

EDUCATION AND ECONOMIC GROWTH

Howard R. Bowen, president, and John C. Dawson, assistant professor of economics, Grinnell College

We shall discuss Federal expenditures for education with special reference to the role of education in economic growth. Limitations of both space and competence prevent us from dealing with education at all levels. So we have chosen to limit our subject chiefly to higher education. We do not imply thereby that elementary and secondary education are less urgent or less important than higher education.

EDUCATION AND ECONOMIC GROWTH

Economic growth can be defined as increasing the provision of goods and services to be enjoyed by our people. Through the development of our economy, we expect the various categories of consumption—including both private consumption and collective services—to grow with the economy. One important category of consumption is education. It is a part of our standard of living, and increasing the supply and quality of education is one of the end products of economic growth. But education is not only an end product of growth; it is also a cause of economic growth.

The ability of a country to produce is determined by the quantity and quality of its land, capital, and labor and by the degree of efficiency in the use of these productive resources. Of these resources, labor is ultimately the most important. But it takes more than living bodies to constitute a productive labor force. The millions of people in India or China do not make up a highly productive labor force. And great population increases in such countries do not initiate rapid growth in ability to produce. High productivity requires that a population be physically healthy and well educated. Economic growth derives primarily from improvements in health and education—and health itself is largely a product of education. No country has ever been able to achieve high economic status without high educational status. The importance of education is readily seen when one compares the productivity of countries with similar natural resources but with differing human characteristics; for example, Norway and Chile, Israel and Syria, Turkey and Egypt, and the United States and China.

It is no accident that the United States, which has led the world in education, should also have led the world in economic productivity. And it is no accident that the rapid economic growth of the U. S. S. R. has followed closely upon its new and growing emphasis upon education. Indeed, progress in Soviet productivity began with their new educational program and has proceeded about in proportion to their educational achievement.

Evidence that education—even in small amounts—has the effect of increasing productivity is found in statistics on the annual income of persons with varying amounts of education. (See table 1.) According to these statistics, persons with an eighth-grade education earn income (and presumably produce) more than double the amount earned by those with no formal education, and high-school graduates receive almost three times as much as those with no schooling. Paul C. Glick and Herman P. Miller, of the Bureau of the Census, have estimated that a college education adds on the average \$91,000 to the lifetime earnings of individuals over the average earnings of high-school graduates. It should be added that this return is the result of an initial investment of perhaps \$16,000.

From the economic point of view, education is an important kind of capital investment. The investment takes the form of human characteristics instead of bricks, mortar, and machinery. The effect on production, however, is the same. For this reason the education our people have received may properly be regarded as one of our greatest national assets. And the process of educating the young may be regarded as our most potent form of capital investment.

TABLE 1.—Median income in 1949, for males 14 years old and over, by years of school completed

Years of school completed :	Median income	Years of school completed—con.	Median income
0.....	\$1, 108	9 to 11.....	\$2, 917
1 to 4.....	1, 365	12.....	3, 285
5 to 7.....	2, 035	13 to 15.....	3, 522
8.....	2, 533	16 or more.....	4, 407

Source: See technical notes.

The mere abilities to read, write, and calculate are of great importance for those who are to enter industrial employment or to conduct modern agriculture. To be able to read signs, or to comprehend written instructions, or to carry out simple calculations are obvious requisities to almost any kind of skill. A rudimentary knowledge of science has innumerable applications in everyday life. Training in manual arts, household management, agriculture, and other skills have of course a direct bearing on productivity.

But education is perhaps as important in its effects upon people's aspirations and motives as upon their skills. Knowledge of the world about them tends to enlarge their perspectives and to raise their aspirations. By presenting the new and the different, education frees people from dependence on custom and thus opens the way to changing methods of production. By teaching them about the nature of the world, it emancipates them from superstition and permits them to utilize the benefits of scientific knowledge. By showing that progress for the individual is possible, it leads to the desire to get ahead and thus to the willingness to work. Education helps people become interested in distant goals, to plan ahead, to prepare for the future, and to save. It also helps them to develop self-discipline and responsibility. And it makes people more intelligent, imaginative, and adaptable. All of these results of education have the most profound significance for economic growth.

