

A Comparative Analysis of Private Returns to Education of Male and Female in the UT of Jammu and Kashmir

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Abstract

This research paper examines the returns to education of males and females in the union territory of Jammu and Kashmir. The study investigates the average returns to different levels of education for both male and female in our study area. The private returns to education for males are 27 percent more than its female counter part and the possible reason for existence of such huge gender disparity is occupation segregation, culture and societal norms, discrimination, lesser demand for female workers. Our study suggests the pressing need of policy interventions like promoting equal access to quality education for both male and female and tackle gender based discrimination in the labour market by implementing equal pay for equal wages act at the ground level in letter and spirit.

Keywords: *Returns to education, gender, occupation segregation, UT of J&K, Disparity, Average, Standard Deviation, etc.*

I. 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).

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II. Brief Review of Literature

Kleibrink, J., & Maier, M. (2017)³ examined in their research paper titled “Gender differences in education returns among German tertiary graduates. *Education Economics*” that returns to education varies between men and women in German and factors which are responsible for it are occupational segregation, labour market discrimination and gender norms.

Mujis, D. (2016)⁴ investigated in his research paper titled “The impact of education on economic and social outcomes: An overview of recent empirical research.” That returns to education for both male and female varies and this paper suggests that policy intervention is required from policy maker side by devising strategies to promote gender equality with respect to educational outcomes.

Card, D. (1999)⁵ explored in his research paper titled “The causal effect of education on earnings” that there exists a causality between wages and educational levels of individuals, but the returns to education in case of females is much more less than the males.

So most of the gender based studies world over on returns to education revealed that returns to education rises with the rise in the level of education but the rise in case of female is not statistically significant.

OBJECTIVES OF THE STUDY

1. To explore average private returns to education of male and female at different levels of education in the UT of J&K.
2. To examine whether the relationship between levels of education and earnings for both male and female 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 both the sexes in the UT of J&K.
2. The average private returns to education of male and female at different levels of education is the same in the UT of J&K.

III. 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 primary. The primary data is collected with the help of a sample survey conducted in two Districts, viz., Srinagar and Jammu Districts and primary data is collected with the help of a well-structured Interview Questionnaire- Schedule.

The present study is conducted in two districts of Jammu & Kashmir state viz., Srinagar and Jammu. The primary data is collected through sample survey from our ultimate sample units which are comprised of 377 respondents in J & K. In order to fulfill the various objectives of the study, a field survey is undertaken in the study area. A multistage sampling technique is being employed to select the sample households following specific criteria.

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:

Descriptive Statistics

Descriptive statistics are ways of summarizing large sets of quantitative (numerical) information. So, we have employed the following methods for summarizing the data.

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:

³ Kleibrink, J., & Maier, M. (2017). Gender differences in education returns among German tertiary graduates. *Education Economics*, 25(6), 577-594.

⁴ Mujis, D. (2016). The impact of education on economic and social outcomes: An overview of recent empirical research. *Educational Research*, 58(4), 417-431.

⁵ Card, D. (1999). The causal effect of education on earnings. *Handbook of Labor Economics*, 3, 1801-1863

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

2. Statistical dispersion

Dispersion refers to the idea that there is a second number which tells us how "spread out" all the measurements are from that central number.

(a) **Range:** The range is the measure from the smallest measurement to the largest one. This is the simplest absolute measure of statistical dispersion or "spread."

(b) **Standard deviation.** The standard deviation is the "average" degree to which scores deviate from the mean. More precisely, you measure how far all your measurements are from the mean, square each one, and add them all up. The result is called the variance. Take the square root of the variance, and you have the standard deviation. Like the mean, it is the "expected value" of how far the scores deviate from the mean. Here is what the formula looks like:

$$\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \bar{x})^2}$$

3. **Correlation Karl Pearson's coefficient** of formula has been used to calculate coefficient of correlation which is given below:

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

Whereas;

r = Karl Person's Coefficient of Correlation

x = (x - \bar{x}) and y = (y - \bar{y})

TABLE-1: DURATION OF LEVELS OF EDUCATION

EDUCATION ATTAINMENT	DURATION OF EDUCATION IN YEARS
NO SCHOOLING	0
PRIMARY EDUCATION (I-V)	5
MIDDLE EDUCATION (VI-VIII)	3
SECONDARY EDUCATION (IX-X)	2
Higher secondary EDUCATION (XI-XII)	2
College education (XIII-XV)	3
University (XVI-XVII)	2

