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Women Education and its Returns in Pakistan: A Case Study of Multan District

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Abstract

This analysis endeavours to explore returns to women's education in Pakistan by using data that is collected from 200 working women in the Multan district. The ordinary least square method is applied to estimate the results. OLS estimates found that respondents' educational level up to matric, intermediate, bachelor, and master's or above is positively and significantly related to the monthly earnings of women. It is also found that the returns of education are higher for the higher educational categories. On the other side the variables age of women, occupation of women, and education level of the household are also found to be the positive and significant factors of women's earnings. It is obvious from the study outcomes that a higher level of women's education enhances their socio-economic status in society. It is recommended that technical education and educational infrastructure should be ensured to enhance the educational level and earnings of women in Pakistan.

Key Words: *Women Earnings, Education, Multan, Pakistan.*

Introduction

Education, as the point of departure for every human activity, is deemed to be the main component of human capital development. It not only increases labor productivity and efficiency, but also creates a highly trained workforce that drives the economy to sustainable economic growth and therefore economic development (Saxton, 2000). Education is the key element in empowering, prosperity, development, and welfare for women. It is well known that women are discriminated from womb to grave. Women's inequality and vulnerability in all sectors-economic, social, political, educational, health care, nutrition, law, etc (Sonowal, 2013).

Education enhances the ability of women to practice and use new information and increase the possibility that women take particiapate in employment and contribute in their family's wellbeing. Educated women play a greater role in decision-making and are likely to protest against domestic violence. Empowerment through education is the only way to put an end to the horrors of dowry. In rural areas, the level of women's education is quite low. Women in rural areas are still illiterate, backward, and abused. Women's education is the most powerful tool in society to change their position. Education also reduces inequalities and functions as a way to improve family status (Singh, 2001).

The positive and considerable influence of education on income is seen as encouraging the individuals to resume their studies further than the compulsory level of education. On average, more trained individuals receive more returns than their less trained counterparts because they can execute a broader variety of tasks efficiently. Higher wages, greater respect and dignity, stable and sustained employment, and greater horizontal and vertical mobility are given to educated individuals. Therefore, education plays a pivotal role in differential wages and earnings as an aspect of human capital accumulation (Afzal, 2011). The return on education is the reward of investing in education. This reward may be in the form of income as well as other social returns such as honor, privileges, accommodation attitude, etc. Blundell et al. (2000) categorized returns on higher education into three core classes of private financial returns to augment individuals, earnings, and/or job opportunities. Private non-financial returns to education contain enhancements in human welfare that can not be calculated in monetary terms (such as access to a good job, good working environment, etc). Social returns include returns that are gained by society due to the high level of education of the individuals. These returns are in the shape of positive externalities.

According to Pakistan Economic Survey (2017-18) women consists up to 49 percent of the country's population. Women's involvement in Pakistan's development process has been identified as an important factor. Several women's development and empowerment programs have been taken. Employment in the government sector is encouraged and the government set a quota of 10 percent for women employment. The Punjab government has increased this quota to 15 percent, and the Sindh police department has increased this quota from 2 percent to 5 percent. The situation of female education in all the provinces of Pakistan especially in the rural areas is not satisfactory. The primary objective of this study is to analyze the returns to women's education in District Multan, Pakistan. Multan is a district of Punjab province it is located in Southern Punjab. Multan district consists of 2.28% of the whole country's inhabitants. About 56.62% of the population of Multan district is residing in rural areas where people facing the problems of lack of health and educational infrastructure and lack of employment opportunities. The educational infrastructure especially in rural areas of Multan district is not satisfactory. Parents are required to send their children for education in urban areas for higher studies for, this purpose they have to pay high educational costs. In rural areas, most of the parents do not focus on female education due to lack of income and lack of improved infrastructure. Even some females in the Multan district are not allowed to take part in the labor force. So that this study is significant in the sense that it will provide important outcomes in determining the importance of women education and resultantly their influence on women earnings.

