

EDUCATION IMPACT ON LABOUR MARKET IN AHMEDABAD DISTRICT

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ABSTRACT

This research paper has carried out the study impact of education on labour market of Ahmedabad District. For this purpose, 11 talukas of Ahmedabad district namely Ahmedabad city, Mandal, Detroj-Rampura, Viramgam, Sanad, Daskroi, Dholka, Bavla, Ranpur, Barwala, Dhandhuka have been selected. For analysing the result two variables; education attainment of males and females at secondary and higher education level and their impact on work participation rate of labour market have been used. To meet the purpose of study linear regression model with charts has been applied. Results has been estimated by using these statistical techniques such as regression model, t-test, charts and tables. It is found that males and females education attainment and their impact on labour market are different.

Keywords: Education, Labour Market, Ahmedabad District, Impact of Education, Males and Females Education Impact on Labour Market.

Introduction

The quick expansion of education in the countries of third world nation has in some respects created as many problems as it has resolved. It is found that there is inconsistency between output of graduates in different specializations and the absorptive capacity of labour market leading, in turn, to unemployment and under employment of certain types of graduates. In qualitative terms, questions are being increased as to whether the content and performance of systems of higher education are able to meet the changing needs of society, including new and changing methods of production in labour market.

India, at the time of independence was at a low level of educational achievement. It was facing two major problems in its educational endeavour—(a) mass illiteracy; and (b) shortage of critical manpower. Hence emphasis was laid and efforts were made to overcome these two problems.(N.V. Varghese , UNESCO IIEP, RESEARCH REPORT NO 67, 1989). Thus, policies were made for improvement of education and increase employability.

In India, Gujarat model for development has been adopted. The demographic and social profile of Gujarat shows a unique human resource opportunity for economic growth through manpower skilling. Between 2012 and 2017, an additional 60.51 lakh¹ are expected to enter the working age group population followed by another 56.67 lakh during 2017-22 (these are Gross numbers, without netting off retirees) as per KPMG estimates. Considering the historical trends in labour participation rates of Gujarat, the state would witness a gross addition of 35.15 lakh and 32.90 lakh people to labour force (i.e. portion of the working age population willing to seek employment and work) during 2012-17 and 2017-22 periods respectively. Accommodating for retirement from the existing pool of labour force, Gujarat is expected to register a net addition of 20.41 lakh to the labour force during 2012-17, and another 15.83 lakhs during 2017-22. District-wise incremental supply estimates indicate significant regional concentration in the leading six districts of Ahmedabad, Surat, Vadodara, Rajkot, Banas Kantha, Bhavnagar and Junagadh, accounting for nearly half of the total supply.(N.S.D.C., National skill development corporation)

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Education plays an important role in the labour market in several respects. The present study has focused on attainment at secondary and higher education level of 11 talukas of Ahmedabad district and whether education impacts on labour market or not that has been analysed by using regression analysis. To observe labour market position male and female work participation rate of males and females have been used by the researcher.

Literature Review

Education and labour market are not a new concept, many researchers have done study in this regard in case of country or states. As A. A. Agrawal et. al (2010), in their article "EDUCATION AND LABOUR MARKET OUTCOMES: EVIDENCE FROM INDIA" assessed the impact of education policy on labour market outcomes by estimating both static and dynamic models of occupational choice using educational attainment and other individual characteristics as explanatory variables by using National Sample Surveys' data spanning over the period from 1993-94 to 2005-06 and resulted that an increased incidence of education raised the probability with which individuals remain in education (unsurprisingly), and the probability with which they entered employment as non-manual workers. It made clear therefore that national investment in education had a direct impact on occupational outcomes, leading to more workers entering non-manual jobs. Pradhan K. C., Parida P. C., Sarangi T. (2018) in their article "IMPACT OF EDUCATION IN LABOUR MARKET IN INDIA" examined the returns to education with respect to three labour market outcomes namely wages, employment and occupation by using the National Sample Survey Office (NSSO) 68th round (2011–12) data. Wage equation (without selection bias) results pointed to the fact that returns to education increased at an increasing rate as the level of education increases and the impact of education was found relatively higher in the case of urban than rural areas. In case of employment, the study found that compared to illiterates, the chances of higher educated people going to agriculture sector was less. This was true even in the case of rural areas whereas the interactive variable (education with rural dummy) was found negatively associated with employment in agriculture sector. Occupation results suggested that there was a strong association between higher education (under graduate and graduate and above) with professional occupations and less with agriculture and fishery and unskilled occupations, suggesting the need for improving education and creating quality employment opportunities in the rural areas that may helped in arresting the growing urban burden. Thus, some studies show positive association of education and labour market and some has shown no significance result between education and labour market. Though, Gujarat model was adopted for growth in India, so researcher showed her curiosity for finding out whether does education impact on labour market in 11 talukas of Ahmedabad district which is leading district of Gujarat State.

