The Economics of Education:
A Survey of the Literature

by

Cynthia A. Benjamin

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Douglas Patterson
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Ball State University
Introduction

In approaching the idea of investment, there is a tendency to focus one's view on what might be termed "conventional investment,"¹ that is, investment in physical capital. However, it is the opinion of many economists that investment in human capital is equally important and warrants extensive study. Burton A. Weisbrod expresses the idea that human capital and non-human capital contribute "to economic growth and welfare... in what is probably an interdependent manner." For this reason, he sees the need to focus more attention on "the level of expenditures on people."²

Human capital encompasses the total acquired skills and knowledge of a population. "Despite its importance, the idea of human capital has not played an important role in the history of economic thought as it has been carried on in the English tradition." Attitudes towards the value of human capital were very much influenced by the spirit of the industrial revolution. Identical machines with interchangeable parts were run by identical laborers who could very easily be interchanged. Output whose production had before required skilled labor could now be produced by unskilled labor and machines. Unfortunately for the worker, it was believed that "only physical machines could lead to increased output," so "instead of increasing human capital for improved production, the productive process tended to debilitate human capital..."³
There were critics of these attitudes held by English economists, one of whom was Adam Smith who "clearly recognized the importance of human capital." However, Marx, a more influential critic of classical economics, "ignored human capital completely." 4

Historically speaking, people were aware of human capital, but "the idea did not have a major impact on economic thought" until the late 1950's. Lester Thurow feels that the reasons for this omission are obvious. "There was a lack of interest in economic growth. Attaining full employment and eliminating business cycles were the fundamental economic problems. Income redistribution was considered, but only direct transfers (rather than a redistribution of human capital) were discussed." 5

The study of human capital has currently resurfaced as a principle concern of economists, particularly in the analyses of Gary S. Becker and Theodore Schultz. Thurow states that "our current emphasis on the problems of economic growth and equitable distribution of income has highlighted the importance of such analysis, for increases in skill, talents, and knowledge have proven to be major contributors to economic growth..." Another reason for the current interest in human capital formation, as seen by Thurow, is that at the present time "alteration of the distribution of human capital seems to be the politically preferred method of eliminating both poverty and income gaps between black and white." 6

A major component in human capital formation is education. The role of education on income distribution is an important
one. Paul C. Glick and Herman P. Miller assert that "in our complex industrial society, educational attainment is one of the most important factors in determining the occupational and income levels to which a person can aspire." Becker and Chiswick cite evidence that "schooling usually explains a not negligible part of the inequality in earnings within a geographical area, and a much larger part of differences in inequality between areas." The purpose of this paper is to review the literature on the economics of human capital formation with special focus on investment in education.
The Return on Investment in Education: Private

Individuals invest in education in part for the same reasons that firms invest in physical capital, that is, they expect the investment to yield a rate of return that will make the investment profitable. Mark Blaug states that "education is to some extent at least regarded as an investment good rather than a consumer good, because everyone recognizes the fact that extra education generates a stream of financial benefits in future years." Thus, the theory of investment behavior can be used to explain the demand for education. Economists assume that "optimizing behavior" will govern the amount that an individual will invest in human capital. It is for this reason that Gary S. Becker and Barry R. Chiswick conclude that an individual will invest only that amount which "maximizes his economic welfare." 

There have been a number of attempts to determine the individual rate of return on investment in education. Conceptually, this does not appear to be a difficult problem, but in practice the variables determining income differentials are extremely complex. The economic literature in this area stresses both the rates of return by using different computational methods and the problems involved in isolating education from other variables which determine variances in earnings.

The methodology involved in estimating the returns to education varies from one study to another. The conclusions
drawn often depend as much upon the method used to evaluate the data as they depend upon the data itself. One method may overstate returns because it takes too much into consideration, while another will understate returns because it overlooks certain benefits. Of the various methods used to evaluate those economic returns which a person receives through further education, Hansen asserts that use of the "rate of return" is a method much superior to the more conventional methods being used. He feels that methods using "additional lifetime income or present value of additional lifetime income" are not nearly as valuable.11

In his use of this method, Hansen observes a high rate of return to investment in schooling and attributes to this, the basic attitude that this society has toward education. He sees this high rate of return as an adequate explanation for our "traditional faith in education." To most people, an education is a powerful weapon with which to attack the rather fierce world which surrounds them. For this reason, Hansen feels that, again reflecting a high rate of return to education, most individuals desire to "take advantage of as much schooling as they can."12

