

Employment's Impact on Household Poverty: Empirical Evidence from Multan District

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Abstract

This study analyzed the association between household employment and household poverty using logit regression on survey data of Multan District. It is found that qualification of household head, gender of household head, household employment rate, number of males employed in formal sector, number of females employed in informal sector, females permitted to paid work outside home, female's autonomy to utilize household resources, possession of agricultural land, residence, possession of livestock and government health facility in household's vicinity have significantly negative impact on probability of household's poverty. Household size and number of children (≤ 5 years) are positively associated with household poverty. It is suggested that empowering women and creating productive employment opportunities in both formal and informal sectors may help to reduce poverty..

Key Words

Household Poverty,
Employment, Logistic
Regression, Primary Data,
Multan, Pakistan

Introduction

Poverty is a complex, locational, gender specific, multidimensional and dynamic phenomenon. Prevalence of poverty might differ with respect to society and region. Poverty has become a central challenge and a core issue of development since the beginning of millennium development goals program of World Bank. According to Chaudhry et al., (2009) we cannot estimate the poverty owing to its qualitative nature. World Bank (1990) defined poverty as helplessness in achievement of minimum standard of living. World Bank (2000) defined poverty as lack of access to basic human rights and deprivation from right to use some commodities or assets. According to WDI (2012), there were sixty percent people living below \$ 2 a day and almost twenty one percent people were living below \$1.25 a day at international poverty line. In Pakistan and other developing countries, women are poorer than men. There remained fluctuation and instability in poverty rates. Unpredictable and inappropriate policies for poverty alleviation produced ever changing trends of poverty in Pakistan. Pakistan is ranked as world's 10th nation having 60.09 million labour force (3.58 million unemployed and 56.52 million employed) and ranked as world's 6th largest nation having 1.92 percent annual growth rate of Population (Pakistan Economic Survey 2016-17). Vulnerable employment and poverty would have lessened if both genders are given equal chances to develop themselves and become a reasonable citizen achieving better education, health care and reasonable jobs. All over the world women suffer limited or denied access to decent work than men. The grave concern about employment of women is for two reasons. First, women are member of our society and should have equal right to decent work or reasonable employment. Second, many evidences are there to suggest that an enhancing women employment opportunities and increase in their income positively effects the education, health, nutrition of their children and welfare of their families as compared to an increase in men's earnings (Ministry of labour and manpower Pakistan, 2009).

This study on relationship between employment and poverty in Multan District explores the issue keeping in view the dissimilar rights, resources and roles possessed by the both genders of the society having prominent influence in the their prospective disparity in employment and poverty. This study explores the association between indicators of employment on poverty.

Review of Literature

The study of Naseem (1973) is pioneering in observing the Gini-coefficients with respect to income and expenditure in 1971-72. Bell (1974) explored about women’s contribution in household income. (Ravallion, 1997) found that income inequality is a big hurdle in poverty mitigation. The arguments made by Ahmad (2001) were considerable enough that poverty could not be alleviated by economic growth only.

Malik (1996) explored various contributing factor affecting poverty in Pakistan and found that possession of land and productive employment are necessary factors for alleviation of poverty in Pakistan. Women participation is known as essential factor for development and growth in Pakistan. Rehman (2012) found that growing population, surplus labour and job availability are the main issues of economy of Pakistan. Chaudhry and Rahman (2009) and Rahman et al (2018) found that poverty is adversely affected by gender inequality in education and concluded that poverty alleviation is possible by gender educational equality and provision of employment opportunities.

Data and Analysis Methods

Authors have analyzed the link between employment and poverty estimating new and updated primary data of Multan District collected by a survey during January to March, 2015. Multan is well known ancient and famous city of saints and 6th most populous city of Pakistan with population of 3116851 persons (57.82 percent rural 42.18 percent urban population) in accordance with 1998 Census and with area of 3721 square kilometers.

A survey of 600 household was randomly drawn Multan. Out of 600 household 40 percent from urban areas and 60 percent sample drawn from rural areas using simple random sampling technique.

