shows that low family income was not by itself an important determinant of whether students dropped out or completed college. The growing availability of financial aid largely offset the effects of low family incomes. Rather, weak academic preparation, as indicated by mediocre performance in high school and low scores on standardized tests, constitutes the most important remaining barrier to expanding access to college.[7] This suggests that access will be difficult to increase without improving the quality of instruction at the secondary level. In other words, current efforts to improve the quality of instruction could be effective if in the process academic performance improves among high school graduates from low-income families. As larger proportions of better-prepared young people enter college, student financial aid may become even more effective as a means to ensure greater equality of opportunity in higher education.

Still another question concerns the impact of current efforts to improve the quality of education. The implicit argument is that tuition increases have been required to improve the quality of the education. By paying higher faculty salaries, increasing expenditures to update equipment and facilities, and introducing new technology to the classroom, institutions believe they have been improving quality. Most institutions would have preferred to find other ways of meeting these increased costs; they would have liked to receive more state and local revenue as well as larger voluntary contributions. Despite the much-publicized fact that tuition and fees have increased sharply, public reaction against these increases has not been noticeably strong. It has certainly not been strong enough to elicit additional support from other sources or to restore the real levels of faculty salaries. Whether these changes have adversely affected quality remain to be determined.

The challenge now lies in finding better ways of using existing resources, so as to continue to achieve increasing access and improving

quality. If this can be done, the chances for obtaining additional resources to broaden access and enrich quality should be greatly enhanced.

NOTES

1. Most analyses of the higher education finance data show relatively little in the way of systematic patterns of change.

2. The importance of cycles has been emphasized primarily by the Schlesingers: see Arthur M. Schlesinger, Jr. (1986) and Arthur Schlesinger, Sr. (1949). Also see McClosky and Zaller (1984), Kaestle (1972), Hirschman (1982), and Hegel (1817).

3. Schlesinger goes on to say that such cycles "cannot be determined, short of catastrophe by external events. War, depressions, inflations may heighten and complicate moods, but the cycle itself rolls on, self contained and self sufficient" (pp. 27–29). Hegel might have characterized a cycle as a part of a dialectical process wherein each asserts a thesis which, as time passes, draws opposition resulting in the formation of an antithesis, which causes the beginning of a new cycle. However, surviving elements of a previous cycle's thesis become permanent parts of a presumably richer and more highly developed array of public policies.

4. Those reports include the President's Commission on Higher Education, *Higher Education for American Democracy* (Washington, DC, Government Printing Office, 1947); The Report of the President's Commission on National Goals, *Goals for Americans* (Englewood Cliffs, NJ: Prentice Hall, 1960); Carnegie Commission on Higher Education, *Quality and Equity: New Levels of Federal Responsibility for Higher Education* (New York: McGraw Hill, 1968); National Commission on Excellence in Education, *A Nation at Risk: The Imperative for Educational Reform* (Washington, DC, Government Printing Office, 1983); Association of American Colleges, *Integrity in the College Curriculum: A Report to the Academic Community* (Washington, DC, Association of American Colleges, 1984); and, Ernest L. Boyer, *College: The Undergraduate Experience in America* (Princeton, NJ: Carnegie Foundation for the Advancement of Teaching, 1987).

5. The evidence indicates that over the past decade or more employment in higher education has increased at a much faster pace for nonfaculty than faculty personnel. Whether this represents an enhancement of instruction quality is doubtful. For more details, see Bergmann (1991).

6. For two different views, see McPherson and Shapiro (1991) and Hansen (1983).

7. These patterns are documented by Stampen and Cabrera (1986) and also Cabrera, Stampen, and Hansen (1990).

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