

EDUCATION AND UNEMPLOYMENT: A STUDY OF INDIA

Devyani Patel
Dr. Smruti Bulsari

ABSTRACT

Unemployment has been a chronic problem for India. Policy makers have tried to address the issue of unemployment in the five year plans. Educated unemployment has become a matter of concern in recent years. It is observed that there is excess demand over supply for educated workers in developed countries where as there is excess supply over demand of educated workers in developing countries. In India, it is observed that increase in education results in decreased unemployment.

Unemployment is associated with demographic characteristics like age, gender and region (rural or urban) too, over and above education. The objective of this study is to examine the impact of education and other demographic factors on unemployment status. Using various rounds of NSSO data, it is observed that duration of unemployment increases with increase in education. It increases with increase in age. The duration of unemployment is higher in case of urban workers in comparison with rural workers and it is higher in case of males in comparison with females.

Keywords: Employment agencies, information asymmetry, education hypothesis, odds.

I. BACKGROUND

Unemployment has remained a cause of concern for India since long. Five-year plans right from 1950s emphasized on reducing unemployment. Education was considered a major factor contributing to reduction in unemployment. Mincer (1991) observed that the risk of unemployment is less for educated people. Unemployment are of various types. Voluntary unemployment might not be a cause of worry because the person chooses not to participate in the labour market. But structural unemployment occurs when employment opportunities decline because of change in market conditions. Fields (1975) observes that the nature of unemployment in Less Developed Countries (LDCs) is structural in nature and has arisen because of lack of availability of skilled manpower. Thus, it is expected that education may add to skills and may help in reducing unemployment.

Prasad (1979) discusses two distinct views on causes of unemployment. Mismatched education hypothesis states that the education that is imparted in

formal educational institutions like schools, colleges etc. are not directly relevant to the nature of jobs offered by the industry. Another cause discussed by Prasad (1979) is the Economic Maladjustment hypothesis. According to this hypothesis, labour markets are imperfectly competitive. Thus, they do not react to demand and supply conditions immediately. There is a lag effect in attaining equilibrium in labour market. Education hypothesis, on the other hand, implies symmetric information and thus, assumes that students demanding higher education are having full information on nature of jobs available and wage rates associated with those jobs. However, this is not the case in real life. Information asymmetry exists in labour market. Most of the times, job-seekers are not aware of all the opportunities available in all the labour markets. In case of students having access to Internet and registered with employment agencies are likely to have relatively more information than those who are not.

The issue of unemployment in developing countries and that in developed countries are different. Developed countries are more likely to have jobs that require technical skills or education where as in developing countries the jobs are likely to be more of manual nature. Thus, demand for education is likely to be higher in developed countries than in developing countries. However, the level of education has increased in developing countries in past few years. The review of studies that examine the relationship of education and unemployment in different economies is presented in this paper. The basic objective of this study is to examine the impact of education on unemployment, keeping various demographic variables like age, gender and region (rural or urban), constant.

This paper is organized in four sections: The review of studies undertaken on education resulting in reduction in unemployment is presented in section – II. The review of studies undertaken on education and unemployment is presented in section – III. The impact of education on unemployment in India and section – IV concludes.

II. EDUCATION AND UNEMPLOYMENT: A REVIEW

Mincer (1991, a.) has tried to identify the components of unemployment and the effect of education on unemployment. He has hypothesis that educated workers enjoy the advantage of higher wages, faster increase in income and rises in designation; and better job stability. He has taken the data from panel study of income dynamic (PSID) from 1976-1981. He has examined the impact on education job experience marital status, training and work place, etc. incidence of unemployment. He observes that higher education level reduces the incidences of unemployment. The reason for lower incidences of unemployment

for educated people is their efficiency to search a job and passes relatively more information on job opportunities, in comparison with less educated people. Mincer (1991, b.) has undertaken a similar study on women. He observes that lesser mobility of married women and women haven children has an adverse impact on employment on educated women. However, he doesn't find any difference between man and women, on the relationship between education and unemployment. He states that higher education reduces the risk of unemployment.

Francesconi, Orszag, Phelps and Zoega (2000) undertook a study on relationship between education and unemployment in the US. They observe that the cost of training workers decreases with demographic variables like age, place or residence, unemployment to vacancy ratio at local level and a few more. They even observe that the turnover rate reduces with increase in education of workers, holding these demographic variables constant. According to them, increase in training costs reduces the wage rates and increases the unemployment rate.

Taajobi (2012) examine the effect of education on employment in Norway and Iran. Both this countries have reasonably good Human Development Index (HDI). Education Index is one of the components of Human Development Index. He has taken the data from 1980-2010. The impact of education Index on unemployment rate is studied for this period, separately for Norway and Iran. He finds that higher education Index helps in reducing the unemployment rate.

