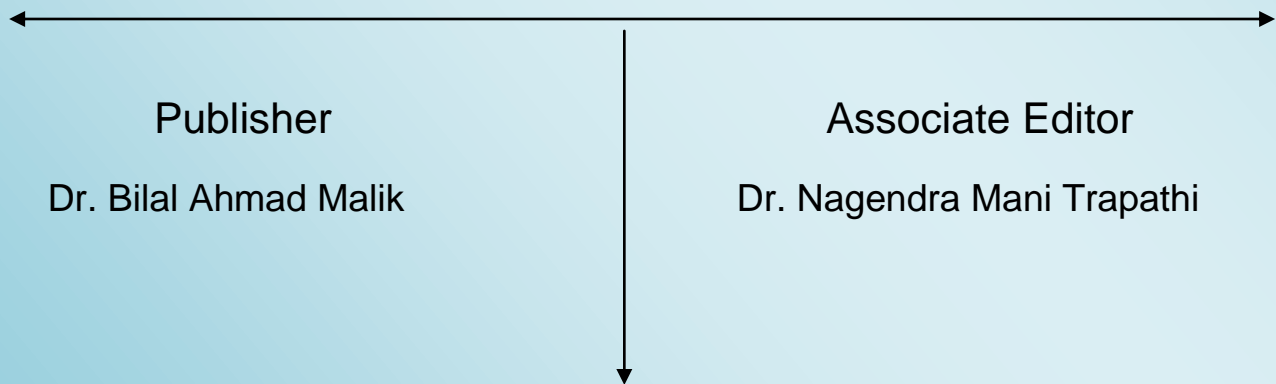


# North Asian International Research Journal Consortium

*North Asian International Research Journal of  
Social Science & Humanities*

**Chief Editor**

Dr Rama Singh



NAIRJC JOURNAL PUBLICATION

North Asian  
International  
Research Journal Consortium



## Welcome to NAIRJC

**ISSN NO: 2454 - 9827**

North Asian International Research Journal Social Science and Humanities is a research journal, published monthly in English, Hindi, Urdu all research papers submitted to the journal will be double-blind peer reviewed referred by members of the editorial board. Readers will include investigator in Universities, Research Institutes Government and Industry with research interest in the general subjects

## Editorial Board

J.Anil Kumar Head Geography University of Thirvanathpuram	Sanjuket Das Head Economics Samplpur University	Adgaonkar Ganesh Dept. of Commerce B.S.A.U, Aruganbad
Kiran Mishra Dept. of English,Ranchi University, Jharkhand	Somanath Reddy Dept. of Social Work, Gulbarga University.	Rajpal Choudhary Dept. Govt. Engg. College Bikaner Rajasthan
R.D. Sharma Head Commerce & Management Jammu University	R.P. Pandday Head Education Dr. C.V.Raman University	Moinuddin Khan Dept. of Botany SinghaniyaUniversity Rajasthan.
Manish Mishra Dept. of Engg, United College Ald.UPTU Lucknow	K.M Bhandarkar Praful Patel College of Education, Gondia	Ravi Kumar Pandey Director, H.I.M.T, Allahabad
Tihar Pandit Dept. of Environmental Science, University of Kashmir.	Simnani Dept. of Political Science, Govt. Degree College Pulwama, University of Kashmir.	Ashok D. Wagh Head PG. Dept. of Accountancy, B.N.N.College, Bhiwandi, Thane, Maharashtra.
Neelam Yaday Head Exam. Mat.K..M .Patel College Thakurli (E), Thane, Maharashtra	Nisar Hussain Dept. of Medicine A.I. Medical College (U.P) Kanpur University	M.C.P. Singh Head Information Technology Dr C.V. Rama University
Ashak Hussain Head Pol-Science G.B, PG College Ald. Kanpur University	Khagendra Nath Sethi Head Dept. of History Sambalpur University.	Rama Singh Dept. of Political Science A.K.D College, Ald.University of Allahabad