According to many Poverty theorists view, concept of absolute poverty is more appropriate and is mostly used instead of the concept of relative poverty for analyzing the issue of poverty in developing countries. Authors have calculated Head Count Ratio which is a well-known method to measure absolute poverty. In our analysis poverty is dependent dummy variable assigned 0 and 1 values in case of non-poor and poor household respectively. World Bank poverty line has been used as threshold for empirical analysis which is 1.25 dollars per person per day and it was calculated as simple average of 15 poor nations ‘poverty and adopted for developing countries.

In Poverty analysis mostly a Probit or Logit regression is applied. In both regression models a dependent variable is used as a dummy variable having value 1 in case of presence of a quality or attribute and 0 in case of absence of that quality or attribute. Authors have made empirical analysis by employing Logit Model and further marginal effects has also been calculated to offset the difference in estimated coefficient values by Probit and Logit regression.

The probability of being poor depends on a set of variables x so that

$$\text{Prob}(Y = 1) = F(\beta'X)$$

$$\text{Prob}(Y = 0) = 1 - F(\beta'X)$$

Using the logistic distribution we have

$$\text{Prob}(Y = 1) = \frac{e^{\beta X}}{1 + e^{\beta X}}$$

$$= \Lambda(\beta'X)$$

Where ' Λ ' represents the logistic cumulative distribution function. Then the probability model is the regression:

$$E[Y|X] = 0 [1 - F(\beta'X)] + 1 [F(\beta'X)]$$

$$= F(\beta'X)$$

The list of the dependent and independent variables and their definitions along with the hypothetical or proposed relationship of independent variables with the dependent variable are given in table 1. To explore the link of some important indicators of employment with poverty logit model was used.

Table 1. List of Variables and Hypothesized Relationship

	Dependent Variables	Hypothetical relationship
POVT	Poverty: -1 if household is Poor. 0 if Non-Poor (The household is considered poor if Per Capita income is less than 1 25\$ per person per day. International Poverty line)	
Independent variables		
FSIZ	Family Size (Number of members in a household)	Positive

FSYS	Family System: =1 if Joint Family. 0 if Nuclear	Positive
GEHH	Gender of Household Head: =1 If Male.0 if female	Negative
QI'HH	Qualification of Household Head. Completed years of Education	Negative
HEMPR	Household Employment (Participation) Rate:(Number of employed household member number of working age persons in a household)* 100	Negative
FAIS	Female has autonomy over income Sources: =1 if Yes. 0 otherwise	Negative
WPFOS	Work permission to females outside their Home: =1 if yes. 0 otherwise	Negative
NFEF	Number of Females employed in formal sector	Negative
NMEF	Number of Males employed in formal sector	Negative
NMEIF	Number of Males employed in informal sector	Negative
NFEIF	Number of Females employed in informal sector	Negative
NOCH	Number of children in a household (less than or equal to 5 years age)	Positive
AGLDH	Household has agricultural Land: -1 if yes. 0. other wise	Negative
RESIDE	Residence: -1 if household is urban.0 if rural	Negative
CONVY	Household owns conveyance: -1 if yes. 0 otherwise	Negative
LIVSTK	Household possess livestock: =1 if yes. 0 if No	Negative
HLTHF	Govt., health facility in Household's vicinity =1 if yes. 0 if No	Negative

Empirical Analysis and Results Discussion

Field Survey Data Description

The survey of Multan District conducted in 2015 represent interesting facts. According to the survey household headed by a female were only 4 percent and household headed by male member were 94 percent. Average of the Family size in Multan was 6.1 percent. The poverty rate was 37 percent in Multan as 222 out of 600 households were found to be poor having less than 1.25 dollars per person per day 378 out of 600 households were non poor and having enough income recourses. Educated household heads were found to be 61 percent. The families which possess their own house or residence were 88 percent. Joint families were found to be 53 percent and nuclear families were 47 percent of the sample. Assets such as plot, shop, vehicle and bike etc. were owned by 50 percent households and only 32.66 percent household possess livestock. From a sample of 600 households 264 households were providing access to education to their females and households not granting permission to their females to do any income earning activity outside of their homes were 51 percent. There was only 17.56 percent average share of female income or females' contribution in their household income or budget. The employment rate of households was found to 59 percent on average. The ratio of female- male workers or earners was found to be 59 percent averaged indicating the gender inequity in employment.