We conclude that economic growth cannot be maintained in the long run unless there is also an increase in both the number of persons

receiving education and in the amount of education they receive. And it is probable that to achieve economic growth of any given amount requires a proportionate increase in both the extent and depth of education. If the educational requirements of growth are not met, then the growth must eventually come to an end simply because there is a limit to the economic productivity of people of a given level of education. In this sense, investment in people is fully as necessary as investment in things if economic growth is to be achieved.

HIGHER EDUCATION AND ECONOMIC GROWTH

In an advancing industrial economy, there is a steadily expanding need for persons of great skill and ability. That is why higher education, not only at the college level but at the postgraduate and professional levels, is in rapidly growing demand.

There are several reasons for the rapidly increasing demand for highly educated persons.

First, the increasing use of automatic machinery steadily eliminates unskilled jobs and requires that more people be engaged in designing, manufacturing, and repairing machines and in supervising their operation. In effect we are steadily transforming the jobs of our country from direct manual labor with simple tools to indirect labor at technical, supervisory, and organizational levels. This trend can be seen most clearly in agriculture where the man behind the plow has become a combination engineer and businessman. The trend is also clearly visible in the statistics on occupations. The percentage of unskilled workers in the labor force declined from about 35 percent in 1910 to 22 percent in 1950. During the same period, the percentage of professional and managerial persons increased from about 11 percent to 17 percent. The number of persons in the latter group increased from about 4 million to nearly 10 million.¹

Second, the increasing degree of specialization and division of labor in an advancing economy requires ever more activities relating to communication among the parts of the economy. Examples are the activities of middlemen, brokers, advertising men, salesmen, agents, purchasing agents, organized markets, journalists, the banking and monetary system, and the communications industries. Each of these activities requires thousands of educated and knowledgeable persons. Without them an advanced economy would break down because it could not function as an articulated whole.

Third, the development of large business firms, involving the coordination and teamwork of thousands of persons, requires great numbers of managers, supervisors, lawyers, foremen, accountants, personnel workers, public relations officials, clerks, and secretaries all of whom must be well educated.

Fourth, the increased scope of government, itself largely a result of the growth and increasing complexity of the economy, adds to the need for administrators, lawyers, economists, scientists, accountants, skilled military personnel, clerks, secretaries, etc.

Fifth, scientific research and development which is an integral part of economic growth requires enormous numbers of scientists, en-

¹ Available data are not strictly comparable throughout the entire period; hence these percentages are approximations. See technical notes for sources.

gineers, technicians, and their aids—all of whom must have substantial amounts of education.

Sixth, as a country grows richer, people are able to afford increased quantities of goods and services which can be produced only by educated people. Examples are medical and dental care, entertainment, art objects, music, books, high-style clothing, interior decoration, repair and maintenance of cars and appliances, air travel, etc. Also as a country grows richer, it can afford more education, and the need for teachers of all kinds increases.

Finally, seventh, the growth of knowledge itself results in greater need for education if people are to be able to function in a society where this knowledge is in general currency. The explosive increase in the number of words currently used in the English language is a symptom of the increasing educational demands placed upon the individual in our society.²

THE FINANCIAL PROBLEM OF HIGHER EDUCATION

The United States faces an acute crisis in higher education. The crisis will be precipitated by three factors: (1) the high birthrate starting in the 1940's; (2) the increasing proportion of young people who would like to go to college; and (3) the increasing, or changing, educational needs of our country. Each of these factors operates in the direction of enlarging the demand for higher education. There are few corresponding factors working in the direction of increasing the supply of teachers, buildings, and equipment. Indeed, the continuous rise in educational costs works in the opposite direction. These signs point to intolerable congestion and serious deterioration of educational standards.

The facts on the rising population of college age are well known. The number of young people of ages 18 to 21, about 8,700,000 in 1957, will reach about 14 million by 1970 or a little after. This will be an increase in numbers of about 61 percent. But the ratio of college enrollments to numbers in the population of college age has also increased steadily and persistently, as shown by the figures in table 2.

TABLE 2.—College enrollments as a percent of persons of ages 18 to 21

Academic year:	Percent	Academic year—Continued	Percent
1909-10-----	4.8	1939-40-----	15.3
1919-20-----	8.1	1949-50-----	30.2
1929-30-----	12.2	1953-54-----	29.6

Source: See technical notes.