Morgan and Martin have found another problem in estimating returns to education, related to the methodology used. They state that the number of hours that a person works does not "increase systematically" with the amount of education attained. On the contrary, a "voluntary substituting of leisure for income" occurs in various forms. For this reason, they point out that if an investigator uses "annual earnings" as a tool in
measuring the rate of return to education, he should beware of these benefits which may be overlooked. In such a "situation, the use of annual earnings hides some of the benefits of education." 13

Though a high rate of return to education has been observed by Hansen, it might be important to know how, at this point in time, the rate of return to education is changing. Is it rising, falling or staying relatively constant? Along this line of thought, James Morgan and Charles Lininger conclude that "the private and social value of investment in education is greater than previously implied." It appears that this level of value will continue "as long as unskilled jobs are eliminated faster than the number of unskilled workers decline, and the demand for technically trained people increase faster than the supply." 14

In an attempt to see if the "increase in number and proportion of high school and college graduates during the past generation has been associated with a reduction in income differentials for these groups," it should be remembered that in the long run, if there are no changes in the demand for workers with a higher level of education, such a reduction would not be surprising. If this reduction has occurred, then we would have to conclude that the rate of return to further education is falling. However, in the period studied by Herman P. Miller (1939-1959), both demand for and supply of highly educated workers were changing. Thus, when we see, from the figures of his study, that a reduced supply of workers with
educations below eighth grade level had "smaller relative income gains than high school graduates" and at the same time, we see that the increased supply of college graduates "did not affect their relative income position," the conclusion drawn is "that the demand for more highly educated workers has kept pace with the increased supply of workers..." In this way, Miller implies that the rate of return has at least kept pace, or is staying relatively constant.

Renshaw makes the inference that "the real cost of obtaining a higher education, measured in terms of income foregone and education expenses, has been increasing with respect to time," which makes it necessary for returns to increase in order for an investment in education to remain as profitable as it has been. However, he also has come up with data which supports the hypothesis "that the returns from investment in higher education have been declining with respect to time, suggesting that the forces responsible for shifting the supply of college graduates to the right have been stronger than the forces shifting demand." Observing the tightness of the job market for college graduates today, this hypothesis seems to have some very sound support.

A problem which Glick and Miller observe is that, even though the probability of succeeding in his financial pursuit is increased by a person's continued investment in education, this investment does not necessarily "guarantee" the "attainment" of that person's financial goal. A great variety of highly personal factors can enter in to modify and possibly reduce
the importance of a particular individual's educational attainment. Even after considering all costs and making allowances for "non-educational factors affecting schooling," Weisbrod feels confident that evidence in the United States indicates "formal education does pay in the direct form of enhanced employment opportunities and, thus, of greater incomes."¹⁹ His data further indicates that the financial return produced by investment in education is "at least as great" as that return received from "investment in corporate enterprise." He estimates that this educational return is "around 10% for college, and even more for high school and elementary school."²⁰ W. Lee Hansen states, "Basically, the marginal rates of return rise with more schooling up to the completion of grade 8 and then gradually fall off with the completion of college."²¹

The problem of isolating the individual's return to education from other factors is a stumbling block which must be recognized and overcome, for it not, returns to education can not be accurately estimated. Certain factors such as "experience, natural ability, social class, family connections, and other kinds of education" have a definite affect on an individual's income.²² These variables highly complicate the issue of "measuring returns to education, for returns attributed to formal education may in fact be the result of one or more of these highly personal factors. If any of these factors were to be singled out by Burton Weisbrod and Peter Karpoff, ability would be at the top of their list. They see ability as a most
influential variable with regard to "educational attainment," so important that they feel its effect cannot be ignored, for if it were, the result of education in relation to earnings would be well overstated. To their list of influential variables, Weisbrod and Yarpoff would add such factors as "school quality, personal motivation, and pure chance," to mention only a few.23

In addition to "diversity in ability," Bruce W. Wilkinson suggests "on-the-job and off-the-job training, market imperfections, such as the lack of knowledge of opportunities, and tradition-based wage-salary scales" as possible factors which could cause substantial variations in the returns that different people receive from the same amount of education.24 We really don't have enough information about the "relationship between income and ability, the importance of on-the-job training," or the "significance of education in the home." If we could be fully equipped with these tools, adjustments could be made, so that the influence of these factors would not be misconstrued as a return to investment in education. Hansen asserts that "full adjustments for these factors would have the effect of reducing the relative rates of return, especially at the higher levels of schooling."25

