

ANALYSIS OF RETURNS TO EDUCATION: A GLOBAL CONTEXT

Dr. Bilal Ahmad Sheikh¹ (POST-DOCTORAL FELLOW WITH ICSSR)

¹ Research scholar is a Post-Doctoral Fellow (PDF) With affiliating University Hyderabad Central University and the funding agency is ICSSR

Abstract

This research paper examines the returns to education of Asia, Africa, LDC, Intermediate and Advanced countries of the world. The study investigates the returns to different levels of education both private and social returns across all the regions mentioned above. The private returns to education are highest about 32 percent to higher level of education of African region while as it is again 32 percent in case of Asia to the primary level of education. However, the social returns to education are highest about 29 percent and 27 percent to the primary level of education of African region and LDC region of our study area respectively. The analysis also made it clear that all rates of return to investment in education are well above the 10% common yardstick of the opportunity cost of capital. The returns to education in developing countries are higher relative to the corresponding returns in more advanced countries. Our study suggests that the regions and the level of education having higher private returns should implement cost-sharing mechanisms, such as tuition fees or income-contingent loan systems, to ensure that individuals who directly benefit from higher education bear a portion of the costs. This helps to align private and social returns by reducing the burden on public funding while maintaining accessibility and affordability.

Keywords: Returns to education, private returns, social returns, Mincerian model, Asia, Africa, LDC, Advanced countries

Introduction

Education plays a significant role in human capital formation. Qualitative education becomes source of knowledge and develops different skill sets and competency in an individual which finally helps to enhance the efficiency and productivity of the worker. Therefore, education produces the efficient Labour force by providing them skill sets and knowledge which makes them more competitive and productive in the Labour market and in this way increase their probability to earn from the Labour market. It is a well-established fact

in the economics of education that educated and trained workforce is essential for the economic growth and sustainable development of an economy as education equips them with knowledge, abilities and capabilities and skills which enhances their productivities, employability, Adaptability to Technological Advancements, entrepreneurial mindset, etc. and makes them more and more efficient which enhances their market demand and becomes source of rise in their wage rates. It is well researched fact that human resource development is the crucial variable and helps to eradicate poverty, unemployment, illiteracy, malnutrition, inequalities.

The human capital theory emphasizes the role and importance of education and skills for enhancement of individual's productivity and economic outcomes. Theodore Schultz and Gary Becker developed human capital theory in 1960s which insisted that investment on human capital formation in the form of investment on their education and skills is similar to investment in physical capital such as investment on machines and equipment. In simple word we can say that human capital theory at present recognizes that the fundamental driver of economic growth and development is education. However, human capital theory incorporates a wide range of areas and one of the central area of it is the analysis of private returns to education. This examines the returns to education which individual obtains from investing on education and investigates whether investing on different levels of education is beneficial or not so that individual can make a rational decision while investing on education.

The concept of returns to education implies the economic advantages or benefits which an individual receives from acquiring additional level of education and these benefits are perceived in terms of higher wage rates, higher job stability , better employment prospects, and enhanced occupation opportunities.

The most reliable studies on the private returns to education world over which are well documented revealed evidently that that a positive correlation exists between education and earnings which implies higher wages for higher levels of education and lower wages for lower levels of education while as keeping other factors as constant (Psacharopoulos & Patrinos 2004).

Our study contributes to the present knowledge in the following ways. First, our study empirically explored the private returns to education to different levels of education of Africa, Asia, LDC's, Intermediate and Advanced countries of the world and our study has made use of secondary source based data from various sources specially and interpret it after gaining in-depth understanding of the study with special reference to the our study area and try to optimum level to understand the reasons which were attributed to different types of relations of levels of education is having with the earnings and suggest policy recommendations accordingly.