Objectives

Primary Objective

- To assess, Does education impact on labour market in Ahmedabad district?

Secondary Objective

- To measure male education attainment impact on labour market of Ahmedabad district
- To measure female education attainment impact on labour market of Ahmedabad district.

Data and Methodology

This study based on secondary Data. The researcher has selected 11 talukas of Ahmedabad district namely, Ahmedabad city, Mandal, Detroj-Rampura, Viramgam, Sanad, Daskroi, Dholka, Bavla, Ranpur, Barwala, Dhandhuka for the study. The source of data of attainment at secondary and higher education level of male and female is from offices of Gujarat government and work force participation rate of male and female as per CENSUS-2011 have been used for analysing the study. On the basis of data, to meet the objective of the present study, the calculations, tabulations, and regression model has been used to analyse the aspects of study along with the presentation of results in support of the objective. To study the impact of male and female education attain on labour market, simple and linear regression model is specified. In this study male and female education attainment at secondary and higher secondary level are regressed on labour market of Ahmedabad district. Regression lines are as follows.

$$Y_1 = b_{0i} + b_1X_1$$

$$Y_2 = b_{0ii} + b_2X_2$$

Where,

Y_1 = male work participation rate

X_1 = Male education attainment at secondary and higher education level

Y_2 = Female work participation rate

X_2 = Female education attainment at secondary and higher education level

b_1, b_2 are parameters and b_{0i}, b_{0ii} are intercept term.

The following hypothesis have been framed for analysis.

- **First Hypothesis**

H₀: There is no significant impact of male education attainment on labour market.

H₁: There is significant impact of male education attainment on labour market.

- **Second Hypothesis**

H₀: There is no significant impact of female education attainment on labour market.

H₁: There is significant impact of female education attainment on labour market.

The values of predictors and dependent variable of the Talukas of Ahmedabad District has been depicted in following table.

Talukas	Education Attainment at Secondary and Higher Education				Labour Market work Participation Rate			
	Male	Percent	Female	Percent	Male	Percent	Female	Percent
Ahmedabad city	59.98	0.60	40.02	0.40	55.95	0.56	11.64	0.12
Mandal	70.35	0.70	29.65	0.30	58.44	0.58	29.69	0.30
Detroj-Rampura	69.07	0.69	30.93	0.31	56.99	0.57	25.15	0.25
Viramgam	71.19	0.71	28.81	0.29	56.96	0.57	18.91	0.19
Sanand	69.29	0.69	30.71	0.31	57.04	0.57	17.12	0.17
Daskroi	64.28	0.64	35.72	0.36	57.33	0.57	14.69	0.15
Dholka	64.54	0.65	35.46	0.35	57.38	0.57	20.57	0.21
Bavla	69.89	0.70	30.11	0.30	57.32	0.57	25.37	0.25
Ranpur	69.20	0.69	30.80	0.31	54.74	0.55	21.37	0.21
Barwala	70.40	0.70	29.60	0.30	55.99	0.56	26.55	0.27
Dhandhuka	65.53	0.66	34.47	0.34	55.75	0.56	23.52	0.24

Source: Ahmedabad Jilla Panchayat Office and CENSUS-2011, calculated and compiled by the researcher