Literature Review

Nazar & Chaudhry (2017) examined the return on investment for education in Pakistan. The study findings revealed that females with higher education earn high wages. Similarly, people living in urban areas have a high return on investment in education. Saqib et al., (2016) analyzed the impact of education on individual earnings in Noshera district of KPK. It was found that education, experience, and skills are important variables that affect an individual's income. Khan (2016) showed that training, lifting awareness, and access to credit can amplify women's economic productivity and empowerment among women in Gilgit-Baltistan. Javed & Arshad (2013) analyzed the rate of return in education in Faisalabad. The key purpose of the study was to obtain a return on educational investment based on the theory of human capital. The study findings exposed that educational experience has a positive impact on earnings. Faridi et al. (2009) examined the association between female education and female labor force participation. The results showed that female education and labor force participation has a positive association. In the Logit regression equation, the coefficients of all education levels except for secondary education were significant. The role of parental education was insignificant, and the educational status of

spouses has a positive and noteworthy effect on the participation of women in the labor force. Maani (1999) explored that the private and public returns to investments in secondary and higher education in New Zealand. The outcomes demonstrated strong support for higher education to improve the rate of return from 1981 to 1991. Nasir (1998) explored the determinants of personal earning in Pakistan. This paper explored the role of a human and non-human capital factor in the decision of Pakistan workers' income. The study found that in human capital variables, education dominated in wage determination. In non-human capital, the business professional and scale were considered relevant variables.

Data and Methodology

To investigate the returns to women's education this study utilized primary data that were collected from two-hundred working women's of Multan district. To perform a survey, purposive sampling technique is utilized. The population of the study consists of all working women of Multan district with minimum primary educational level. Multan district consists of four tehsils, Multan City, Multan Saddar, Shujabad, Jalalpurpir Wala, form each tehsil 50 working women's from both rural and urban areas are interviewed. An ordinary least square method is applied to estimate the results. In this study, the returns to women's education are measured by the monthly earnings of the female. The returns to education are measured with the coefficient of the different educational categories of women. To explore the association between women education, and monthly earnings of women following model is used:

$$LNY_i = \beta_o + \beta_1(AOR) + \beta_2(MRS) + \beta_3(AGE) + \beta_4(ROCC) + \beta_5(EDUI) + \beta_6(EDUII) + \beta_7(EDUIII) + \beta_8(EDUIV) + \beta_9(EDUV) + \beta_{10}(HHE) + u_i$$

Where;

LNY = Natural log of monthly earnings of women
AOR = Area of residence
MRS = Marital status of women
AGE = Age of women
ROCC = Occuption of Respondent as teaching or non-teaching
EDUI = Education level up to middle
EDUII = Education level up to matric
EDUIII = Education level up to intermediate
EDUIV = Education level up to bachelors
EDUV = Education level up to masters or above

Table 1: Description of Variables

Variables	Description of Variables	
Dependent Variable		
LNY	Natural log of Monthly earnings of the respondents	Rupees
Independent Variables		
AOR	Area of Residence	= 1 IF located in a Rural area = 0 otherwise
MRS	Marital status of the respondent	= 1 if married =0 if unmarried
AGE	Age of the respondent	Completed years

ROCC	Occupation of the respondent	= 1 if teaching = 0 if non-teaching
EDUI	Education of respondent up to middle	= 1 if Yes = 0 if No
EDUII	Education of respondents up to matric	= 1 if Yes = 0 if No
EDUIII	Education of respondents up to intermediate	= 1 if Yes = 0 if No
EDUIV	Education of respondent up to bachelors	= 1 if Yes = 0 if No
EDUV	Education of respondents up to masters and above	= 1 if Yes = 0 if No
HHE	Household head education	Completed years

Analysis

Table 2 presents the descriptive statistics of all variables such as mean, the maximum value of data, minimum value of data, standard deviation, skewness, and kurtosis. The mean value of monthly women earnings is found to be 9.600, the maximum value is 11.22, the minimum value is 7.60, the skewness value is -0.2417, and the kurtosis value is 2.59. The mean age of women is found to be 31 years, the minimum age is 19 years and the maximum age of women is 50 years. Similarly, descriptive statistics of all the variables can be analyzed from Table 2.

