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RESEARCH ARTICLE

DIMENSIONS OF WOMEN HIGHER EDUCATION IN COIMBATORE

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ARTICLE INFO	ABSTRACT

The present study on Dimensions of Women Higher Education in Coimbatore would concentrate on estimating the rate of returns of womens higher education in a selected area of Coimbatore city. Standard Mincerian earnings function and extended earnings function were used to investigate the education – earnings relationship among selected women and test the hypothesis of positive returns to education. In addition, the job satisfaction pattern of the individuals was also analyzed. The findings suggested that the private rates of return to education of selected women were positive at virtually all educational levels. The rates of return to education were found to be higher, the higher the educational level, the result inconsistent with the findings of other researchers in this area. The job satisfaction pattern also increased with level of education.

INTRODUCTION

Human capital a concept introduced by Nobel laureate Theodore. W. Schultz (1961) and elaborated on by Nobel laureate Gary Becker (1972), is the notion that individuals acquire skills and knowledge to increase their value in labour markets. Education, training and experience are the three main mechanisms for acquiring human capital with education being primary for most individuals (Saxton, 2000). Education is a concept influenced by the socio-economic system prevailing in a particular age. In the past, more emphasis was laid on the social and spiritual ends of education as education was expected to generate more externalities useful to the society as a whole. But the present materialistic society lays more emphasis on the economic ends of education (Abraham, 2001). In the education pyramid, the socio-economic significance of primary and secondary education cannot be over-emphasised. It has been universally accepted that the net return from primary education is substantially higher than that of secondary or tertiary education and it has been a proven experience that a state (e.g. Kerala) which provides a strong, adequate and efficient base of primary education also does well in all the vital indicators of human development. It will be difficult to built up and sustain the edifice of higher education with a deficient base of primary education (Thangamuthu, 2000). In the post-independence period, higher education has expanded fast. Today India ranks very high in terms of the size of the network of higher education institutions, with 8.27 million students enrolled. Tamil Nadu is one of the largest state having a population of 62.41 million

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and ranks seventh in the country. With regard to sex ratio it is 986 which has improved from 974 during 1991 whereas in India it was 933. While the literacy rate of Tamil Nadu was almost comparable to all India position in 1941, the state has reached a head of all India in the decades following independence. The results of 2001 census shows that Tamil Nadu has attained third position behind Kerala and Mahastra among major states, both in terms of overall of female literacy, while the overall literacy has gone up from 62.7 percent in 1991 to 73.4 percent in 2001 and the male literacy has increased from 73.75 to 82.33 percent. What is encouraging is that the female literacy has gone up more than 13 percent from 51.33 percent in 1991 to 64.5 percent in 2001. The ratio of male literacy to female literacy has come down from 1.42 in 1991 to 1.27 in 2001 revealing the narrowing of gender inequality in the state. International comparison is also useful to contextualize the Tamil Nadu performance against other developed countries. Tamil Nadu's position in 1991 was significantly better than that of Pakistan and Bangladesh as all literacy indicators, the state has not at attained the average level of developing countries. The gender inequality index of Tamil Nadu is lower that of Pakistan and Bangladesh and India as a whole.

The existing studies in estimating rate of returns to education in India were found to be highly conflicting. National level estimates made for urban India in 1960 by Blaug et al (1969) showed that investing in education in India is profitable. Heyneman (1980) also supported the views of Blaug et al whereas Nalla Gounden (1967), suggested that education is not an attractive form of investment in India when compared to physical capital, as returns to education were found to be

low. Several other economists have also estimated the returns to education for scientific and technical education using macro-level data (Malathy and Duraisamy (1993), Shanmugham and Madheswaran (1998). But there is no studies concentrating on estimating private rate of returns to women education or non-professional education. With this background, the study focuses on Dimensions of Women Higher Education in Coimbatore. The objectives of this research attempt is to: 1. Find the age, education and earnings profile of the non-professional women graduates, women post graduates and doctorate degree holders among the selected samples. 2. Estimate the private rate of returns to investment in education. 3. Study the pattern of job satisfaction among the selected samples. 4. Account for disparities in job satisfaction levels. In the course of the study the following hypotheses were tested it is hypothesized

   i. Earnings are positively correlated with education
   ii. Experience is positively related to income
   iii. Income tends to rise with age to a peak and then tends to fall until the retirement age.
   iv. The private rate of returns for investment in Ph.D. level is higher than the returns for post graduates and in turn return for post graduates is more than the returns for graduates.

LIMITATIONS

1. The present study was conducted using cross-sectional data. Thus it did not allow to track the major trends in returns to human capital in the selected sample.
2. This is a micro-level study hence how far the results obtained in this study would be applicable at the macro level is question able.
3. The study did not include any self-employed or unemployed women.