Because of the diverse nature of variables "relevant to the determination of earnings" Weisbrod and Yarpoff distinguish between what they call "schooling" variables and "non-schooling" variables. The former have to do with the "quantity and quality of education received" and the latter "describe the personal
characteristics of an individual that influence earnings."\(^{26}\)

They "estimated that about one-fourth of the earnings differences are attributable not to differences in educational attainment, but to non-schooling factors..."\(^{27}\)

Assuming that a high school graduate who attends college does actually earn more than one who goes to work upon graduation from high school, Wolfle and Smith attempt to learn "how differences in education affected the earnings of high school graduates of equal ability or of comparable family background."\(^{28}\)

Using high school ranking as an indicator of ability, they tried to compare such ranks with the annual earnings of these students twenty years later. The highest ranking individuals were reported to have the highest incomes and the difference in incomes increased with the amount of additional education that individuals received "after finishing high school."\(^{29}\)

From the data which they presented, Wolfle and Smith concluded that "the man of high ability and advanced education receives substantially better reward than the man who has one but not both of these attributes."\(^{30}\) They further conclude, even more emphatically that "the advantage of higher education is greatest for those of highest ability."\(^{31}\)

Weisbrod and Karpoff go on to substantiate this view. Because they found a "tendency for the rate of increase of earnings over time to be larger for graduates with higher class rank," they conclude that those people who have the ability and motivation necessary to be at the top of the class list, are the people who benefit most from an investment in higher
Renshaw has noted a distinct "tendency for high grades to be associated with increased earnings in nearly all professions and occupations." In spite of the fact that high grades could provide a key to financial success, Renshaw finds a great number of these "better students" choosing a profession "which almost never provides entree to the highest income brackets." In fact, he observed that nearly 38% of "A" graduates enter into lower-pay "professions such as teaching and the clergy."33

To Weisbrod and Karpoff, it appears that students of different ability levels probably won't receive the same value from a college education. The "marginal value" of such education will probably correspond to each person's own ability. Therefore, they urge that direct quotation of "average financial return" figures of advanced education to high school graduates be avoided, since these average figures may be unfair and "misleading."34

Giora Hanoch believes that "there is probably a significant positive correlation between ability to earn income—a combination of natural and acquired ability traits—and the level of schooling achieved."35 Renshaw sees as a distinct possibility that "the more ability or natural productivity one possesses, the more he will stand to benefit from additional education."36 These views of the influence of ability upon returns to education might lead us to follow the conclusions of D.S. Bridgman. His view of the income differential between
high school and college graduates was substantiated through the study of the educational and ability patterns of veterans from World War II and from studies of earnings and abilities of college graduates. He feels that ability is a major reason for income differences between these two groups. Consequently, he sees a danger of overestimating the "monetary" value of a college education, for the effect of "higher ability levels and other such factors have not been adequately recognized."^37

Weisbrod concurs that generally, those students who stay in college have more ability, ambition and desire to learn. Their family backgrounds will often have an influence on their ability to be placed in a position after graduation. Their parents are more likely to have "job connections" to get them started. In evaluating incomes in relation to additional education, it is hard to distinguish the portion of additional income which has been the result of these personal factors from the portion which is the result of more schooling. ^38

Collecting data concerning all actual investment in human capital is not easily accomplished. Since we are considering education to be a major "investment in human capital"^39 it seems much simpler to merely measure investment in education. Becker and Chiswick state that "investment in formal education" can be roughly "measured by years of schooling" and this information is easily obtained. ^40
However, in a study conducted by Orley Ashenfelter and Joseph D. Mooney, it was concluded that "variables such as profession, degree level, and field of graduate study, always explained more of the variance in earnings than years of graduate study." They feel that in calculating the rates of return to graduate education, the use of the actual number of years of graduate education as the "sole education-related variable" would have very "misleading" results. In striking contrast to what has previously been stated, they found that the "inclusion of an ability variable affected the estimates of the coefficients for other education-related variables only in a very marginal manner." Thus, they conjecture that in constructing rates of return, when the sample involves a large number of highly educated people and a "number of relevant control variables," the investigator "need not worry about the lack of an ability variable." If this could be assumed to be a plausible conclusion, procedures could be considerably simpler and accurate, since the measurement of our "ability" variable is a highly complicated task.