Most observers expect that the long-term upward trend in the percentage attending will continue to rise. Indeed, this must happen if we are to have continued economic growth. In our judgment, the number of young people willing and able to attend college in 1970 will be 40 percent of all those 18 to 21 years of age. This estimate is lower than many other projections. Our conservatism is based on the opinion that as the proportion of young people attending college increases, further increases will become more difficult because there will be progressively fewer persons out of college who are capable of doing

² Since the Norman conquest, the English vocabulary is said to have increased from 100,000 to 1 million words, much of the increase having occurred in the past century.

college work, interested in college, and financially able to attend. Moreover, we believe that the recent great expansion of college enrollment has been due in part to special factors whose effect has been largely spent, namely, the GI bill and the unprecedented prosperity of the past 15 years.

Forty percent of the estimated 14 million in the 18 to 21 age group gives a projected total college enrollment in 1970 of about 5,600,000 students. This compares with the present enrollment in 1957-58 of about 3 million.

The financial requirements will also be affected by changing costs. Our analysis of the prospective cost per student is based upon two assumptions: (1) that the general level of prices remains constant at the 1957 level and (2) that the average quality of higher education offered is to remain at the 1957 level.

There are several persistent forces tending to raise the cost per student in higher education.

First, in the country as a whole (even with stable prices) wages and salaries tend to rise by 2 to 3 percent per year reflecting improvements in productivity per worker. If colleges and universities are to compete with the rest of the economy for faculty and staff, they also must raise their salaries and wages correspondingly. Moreover, because faculty salaries have been allowed to fall behind other salaries, and in view of the coming keen demand for teachers, faculty salaries must increase by much more than 2 or 3 percent a year during the next decade.

Second, with the growth of knowledge, especially in the sciences, the cost of educational equipment has been rising rapidly and will continue to rise. Electronic computers cost more than slide rules and cyclotrons more than test tubes.

Third, the increasing standards of living for the population as a whole are reflected in rising standards of campus living. Facilities for student dining, housing, recreation, and parking are steadily becoming more expensive simply because young people have been taught to demand facilities which were considered unnecessary by their parents. While it is easy to say that standards should not rise, it is difficult for individual institutions to set themselves against a persistent nationwide trend.

As against these forces leading to increasing costs, there may be possible economies. First, it is possible to use educational buildings and equipment more intensively. Many institutions operate only for a portion of the year, and use their facilities for only a fraction of each schoolday. By changing the daily and annual rhythm of college life it would be quite possible to use existing facilities more intensively. Second, on most campuses, some facilities have capacity beyond present enrollments and could be used more intensively even without changing schedules. Third, the costs of housing and feeding of students could be reduced if more students could live at home while attending college. Fourth, economies in the use of teachers might be achieved by increasing the size of classes, substituting TV for live teaching, and using more teacher aids.

But genuine economies must be distinguished from spurious ones. There are few so-called economies that can be achieved without lowering educational quality. Every college has, of course, the obligation to step up its efficiency, but not at the expense of quality. The ex-

cellence of American higher education is not now good enough, and it should be better to meet the requirements of our society in the years that lie ahead.

It is easy for bystanders to point to apparent inefficiencies in higher education. These inefficiencies seem so obvious. But the job of educational institutions is not merely to train technicians. It is to create an environment favorable to the best development of young human beings. The rhythms of college life, the give and take of classroom discussion, the unhurried atmosphere of a campus, the break with home ties, the concern for architectural beauty, and the social and extracurricular activities are all significant parts of college experience. To apply to colleges the attitudes toward efficiency that are appropriate to a feed lot or an assembly line would in fact be inefficient in relation to the long-run goals of education. We reject the idea that our colleges are operating wastefully or that they have adopted a level of luxury that the Nation cannot afford.

In our considered opinion, costs cannot be reduced substantially except at the expense of quality. We believe that the capital requirements and operating costs per student involved in maintaining the present average quality of higher education will be higher in the future than at present, even assuming that the general level of prices remains constant. This judgment is reinforced by past experience. The operating expenditures per student of all institutions of higher education have increased steadily since 1929, as indicated by the figures in table 3.

TABLE 3.—*Educational and general expenditures per student by all United States institutions of higher education*

Year	In current dollars	In constant dollars
1929-30.....	\$343	\$480
1939-40.....	349	583
1949-50.....	642	825
1953-54.....	910	796

Source: See technical notes.

We have estimated the financial needs of higher education up to 1970 assuming no increase in operating costs and capital requirements per student. We have based these calculations on the year 1953-54 which is the latest one for which complete data are available.