**Address: -North Asian International Research Journal Consortium (NAIRJC) 221 Gangoo, Pulwama, Jammu and Kashmir, India - 192301, Cell: 09086405302, 09906662570, Ph. No: 01933-212815, Email: [nairjc5@gmail.com](mailto:nairjc5@gmail.com) , [nairjc@nairjc.com](mailto:nairjc@nairjc.com) , [info@nairjc.com](mailto:info@nairjc.com) Website: [www.nairjc.com](http://www.nairjc.com)**

## ECONOMIC RETURN OF HIGHER EDUCATION COMMISSION IN PAKISTAN: CROSS SECTIONAL ANALYSIS OF HEC

<sup>1</sup>MEHBOOB HABIB, <sup>2</sup>ASHAR SULTAN KAYANI, <sup>3</sup>M.WAQAS KHALID

### ABSTRACT

*Pakistan is a developing country, determined to improve the human capital level through spending in education sector. Tertiary education in Pakistan is nourishing gradually, but still its economy is facing lower returns due to deficient investment in education sector, as compared to many developing countries. This study is undertaken in order to accumulate the returns to higher education by using mincer type earnings model. The data used in this study is taken from PSLM survey (2013) that is well-known source of data that provide data concerning household and demographic variables. The study found that monetary returns to higher education in Pakistan are higher than lower education levels. Household's head with pre secondary education earns PKR.5700 higher than others having no schooling or less schooling than pre secondary education where as individuals having higher education earn PKR.24,840 higher than individuals having lower levels of education. The study concluded that increase in level of schooling has positive impact on earnings of individuals. The regression estimates depicts that more educated individuals earn more income and higher education shows highest returns among all education levels. Promoting higher education in country will enlarge the wellbeing of individuals that would indirectly affect the society, as well as the nation's economy as a whole.*

**Keywords:** Economic, Cross, Analysis, Pakistan, Higher, Education, Commission.

### INTRODUCTION

Education plays a vital role in the development of nations through human capital formation and production of innovative labor force. Education is a source of constructing the basis for economic and societal prosperity and wellbeing in long run (Amin and Haq, 2014). Spending in education is considered as a most significant decision and it increases the productive capacity of human being. The more educated and skilled labor has a tendency to be more innovative and productive. Human capital with special focus on 'on the job training' is a key component of productivity. Furthermore, improved education, better skills, and potential capability increase an individual's marginal productivity. (Beaker, 1975, Blundell *et al.*, 1999)

(Blundell *et al.*, 1999) stressed that the prerequisite conditions for social and economic prosperity in twenty first century are human capital and skill development, and development of societies and economies mainly depends upon advanced technology in modern knowledge based economies.

## EDUCATION AND ECONOMIC GROWTH

There is a lot of literature regarding education and economic growth. The association connecting schooling and economic growth has been conferring since prehistoric Greece. Classical economists including Adam Smith and other economists highlighted the significance of spending in human skills and training.

Investment in education and human capital is a precondition to drive the economy forward to attain the developmental goals. Besides, the focus of primary education among education levels is highlighted by (Kiani, A.K) that the primary level education is a cornerstone to initiate the developmental process. (Hussain, 2005) focused on education as a driving force of development of a nation especially in low income nations. Investment in education and human capital is a precondition to drive the economy forward to attain the developmental goals. If additional schooling leads to a rapid economic growth, then investments in learning might pay for individuals in the longer run, and might also help to reduce poverty (World Bank, 2015).

The evidences above depicts that education has a strong positive and consistent impacts on economic growth in most countries.

## IMPORTANCE OF TERTIARY EDUCATION

Tertiary education is the crest of education system that produces finest cohorts. It covers the entire post-secondary schooling, research guidance and training at institutions that are approved as institutions of tertiary education by government authorities. Societies and Institutions thus have to participate collectively to offer youngsters and adults with better access to higher education in order to shore up knowledge motivated society.

Enrollment in higher education is the key indicator that shows the size of students' participation in tertiary education. According to UNESCO, 2009 world conference, United States achieved about 40 per cent of age cohort enrollment in higher education in 1960 whereas few developing nations have less than 10 per cent of enrollments, while Japan, East Asia, Latin America and Western Europe have achieved faster enrollment growth in 1980s.