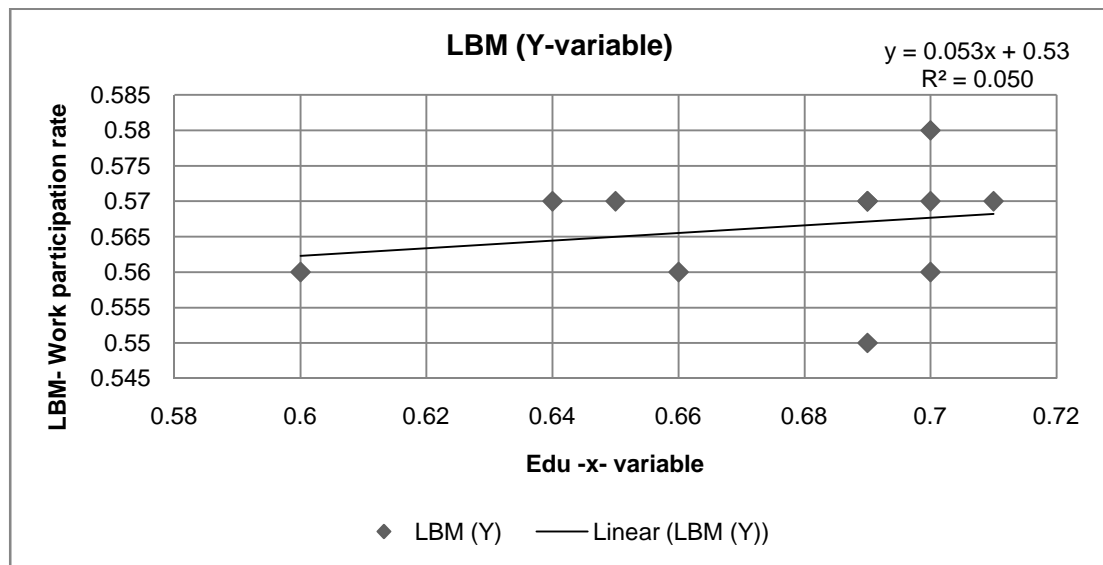
Results and Discussion

- In the first model, attainment at secondary and higher education level of male is regressed with work participation rate of labour market in Ahmedabad district. The following regression line is estimated as shown in following table and chart.

$$Y_1 = b_{0i} + b_1X_1$$

Or

$$LBM_m = 0 + 1 * ED_m$$



Regression Statistics								
Multiple R	0.225586438							
R Square	0.050889241							
Adjusted R Square	-0.05456751							
Standard Error	0.008308203							
Observations	11							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	3.33093E-05	3.33E-05	0.48256	0.504801188			
Residual	9	0.000621236	6.9E-05					
Total	10	0.000654545						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.529968304	0.052452444	10.10379	3.28E-06	0.411312632	0.64862398	0.41131263	0.64862398
EDU (X)	0.053882726	0.077566423	0.694666	0.504801	-0.121584714	0.22935017	-0.12158471	0.22935017

- R-square shows how much of the variability in the outcome is accounted for by the predictors. For this model 1, its value is 0.05 which means that education attainment of male accounts for 5 percent variation in labour market.
- The adjusted R-square indicates how well model generalizes and ideally, its value to be the same, or very close to, the value of R-square. In the above-mentioned table difference for model is a fair bit (0.05 – (- 0.054)) or 1 percent only. This shrinkage means that if the model were derived from the population rather than a sample it would account for approximately 1 percent less variance in the outcome.
- An analysis of variance (ANOVA) tests whether the model is significantly better at predicting the outcome than using the mean as a 'best guess'. F-Ratio reveals the ratio of the improvement in prediction that results from fitting the model (labelled 'regression' in the table), relative to the inaccuracy that still exists in the model (labelled 'residual' in the table). F-Ratio is 0.5, and p value is 0.5, ($p > 0.05$) which shows null hypothesis is accepted.
- Linear regression model equation can be written as follows from the above-mentioned table values.