To carry out the study 180 women respondents were selected from R.S. Puram area of Coimbatore city. The educational level wise distribution of the distribution is as follows:

a. Under Graduate degree holders   -   60
b. Post graduate degree holders   -   60
c. Ph.D. Degree holders   -   30
d. Respondents with no higher education   -   30

Data for the study were collected from the respondents by administering an interview schedule which was pre-tested in a pilot survey. The collect data were organized tabulated and appropriate tools were applied and the results were arrived yet.

Tool applied

Mincerian earnings function (Microfit package)

A very important tool for research in the area of human capital was developed by Mincer. "Mincerian earnings function" has been used by researchers in numerous studies and became an important empirical tool for estimating the private rates of return to education, experience and tenure. One of the popular specification of the earnings function (Y) is parabolic with education (ED), experience (EXP) and experience squared

(EXP^2) as explanatory variables (Dougherty and Jimenez, 1991).

$$Ln\ Y = \beta_0 + \beta_1\ (ED) + \beta_2\ (EXP) + \beta_3\ (EXP^2)$$

Mincer showed that the coefficient β_1 of the education variable could be interpreted as a "crude estimate of private rate of returns to schooling". The above functional from was fitted to the data to estimate the private rate of returns of women's higher education. The co-efficients of the educational dummies estimated using the function above do not directly provide the rate of return (Shanmugham and Madheswaran, 1998). The following formula was used to convert them into rates of return

$$\beta^* = (e^\beta - 1) = 100$$

where β^* - rate of returns in per cent.

β^* - Co-efficient of educational dummies obtained from the Mincerian equation.

The average rate of returns (Aq) for q^{th} level of education was estimated by dividing the returns obtained for q^{th} (β^*) by the total number of years of schooling (N):

$$A_q = \frac{\beta^*}{N}$$

The marginal rate of returns to investing one year at the qth level of education (R_q) was calculated. It was done by taking the difference between the estimated rates of return for q and q-1 level of education and dividing it by the number of years of schooling at the qth level (n_q).

$$R_q = \frac{[\beta^* q - \beta^* q\text{-}1]}{N_q}$$

In order to prove the superiority of semi-logarithmic earnings function a comparative analysis was made between linear and semi-logarithmic earnings function. The following linear function was estimated.

$$Earn = \beta_0 + \beta_1 ED_1 + \beta_2\ ED_2 + \beta_3\ ED_3 + \beta_4\ EXP + \beta_5\ EXP^2$$

Where EARN denotes the monthly earnings of the sample, ED_1, ED_2 and ED_3 are educational level dummies, EXP is the years of experience, $EXP^\square$ is square of experience term.

Job satisfaction scale

The job satisfaction scale designed by B.C, Muthayya was used to study the job satisfaction pattern among the respondents. The respondents were asked to mark the extent to which they were affected by different aspect of the job. The scores were given Agree:2; Not sure – 1; and Disagree – 0. Higher the score meant higher job satisfaction. Based on the scores the respondents were divided into two groups – persons with high job satisfaction and persons with low job satisfaction.

Discriminant analysis

In the present study, discriminant analysis was used to differentiate whether the selected factors of job satisfaction

can significantly differentiate the two groups – the first group comprising of respondents with low job satisfaction and the second group comprising of respondents with high job satisfaction. The factors included were income, education, experience, age, gender and marital status, type of family and sector of employment.

FINDINGS

1) GENERAL PROFILE

Majority of the respondents in the Under Graduate and Post Graduate categories earned less than Rs. 10,000 per month while 40 per cent of the Ph.D. holders earned between 20,000 and 25,000 per month.   Sector of employment positively influences the earnings of an individual. Sixty per cent of the Under Graduates were employed in the private sector while about 52 per cent of the Post Graduates were employed in the public sector. All the Ph.D. holders were employed in the public sector.

2) EDUCATION AND RETURNS PROFILE – MICROFIT PACKAGE

Rates of returns to education

The semi-logarithmic earnings function i.e. the Mincerian earnings function fitted for estimating the returns to education revealed that the coefficient of experience contributed to an increase in earnings of an average 11.27 per cent while the marginal effect of experience on earnings diminished with more experience accumulated at the rate of 0.19 per cent. A person with Ph.D. degree earned   189.71 per cent higher income than a person with no higher education while Post Graduate and Under Graduate degree holders earned 114.45 per cent and 61.79 per cent of more income with those of no higher education. The average rate of returns increased with higher levels of education. The Under Graduate degree holders had 3.19 per cent average returns per year of schooling. This figure increased to 4.47 per cent for Post Graduate degree and to 5.04 per cent for Ph.D. degree.