Presently the tertiary education environment is varying speedily due to current increase in knowledge-based, cultural, economic and social globalization, changing social and political situations of developing countries are totally associated to tertiary education, and the environment has changed from industrialization to knowledge based society where innovation has a higher economic value unlike material and natural endowments and cheap labor force as a main source of growth (Economic Survey of Pakistan, 2012).

Most studies like (Card and Krueger 1990 and Rahman 2007) focused on sustainable quality in higher education, absence of quality and relevance of higher education is just like an outdated curriculum that fulfils the formality of education, non-innovative and does not contribute to the economic and social growth as emphasized by (UNESCO, 1991) that the focal rationale of tertiary education must be its quality, adoption of dynamic techniques, knowledge with its applications so as to fulfill the societal and economic requirements (Bennell, 1996).

## EDUCATION SYSTEM OF PAKISTAN

According to Pakistan education statistics (2013-14) 2,60,200 institutions are currently working in country having 15,98,334 instructors facilitating 42,918,801 students. Among all institutions 179,024 are serving in public sector having 27.09 million students enrolled while remaining 81,544 are private institutions with 15.83 million students. Instructors serving in public sector institutions are 51% while remaining teachers are offering their services in private sector institutions. Out of total students enrolled, 57% are male students and the remaining are female students. Both private and public sectors should commonly contribute to the whole education system to meet up educational requirements and millennium developmental goals to improve education outcome. There is still a lot of effort needed to reduce illiteracy by putting special attention on 'out of school children' and child labor. Out of school children are about 5.7 million in all four provinces.

Pakistan is devoted toward accomplishment of MDGs to develop education sector, second goal of MDGs is to achieve hundred percent primary school enrollments and 88 percent total literacy rate and third goal focuses on gender equality in Pakistan.

## RETURN TO HIGHER EDUCATION

Tertiary education is considered as a most preferable sector in order to improve growth and returns to higher education are far higher than physical capital (Pacharopoulos, 1972). Most of the literature showed a significant variation in returns to higher education between developing and developed nations. Returns to education in developing nations have been found in previous studies to be higher than in advanced nations (Psacharopolous and Patrinos, 2004) whether (Psacharopolous, 1994) suggested that developing nations must focus on its primary schooling than higher levels in order to improve overall literacy rate.

Education and earnings (wages) are directly related to each other, as education level rises, income level of an individual also increases (Mincer, 1974), but experience and age are also major factors that affect individual's earnings, whereas (Walker and Zhu, 2001) added that the wages differs with respect to added years of education and (Blundell *et al.*, 1999) considered training as a noteworthy component of higher education, more educated individual tend to acquire more training on the job in order to attain more returns.

Standard mincerian wage equation (Mincer, 1974) has been prominently used by various researchers to estimate the returns to education including (Griliches, 1977; Ashenfelter *et al.*, 1999; Krueger and Lindhal, 2000; Trostel *et al.*, 2002; Heckman *et al.*, 2002; Aslam, 2007; Jung and Choi, 2009; Afzal, 2011; and Peet *et al.*, 2015). The key determinants of Mincer's wage equation include schooling, age (proxy for experience) and earnings (monthly income). The relationships between these variables show the impact of education on individual's income. In the previous literature education has been mostly taken as a continuous variable starting from primary schooling to higher education in earnings equation in both quadratic and linear forms in order to estimate the difference between returns on various levels of education.

This study is aimed to analyze the return of higher level of education in Pakistan by employing miner type earnings model and data is taken from Pakistan Social and Living Standard Measurement survey (PSLM 2013)

which was not conducted before. The study is conducting to analyze the difference between the returns to higher education and lower level in monetary terms.

## REVIEW OF LITERATURE

The contribution of higher education on individual earnings and economic growth has been investigated by a number of economists. Education sector is the most prominent and targeted sector that hundreds of studies have been undertaken to investigate the returns to various levels of education and found various conclusions, following studies caught interest of this study.