Educational and general expenditures in 1953-54 were \$910 per student. Assuming the same unit cost in 1970, when the estimated enrollment will be 5,600,000 students, total annual educational and general expenditures would be above \$5.1 billion.

We estimate the replacement value of the physical plant and equipment of our colleges and universities in 1953-54 at \$19.2 billion or \$7,650 per student. At this rate, to accommodate 5,600,000 students in 1970, we shall need altogether about \$43.1 billion worth of plant and equipment. To build up to this level will require average capital expenditure of about \$1.5 billion per year.

The endowments of our colleges and universities in 1953-54 totaled \$3.3 billion at book value. At market value, they were worth at least \$5 billion. If endowments are to occupy the same relative

position in educational finance in 1970 as they have in the past, they must grow to more than \$9 billion. This would require additions to endowments over the period to 1970 of about \$250 million a year. If endowments do not grow to this extent, student tuitions in private institutions must necessarily become relatively larger with the result that the public institutions will be called upon to bear a larger share of the total educational load.

TABLE 4.—*Financial requirements for higher education*

	1953-54	1957-58	1960-70
Educational and general expenditures.....	2, 288	1 2, 700	1 5, 100
Expenditures for plant and equipment.....	533	750	1, 500
Additions to endowment.....	100	150	250
Total.....	2, 921	3, 600	6, 850

¹ Projected.

² Average requirement for 1954-70 period. See text.

Source: See technical notes.

The prospective financial requirements for all higher education are summarized in table 4. It presents a comparison of expenditures and additions to endowment in 1953-54 and 1957-58 as compared with the amount needed in 1970-71. As the figures show, the total needed in 1970-71 will be nearly twice that actually available in 1957-58. But the 1970-71 estimate is undoubtedly understated because it is based upon the assumption that cost per student will be the same as in 1953-54. We believe it likely that costs will rise, and we are strongly of the conviction that they ought to rise if the quality of higher education is to advance as it should. We would judge that expenditures should be considerably more than doubled over the next 13 years. In this respect we are in agreement with President Eisenhower's Committee on Education Beyond the High School which suggests that expenditures should be nearly trebled by 1970.³

As higher education is now organized, the required funds must come primarily from State and municipal governments and from private philanthropy. The present financial position of our States and municipalities suggests that the support from them is likely to be inadequate, or at best, uneven. Private institutions are striving feverishly to make ends meet even at present enrollments and it is difficult to see how they can get much more money from their traditional sources. Even the recent welcome support by business corporations is not likely to solve the problem. The choice to be faced by many private colleges is either to limit enrollment or to allow quality to deteriorate. Few will wish to choose to lower quality and many will choose to limit numbers. As a result, students will be shunted to public institutions, and States and municipalities will be forced to bear a greatly increased share of the financial load. If they are unable to do so, the quality of their educational offering will deteriorate.

HIGHER EDUCATION AND THE NATIONAL INTEREST

Higher education is the source of our political and industrial leadership, it is the center from which the great new ideas in sciences and

³ Second Report to the President, p. 4.

arts emanate, and it is the place where our technical personnel are trained. We are so closely dependent upon higher education for the future growth and development of our country, both culturally and economically, that the advancement of our colleges and universities is a matter of the greatest national urgency. Without a vigorous and growing system of higher education, our military strength would decline, our national policies would become narrow and shortsighted, and our economy would atrophy. As President Eisenhower's Committee on Education beyond the High School so clearly stated, higher education is a matter of grave national concern, a matter to be thought about in national terms, a subject for national policies.

This by no means implies, however, that higher education should become the exclusive province of the Federal Government, or that it should be subjected to control by the Federal Government.

The obvious source of revenue to meet the problem is the Federal Government. It is in the best position to raise the new money required for higher education. But Federal support presents this dilemma: How can higher education be financed by the Federal Government without imposing centralized Federal control and without threatening the traditional autonomy, diversity, and freedom of higher education? To understand this dilemma clearly we must consider the nature of our educational system and the way it has developed.

To meet our needs in higher education we have a diverse system consisting of about 1,800 colleges, universities, technical schools, art institutes, music conservatories, teachers colleges, and junior colleges. Some are operated by States or municipalities, and some are private. Of the private colleges some are related to churches in various ways and some have no church affiliation. These institutions are financed from public appropriations, from church appropriations, from philanthropic gifts and from students' fees. These many institutions vary greatly in objectives, in standards, in the abilities of the students they attract, in tradition, and in prestige.