Giora Hanoch observes that there is a difference between the rates of returns to whites living in the south and those living in the north. The rates of returns in the south are higher than those in the north. Based on data from the 1950 U.S. Census, Glick and Miller conclude that on the average, higher levels of educational attainment, especially on the college level, correspond to "increased earning power." However, in the case of non-whites, the relationship between
this level of attainment and earnings is much less "pronounced." Renfrew stated that "a college education appears to be a relatively poor investment for the average non-white male." However, he also noted that "non-white females appear to obtain, on the average, a higher return than any other group." Such a variance in the "marginal efficiency of investment," between different groups of people who have invested in the same number of years of education, led Hanoch to postulate factors which might lead to such a situation. The three major classifications of these factors as he sees them are: "quality of schooling, marginal market discrimination, and ability--in a broad sense." Marginal discrimination is that situation in which the "degree of discrimination" increases with the amount of education that a person obtains. According to Hanoch, it has not been established that such discrimination actually exists and he feels that much research would have to be done to support its existence. He goes on to say that "if one is inclined to emphasize the environmental and social factors, then the disparity between the rates of return to schooling in the two racial groups [whites and non-whites] can be attributed entirely to some form of discrimination against non-whites in the schools, in the current labor market, or in the accumulated social burden." Up to now, in considering the returns that an individual receives from advanced education, we have been very concerned with personal factors which may enter in to alter the value of investment in education for a specific individual.
We have never really mentioned the significance of where this advanced education has taken place. Surely it makes a difference which institution one attends, otherwise people wouldn't worry so much about the schools which their children attend. The high school graduate's choice of schools would not be such an important issue. Henshaw asserts that because of "differences in the quality of education, differences in the quality of students, and differences in the quality of home environments" to mention only a few factors, the conclusion drawn should be that "it makes a considerable difference what school one attends."  

In approaching the topic of quality education, Richard Raymond faces the question: what is quality education and how can it be measured? Contrary to what might seem common-sense and easily arguable, he concludes that "...the student-teacher ratio, the percent of teachers teaching in two fields, current expenditures, or the adequacy of library facilities... are not always accurate indicators of quality." He feels that evidence warrants "only a very guarded use of salaries to measure quality," even though he conceded that higher salaries can have a definite positive effect on the education which we receive.  

In investigating the quality of education in different school systems, objectives are found to be widely varying. Some stress college preparatory courses, while others weigh technical or vocational type training more heavily. Thus, the investigator must pose the question of the validity of a
study which lumps such systems together to develop a quality index. Raymond, in measuring the quality of education concentrates on the idea that the level of preparation for higher education is a measure of quality. 48
The Return on Investment in Education: Social

In the previous section we were more concerned with the individual benefits which can be obtained through further education. "In addition to these, it is possible that other sections of the community--members of the same family, neighbours, work colleagues or the community in general through governmental agencies--may experience economic side-effects from the education of some of its members." Since any decisions to spend more on education by agencies such as the government would be made in relation to such "wider consequences" of educating an individual, these consequences "should be evaluated in a similar manner to the private benefits." Now in approaching "education in economic terms," we must realize that there is a "need for some identification and measurement of the community-wide costs and benefits associated with education." 49

Those benefits which a community receives from the education of the individuals which comprise it can be termed external effects of education. However, these external effects are not always bestowed upon that area which financed an individual's education, for some of these benefits accrue to the "individual's place of residence," which is a highly flexible factor. 50 Because movement from one area to another has become an everyday, commonplace situation, problems concerning the financial aspect of education have arisen. If the distribution of educational funds is to be both equitable and efficient,
the effects of migration must be considered. The burden of educating individuals may be taken on by one community, while another community will benefit, without cost to themselves. The problem could indeed be severe in an area where out-migration was consistently greater than in-migration.