Number of studies estimated returns to education using the OLS (ordinary least squares), IV (instrumental variable) and pseudo-panel approach which depicts that OLS estimates without controlling for endogeneity bias and unobservable effects such as motivation and ability overestimate the results Card, (2001); Callan and Harmon, (1999) and Neumark, (1997) because more abler and motivated individuals tend to learn more. Whereas according to Himaz and Aturupane, (2015) instrumental variables and pseudo-panel approach gave more consistent and robust results. On the other hand Trostel *et al.*, (2002) found twenty percent higher results of IV estimates than OLS estimates using parental and spouse education as determinants of education. Moreover other studies like Behrman and Rosenzweig, (1999) used identical twins to control the unobservable components in order to obtain robust estimates of returns to schooling. Whereas, Jung and Choi, (2009) added that more educated labor force having high unobservable abilities get more from skill based technological change.

Chen and Hamori (2009) made a study to examine economic returns to education in urban China. Econometric techniques used in study were ordinary least squares (OLS) and instrumental variable (IV) estimation. Primary data was employed in study for estimation purpose that is taken from CHNS of 2004 and 2006. The survey was carried out by team of specialized researchers from various disciplines. Data was covered from 8800 households from urban areas of China. The study found positive returns and found that education levels are directly related to earnings of individuals.

Peet *et al.*, (2015) evaluated the returns to education in developing nations by using household surveys from twenty five developing nations as well as examined whether the current surge in availability of human capital and physical capital have changed returns. The standard mincerian wage equation is found to be the most prominent model to examine the effect of education on income. Afzal (2011) examined the private returns to education and determinants of earnings. The core aim was to discover the key determinants that influence personal earnings and determine the private returns to education using different educational levels by employing the mincer type earning equation and found that private return is higher for teaching employees than non teaching employees.

Standard mincerian wage equation is used by number of researchers to examine the relationship between higher education and earnings such as Griliches, (1977); Ashenfelter *et al.*, (1999); Krueger and Lindhal, (2000); Trostel *et al.*, (2002); Heckman *et al.*, (2002); Aslam, (2007); Jung and Choi, (2009); and Peet *et al.*, (2015). The key determinants of Mincer's wage equation include schooling, age (proxy for experience) and earnings (monthly

income). These studies concluded that there is a significant relationship between education and earnings of individuals and found that extra year of education increases the wage earnings of individual.

## METHODOLOGY AND DATA

According to the existing literature Ordinary Least Square (OLS) technique is to be used in this study that establishes the fixed effect of independent variables on dependent variable. Several studies have been undertaken in order to estimate return to various levels of education using Ordinary least Square (OLS) including Trostel *et al.*, (2002); Griliches, (1977); Ashenfelter *et al.*, (1999); Himaza and Aturupaneb, (2013); Chen and Hamori, (2009) and Aslam, (2007). The study estimates the monetary private returns to higher education of household head

The analysis and assessment of the economic returns to education (individual's earnings gains from spending in education) and determinants of individual's income has all the time been the subject of hypothetical and empirical research equally at national as well as at international level. To evaluate key determinants of earnings and returns to education, researchers often use earnings function approach. It is very popular in labor economics and is accredited to the effort of Mincer (1974).

## ECONOMETRIC MODEL

The choice of model and selection of explanatory variables belong to diverse groups and points towards household level characteristics are not arbitrary but based on literature and purpose of this study. As this study is a household level evaluation of return to tertiary education and carried out by employing mincer type model. Hence, mincer type model is used in order to estimate the return to higher education; the model entails earnings, schooling and experience as key determinants to assess the impact of education on earnings (income, wages). Most of the studies such as Griliches, (1977); Ashenfelter *et al.*, (1999); Krueger and Lindhal, (2000); Trostel *et al.*, (2002); Heckman *et al.*, (2002); Aslam, (2007); Jung and Choi, (2009); Afzal, (2011); Amin and Haq, (2014) and Peet *et al.*, (2015) employed mincerian earnings equations to estimate the return to various levels of education. The general form of the model is as under:

$$Y = \alpha + \beta S + \gamma X + \epsilon$$

Where Y is explained variable, S is schooling levels here it represents pre secondary and post secondary education while X is the combination of other variables like gender head and age (proxy variable for experience) and  $\epsilon$  represents the random error term.  $\alpha$ ,  $\beta$ , and  $\gamma$  are the coefficients to be estimated, where  $\beta$  is core coefficient that determines the impact of pre secondary and post secondary (tertiary education) on monthly income.