Such a diversity is the natural outcome of a free system of education under which anyone, or any group, can establish a college. Under such a free system some colossal sins have been, and are, committed in the name of higher education. But in general this diversity has had the virtue of giving freedom of expression to all educational ideals and theories, of providing facilities for all areas and all cultural levels, and of encouraging experimentation.

In a sense, we have adapted to higher education the principles of free private enterprise. The great majority of our colleges and universities—whether under private, State, or municipal control—possess substantial autonomy. They are mostly controlled by boards of trustees whose functions are analogous to those of boards of directors in business corporations. Colleges and universities operate according to their traditional objective, which is to promote education and growth of knowledge in an atmosphere of freedom of thought; business corporations operate according to their traditional objective which is to make profit. Colleges and universities compete with each other for students, faculty, and for financial support. Similarly corporations compete for workers, materials, and markets. Each college and university is impelled to improve its teaching and research and to increase its public acceptance; each business must improve its product

and gain good will. The successful innovations of any one college or university must be quickly adopted by others if they are not to fall behind in the competitive race; similarly, new ideas in business must be taken up by individual companies if they expect to remain solvent. In short, the incentives and pressures that make for productivity and economic progress in private business are also working for educational excellence and greater public service in higher education. If we were to organize our colleges and universities into a national system with Federal finance and control, we would risk losing the experimental attitude, the competitive spirit, and the drive to succeed that now vitalizes higher education.

An advantage of our diverse free-enterprise system of higher education, even more important than its educational vitality, is that it is a bulwark of our essential freedom. Colleges and universities are the citadels of free speech and thought. Research and inquiry, so important to national economic development, can prosper only in an atmosphere of freedom in which men decide for themselves what is worthy of inquiry, carry out their investigations in their own ways, and are free to publish and teach the results. Also, learning of students can flourish only in a free environment without controls and taboos. The spirit of higher education in a democracy is related to the search for the truth regardless of the vested interests or governmental programs that may be affected thereby. So long as there is free enterprise and reasonable autonomy in colleges and universities, so long as these institutions receive their support from a variety of sources, they can be free. Extension of centralized bureaucratic control over them would jeopardize the freedom essential to effective inquiry and teaching and would endanger both our basic civil liberties and our economic advancement.

The impending crisis in higher education arises precisely because education is a matter of vital national interest and concern yet at the same time is an activity that cannot wisely be placed under Federal jurisdiction and responsibility. The problem is primarily financial. The funds could be most readily raised by Federal Government, yet we dare not solve the problem by making our colleges and universities dependent upon central authority.

SOME PRINCIPLES

We are strongly committed to our present free system of higher education and we oppose centralized control over it. The national importance of higher education and the magnitude of the financial problem are such, however, that realistically Federal help may be needed. Our point is that there are various ways of giving Federal aid, of which some are likely to involve greater control than others. We believe that if and when the time comes to increase such aid, careful attention should be given to selecting those forms of aid that will not undermine the autonomy and freedom of our colleges and universities. In proportion as institutions become dependent upon the Federal Treasury for their annual operating funds, they lose their autonomy. In proportion, as aid is administered directly by Federal bureaus, they lose their independence. In proportion, as the conditions of receiving aid are specific and detailed, they lose their freedom. The problem is to select those objects and adopt those procedures that will give financial help without smothering institutional independence.

Among possible programs that would seem to meet the requirements are: Federal scholarships on the plan of the successful National Merit Scholarship program, employment at Federal expense of needy students in the services of their colleges or universities as recommended by the President's committee, long-term Federal loans for student dormitories and dining facilities, and grants for the construction of academic facilities to accommodate increasing enrollments. We do not necessarily advocate these proposals, but cite them as examples of Federal aid that would result in little or no infringement of institutional independence or freedom.

In general, we believe that the following principles would provide a useful guide if and when Federal aid to higher education is increased. The intent of these principles is to keep the relationships between the Federal Government and the colleges and universities at arm's length.

1. Federal assistance should not be granted directly to colleges and universities and their students, but should be granted through intermediaries. Nonprofit corporations controlled by boards of trustees composed of distinguished citizens and educators could serve usefully as intermediaries. The corporations should have considerable discretionary power within the framework of general policy laid down by Congress. The National Science Foundation or the National Merit Scholarship organization may be prototypes of this kind of corporation.