Discussion of Results

The Logit model estimates indicating employment and poverty relationship are given below in table 2. The table presents the columns containing the coefficients of logistic regression estimates, Z-statistics, value of probability, marginal effects and odds ratios. Odds ratios indicate direction of the relationship among independent and dependent variable. Less than one values of odds ratio will confirm negative relationship and greater than one value will confirm Positive relationship. The marginal effects co-efficient value indicates probability derivatives which postulate that how much changes is brought about in probability of dependent variable on account of change per unit in an explanatory variable by holding the other variables as constant. The results are explained below.

Household size has positive association with the poverty. If all members participate in earning activities then the household may escape from poverty and on other side marginal productivity of household falls in poverty in case of surplus labour. According Marginal effect, household size indicates that if family size increases by one member then probability of that household poverty increases by 2.4 percent.

Chances of being poor of a household may fall by 17.9 percent in case of male headed family. Gender of household head has significant negative effect on poverty. Household poverty decreases by 0.4 percent with one year more increase in head's education level. Education level of household head has negative significant impact on poverty. Female household head is usually found to be relatively poor than her counterpart on account of various reasons like housekeeping, absence or lack of education, skill and experience.

Household poverty falls by 24.6 percent by the increase in employment of one more family member out of working age family members. Employment rate has significant negative impact on poverty.

Poverty decreases by 9.4 in case if women possess autonomy and are independent in using the resources. This variable also has negative and significant effect on dependent variable. On account of spreading gender gap in asset ownership and access to resources females are considered largely exposed to poverty than men and this lack

of access to resources represent that women have subordinate position in the family and society. It is an important indicator of women empowerment which may help in poverty alleviation.

The variable of female is permitted to work outside home has significant and negative impact on poverty. Females are not allowed to work outside due to social, religious and cultural thoughts in various castes. This variable is also an indicator of employment as well as women empowerment. Probability of poverty decreases by 19.3 if women are allowed for work participation outside homes which will enhance their contribution to household income and results in poverty reduction. Absence of access to labour market opportunities and empowerment and lack of social capital assets have made helpless and made them subject to poverty.

Household poverty is adversely affected by male's formal sector employment. Poverty reduces by 9.4 percent with increase of one more male family member in formal sector employment. This variable is negatively and significantly associated with poverty.

Table 2. Logit Regression Estimates

Explanatory Variables	Coefficient	Z-stat.	Prob.	Odds Ratio	Marginal Effects
Constant	•4.49544	•5.73	0.000		
Household Size	0.2152826*	2.41	0.016	1.24	0.024
Family System (Joint Family-1)	-0.3560767	-1.02	0.305	0.70	-0.040
Gender of Household head (Male-1)	•1.595204*	•2.60	0.009	0.20	•0.179
Qualification of Household Head (years of Education)	-0.0421685***	•1.68	0.092	0.95	-0.004
Household Employment Rate	•2.194021*	•3.35	0.001	0.11	-0.246
Female has autonomy to use income Sources: (Yes= 1)	•0.8377965*	-2.50	0.013	0.43	•0.094
Female is permitted to work outside home (Yes *1)	•1.724459*	-5.04	0.000	0.17	•0.193
Number of Males employed in Formal sector	-0.8419719*	-3.07	0.002	0.43	■0.094
Number of Females employed in Formal sector	-0.1650364	•0.52	0.603	0.84	•0.019
Number of Males employed in Informal sector	-0.2800835	•1.39	0.164	0.75	•0.031
Number of Females employed in Informal sector	0.7720839*	3.41	0.001	2.16	0.086
Number of children less than 5 years age	0.4203088*	2.61	0.009	1.52	0.047
Household Possess Agricultural Land (Yes *1)	-2.041971*	-6.35	0.000	0.12	•0.229
Residence: (household belongs to urban area =1)	•0.6650621**	•2.23	0.026	0.51	•0.074
Household having own conveyance (Yes -1)	•1.189976	0.29	0.774	0.30	■0.006
Household possess livestock (Yes-1)	-0.0536619**	-4.45	0.026	0.87	•0.133
Availability of health facility in Residing area (Yes= 1)	•0.6110858*	•2.22	0.000	0.54	•0.068
Pseudo R2 = 0.4740					
Log likelihood = -210.9672	LR chi2(17 Prob > chi2		= 380.28 = 0.0000		
Test (hat all slopes are zero: G = 380.280. DF = Number	= 17.		P-Value = 0.000		
of Observations = 598.					