EMPIRICAL RESULTS AND DISCUSSIONS

From the analysis of our study it becomes clear that average monthly income has risen with every level of education. On average illiterate male person earns Rs. 8600.00 per month while as a male person having primary level of education earns Rs. 10405.41 per month which implies on average a person having primary level of education earns Rs.1805.41 more than the illiterate male person and Rs. 4294.3 from the female of having the same level of education, i.e., primary level of education. Similarly, a male person with middle education level earns Rs. 2823.08 more than from an illiterate male person and Rs. 1017.67 from primary level of male person per month. However, the male person with middle education earns Rs 3423.08 more than female counter part with the same level of education. Likewise, a male person having secondary level of education earns Rs.12325 and a female person with same level of education earns Rs. 10043.48 per month which implies the male person with secondary education earns Rs 2281.52 more than its female counter part with the same level of education. In the same way a male person having Higher secondary level of education earns Rs. 12871.79 and a female person with same level of education earns Rs. 10722.22 per month which implies the male person with Higher secondary education earns Rs 2149.57 more than female counter part with the same level of education. Similarly, a male person having College level of education earns Rs. 16875.00 and a female person with same level of education

earns Rs. 13750.00 per month which implies the male person with College education earns Rs 3125 more than female counter part with the same level of education. Finally, , a male person having University level of education earns Rs. 18555.56 and a female person with same level of education earns Rs. 14588.24 per month which implies the male person with University education earns Rs 3967.32 more than female counter part with the same level of education.

Therefore, our study made it clear that in total male earns on average Rs.3314.64 more than the female which implies males earns 27 percent more than from the females which clearly shows the presences of gender disparity in our state. The following are the factors which are responsible for this gender-based disparities in our study area which came into surface through our study:

✚ Occupational segregation which refers that traditionally some industries are male dominated like coaching for higher education, engineering, NEET, etc. may offer higher wages as compared to some female dominated like nursing or teaching up to primary level of education. It has been observed during study that number of male-dominated industries are more as compared to female which results more demand for males as compared to females which leads to higher wages for males. Therefore, men experiences higher returns to education due to their greater access to higher- paying jobs.

✚ The gender wage gap is one more reason for existence of less returns to education for females as compared to males in our study area. There is no doubt that there is a continuous progress in gender equality in our study area, but still gender wage gap exists in our study area. Men with same level of education, on average , earn more than women for similar work. Therefore, this wag gap contributes higher returns to education for men as their earnings potential is not limited as female ‘s earning potential is.

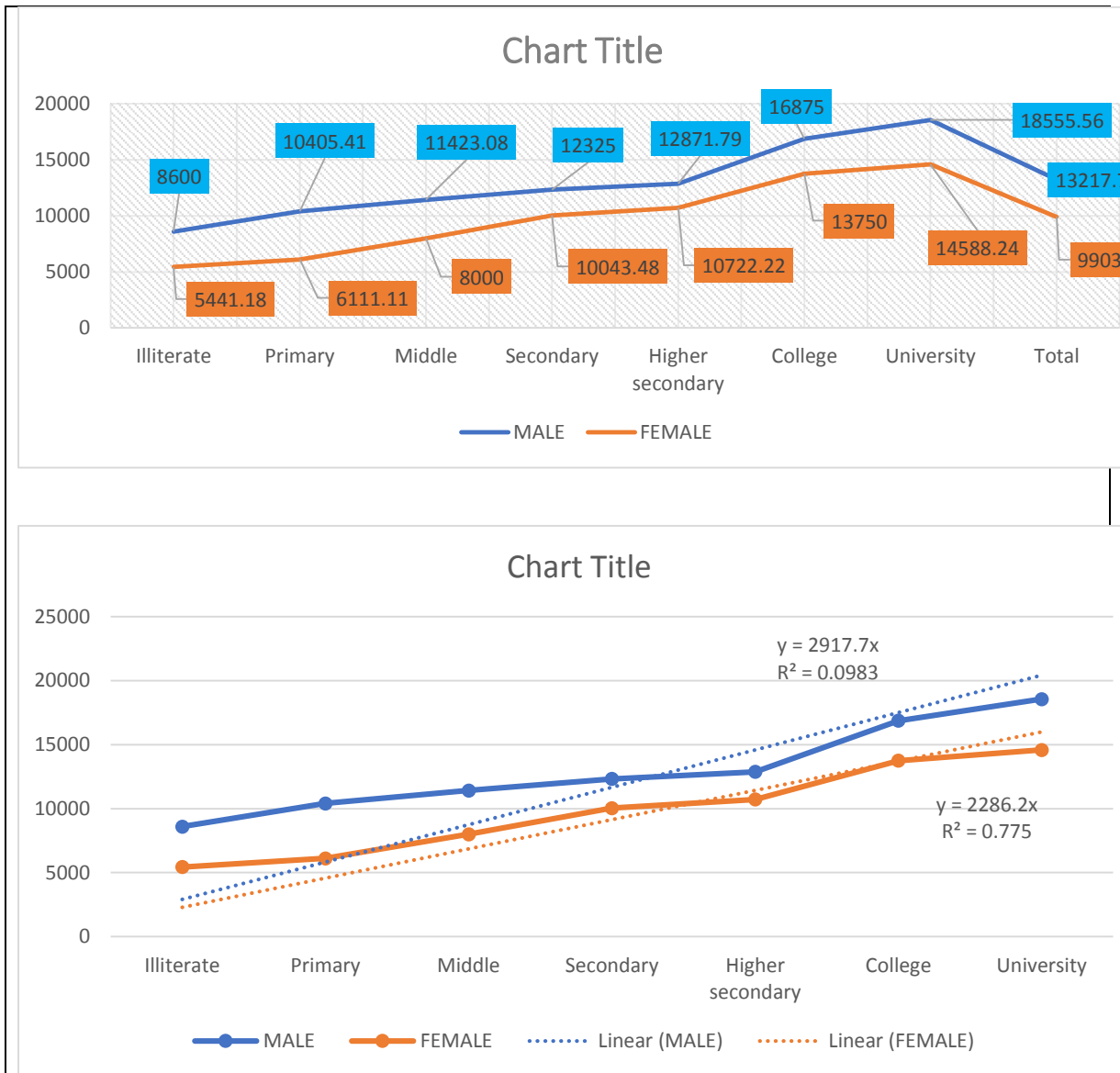
✚ The cultural and social factors are also responsible for lower returns for females as compared to men. In our study area some traditional norms and expectations discourage women from pursuing higher education or certain career paths.