The reasons for higher unemployment rate in developed country like U.S. and Canada are quit different in comparison with that of developing countries. Card and Riddell (1993) observe that one of the reasons of increase in unemployment rate in U.S. and Canada is unemployment benefits and unemployment insurance given by the respective government to the unemployed.

Broersma (2008) examines the relationship between educational attainment in U.S and Europe between 1979 and 2004. 'Skilled Biased Technological Change' has reduced the employment opportunities for lesser skilled and unskilled workers. These workers are gradually getting replaced by high skill workers. This has increase the importance of education in U.S. and Europe. The demand for job-seekers with higher educational attainment has increase and there for the proportion of educated unemployed people is reducing U.S. and Europe.

Maloney (2010) has prepared report on unemployment among young workers in U.S. According to this report higher educational attainment reduces the chances of being unemployed. College graduates are found to have lowest unemployment rate were as those he did not complete a high school diploma had the highest unemployment rate in U.S.

Rothwell and Berube (2011) states that the demand for higher education in U.S. job market increased between 2005 and 2009. However in 2009, the demand for highly educated workers was more than its supply. This study was undertaken and metropolitan areas of the U.S. the areas were their higher demand – supply gaps of educational attainment are found to have higher unemployment rate.

Nickell (1979) undertook a study in Britain and observed that there is reduction in unemployment rate with increase in education level up to University. If the education level is above University degree, it does not contribute to reduction in unemployment.

Riddell and Song (2011) have examined the impact on education on transition between employment and unemployment in the U.S. using the date from 1980 and current population survey. The results of the study show that the chances of reemployment of an individual who is unemployed for short time period is higher for those having higher educational attainment.

Kroef (1963) quotes the then United Nations report which states that “the unemployment among Asia’s educated youth, particularly University level, has now begun to reach quite alarming proportions”. The reasons cited in this study are high population growth rate and mismatch in education – what is taught in universities and what is demanded in the job market. Blum (1970) observes that the reason for educated unemployment is because automation in procedures at work place results in reduced work time. Thus, more work can be performed by less people, which causes reduction in demand. However, with increase in automation, there is a possibility of change in the nature of work. This changed work is more likely to be suited to educated people. Evans (1973) observes a similar pattern.

Lang and Dickens (1991) have track to study the nature of unemployment in Sri Lanka. They have used the statistics of International Labour Organization (ILO). They observed that a large number of highly educated youth are produced by Sri Lankan education system. Sri Lankan economy is not able to generate that much number of job for educated youth. The educated job-seekers are not ready to

accept jobs require in lower skills and they wait for the opportunity of to get an appropriate job. Thus, there is excess demand over supply for highly skilled job and excess supply over demand in lowly skill and unskilled job.

The situation in developing countries is different. Mahmood and Idress (2011) have attempted to examine the causes of unemployment among educated people in Peshawar division in Pakistan. They have taken a sample of 442 individuals who pauses at least graduation degree. According this their study the main cause of educated unemployment are high growth rate of population lack of resources non coordination between education and job opportunity, attitude of job-seeker in getting high level of job; and combination of all this factors. Iqbal and khaleek (2013) have also conducted similar study of examining the causes of unemployment among educated youth in Pakistan. They have collected data using both qualitative and quantitative. They observe that over and above high growth rate of population and lack of resources; low wage rate, demand for experience (in comparison with fresh graduate) and requirement of reference, all giving bribes for getting a job are major causes of educated unemployment.

Lin and Hsu (2013) try to examine the effect of education on unemployment in Taiwan. They have a coined a turn 'over-education' to explain the excess of education acquired by the job-seeker, in addition to what is required by the job in the labor market. They observed that expectation of wages increase with increase in education. At the same time increases in labor supply result in decrease in wages. This increase gap of expectation in wages and actual wages in the labor market is the major cause of unemployment in Taiwan.

A different kind of relationship is observed in Kenya. Unemployment rate in Kenya has increased because of rising population, with exception of Ivory Coast. This is because employment in Kenya is more affected by socioeconomic factors, rather than education. Reduction in employment opportunities is one of the reasons for drop-out from school. Thus, a reverse causality is observed in relationship between education and unemployment in Kenya (Godia, 1987).

III. EDUCATION AND UNEMPLOYMENT IN INDIA

There is a dearth of literature examining the relationship between education and unemployment in Indian context. Kerala faces the problem of educated unemployment since past few decades. Apte (1979) observes that the proportion of educated unemployment in Kerala is high because of lesser opportunities available for educated workers. Those completing matriculation also migrate to Mumbai in large numbers.