2. In programs of assistance to higher education, no distinction should be made between State, municipal, and private institutions, but all three classes of institutions should be eligible under identical conditions. With this policy, the influence of the Federal Government would be neutral in its effect on the relative growth of the three types of institutions.

3. The Federal Government, in apportioning aid, should not discriminate among academic fields. Except in emergencies, it should not single out particular fields such as science or engineering or agriculture, but should leave to the free choice of institutions and students the fields they wish to teach and study. The free market is vastly superior to Government bureaus in allocating our manpower to various occupations. Moreover, any plan to subsidize certain fields would almost surely lead to political pressure for support of particular fields and would put all non-technical and nonvocational fields at a serious disadvantage.

4. Loans and grants should be available to bona fide new institutions as well as to established ones.

5. The amount of loans and grants should be based on bare minimal standards of cost, allowing each institution to raise funds needed for exceeding minimal standards. Private philanthropy and State funds should finance the expenditures above the bare minimum. Institutions should still be encouraged to vie with one another for quality and excellence.

6. The grants should carry a minimum of conditions regarding the internal operations of the institutional recipients.

CONCLUSION

It is of the utmost importance to the Nation's economic development that higher education grow and improve. Yet the United States faces

an acute crisis in higher education. Unless immediate and drastic action is taken, our magnificent system of higher education will deteriorate through inadequate support in the face of numbers. In the national interest this must not be allowed to happen. We are opposed to centralized control over our colleges and universities, and for that reason we are reluctant to suggest greater Federal aid to higher education. But the dangers to our economy and our country are infinitely greater if higher education stagnates through neglect than if the Federal Government contributes financially through mechanisms involving arm's-length relationships with the colleges and universities.

This country can well afford a better system of higher education. Our present expenditures for this purpose are a mere three-fourths of 1 percent of the gross national product. The contribution of higher education to the lives and welfare of our people as well as to the economic growth of our Nation demands that we not fail to support it in its coming hour of great need. The long-run effect of what we do may be decisive not only for the rate of our economic growth, but also for our military security. The most rewarding investment that we can make is to cultivate the talents of our people.

TECHNICAL NOTES

Data for table 1 and related text discussion are from the Statistical Abstract for 1957, tables 130 and 258, and from the United States Department of Commerce, Historical Statistics, series D77-89.

Data for college-age population and college enrollment for table 2 are from United States Office of Education, Biennial Survey of Education in the United States, 1952-54, chapter 1, table 33. Projected college-age population through 1970 from Ronald B. Thomson, College-Age Population Trends, was spliced to the Biennial Survey, college-age population, benchmark series, to obtain the projected college-age population used here. This projected college-age population series was used to project college enrollments, assuming the proportion of college age who would attend to rise to 35 percent in 1960 and 40 percent in 1970. The 1957-58 estimated enrollment figure of 3 million mentioned in the text is the projected figure in this series.

Educational and general expenditure data are taken from the Biennial Survey, 1952-54, chapter 4, section II, table II, and the above enrollment data are used to compute the first column of table 3. The Consumer Price Index (1955 Statistical Abstract, table 376) was used as a deflator. Projected educational and general expenditures represent the 1953-54 expenditure per student applied to the projected college enrollments.

The replacement value of the 1954 plant (Biennial Survey, 1952-54, ch. 4, sec. II, table II) was estimated as follows: Postwar plant expenditures were estimated by interpolating the data in the Biennial Survey, 1952-54, chapter 4, section II, table II. These were cumulated to provide estimated postwar plant at cost. Its replacement value was assumed to be 150 percent of the total, the percentage being based on the Engineering News Record construction cost index. The remainder of the 1954 plant was assumed to be prewar plant. This figure was tripled to estimate its replacement value, the factor again being based on the construction cost index.

The 1954 endowment figure is also from the Biennial Survey, 1952-54, chapter 4, section II, table II. Its replacement value is arbitrary.

Table 4 data for 1953-54 are from the Biennial Survey, 1952-54, chapter 4, section II, table II. Data for other years are from the projected educational and general expenditures series and the text, except for the 1957-58 plant and equipment expenditure figure which is obtained from the President's Committee on Education Beyond the High School, Second Report to the President, page 81, and the 1957-58 endowment figure which is an extrapolation of the Biennial Survey data.