The finding that the increasing return to higher education of our study suggests an important policy and that is there is room for the government to shift some of the costs of acquiring higher education specially college education to individuals and there is need for public investment to improve the quality of primary schooling in Jammu and Kashmir as a recent report by Pratham (2012) shows that only 57.5 percent and 46.5 percent students in the Standard III and V can read the Standard I text book or more and can do subtraction or more respectively in rural India.

OBJECTIVES OF THE STUDY

1. To explore private financial returns to education at different levels of education.
2. To explore social returns to different levels of education in selected study area.
3. To examine whether the relationship between levels of education and earnings is concave or convex.

HYPOTHESES OF THE STUDY

In consonance with the aforesaid objectives the following hypotheses will be tested:

1. The hypothesis of diminishing returns to education does not hold good in case of our study area (Asia, Africa, LDC's, Intermediate and Advanced Countries).
2. The social returns are greater than the private returns of education

RESEARCH METHODOLOGY

The research methodology of our study includes the following key components:

SOURCES OF DATA

The present study is empirical and analytical in nature. The nature of data used for this study is totally secondary and we have collected it from various reliable published material that is Reports, Research Papers, books, articles, and internet brochures.

STATISTICAL AND ECONOMETRIC TOOLS AND TECHNIQUES

The study made use of various statistical and econometrical tools for the analysis and interpretation of data. These are:

1. AVERAGE/MEAN

The mean is just the average. It is the sum of all your measurements, divided by the number of measurements. This is the most used measure of central tendency, because of its mathematical qualities. It works best if the data is distributed very evenly across the range, or is distributed in the form of a normal or bell-shaped curve. One interesting thing about the mean is that it represents the expected value if the distribution of measurements were random! Here is what the formula looks like:

$$\bar{x} = \frac{1}{N} \sum_{i=1}^N x_i = \frac{x_1 + x_2 + \dots + x_N}{N}$$

2. MINCERIAN MODEL

MINCERIAN MODEL WITH LEVELS OF EDUCATION AS DUMMY VARIABLE IN WHICH DEPENDENT VARIABLE WAGES/EARNINGS IS IN NATURAL LOG FORM

$$\ln(Y_i) = \beta_0 + \beta_1 \text{ primary} + \beta_2 \text{ secondary} + \beta_3 \text{ higher} + u_i$$

Whereas ; Dependent Variable $\ln(Y_i)$ = Log Of Wages/Earnings

Benchmark Category = Illiteracy or No Education Level

X1 = Primary Level of Education first eight years education

X2 = Secondary Level of Education includes from class 9th to 12th class education

X3 = Higher Level of Education includes college level of education

SPECIFICATION OF THE EARNING FUNCTION

This study is based on the Human Capital Model of income distribution developed by Becker and Mincer (1974). In the present study education is divided into three different categories namely Illiterate, Primary Education Respondents, Secondary Education Respondents, Higher Education Respondents. The description of variables used in our regression model is given below:

Illiterate=Reference Group

Primary Education=1, Others=0

Secondary Education=1, Others=0

Higher Education=1, Others=0

TABLE-1: DURATION OF LEVELS OF EDUCATION

EDUCATION ATTAINMENT	DURATION OF EDUCATION IN YEARS
NO SCHOOLING	0
PRIMARY EDUCATION (I-VIII)	8
SECONDARY EDUCATION (IX-XII)	4
HIGHER EDUCATION (XIII-XV)	3

The private rates of return to different levels of education are estimated by comparing the adjacent dummy variable coefficients. The average rate of return to each educational level, r_j , is estimated using following formula:

$$r_j = \frac{(\beta_j - \beta_{j-1})}{(Y_j - Y_{j-1})}$$

β_j is the coefficient of the earnings function

$(\beta_j - \beta_{j-1})$ is the difference in coefficients between present and previous level of education.

Y_j is the number of years of schooling at the j level.