Mahapatro (2013) examines the causes of decline in female labor force participation in India. She has used the data from national sample survey organization (NSSO) and has also undertaken Age-Period-Cohort analysis. NSSO data is taken of period of ranging from 1999 to 2009-10. The cohort was taken from those born in 1935 - 45 till those born in 1985 - 95. They find that age and the period of study had an impact on female labor force participation. This is because the social cultural norms for woman were relatively conservative, the status of women and education level of women were lower among older cohorts. She further observes that increasing level of education among younger cohorts is likely to increase female labor force participation.

Prasad (1979) has undertaken a study to examine the relationship between education and unemployment of professionals in India. He has taken the data from special census (1971) on degree holders and technical personal in India. He observes that the duration of unemployment varies from different categories of professionals like engineers, doctors, scientists, etc. he further observe that duration of unemployment is lesser among those with higher academic performance. The duration of unemployment is shorter among males in comparison with females.

Khan (2013) has examined the main causes for unemployment in Kupwara District of Jammu and Kashmir State of India. Multistage sampling is used to select 369 villages of Kupwara district in first stage and 601847 individuals (classified by the level of education, separately for Kashmir division and Jammu division) in second stage. The major cause of unemployment was found to be the demand supply gap (excess of demand over supply) in the labor market. This demand supply gap is more pronounced in skilled job market. Thus, there is a higher rate of unemployment among educated job-seekers in Jammu and Kashmir.

Thus, all these studies discussed here shows some relationship between education and unemployment. Some studies also show the impact of demographic variables on education and unemployment. The present study tries to examine the association between education and unemployment in India. National Sample Survey Organization (NSSO) data on employment and unemployment 68th round is used to examine this relationship. Age, gender and region (rural or urban) are used as control variables to examine the rate of education on unemployment. A cross tabulation of duration of unemployment with education is constructed and Chi-square statistic is calculated in order to examine the association between education and unemployment.

Table 1 shows that duration of unemployment increases with increase in level of education. Table 2 presents the chi-square statistics. A p-value of less than 0.05 shows that there is a statistically significant association between education and duration of unemployment.

Since a statistically significant relationship is observed between education and unemployment, the relationship is further examined controlling for age, gender and region. It is found that higher education level Duration of unemployment is recoded into two categories – unemployed for less than 6 months and unemployed for more than 6 months in a year. Logistic regression is used to examine the effect of education and each of the demographic variables on duration of unemployment. Relevant portion of the output generated by running Logistic regression in SPSS is presented in Table 3 to Table 5.

One can see from Table 3 that 76 per cent of the total cases are correctly classified using four explanatory variables (education, age, gender and region) in the estimation.

Table 4 gives details of the categorical variables' coding. The reference categories for age is taken to be "45-59 age group". The reference category for education level is "Secondary and above", that of Region is "Urban" and for Gender it is "Female".

Thus, with reference to the categorical variables' coding shown in Table 4, one can infer from table 5 that in comparison with workers having "Secondary and above" education, the odds (Odds means the ratio of probability of favorable outcomes to that of non-favorable outcomes) of being unemployed for more than 6 months for illiterate is less by 0.147. In comparison with "Secondary and above" the odds of being unemployed for more than 6 months for workers having "literate but below secondary" education is less by 0.251; controlling for other explanatory variables.

In comparison with workers in 45-59 age group, the odds of being unemployed for more than 6 months for workers in 15-29 age group is higher by 7.525. The odds of being unemployed for more than 6 months for workers belonging to 30-44 age group is higher by 2.073, in comparison with workers of 45-59 age group, controlling for other explanatory variables.

Controlling for the remaining three explanatory variables, the odds of being unemployed for more than 6 months is higher by 0.399 for urban workers in

comparison with rural workers. The odds for male being unemployed for more than 6 months is higher by 0.561 in comparison with females, controlling for other explanatory variables.

Thus, higher education increases the chances of being unemployed for a longer duration. Lower age group, workers from urban areas and males are more likely to be unemployed for more than 6 months in a year.

IV. SUMMARY

Unemployment has remained a cause of concern in India. Policy makers have tried to address the problem of unemployment in five year plans. It is believed that increase in education can help reducing the unemployment rate. Some of the early studies, investigating the effect of education on unemployment show that increase in education reduces the unemployment rate. However, empirical studies undertaken in different countries across the world during different time periods show a mixed result. Broadly, it is observed that in developing countries, the demand for higher education is more in comparison with developing countries. The supply of educated workers in developed countries is less compared to the demand, where as in developing countries it is the other way round. Thus, in many developing countries, a problem of educated unemployment is becoming a cause of concern these days. Some studies have shown the effect of demographic variables also on unemployment.