Table 2: Descriptive Analysis

Variables	Mean	Max	Min	S.D.	Skewness	Kurtosis	Jarque-Bera	Prob.
LNY	9.600	11.22	7.60	0.7866	-0.2417	2.5948	3.31594	0.1905
AOR	0.41	1.0	0.0	0.4930	0.36598	1.1339	33.4828	0.000
MRS	0.42	1.0	0.0	0.4948	0.32418	1.1050	33.4254	0.000
AGE	31.03	50	19	6.9722	0.86691	3.2709	25.6628	0.000
ROCC	0.425	1.0	0.0	0.4955	0.30343	1.0920	33.404	0.000
EDUI	0.075	1.0	0.0	0.2640	3.22714	11.4144	937.167	0.000
EDUII	0.18	1.0	0.0	0.3851	1.66585	3.7750	97.5083	0.000
EDUIII	0.125	1.0	0.0	0.3315	2.26779	6.1428	253.742	0.000
EDUIV	0.405	1.0	0.0	0.4921	0.38705	1.1498	33.5204	0.000
EDUV	0.215	1.0	0.0	0.4118	1.38746	2.9250	64.2151	0.000
HHE	11.765	18	0.0	4.4529	-0.9276	3.1572	28.8882	0.000

Source: Author's Calculations

Table 3 presents the correlation matrix. It is found that the monthly earnings of women are positively related to the marital status, age of women, occupation of the respondent, household head education, EDUIII, EDUIV, and EDUV and negatively correlated to the area of residence, EDUI, and EDUII.

Table 3: Correlation Matrix

	LNY	AOR	MRS	AGE	ROCC	EDUI	EDUII	EDUIII	EDUIV	EDUV	HHE
LNY	1.000										
AOR	-0.020	1.000									
MRS	0.401	-0.112	1.000								
AGE	0.498	0.033	0.748	1.000							
ROCC	0.463	-0.141	0.088	0.066	1.000						
EDUI	-0.484	0.226	-0.204	-0.228	-0.245	1.000					
EDUII	-0.484	-0.047	-0.135	-0.097	-0.403	-0.133	1.000				
EDUIII	0.032	-0.069	0.046	0.018	-0.203	-0.108	-0.177	1.000			
EDUIV	0.211	-0.149	0.103	0.046	0.424	-0.235	-0.387	-0.312	1.000		
EDUV	0.537	0.133	0.097	0.167	0.190	-0.149	-0.245	-0.198	-0.432	1.000	
HHE	0.176	-0.253	0.186	0.134	0.159	-0.177	-0.057	0.061	0.110	-0.013	1.000

Source: Author's Calculations

Table 4 portrays the OLS estimates of returns to women's education in Pakistan. The value of R^2 is found to be 0.7578 which means that 75.78% of the variation in the dependent variable is explained by independent variables. The value of F-statistic (*F-statistic* = 66.0802, *p-value* = 0.000) is found to be statistically significant it suggests that the model is overall statistically significant. The returns to investment in education are measured by the monthly personal earnings of the respondent and different educational categories are used to see the influence of each category on women's earnings. It is found that the EDUI is negatively related to the monthly earnings of the respondent. A respondent education up to matric (EDUII) and intermediate (EDUIII) shows a positive and significant (at 10 percent level of significance) influence on women's monthly earnings.

