CAUSES OF UNEMPLOYMENT AMONG THE EDUCATED SEGMENTS IN PESHAWAR DIVISION, PAKISTAN: A STATISTICAL STUDY

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ABSTRACT

The study is designed to identify the basic causes of unemployment among the educated segments in Peshawar Division of Pakistan. A sample having 442 individuals belongs to Peshawar Division and having least first degree (graduation degree) or capable of any professional/technical job whether they are employed or unemployed. This paper is an attempt to determine important factors effecting unemployment among the educated segments. Logistic regression was used for this purpose. The final model concludes that HP, LR, HP*RL, HP*NE.J, NE.J*RB*RL (annexure-1: abbreviations) are important determinants of unemployment rate in Peshawar Division. Our analysis shows that there is 69.6% of the males and 30.4% females are educated and unemployed and thus the percentage of overall employment is comparatively low than developed countries. The backward elimination procedure with the initial model fitted by Brown method have revealed that high growth of population (HP), lack of resources (LR) are the main effects and HP*RL, HP*NE.J, NE.J*RB*RL are the interaction effects that significantly causing unemployment among the educated segments.

Key Words: **Unemployment, Peshawar division, Developed countries**

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INTRODUCTION

The rate of unemployment in Pakistan can be measured by the help of Labor Force Survey conducted by the Federal Bureau of Statistics in 2000. According to the survey, the unemployment has shown an increase from 5.9% in 1998 to 7.8% in 2000. This increase has been observed for both males and females. Females are more unemployed (17.3 %) as compared to males (6.1%) (LBF Survey, 2000).

Contrary to government data, which pegs the unemployment rate at 7.82%, the real figure reflected in the combination unemployment and underemployment in the country stands closer to 10% and is a real issue (Khan, 2002). Unemployment of educated manpower, particularly in a society marked by a very low and stagnant level of literacy is catastrophic. In addition being a politically sensitive issue, the educated unemployed are generally located in urban areas, and being young, capable of organizing themselves and belonging to middle class can exert their influence and act as a powerful pressure group. The "Keynesian" view of unemployment stating that: "Unemployment is an excess supply of labor resulting from a failure of coordination in the market economy". The classical view of unemployment says (Petoco, 1999): "Unemployment is job search people engaged in the productive work of looking for a better match between worker and employer".

A major problem that Pakistan faces is the growing level of unemployment among educated youth. Although, their number may not be so high in relative term, socially and politically the problem is serious. For increasing number of graduates, it becomes more difficult to find adequate employment and satisfactory ways of supporting themselves financially and meeting their job exceptions. On unemployment, it says that despite a discernible fall in the intercensal growth rate, population   pressures   continue to impact   negatively on the employment. Further, lower economic growth during last ten years also.

The Labour Force Survey of 1999-2000, the latest government data available, pegs the unemployment rate in the country at 7.82% for 2002. This is the third year in a row where the figure has remained unchanged, in the face of population growth topping 2%. The issue is not unemployment but underemployment, said Dr. Asad Sayeed, an independent economist, "and underemployment is very badly reflected in the data".

Objectives

The main objectives of this study is
i.   To determine the main causes of unemployment among the educated segments in Peshawar Division using logistic regression approach.
ii.   To identify the importance of each factor affecting unemployment in this area and to present a model for planning and policy purpose helpful for the decision makers in various government departments.

MATERIALS AND METHODS

Here we consider general linear models in which the outcome variables are measured on a binary scale. For example, response may be employ or unemployed, present or absent etc. The technique used in this case is logistic regression. The logistic regression model was first suggested by Berkson (1944). It is of interest to study the regression of Y on a number of explanatory variables X1, X2, X3,….,Xm. Because of the structural problem associated with the linear probability model, it is more fruitful to study models incorporating a curvilinear relationship between x and p(x). One useful way is to assume a linear model for the response variable after it has been transformed in some way. The most usual transformation for this situation is the logistic or logit defined as

$$Logit(p) = \ln(\frac{p}{1-p}) \, , \qquad Log(p) = \ln(\frac{p}{1-p})$$

The desirable model is now

$$\ln(\frac{p}{1-p}) = \beta_O + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots\ldots + \beta_m X_m \qquad (1)$$

Such a model is called Logistic regression model.
The linear probability model (1) can now be rewritten as

$$p = p(x) = \frac{e^{(\beta_o + \sum \beta_i x_i)}}{1 - e^{(\beta_o + \sum \beta_i x_i)}} \qquad i = 1,2,3,\ldots\ldots.m \qquad (2)$$

For a single explanatory variable X, the above model takes the form

$$p = p(x) = \frac{e^{(\beta_o + \beta_1 x)}}{1 - e^{(\beta_o + \sum \beta_1 x)}} \qquad (3)$$

giving,

$$\ln(\frac{p}{1-p}) = \beta_o + \beta_1 X \qquad (4)$$

Effects in the Logistic model refer to odds, and the estimated odds at one value of "x" divided by the estimated odds at another value of x is an odds ratio.

From the fitted model, the fitted probabilities $\hat{p}_i$ can be found using

$$\hat{p}_i = \frac{e^{\hat{\eta}_i}}{1 + e^{\hat{\eta}_i}}$$

RESULTS AND DISCUSSION

The data have been collected from Peshawar division. Multistage-sampling is used here because sample is selected stage by stage Leslie Kish (1965). In first stage, we are provided the sample frame in Peshawar and proportion of our ultimate sampling units is almost same in all areas in Peshawar division. It implies that our population is homogenous in it self indicating that there is no need of stratification.