Becker divides the "economic effects of education" into two parts: (1) the effect on incomes of persons receiving the education; (2) the effect on incomes of others. In estimating "aggregate social returns," Mary Jean Bowman states that this second effect creates a definite problem. "Aggregate social returns" to education might be looked at as the sum of individual social returns. However, if this type of evaluation is used, we are disregarding interaction between individuals, that is, disregarding the effect that the education of one person has on the education of another. "The total social return may be larger or smaller than the sum of individual returns viewed in isolation from each other unless a correction for these interactions is made." As Bowman sees it, if we look at returns from education in the long run, we must include the effect that a parent's education has on his children. She chooses to refer to this as a "deferred return," and a "contribution...to the future efficiency of children." Education as Weisbrod sees it is "a means of inculcating children with standards of socially desirable attitudes and behavior and of introducing children
to new opportunities and challenges." By means of education, our children are encouraged to "develop greater awareness of, and ability to participate effectively in, the democratic process." Education of children in the home by their parents exemplifies a benefit of education which is often overlooked. We must take into consideration the intergenerational effects of education, that is, the "influence of education in one generation on attitudes and educational attainments in the next generation." In focusing on "current" benefits such as increased earnings, future returns "in the form of intergeneration benefits" are ignored. It is important that this aspect of returns to investment in education be considered along with the more obvious returns. Data presented by William J. Swift and Burton A. Weisbrod indicate that the "intergeneration rate of return ... rises as the parents' education increases through the high school level," then drops with parents' increase in education beyond that level. "Higher costs of college" and "foregone income" are cited as reasons for this decline.

Ways to increase the return to society on educational investment are always being considered. Some investigators find that many people whose productivity could be increased through advanced education never make the necessary investment. Unfortunately, it often happens that those who possess the talent and ability to further their education are the same people who lack the "motivation or means to do so," and those
who can afford it are not able to handle advanced education because of the "lack of mental ability" necessary for such a pursuit. Wolfle and Smith observed that "many high school graduates" who are clearly marked as college material--as measured by grades in school and performance on intelligence or aptitude tests--never enter college. However, they felt that this is caused not so much by the lack of sufficient funds as it is by the "lack of educational motivation." Gary S. Becker also recognizes the fact that many high school students with high grades (and/or IQ's) do not attend college, either for financial or general family background reasons. He is of the opinion that if more of these high ability students went on to college, the average return from college could be increased. "An improvement in the quality of college students may well be an effective way to raise the contribution of college education to progress." 

A major goal of both education and manpower policies is the proper allocation of resources. The interdependence of the education and labor markets seen by Mark Blaug naturally implies that separate consideration of education and manpower decisions would not be valid. He emphasizes that "manpower forecasts in a developed country...must take account of the likely expansion of education." His argument makes use of four variables: "demand and supply in the education market, and demand and supply in the labour market." If one considers that all of these are subject to a certain amount of control
by public authorities, one might say that they are all "policy variables." However, as far as Blaug is concerned, only supply in the education market can really be considered a "policy variable," since the others are controlled only to a "limited degree." Thus, it can be said that education does not necessarily create jobs for its graduates. However, if education is channeled in the right directions, the skills which employers are demanding of their labor force will be the skills carried away by our graduates. "Labor-force skills" can be better matched with "employer needs," thus cutting down on unemployment.

Socially, economists want to rationalize investment in education to maximize social return. Investment theory should aid an administrator in determining the proper allocation of resources for his institution. An economist, in applying economic analysis to higher education, does not want to take resources away from education by cutting costs, but is "interested in achieving...best use of available resources within the framework of values that the administrators have established." If traditional investment theory is applied, we have two basic criteria to work with. The present value method can be used when a decision must be made concerning two alternatives which can't both be undertaken because of limited capital. "...The project whose discounted present value is greatest is pursued." The marginal returns method involves allocating...
"capital between any two investment outlets in such a way that the returns on the last unit of capital placed in each outlet are equal." In this situation, the usefulness of the above criteria is limited because of the many objectives that an educational institution may have and because of the difficulty of quantitatively evaluating its returns.67

In order to make use of the traditional criteria, Kenneth Deitch suggests that the administrator must first clearly state his objectives and know their importance; he should recognize those variables which are within his control and those which are "externally determined." Third, he must be aware of "where relations exist between changes in the relevant variables and achievement of the desired objectives."68

The "schematic framework" presented for dealing with the allocation of educational resources involves the comparison of certain ratios. The first ratio (cost ratio) is "the rate at which...two alternative activities may be substituted for each other while the total costs are being held constant." The second ratio (returns ratio) is the "rate at which the two variables may be substituted for each other while the total benefits are being held constant." An optimum occurs when the cost ratio and returns ratio for a particular pair of objectives are equal. If they are not equal, then all that is necessary to bring about equality is substitution of one for the other. "...if one variable's cost advantage is less than its returns advantage over another variable, the first variable should be increased and the second decreased, and
vice versa. Unfortunately, the measuring of benefits remains to be somewhat of a problem. Deitch feels that even though the results may be "less than perfect," these results will be more meaningful than if no measurement of benefits were attempted.