On the contrary, respondents having education up to bachelors and masters or more found to have positive and highly significant (at 1 percent level of significance) impact on women's monthly earnings. The returns to investment in education can be analyzed by examining the magnitude of the coefficient of each education category. It can be observed that the returns of education up to matric (EDUII) are 17.10 percent, up to intermediate (EDUIII) are 18.73 percent, up to bachelors (EDUIV) are 65.60 and the highest returns are found for educational category up to masters and above (EDUV) is 68.01 percent. It advocates a higher level of education leads to a higher level of earnings. These outcomes are analogous to Potelienė & Tamašauskienė, 2014; Javed & Arshad, 2013; Afzal, 2011; Malhotra et al. 2003. The variable age of women is found to be positively and significantly related to the monthly earnings of the women. It advocates that as the age of women increases they become more experienced and efficient in any sort of work so that their earnings become increases.

The coefficient value of the variable suggests that as the age of women increases by one year the earnings of women are also increased by 3.52 percent. The occupation of women is also found to be positively and significantly related to the monthly earnings of the respondent. Women who choose the profession of teaching are found to be a higher level of earnings in comparison to the non-teaching professions. Lastly, the education of the household is also found to be the positive and significant factor of women's earnings. Because educated household heads educate their women and allow them to take part in economic activities, it enhances the level of women's earnings.

Table 4: OLS Estimates of Women Education and Its Returns

Dependent Variable: Natural Log of Monthly Earnings of Women				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	8.4901	0.1953	43.462	0.0000
AOR	-0.0372	0.0623	-0.5965	0.5515
MRS	0.0139	0.0882	0.1575	0.8750
AGE	0.0352	0.0062	5.6118	0.0000
ROCC	0.1707	0.0718	2.3765	0.0185
EDUI	-0.2094	0.1272	-1.6462	0.1130
EDUII	0.1710	0.0940	1.8191	0.0932
EDUIII	0.1873	0.0980	1.9112	0.0721
EDUIV	0.6560	0.0784	8.3624	0.0000
EDUV	0.6801	0.0763	8.9134	0.0000
HHE	0.0187	0.0086	2.1765	0.0307
R-squared	0.7578			
Adjusted R^2	0.7464			
F-statistic	66.0802			
Prob(F-statistic)	0.0000			
Sample	200.00			

Source: Author's Calculations

Conclusions and Recommendations

This study attempts to investigate returns to women's education in Pakistan. This analysis is based on primary data that was collected from two hundred working women in the Multan district. To inspect the relationship between investment in women's education and its returns ordinary least square method was applied to data. The returns to investment in education are measured by the monthly personal earnings of the respondent and different educational categories are used to see the influence of each category on women's earnings. It is found that respondents' educational level up to matric, intermediate, bachelor, and master's or above is positively and significantly related to the monthly earnings of women. It is also that the returns of education up to matric (EDUII) are 17.10 percent, up to intermediate (EDUIII) are 18.73 percent, up to bachelors (EDUIV) is 65.60 and the highest returns are found for educational category up to masters and above (EDUV) is 68.01 percent. On the other side the variables age of women, occupation of women, and education level of the household are also found to be the positive and significant factors of women's earnings. Based on these findings it is concluded that women's education plays an important role to boost economic status. It is apparent from the study findings that a higher level of women's education enhances their economic status in society. So the government should take steps to provide education facilities for women in Pakistan. Educational infrastructure especially in rural areas needs to be enhanced. Women's participation in technical education should be significantly expanded. Special programs for educating and training young women should be developed through vocational training institutions. The government may launch rural development programs aimed at creating more jobs for educated women living in rural areas. The government may take steps to ensure childcare resources such as childcare centers and primary schools to support and encourage educated mothers to take part in economic activities. The main obstacle to rural women's education and vocational training is far-off institutions that are usually located in urban areas. Because of transport problems and insecurity, they are not allowed to go there. The government may therefore also set up these institutions in rural areas.

This study is based on the data that is collected from 200 respondents of Multan district however larger sample size with wider area can be used to conduct study. In this study the returns of education is measured with the monthly earnings of women although returns of education can also be measured in terms of monetary, such as earnings, value of assets owned, control over household spendings, as well as social returns, such as freedom, and decision making about family matters etc.

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