TABLE-2: AVERAGE INCOME OF RESPONDENTS OF DIFFERENT LEVELS OF EDUCATION OF MALE AND FEMALE

Leve of education	Mean Income (P.M)	No. of Respondents	Std.Deviation	Minimum	Maximum
illiterate	8600.00	30	425.08	4000.00	13000.00
Primary	10405.41	37	709.71	4000.00	25000.00
Middle	11423.08	26.00	879.11	5000.00	22000.00
Secondary	12325.00	40.00	533.96	5000.00	22000.00
Higher secondary	12871.79	39.00	640.70	6000.00	25000.00
College	16875.00	40.00	725.18	8000.00	25000.00
University	18555.56	36.00	1226.33	6000.00	35000.00
Total	13217.74	248	354.83	4000	35000
AVERAGE INCOME OF RESPONDENTS OF DIFFERENT LEVELS OF EDUCATION OF FEMALE					
Leve of education	Mean Income (P.M)	No. of Respondents	Std.Deviation	Minimum	Maximum
Illiterate	5441.18	17.00	763.22	1500.00	11000.00
Primary	6111.11	18.00	792.69	1500.00	15000.00
Middle	8000.00	16.00	861.20	3000.00	15000.00
Secondary	10043.48	24.00	695.43	5000	18000.00
Higher secondary	10722.22	18.00	625.21	7000.00	16000.00
College	13750.00	22.00	937.15	6000.00	25000.00
University	14588.24	17.00	1032.77	8000.00	26000.00
Total	9903.10	129	422.54	1500	26000

Source: Calculated and Analyzed by Author Based on Primary Survey Data

FIGURE-1: AVERAGE INCOME OF RESPONDENTS OF DIFFERENT LEVELS OF EDUCATION OF MALE AND FEMALE



POLICY RECOMMENDATIONS/ SUGGESTION

The following policy interventions help to reduce gender disparities and promoting gender equality in the labor market of our study area:

1. To legislate new efficient gender equality laws and Implement the existing laws that prohibit gender-based wage discrimination and ensure equal pay for equal work. This can be achieved by transparency and imposing penalties for employers who engage in discriminatory practices.
2. To Enhance access to quality education in fields that have traditionally been male-dominated for females and this can be achieved by providing scholarships and financial aid to encourage females to pursue education in science, technology, engineering, and mathematics (STEM) fields.
3. To addressing Occupational Segregation by taking steps through which gender stereotypes can be eliminated and promote gender diversity in all industries and occupations. This can be attained by incentivize females to pursue non-traditional career paths through targeted outreach, career guidance programs, and efforts to eliminate barriers to entry in male-dominated fields.
4. To make females aware about their economic rights and keep accessible and affordable women grievance cells everywhere in our study area.
5. To offer training and sensitization programs for employers and employees to raise awareness about insensible biases, gender stereotypes, and the benefits of gender diversity in the workplace. This can help to create a more inclusive and equitable work environment.

6. To develop Entrepreneurship skills in the females and provide Business Support to them so that they can start their own business ventures

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