The rate of return to primary education is estimated as follows:

$$r_{prim} = \frac{\beta_{prim}}{Y_{prim}}$$

Where, Y_{prim} refers to years of schooling at the primary level

Hence, the rate of return to the different levels of education (r) relative to their immediate lower level, are derived from the estimated co-efficients of β_1 , β_2 and β_3 it is calculated as follows:

Primary Vs illiterat

$$r_{prim} = \frac{\beta_{prim}}{Y_{prim}}$$

X

SECONDARY VS MIDDLE

$$r_s = \frac{\beta_s}{Y_s - Y_m}$$

HIGHER VS SECONDARY

$$r_{hs} = \frac{\beta_{hs}}{Y_{hs} - Y_s}$$

where r is the estimated rate of returns, β_1 , β_2 and β_3 , are the coefficients for primary, secondary, higher education and Y stands for the number of years of schooling of the subscribed educational level.

RESULTS AND DISCUSSIONS OF OUR STUDY

TABLE-2: RETURNS TO EDUCATION BY REGION AND COUNTRY TYPE IN PERCENTAGE

Region	PRIVATE RETURNS			SOCIAL RETURNS		
	Primary	Secondary	Higher	Primary	Secondary	Higher
Africa	29	22	32	29	17	12
Asia	32	17	19	16	12	11
LDC	29	19	24	27	16	13
Intermediate	20	17	17	16	14	10
Advanced		14	12		10	9

Source: Data is attained From Research papers whose references are given in footnotes²

From the analysis of the data collected from different secondary sources in Table-1 it becomes clear that the returns to primary education (whether social or private) are the highest among all educational levels. The possible reasons of this type of relationship are due to the role and importance of this level of education as it (Primary education) provides individuals with foundational skills, such as literacy and numeracy and therefore, equips individuals with the skills needed to participate in the labor market and thus helps to perform tasks more efficiently. In simple words we can say that primary education helps to increase the economic productivity of an individual more rapidly from the reference level which is no education level or illiteracy because it provides the fundamental skill set which keeps them always in demand and therefore increases their prospects of earnings. The important policy implications of this finding Is to focus on

² Psacharopoulos, G (1994). Returns to Investment in Education: A Global Update. World Development, 22 (9): 1325-43..

Singhari Smrutirekha and Madheswaran, S. (2016). "The Changing Rates of Return to Education in India; Evidence from NSS Data." Working 358, Bangalore: The Institute for Social and Economic Change, pp.1-24

universalization of primary education and also improve the quality of primary education by simply investing in a well-trained teachers, providing adequate learning resources and infrastructure and developing appropriate curriculum and teaching methods. Quality education at the primary level is crucial for building a strong foundation for further education and lifelong learning. Therefore, the Overall, policy implications of this finding is to focus on improving access, quality, and equity in primary education, recognizing its pivotal role in individual development, social mobility, and economic growth. This increased productivity benefits both individuals and society, leading to higher wages, improved job prospects, and overall economic development. Secondly, it also becomes clear that the private returns are in excess of social returns, especially at the university level. This is because at higher levels of education, individuals often acquire specialized knowledge and skills that make them more competitive in the labor market. This increased human capital therefore, translates into higher wages, better job prospects, and greater career advancement opportunities and thus leading to higher private returns. The important policy implication inferred from this finding is that Policymakers may consider implementing cost-sharing mechanisms, such as tuition fees or income-contingent loan systems, to ensure that individuals who directly benefit from higher education bear a portion of the costs. This helps to align private and social returns by reducing the burden on public funding while maintaining accessibility and affordability. The analysis also made it clear that All rates of return to investment in education are well above the 10% common yardstick of the opportunity cost of capital. The returns to education in developing countries are higher relative to the corresponding returns in more advanced countries. The possible reasons of this type of finding are In many developing countries, access to education, particularly higher education, is limited. As a result, individuals who are able to obtain higher levels of education stand out in the labor market and have a competitive advantage over others. The scarcity of highly educated individuals leads to higher private returns as they can command higher wages and better job opportunities. Secondly, Developing countries often face a significant skills gap, where the demand for skilled workers exceeds the supply. Higher levels of education help bridge this gap by equipping individuals with the necessary knowledge and skills needed in industries and sectors with a shortage of qualified