Specific form of the proposed model is as under:

$$m\_incm = \alpha + \beta_1 Pre\_sec + \beta_2 Post\_sec + \beta_3 Age + \beta_4 Gendr\_head + \epsilon$$

$m\_incm$  is dependent variable used as a monthly income of household. In this study schooling is separated into two factions, pre secondary education and post secondary education. Pre secondary education encompasses

education up to Intermediate level where as post secondary education represents higher education that starts from Bachelors level up to the highest level. The coefficient B2 is the core coefficient of interest of this study that shows the return to higher education.

## RESULTS AND DISCUSSION

### DESCRIPTIVE ANALYSIS

Table 4.1 shows the descriptive statistics for the data set and variables. The estimations revealed that on average monthly income of targeted household is PKR. 19,461 estimated from 12179 observations. The estimations further discovered that the under study data constitutes 27.01 percent of households heads with pre-secondary education (Up to secondary level) from the targeted population of Punjab province, whereas 12.44 percent population has accomplished post secondary education (Above graduation). The descriptive statistics further confirmed that the mean age value of under study population is 42.16 years. In the appended table, the confidence intervals show the range of the studied data.

### ECONOMETRIC ANALYSIS OF RETURN TO HIGHER EDUCATION IN PAKISTAN

A single specification is used to estimate the returns to education in this study. Education is disaggregated in to two factions naming pre secondary and post secondary education. The study found that all explanatory variables have positive and significant impact on monthly income. P-values (0.000) and t-statistics of all explanatory variables depict statistically significant outcomes. Similarly F-Statistics (182.22) is statistically significant showing that overall explanatory variables significantly explain the dependent variable. Table 4.2 shows the estimated parameters, p-values and t-statistics for explanatory variables that portrays the returns to pre secondary and post secondary education. Post secondary education in this study symbolizes higher education.

The model depicts that increase in education level boost the household monthly income level. Household income increases by PKR.5700 with attaining pre secondary education (up to secondary level) whereas household income further increases by PKR.24,840 by attaining higher education (Graduation and Above). The age factor is used in this study to determine the experience of house hold's head therefore it shows that increase in one year of experience of targeted household's head increases his/her monthly income by about PKR.442.3 on average. Moreover, household's gender also affects his/her monthly income by showing that male household's head has PKR.7831.6 more earnings on average than their female counterparts. This is so because there is rampant gender disparity exists in developing nations that discourages female liberalism in education and employment especially in rural regions.



Table: 4.1

Descriptive Analysis of Regression estimates

Variable	Observations	Mean	[Confidence Interval 95%]
Monthly income	12179	19461	18681.81 20240.19
Pre secondary	12179	.2701371	.26225 .2780242
Post secondary	12179	.1244766	.1186127 .1303404
Age	12179	42.16512	41.97311 42.35713
Gender head	12179	1.015683	1.013476 1.01789

Table: 4.2

Regression estimates of return to higher education

Explanatory Variables	Coefficient	Standard error	t-statistics	P>  t
Pre_sec	5700.368	894.068	6.38	0.000
Post_sec	24840.63	1203.908	20.63	0.000
Age	442.3754	35.75061	12.37	0.000
Gendr head	-7831.632	3113.077	-2.52	0.012
Constant	7210.445	546.529	2.03	0.042

F-Statistics 182.22 (0.000)

Adjusted R-squared

0.0562

## CONCLUSION

This study is carried out to assess the return of higher education in Pakistan using Pakistan Social and Living Standards Measurement (PSLM) 2013. The universe of study consists of rural and urban areas of Punjab. PSLM survey shows that literacy rate is highest in Punjab among all provinces of Pakistan. The study revealed that economic return of higher education is highest among all levels of education. Education levels are divided in to two groups known as pre secondary education and post secondary education. Households head's income is used as dependent variable and levels of education, Age (experience) and gender of household's head are the determinants of household head's income. The regression estimates depicted that monthly income of household head with pre secondary education is PKR.5700.62 higher than without pre secondary education whereas the income of household head further increases by PKR.24840.6 with attaining higher education. These estimates show that the return of higher education is highest among all education levels. The study concludes that investment in higher education is the most lucrative and purposeful investment for the betterment of living standards and economic welfare at household levels. The return of higher education is highest as compared to other levels of education in developing nations. Government should focus on expansion of higher education to reduce the poverty. Moreover expansion in higher education may lead to lessen the social evils of society, decrease social unrest, discourage child labor and increase awareness to reduce gender disparity.