$$LBM_m \text{ predicted} = 0 + 1 * Edm$$

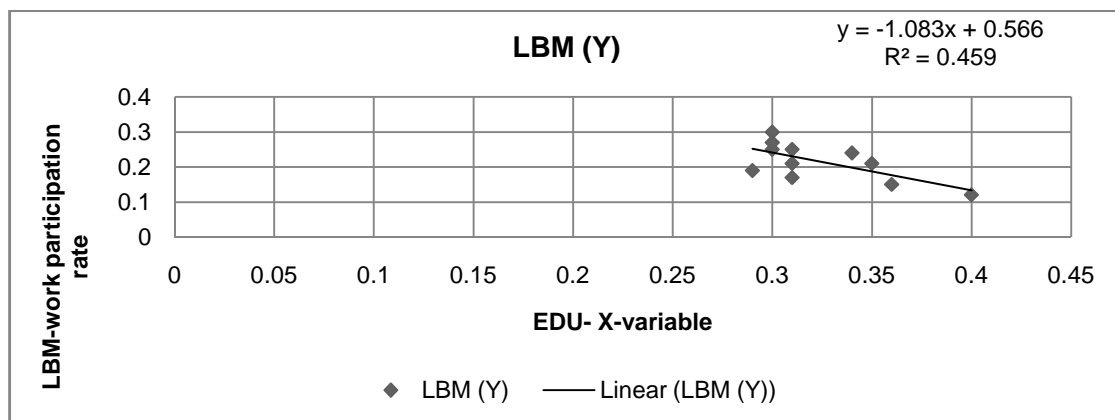
$$LBM_m \text{ predicted} = 0.53 + 0.539 * Edm$$

- Each of these beta values has an associated standard error indicating to what extent these values would vary across different samples, and these standard errors are used to determine whether or not the b values differ significantly from zero. Therefore, t-test associated with a b values is significant. For this model, the coefficient for education attainment of male is 0.53, t = 0.69, is statistically insignificant different from zero using $p > 0.05$ because its p value is 0.5.
- In the second model, attainment at secondary and higher education level of female is regressed with work participation rate of labour market in Ahmedabad district. As model -1, second model's regression line is estimated as shown in following table and chart.

$$Y_2 = b_{0ii} + b_2 X_2$$

Or

$$LBM_f = 0 + 2 * ED_f$$



Regression Statistics								
Multiple R	0.678126789							
R Square	0.459855942							
Adjusted R Square	0.399839936							
Standard Error	0.041914582							
Observations	11							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.013461238	0.013461	7.662221617	0.0218222			
Residual	9	0.01581149	0.001757					
Total	10	0.029272727						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.566093502	0.127628291	4.435486	0.00163413	0.277378251	0.854808754	0.277378251	0.854808754
EDU (X)	-1.08320127	0.391319784	-2.76807	0.0218222	-1.96842812	-0.197974416	-1.96842812	-0.19797442

- In this second model R-square value is 0.45 which indicates that education attainment of female accounts for 45 percent variation in labour market.
- The adjusted R-square value is 0.39 which indicates 6 percent variance in outcome from the population rather than a sample.
- F-Ratio is 0.2, and p value is 0.02, ($p < 0.05$) which shows null hypothesis is rejected.
- Linear regression model equation can be written as follows from the above-mentioned table values.

$$LBM_f \text{ predicted} = 0 + \beta_2 * Ed_f$$

$$LBM_f \text{ predicted} = 0.56 + (-1.083) * Ed_f$$
- For this model, the coefficient for education attainment of female is 0.56, $t = -2.76$, is statistically significant different from zero using $p < 0.05$ because its p value is 0.02.

Conclusion

This research paper was started with the question of that “Does Education Impact on Labour Market in Ahmedabad District? For this study 11 talukas of Ahmedabad District were selected. Data of education attainment of males and females and their impact on labour market by work participation rate were taken for analysing the data. Results were obtained by applying Regression model. Generally, it is seen that education and employment has positively related with each other. Education impact on employability and labour market. Either education produce educated unemployment or skilled employment. In the case of Ahmedabad District which is leading district of Gujarat State among other district, it was found that male education attainment at secondary and higher education level does not impact on labour market while female education attainment at secondary and higher education level impacts on labour market of Ahmedabad district. It was observed that male education impacts only 5 percent on labour market and female education impacts 45 percent on labour market in Ahmedabad District of Gujarat State.

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