Source: Authors' Calculations

*, ** and *** symbols with co-efficient values indicates level of significance by 1, 5 and 10 percent respectively.

Poverty also reduces by female's employment in formal sector but the variable has insignificant impact on account of their low participation in formal sector. However, female's participation in informal sector employment is positively and significantly associated with poverty as mostly females are occupied in informal sector owing to abject poverty in rural areas. There is increase in poverty by 8.6 percent in those household where one more female gets employed in formal sector. Household member force their women to participate in informal sector due to abject poverty as concluded by Azid et al. (2001).

The increase number of children (≤5 years) increases the dependency rate of the household and results in higher probability of poverty. Poverty of a household increases by 4.7 percent if one more child is born and enhances family size as well as number of dependent.

Agriculturist families are less likely to be poor. Poverty is significantly reduced if family possesses agricultural land. Household poverty decreases by 22.9 percent with the possession land. Land is an income and employment generating productive asset of a family which reduces poverty while landlessness is a cause of rural poverty.

Residence also affects poverty. Urban families have less poverty as compared to residents of rural families as there are greater earning opportunities as compared to rural areas. Marginal effects values of 7.4 show that there are 7.4 percent less chances of being a household poor if household belongs to urban area. Pakistan's rural areas have higher poverty rates owing to low or no infrastructure, less access to resources and underprivileged opportunities.

Household poverty falls with possession of livestock. According to its marginal effect value the variable has minimal impact on poverty. Poverty decreases by 0.6 percent with presence of livestock population in a household.

Existence of health facility in household's residential area results in improvement in household welfare and poverty reduction. Availability of Government health facility has significant negative association with poverty. Chances of poverty decrease by 0.6 percent with availability of health care services because household members overcome their health issues and become active members of the society to reject poverty. Our all above discussed hypothesis and results are consistent with the study of Rahman et al.,(2018), Alam (2011), Chaudhry and Rahman (2009), Chaudhry et al.(2009), Azid et al.(2001) and Malik (1996).

Conclusions and Policy Implications

This study has investigated the employment on poverty linkages using logit model on primary data of Multan district. It is concluded that household size is positively linked with the poverty and there is 17.9 percent chances of poverty reduction in case of male head of household. Increase in education of head of a family is also helpful for poverty alleviation. Household employment rate is of prime importance and has strong influence on poverty. Poverty of a household reduces by 24.6 percent if one more family member gets employed. Women empowerment in the form of access to employment opportunities outside home and women empowerment in using household's resources is helpful in poverty reduction. The employment of male and female in formal sector may help in poverty alleviation. Share of men is greater than women in formal sector employment while in informal sector females' share is higher than males in rural area. Agriculturist household are at lower risk of poverty as livestock and land are productive and income generating asset. Availability of government health care services free of cost also has welfare improving and poverty reducing impact on the households. Poverty is greater in rural Multan if compared with urban Multan.

There are some poverty alleviation suggestions and recommendations for the policy makers on the basis of above discussions for policy makers.

We are unable to alleviate poverty without building social capital, creating and providing productive employment opportunities. Poverty alleviation is a central challenge to Pakistan which requires enormous exertions and determination especially in rural areas having deficiencies such as decent work opportunities, low salaried jobs, wide-ranging underemployment, and low or no legitimate human rights and work privileges, disappointing social protection and lack or nonexistence of an evocative voice. Poverty is strongly affected by participation of women inside or outside of the homes. The predominant societal standards are also influential to restrain females' competence to get benefit from earning opportunities in public sphere. Domestic duties restrain females' capacity to access various prospects of their welfare. The contribution of Proficient labour market cannot be denied in cherishing the employment quantity and quality. The improvement in rural labour markets operations is also a leading challenge to the government.

Development policy decisions are customarily established on the basis of population dynamics trends especially size and structure of population influence Pakistan's economy with reverence to social protection provision, and access to health care, shelter, education, food and safe drinking water. High population growth has affected Pakistan's performance in accomplishing MDGs targets and as well as other development targets, Youth literacy is an economic asset and which results in increase in growth of the economy, reduces level of dependency and alleviates poverty. The study also suggests that the programs of government for self-employment and reassurance of informal sector enterprises are indispensable approaches to poverty alleviation in addition to the program of social safety nets.

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