## REFERENCES

- ❖ Mincer, J. (1974). Schooling, Experience, and Earnings. *Human Behavior & Social Institutions*.
- ❖ Becker, G. S. 1975. Front matter, human capital: a theoretical and empirical analysis, with Special reference to education. In *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*, Second Edition.
- ❖ Blundell, R., L.Dearden, C.Meghir and B.Sianesi. 1999. Human capital investment: the Returns from education and training to the individual, the firm and the economy. *Fiscal studies*, 20(1): 1-23.
- ❖ Neumark, D. 1999. Biases in twin estimates of the return to schooling. *Economics of Education Review*, 18(2):143-148.
- ❖ Krueger, A. B. and M. Lindahl. 2000. Education for growth: why and for whom? Working Paper No. 7591. National Bureau of Economic Research.
- ❖ Bennell, P. 1996. Rates of return to education: Does the conventional pattern prevail in sub Saharan Africa? *World development*, 24(1): 183-199.
- ❖ Trostel, P., I.Walker and P. Woolley. 2002. Estimates of the economic return to schooling for 28 countries. *Labor economics*, 9(1): 1-16.
- ❖ Psacharopoulos, G. 1972. The economic returns to higher education in twenty-five Countries. *Higher Education*, 1(2): 141-158.
- ❖ Psacharopoulos, G. 1994. Returns to investment in education: A global update. *World Development*, 22(9): 1325-1343.
- ❖ Psacharopoulos, G. and H. A.Patrinis. 2004. Returns to investment in education: A further Update. *Education economics*, 12(2): 111-134.

- ❖ Aslam, M. 2007. Rates of Return to Education by Gender in Pakistan.
- ❖ Guifu, C. H. E. N. and S. Hamori. 2009. Economic returns to schooling in urban China: OLS And the instrumental variables approach. *China Economic Review*, 20(2): 143-152.
- ❖ Afzal, M. 2011. Micro econometric analysis of private returns to education and determinants of Earnings. *Pakistan Economic and Social Review*, 39-68.
- ❖ Amin, M. Y. and Z. Haq. 2014. Estimating Returns to Higher Education in Pakistan: *Journal of Applied Environmental and Biological Sciences*, 4(9): 463-472.
- ❖ Peet, E. D., G. Fink and W. Fawzi. 2015. Returns to education in developing countries: Evidence from the living standards and measurement study surveys. *Economics of Education Review*, 49:69-90.
- ❖ Walker, I. and Y. Zhu. 2001. The Returns to Education: Evidence from the Labour Force Surveys. University of Warwick. Research Report RR313.
- ❖ Pakistan Economic Survey. 2015. Education Chapter no. 10: page no. 9. Government of Pakistan, Finance division, Islamabad.
- ❖ Kiani, A. K. The Role of Education on Economic Growth in Pakistan.
- ❖ World Bank East Asia Pacific Regional Report. 2011. Putting Higher Education to Work Skills and Research for Growth in East Asia.

## Publish Research Article

Dear Sir/Mam,

We invite unpublished Research Paper, Summary of Research Project, Theses, Books and Book Review for publication.

**Address:- North Asian International Research Journal Consortium (NAIRJC) 221, Gangoo Pulwama - 192301**

**Jammu & Kashmir, India**

**Cell: 09086405302, 09906662570,**

**Ph No: 01933212815**

**Email: [nairjc5@gmail.com](mailto:nairjc5@gmail.com), [nairjc@nairjc.com](mailto:nairjc@nairjc.com), [info@nairjc.com](mailto:info@nairjc.com)**

**Website: [www.nairjc.com](http://www.nairjc.com)**