Based on the analysis performed on SPSS, we conclude that in each home, 64% of the females are dependent and 36% of the males are dependent. The proportion of females is comparatively higher than males because females are less educated and because of our social set up, they are not allowed to do jobs. According to the research analysis, 68% males and 32% of females are employed showing that the percentage of overall employment is comparatively lower than developed countries. The percentages of males and females should be equal in progressing. As we defined "educated person" that a person having at least first degree and there are

69.6% of the males and 30.4% females are educated and unemployed. Here most of the persons are graduates, so the rate of unemployment is high due to lack of education. Survey results also show that rate of applying for a jobs among educated segments 85.6% which is relatively very high has applied in range 0 to 49. Therefore, we conclude that educated people are ambitious for getting jobs Sabihuddin Ghausi (2001-02).

Result shows that 83.2% have passed the interview about 0 to 9 times. It shows that most of the people have remarkable abilities and they may become very useful in the development of the country. To enact Logistic Models, the main variables are Unemployed (UN), High-growth of population (HP), Lack of resources (LR), role of attitude are getting high level jobs (RL), red-ribbon (RB), Non-coordination between education and job opportunities (NC.J), Education system (SE), Quota system (QT), Satisfaction of job (ST), Unemployment time (UT) and number of dependent person in home (DP). All these variables are categorical and having two levels each except ST, DP and UT. Level 0 will indicate Yes while 1 the No. Satisfaction of job is categorized in three levels, they are Yes, No and level 3 indicates unemployed. Similarly, unemployment time has four levels. To fit an appropriate logistic regression that fits the data well, we applied brown method to select an initial model for the backward elimination procedure Brown, M.B. (1976). To obtain a best possible fitted logistic regression model, Backman R & Byron F,R (1994), Graham,(1991); we use backward elimination procedure by using SPSS package. We start from the final model containing variables and their interactions (HP, LR, RB*RL, NE.J*RL, NE.J*R, HP*RB, LR*NE.J, HP*NE.J, NE.J*RB*RL) that was selected for backward elimination procedure through Brown Method. The final model has been selected in five different steps.

The likelihood ratio for the final model selected at fifth stage has a likelihood of 339.460 (Akaikw 1973).We fit the final model to have estimates of the model parameters and their standard errors along with likelihood of the model. Table I contains information about the significance of the coefficients, estimated odds ratios and confidence interval of the odds ratios for selected model D.W. Hosmer and S. Lemeshow. (1989).

From Table A, we conclude that the most significant variable is high growth of population which is the cause of unemployment among the educated segments.

The final selected model is

$$\text{Logit}(p) = 2.639 - 9.205 HP - 1.331 LR + 2.613\,(HP{*}RL) + 4.626\,(HP{*}NE.J) - 1.695\,(NE.J{*}RB{*}RL)$$

Table I *Variables in the equation*

Steps	B	S. E	Wald	df	Sig	Exp (b)	95.0% C.I. for EXP (B)	
							Lower	Upper
HP	-9.205	1.814	25.755	1	.000	.000	.000	.004
LR	-1.331	.309	18.586	1	.000	.246	.144	.484
HP * RL	2.613	1.359	3.698	1	.054	13.639	.951	195.607
HP * RB	3.386	1.286	6.936	1	.008	29.537	2.377	366.967
HP * NE.J	4.626	1.302	12.628	1	.000	102.135	7.962	1310.116
NE. J * RB * RL	-1.695	.416	16.604	1	.000	.184	.081	.415
Constant	2.639	.259	103.856	1	.000	13.998		

Abbreviations

HP = High growth of Population

UT = Unemployment Time

ES = Education system

RB = Red ribbon

NE.J = Non coordination between education and job opportunity

QL = Qualification

SF = Support of family

MU = Main reason of unemployment

RL= Role of attitude in getting high level jobs

UN = Unemployed or employed

Age = Age of educated Segment

LR = Lack of resources

SJ = Satisfaction with their job

CO = Current occupation

MP = Minimum pay

DP = Dependent person

DF = Dependent female

CONCLUSION AND RECOMMENDATIONS

A sample of 442 individuals was analyzed to reach at a best possible conclusion about the basic causes of unemployment in the educated segment of Peshawar Division. Based on the analysis 63.8% educated people view that the high growth rate of population increases unemployment among educated segments. The Population growth in Pakistan is currently registered at an annual rate of 2.1% which is one of the highest in the world. The alarming situation of population growth suggests that immediate measures should be adopted. In each home about 64% of the females are dependent and 36% of the males are dependent. The proportion of females is comparatively higher than males because females are less educated and to our social set up they are not allowed to do jobs. According to the research analysis, 68% males and 32% of females are employed showing that the percentage of overall employment is comparatively lower than developed countries.

Through Brown method, we have got the initial model and then from that initial model through backward elimination procedure, we got the best model, containing the significant factors, is as follows:

$$Logit(\hat{p}) = 2.639 - 9.205 HP - 1.331\ LR + 2.613\ (HP*RL) + 4.626\ (HP*NE.J) - 1.695\ (NE.J*RB*RL)$$

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