The Marginal rate of returns to investing one year at the level of Ph.D. was only 7.5 per cent whereas the marginal returns for Post Graduate degree was 13.99 per cent and for Under Graduate degree it was 15.99 per cent. This results mirrors the results of standard investment models, which assumes that the rate of return declines as the level of investment rises. The experience – earnings curve for different educational levels showed that earnings of an individual increases with level of education. The maximum return to experience is obtained at about 24 years. The earnings of public sector employees were found to be more than that of private sector employees. The test of restrictions applied to ensure the statistical significance of the estimated coefficients of the educational dummies revealed that the coefficients were different from each other. The calculated F* was found to be greater than the table value. Hence the null hypothesis that the co-efficients are equal were rejected. The result of test of restrictions implied that the returns obtained for the different educational levels vary. The results of various studies that used age as a variable in determining returns showed that those in the 45-85 age cohort receive higher returns to college education than the younger

age groups. To test whether this result was applicable to the selected women sample the variable age was included with the basic equation. The results showed that age was not a constraint in determining the income of an individual because the age variable was found to be statistically insignificant. The results showed that the age was not a constraint in determining the income of an individual because the age variable was found to be statistically insignificant.

The experience earnings profiles of individuals with different educational levels have not only different intercepts but also different slopes and curvature. To account for these differences, the intercepts of educational dummies with experience and experience squared was introduced with the basic equation. But the coefficients of these interaction variables were found to be statistically insignificant indicating that the experience allowances differed for different occupations rather than among same professional groups. To illustrate the superiority of the semi-logarithmic functions as an ideal form of the earnings function, a comparative study was made between semi-logarithmic function and linear function. The results revealed that the semi-logarithmic earnings function is the most appropriate one as it confirms the basic assumption of homoscedasticity while there was presence of severe hetexroscedasticity (unequal variances) in the linear specification of the earnings equation.

Job Satisfaction

Job satisfaction pattern of the respondents were analyzed using a series of questions. Higher the score meant higher satisfaction. Respondents with a score of less than 13 were assumed to have low job satisfaction and respondents with a score of more than 13 were assigned to the high job satisfaction group. Based on the scores obtained the respondents were divided into two groups. The first group comprised of 60 respondents with low job satisfaction and the second group comprised of 90 respondents with high job satisfaction. Discriminant analysis was carried out to find out whether the two groups – high job satisfaction group and low job satisfaction group can be discriminated and if so the contribution of the selected factors in discriminating the groups. The estimated discriminant function was $Z = -3.1129 - 0.00037$ INC $+ 1.6727$ EDU $- 0.01007$ EXP $+ 0.01322$ AGE $- 0.26056$ M_STAT $+ 0.0921$ F_TYRE $- 0.02299$ SEC, INC – income, EDU – level of education, EXP- years of experience, AGE – age in years, M_STAT – marital status of the respondents, F_TYRE – type of family and SEC – sector of employment. The relative contributions of level of education in discriminating the two groups was high, with a discriminating power of 85.46 per cent. The second most discriminating factor was income, with the discriminating power of 8.68 per cent, age had the discriminating power of 2.59 per cent, experience and marital status had the discriminating powers of 1.52 per cent and 1.05 per cent respectively and the other variables had less than one per cent discriminating power. The proportional criteria showed that the cases were accurately classified.

Conclusion

The present study on Private Rate of Returns to Women's Higher Education concentrated on estimating the private rate

of returns of women's higher education in a selected area of Coimbatore city. Standard Mincerian earnings function and extended earnings function were used to investigate the education – earnings relationship among selected women and test the hypothesis of positive returns to education. In addition the job satisfaction pattern of the individuals was also analysed. The findings suggested that the private rates of return to education of selected women were positive at virtually all educational levels. The rates of return to education were found to be higher, the higher the educational level, the result inconsistent with the findings of other researchers in this area. The job satisfaction pattern also increased with level of education.

Suggestions

1. The private of returns to general education increases with the level of education. Hence, efforts have to be made to increase the enrolment of students in general education.
2. The government should provide more employment opportunities for students of general education.
3. Employers can recruit candidates with general education and provide them with the necessary skills through on-job training rather than recruit specialists.
4. Job satisfaction is found to increase with income and educational level. Employers can find other means to enhance the job satisfaction pattern of the employees, the marginal rate of returns tends to decline. Hence, more investments and higher subsidies on the education below college level would be more beneficial for both individual and society than that on higher level.

AREA FOR FURTHER RESEARCH

1. A comparative analysis can be made between the return to general education and professional education could be considered as an area for further research.

2. The socio-economic background of the individual namely parents' education and income influences of educational level of an individual. Further research can be done to test the validity of these variables.
3. Further, work on gender and sector specific differences in returns to education could also be useful.

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