Present study is undertaken in Indian context and is based on data published by NSSO. Data of 68th round of NSSO is used to examine the impact of education level on duration of unemployment. Cross-tabulation, Chi-square test and logistic regression is used to examine this relationship. The results of Chi-square test and logistic regression show that higher education increases the chances of duration of unemployment. Logistic regression also examines the effect of demographic variables on duration of unemployment. It is observed that higher age group increases the chances of being unemployed for longer duration. Logistic regression further reveals that urban workers are likely to be unemployed for a longer duration in comparison with rural workers and males are more likely to remain unemployed for a longer duration in comparison with females.

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TABLES

**Table 1: Education Level and Duration of Unemployment
Crosstabulation**

Educational level * Duration of Unemployment Crosstabulation

		Duration of Unemployment						Total
		Only one month	1 month to 2 months	2 months to 3 months	3 months to 6 months	6 months to 12 months	More than 12 months	
Educational level	Not Literate	Count 17054	5511	3687	5827	6096	9098	47273
	% within Educational level	36.10%	11.70%	7.80%	12.30%	12.90%	19.20%	100.00%
	Literate but Below Secondary	Count 13826	6481	3921	7469	7902	18429	58028
	% within Educational level	23.80%	11.20%	6.80%	12.90%	13.60%	31.80%	100.00%
	Secondary and Above	Count 4515	1705	2562	6347	8766	22512	46407
	% within Educational level	9.70%	3.70%	5.50%	13.70%	18.90%	48.50%	100.00%
Total	Count	35395	13697	10170	19643	22764	50039	151708
	% within Educational level	23.30%	9.00%	6.70%	12.90%	15.00%	33.00%	100.00%

**Table 2: Chi-Square Test for Association between Education and
Duration of Unemployment**

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16126.726 ^a	10	.000
Likelihood Ratio	17099.439	10	.000
Linear-by-Linear Association	15389.818	1	.000
N of Valid Cases	151708		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 3110.97.

Table 3: Classification of Actual and Predicted cases of Duration of Unemployment

Classification Table ^a					
Observed			Predicted		
			Duration of Unemployment		Percentage Correct
			Unemployed for less than 6 months	Unemployed for more than 6 months	
Step 1	Duration of Unemployment	Unemployed for less than 6 months	19168	3098	86.1
		Unemployed for more than 6 months	5050	7538	59.9
	Overall Percentage				76.6

a. The cut value is .500

Table 4: Categorical Variable Codings for Explanatory Variables
Categorical Variables Codings

	Frequency	Parameter coding		
		-1	-2	
Age Group	15-29	72	1	0
	30-44	69	0	1
	45-59	60	0	0
Educational level	Not Literate	66	1	0
	Literate but Below Secondary	68	0	1
	Secondary and Above	67	0	0
	Rural	105	1	
Region	Urban	96	0	
	Male	104	1	
Gender	Female	97	0	

**Table 5: Coefficients of Explanatory Variables
Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Educationallevel			3687.436	2	0	
Educationallevel(1)	-1.916	0.033	3302.038	1	0	0.147
Educationallevel(2)	-1.383	0.031	1973.925	1	0	0.251
AgeGroup			3837.566	2	0	
AgeGroup(1)	2.018	0.034	3596.095	1	0	7.525
AgeGroup(2)	0.729	0.033	479.206	1	0	2.073
Region(1)	-0.918	0.026	1220.892	1	0	0.399
Gender(1)	-0.578	0.026	494.038	1	0	0.561
Constant	0.196	0.033	34.974	1	0	1.217

a. Variable(s) entered on step 1: Educationallevel, AgeGroup, Region, Gender.

ABOUT AUTHORS

Ms Divyani Patel is presently working with R V Patel College of Commerce, Amroli, Surat. She has completed MA in Economics and Post-Graduate Diploma in Research Methodology. She is pursuing PhD in Economics. Her doctoral research is to examine the relationship between Education and Unemployment.



Dr Smruti Bulsari is currently a faculty in Department of Human Resource Development, Veer Narmad South Gujarat University, Surat. She is PhD in Economics and holds two Master Degrees –MBA and MA (Economics). She pursued Post-Graduate Diploma in Research Methodology and Advance Certificate Course in SPSS. She has delivered lectures in National and International-level training programmes in Research Methodology and Data Analysis. She is proficient in use of SPSS, R, Gretl and other statistical packages. She has co-authored with Dr Kiran Pandya; books titled “SPSS in Simple Steps” and “Economics of Telecommunication: A Study of India”.