The Costs and Benefits of Education;
Is it Worthwhile?

A Comparison of C. Jencks' *Inequality: A Reassessment of the Effect of Family and Schooling in America* with the results of various economic studies

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For years American liberals have been proponents of more schooling for all. Most budgeting decisions have been made on the assumption that the more money the school has, the better education the students will receive. It is further believed that the better education a student receives and the longer he stays in school, the higher income he will receive. Economic studies undertaken during the 1950's and 60's have tended to concur with this approach. Christopher Jencks, a Harvard Professor of education, does not agree. In his most recent book, *Inequality: A Reassessment of the Effect of Family and Schooling in America*, he states the results of his latest research. His findings suggest that education is not nearly as important with respect to determining income as has been thought in the past.

In Mr. Jencks' study he found that when computing the difference in income among random individuals and comparing this to the difference in individuals whose occupational status, family background, cognitive skills, and educational attainment are all similar, he finds only 12-15 percent more inequality among those randomly picked. In his interpretation of this, he deems this as an insignificant difference, implying that these factors are not as important as we have so long believed. Mr. Jencks infers that income may depend on a variety of
different talents that have little, if anything, to do with those factors. Some possible characteristics Jencks uses to explain the variance are "the ability to hit a ball thrown at high speed, the ability to type a letter quickly and accurately, the ability to persuade a customer that he wants a larger car than he thought he wanted, the ability to look a man in the eye without seeming to stare."¹ Mr. Jencks also states that luck is an important variable.

From these findings, Jencks draws a rather startling conclusion. He states that if the objective is to reduce the inequality of incomes, it will not help substantially to reduce the inequality of educational opportunity. This would imply that it is not feasible, for the sole basis of equalizing income, to equalize the chance of each individual to go to school as we have been attempting. He did admit that the differences between occupations might decline due to the fact that the public would be less in awe of professionals and managers, and

they would be "more skeptical about monopolistic arrangements which now keep elite salaries high."\(^2\)

Mr. Jencks states, however, that this is not the critical area of inequality; incomes within occupations show the largest differences.

Previous comprehensive studies by economists fail to agree with Mr. Jencks' findings that education does not significantly affect income. Let us look at some of the factors one must include when attempting to determine the benefits of education. To the individual there are various private costs to be considered, but the society as a whole must also weigh their costs when they attempt to decide if education is worth spending tax dollars on (In 1968 expenditures in the United States on formal education reached about $60 billion\(^3\)).

The main private cost, at least for those in secondary schools and colleges, is that of the opportunity cost of foregone earnings. Each individual must weigh the amount of estimated extra earnings and social gratifications he would receive from schooling against the

\(^2\) Jencks, pp. 224-225.

amount of income he could receive if employed during this time period. These opportunity costs must be added to the cost of tuition, books, and supplies when attempting to obtain the true expense of schooling. Society, however, must also include the expense of salaries, maintenance, and buildings when considering its costs. Society also should remember that when a person is in school he cannot contribute to the output of the economy and, thus, this too is a cost to be considered. When society attempts to measure the benefits of schooling, it must include the fact that besides earning income for himself, the student, as well as those around him, receives many non-economic benefits.4

Studies by Gary Becker, W. Lee Hansen, Daniel Rogers, Giora Hanoch, and others all show significant rates of return from high school and college education. Giora Hanoch found that by using 1960 census data, there was an 18 percent rate of return to high school and a 10 percent to college. When these were adjusted due to location and ability, they were reduced to 16 percent

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to high school and 9.6 percent to college.\textsuperscript{5} W. Lee Hansen's returns based on 1949 data were 15.3 percent to high school and 11.6 percent to college.\textsuperscript{6} Let us look at Mr. Roger's and Mr. Becker's studies in more detail in order to find how these rates-of-return are derived.

The most common technique used by economists when attempting to estimate the benefits of education is the rate-of-return approach. This method is used to find the private returns to an individual in order to decide if the time and money invested in education is a worthwhile effort.

The standard method is to observe, for a particular year, and for different age cohorts, the net earnings differentials after tax that are associated with various amounts of education received, and then to calculate the interval rate of return which would equate the present value of these expected differentials, properly adjusted for income-determining factors other than education, to the private costs incurred by obtaining additional education. Social rates of return are derived from the private


rates by allowing for the total public and private costs of education, and by adding in earnings that are taxed away. In other words, lifetime earnings are estimated from cross-section data classified by age and we solve for the discount rate at which the present costs of extra education would yield the prospective stream of extra earnings.7

This method is by no means fool-proof and it has many critics. The major discussions on this method center around six main areas:

1. Education, earnings, endowed ability, individual motivation, and social class are all intercorrelated and no one has yet succeeded in satisfactorily isolating the pure effect of education on earnings;
2. It is assumed that people are motivated solely by consideration of the financial gains of additional school attendance, thus ignoring both the nonpecuniary attractions of certain occupations and the consumption benefits of education;
3. The calculations depend on the projection of future trends from cross-section evidence, thus neglecting historical improvements in the quality of education as well as the effect of the secular growth of education on prospective earnings differentials;
4. Existing earnings in favour of educated people reflect, not differences in their contribution to productive capacity, but rather long-established social conventions in an inherently imperfect labour market; hence, rate-of-return studies

tell us nothing about the role of education in economic growth; (5) the direct benefits of education are quantitatively less important than the indirect spill-over benefits and the latter are not adequately reflected in a social rate of return which simply relates income differentials before tax to the total resource costs of education; and (6) social rates of return have ambiguous policy implications because educational authorities have other goals than that of maximizing the net national product.8

Each of these points are quite valid and the believers in the rate-of-return analysis have attempted to adjust for these problems. One of the most in-depth studies of the benefits of education was done by Gary Becker. Becker began by looking at people who had differing levels of educational attainment. He then calculated the earnings of each group. Becker adjusted his findings to compensate for several factors. Because he was using the cross-sectional data, he felt it necessary to reduce his estimate somewhat due to the fact that not all persons will live to be 65 and thus he had to correct his estimates for those who will die at each age. The rate of unemployment was

8 Ibid, p. 222.
also an important factor so Becker adjusted by setting the unemployment level at zero. This tended to underrate the return from education because those unemployed are more often those who have lower educational attainment levels. Becker also included the fact that yearly income will rise over a lifetime, and tried to estimate the change that differing tax rates would have on individual earnings.9

Becker's estimate of the return of college graduation "for all male whites graduating in 1949 yield a figure of 13 percent."10 He also found that the rate of return from those graduating from high school in 1949 was approximately 20 percent.11 In more recent work done by Becker, his estimates, before adjustment, are 13 percent for a college education and 13 percent for high school. Becker then took these estimates and considered the affects that I.Q., father's occupation, and high-school-class rank had


10 Ibid., p. 65.

11 Ibid., p. 65.
on his findings. When he included these factors he still got considerable returns to education. He lowered his college education returns from 13 percent to 11.5 percent, and that of those who graduated from high school from 13 percent to about 10 percent.\textsuperscript{12}

Even with the adjustments just mentioned, not all persons feel that Becker and his methods are correct. One of the most outspoken of his critics is J. Vaizey. Vaizey's main argument is whether indirect costs should be included when estimating the total cost or if these should be left out. His main reasons for believing that they should be left out are: (1) in most countries there is a minimum age law for working; (2) in computing national income, foregone earnings are not included and, hence, should not be included here; (3) benefits received by students during the time they are being educated should be included; and (4) if all students left school and began to look for work many would go unemployed.\textsuperscript{13} In looking at these

\textsuperscript{12} M. Blaug, p. 225.

\textsuperscript{13} O'Donoghue, p. 49.
arguments it is rather unclear as to why Mr. Vaizey stresses them so greatly. If we do not include indirect costs, the return from education will be even greater. It is suggested that there is no theoretical reason but merely a practical policy making one.

"Vaizey's apparent fear is that if indirect costs are counted it will make the cost calculations for any educational scheme look very large, and will thus slow down the pace of educational advance. ¹⁴

Rate-of-return analysis is not the only method used to estimate the benefits of education to see if it is worthwhile or not. One of the other techniques used in studying this is the longitudinal case study approach. In this method case studies involving certain individuals are used instead of the cross-sectional method. These persons are studied over a period of time, whereas in the cross-sectional method we studied many different persons, at different levels for a single time period. This method helps to eliminate many of the problems incurred when using the rate-

¹⁴ Ibid, p. 54.
of-return analysis, for location and ability are kept constant. It too, however, has problems in that it is difficult to research over that long of a time period, and it is good for a certain period of history in which wars, depressions, and prosperity all play an important role.

One study using this approach was by Daniel Rogers. He used a sample of about 2,000 males that took an intelligence test in 1935. He then followed up on these men to see how their education affected their earnings. His estimates differ from Becker, yet he too concludes that the time and money spent on education are worthwhile. Roger's adjusted figures are 6.7 percent for high school graduation and 8.9 percent for a college education. Roger's sample is, however, mainly from one area of the country and from prep schools, therefore we must be aware of this possible bias.15

Although both of these studies, as well as many others with yet different techniques show that invest-