workers. This increased demand for skilled labor leads to higher private returns for individuals who possess higher education qualifications and the one more reason may be Developing countries often undergo rapid economic transformations, transitioning from agrarian economies to industrial and service-based economies. In these transitions, there is a greater demand for individuals with specialized skills and knowledge required for emerging sectors. The limited supply of individuals with higher education qualifications in these countries results in higher private returns for those who possess such qualifications and finally Technological advancements have transformed industries and sectors, requiring a skilled workforce to adapt and operate in these new environments. Individuals with higher education qualifications are better positioned to acquire the necessary technical skills and adapt to technological changes. Consequently, they can benefit from the higher private returns associated with the demand for technological expertise.

POLICY RECOMMENDATIONS/SUGGESTIONS

1. The first policy implications of our study is to focus on still improving quality of primary education as and align it with the market demand so that it continuously enhance its returns and it should be made accessible, attainable and affordable so that it can become universalized.
2. Secondly, it also becomes clear from our study that the private returns are in excess of social returns, especially at the university level. This is because at higher levels of education, individuals often acquire specialized knowledge and skills that make them more competitive in the labor market. This increased human capital therefore, translates into higher wages, better job prospects, and greater career advancement opportunities and thus leading to higher private returns. The important policy implication inferred from this finding is that Policymakers may consider implementing cost-sharing mechanisms, such as tuition fees or income-contingent loan systems, to ensure that individuals who directly benefit from higher education bear a portion of the costs. This helps to align private and social returns by reducing the burden on public funding while maintaining accessibility and affordability.

3. The policy makers should ensure the equal access to quality level of education at all levels of education for all sections of the society. This can be achieved only by rising the investment on educational infrastructure and providing financial help to the most disadvantaged group of people.
4. The returns to education at all levels can be further increased to the significant level if and only if vocational and technical training is provided to the students which makes them more and more productive and hence increase their market demand.
5. To facilitate the lifelong learning and skill upgradation programs to every age group of people and for that a greater use of technology should be made.

REFERENCES

- Abiodun Lawal and Wahab, T. Iyiola (2011). "Education and economic growth: The Nigerian experience." *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)*, 2(3): 225-231.
- Afzal Muhammad (2011). "Micro Econometric Analysis of Private returns to Education and Determinants of Earnings." *Pakistan Economic and Social Review*, 49(1): 39-68.
- Agrawal, T. (2012). "Returns to Education in India, Some Recent Evidence." *Journal of Quantitative Economics*, 10(2): 131-151.
- Card, D. (2001). "Estimating the Return to Schooling: Progress on some persistent Econometric Problems." *Econometrica*, 69(5): 1127- 1160.
- Duraisamy, P. (1998). "Returns of Investment in Human Capital: Indian Evidence." *Indian Economic Journal*, Conference Volume, Bangalore, p.115.
- Dutta, P.V. (2006). "Returns to Education: New Evidence for India, 1983-1999." *Education Economics*, 14(4): 431-351.
- Kingdon, G., and Theopold, N. (2008). "Do Returns to Education Matter to schooling participation? Evidence from India." *Education Economics*, 16(4): 329-350.
- Singhari Smrutirekha and Madheswaran, S. (2016). "The Changing Rates of Return to Education in India; Evidence from NSS Data." Working 358, Bangalore: The Institute for Social and Economic Change, pp.1-24
- Patrinos, H. (1996). "Non-linearities in the returns to education: Sheepskin effects or threshold levels of human capital?" *Applied Economics Letters*, (3): 171-173.
- Psacharopoulos, G. (1994). "Returns to Investment in Education: A global update." *World Development*, 22(9): 1325-1343.