Education plays a distinct role in economic growth and development. As put forth by James Morgan and Martin David, increased investment in education, whether public or private, has certain economic benefits, and can be thought of as yielding a social rate of return on the investment. This social value of return includes benefits such as greater flexibility of the labor force, the value of an informed electorate, the greater enjoyment of life and culture, as well as the most obvious benefit of the greater productivity of educated workers.

The productivity of workers can be much enhanced by the educational process. It produces "a labor force that is more skilled, more adaptable to the needs of a changing economy, and more likely to develop the imaginative ideas, techniques and products which are critical to the processes of economic expansion and social adaptation to change." Edward F. Renshaw has observed that "the trend in labor productivity is almost identically equal to our best estimate of the trend in educational attainment of the labor force."

Economic growth can also be considered in relation to the quantity and the quality of education. In the past, the supply of educational opportunities has been increasing at a rapid rate. However, it is now no longer possible for this rate of increase to continue. Edward F. Denison cites the fact that in order for the "contribution of education to
growth" to remain constant or increase, we must therefore find a factor which will take the place of "quantity" of education. He emphasizes that "a sharply accelerated improvement in the quality of education would be needed to prevent the contribution of education to growth from declining."74
Conclusion

"The basic questions underlying much of the research on the economics of educational investment focus on how much more or how much less we should be investing in education in general as well as in various specific types of education."75 The values of these educational outputs must be weighed against the value of resources which go into the production of education. In choosing what time and money we should be allocating to education, we must also look towards the "benefits and costs of alternative uses" of our educational resources. Only when such factors have been taken into consideration, can we begin to "choose wisely."76

Unfortunately, we have not answered the question of "how much more or how much less" should be invested in education. Are we underinvesting in education or could we quite possibly be overinvesting in education? Can any concrete conclusions be drawn? Along this line of thinking, Gary S. Becker has stated his opinion very clearly. "The limited available evidence did not reveal any significant discrepancy between the direct returns to college education and business capital, and thus direct returns alone do not seem to justify increased college expenditures." In order to justify increased expenditures, we would have to come up with some significant external or indirect returns to college education. Since the economist feels that little is known about indirect effects,
and the tools for measuring such effects are limited. "a firm judgement about the extent of underinvestment in college education is not possible." Thus, in conclusion, it must be said that a great number of questions still remain unanswered. The search for the answers to these questions and the search for new questions will continue. Schultz summarizes this very aptly: "An unfinished search is always facing unknowns. There is no royal road. The right questions to pursue are among the unknowns in this game."
Endnotes


4Thurow, p. 4.

5Thurow, pp. 5-6.

6Thurow, p. 2.


10Becker and Chiswick, p. 359.


12Hansen, p. 140.


17 Renshaw, p. 322.
18 Clicl and Miller, p. 307.
21 Hansen, p. 140.
22 Renshaw, p. 321.
25 Hansen, p. 142.
26 Weisbrod and Karpoff, p. 491.
27 Weisbrod and Karpoff, p. 497.
29 Wolfe and Smith, p. 203.
30 Wolfe and Smith, p. 207.
31 Wolfe and Smith, p. 208.
32 Weisbrod and Karpoff, p. 497.
33 Renshaw, p. 319.
34 Weisbrod and Karpoff, p. 492.
36 Renshaw, p. 320.


40. Becker and Chiswick, p. 368.


42. Hanoch, p. 325.

43. Glick and Miller, p. 311.

44. Renshaw, p. 322.


50. Weisbrod, "Education and Investment in Human Capital," p. 120.


59 Swit and Weisbrod, p. 647.
60 Glick and Miller, p. 308.
61 Wolfe and Smith, p. 206.
63 Blaug, p. 182.
64 Blaug, p. 166.
67 Deitch, pp. 192-3.
68 Deitch, pp. 193-4.
69 Deitch, pp. 194-5.
70 Deitch, p. 198.
71 Morgan and David, p. 423.
73 Renshaw, p. 319.
76 Weisbrod, "Investing in Human Capital," p. 11.
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