15 Daniel C. Rogers "Private Rate of Return to Education in the United States: A Case Study," Yale Economic Essays, 9 (Spring, 1969), pp. 89-134.
ment in education is a worthwhile expenditure, B.A. Weisbrod feels there are additional benefits that should be considered when examining this subject. "Schooling benefits many persons other than the student. It benefits the student's future children, who will receive informal education in the home; and it benefits neighbors, who may be affected favorably by the social values developed in children by the schools and even by the quietness of the neighborhood while the schools are in session. Schooling benefits employers seeking a trained labor force; and it benefits society at large by developing the basis for an informed electorate."\(^{16}\)

In 1960 public expenditures on education was over $19 billion.\(^{17}\) Weisbrod attempts to relate some of the external benefits individuals other than the students, and society as a whole received as a result of education that would justify the public's


\(^{17}\) Ibid., p 171.
responsibility for payment of schooling. Mr. Weisbrod estimates that, in 1956, of the 3.5 million working mothers with children from 6 years to 11 years of age, at least 1 million would not work if their children were not in school, but at home. If we calculate these women's earnings as $2,000 each per school year, then the school's child-care service for elementary students is valued at $2 billion per year. Mr. Weisbrod also cites the student's future family as being a beneficiary of his education. The informal learning that takes place in the home will be greater if the parents are well-educated. Neighbors, too, can benefit, for the students learn to act in an acceptable manner. It also seems that the less educated have a difficult time finding employment and thus, this leads to crime. Employers and co-workers are also recipients of benefits from the educated person as he is now more useful and can increase production with his flexibility. Society as a whole, too, is able to benefit from education. We tend to take literacy for granted today, but

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18 Ibid., p. 173
Without education, books, newspapers, and traffic signs would lose much of their importance. All of these benefits should be considered when society is attempting to look at the real reason for public educational support.¹⁹

Even with all of this data, we still have not been able to answer why one set of studies tells us to stay in school and spend money on schooling, while the other tells us that schooling is not necessarily the most important factor in equalizing income. It seems that the real conflict occurs in the interpretation of the results. The findings are similar, although they do not coincide. The most difficult task of all is in separating educational attainment from other influencing factors that explain the differences in income. This seems to be the main difficulty between Jencks' analysis and those done by economists. Both are painfully aware that factors such as parents' income, parents' education and attitude, and differing levels of intelligence, to mention a few, are quite influential factors when

¹⁹ Ibid., pp. 174-175.
measuring income. Yet each have differing opinions on the amount of influence these factors have. Mr. Jencks infers that these economic studies have not sufficiently adjusted for these factors, or at least their implications on these findings are not valid.

Mr. Jencks seems to look at the specific individual instead of just the average person. He feels that although staying in school for the average student may be beneficial, this does not necessarily mean that this is the best policy for each person. "For working-class whites, blacks, and women, dropping out seems in many cases to be the most economically rational decision."20 He also feels that the person who has an opportunity for a 'good' job may be justified in dropping out of school to work. Most of the economists cited earlier, however, would disagree with this. They feel that the benefits, both social and economical and to both the individual and to society as a whole, far outweigh the costs.

20 Jencks, p. 224.
They feel we should attempt to give each person the most education possible. As stated previously, however, Mr. Jencks feels this will not eliminate the real inequality of incomes which is within the occupational groups.

Should we change our direction toward education? Should we quit trying to equalize opportunity? To many persons the real problem seems not to be whether education is beneficial or not, but rather how it is to be paid for. Milton Friedman states that "It is eminently desirable that every youngster, regardless of his or her parents' income, social position, residence or race, have the opportunity to get higher schooling—provided he is willing to pay for it either currently or out of the higher income the schooling will enable him to earn."²¹ Not all persons agree with Mr. Friedman's belief in the method of payment of this education, yet most seem to feel the education itself is important. Paul Woodring of the

Saturday Review stated that "if the American dream of equal opportunity for all is ever to be achieved - and we are still a long way from achieving it - a boy or girl from a poor family must have access to education at all levels which is in no way inferior to that available to the more affluent."22

Both of these men see a definite need for educational opportunity for all. Jencks, however, doesn't feel that even with this opportunity incomes will equalize. We must now examine this idea. In a society such as ours where decisions are made that must be acceptable to all, we cannot overlook the fact that not all people agree that equal incomes should be our goal. Most persons feel that the opportunity for this should exist, but that each person must make the most of this opportunity. Our society does not seem ready to move toward Mr. Jencks' ideas at this time.

We cannot overlook the fact that the goals of the society as a whole and those of Mr. Jencks do not necessarily coincide when attempting to evaluate our present system. Mr. Jencks' comments on education are quite interesting and should not be treated lightly. It seems, however, that his dismissal of education's affect on income was in error. The amount of income is definitely correspondent with the amount of education one receives. Persons will always disagree on the extent of this effect, yet we must not forget that it is influential, for the individual without education is at a definite disadvantage. We cannot ignore this fact when we attempt to analyze and reform our present educational system.
Bibliography


