Determinants of Female Employment Status in Pakistan: A Case of Sahiwal District

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Abstract

The leading intention of this research work is to determine the various factors that determine female employment status (engagement of females in different employment activities). The data have been collected through field survey which consists of 402 females. We have used binominal and multinominal logistic regression model for the analysis. We have concluded that age, educational attainment, marital status and presence of children above 10 years have a positive impact on female employment. Presence of children below 10 years, assets, major disease and household size negatively and significantly related to female employment. Total working in family and number of dependents positively affect female decision as an active earner while have a negative effect on self-employment and underemployment. The study suggests that huge investment should be made for the provision of educational facilities. To improve the health condition of workers health facilities should be provided to everyone.

Keywords: employment status, age, education, marital status, household size, logistic regression model, Pakistan.

1. Introduction

The human resources (Population) of a country are considered as a doubled faced phenomenon: one it is considered as an asset in the form of human capital and play an imperative role in the way of development of a country. On the other side, some economists have also said that high growth of population also becomes a problem for the developing countries including Pakistan. But it is necessary to analyze the qualitative aspect of population for better understanding of human capital. Female employment status as the

name suggests that engagement of females in different employment activities are based on different circumstances. These females included in labor force refer to directly engage in paid employment. (Psacharopoulos and Tzannatos, 1989). A qualitative aspect of female participation in economic activities is that females are less paid for the same job as men. This low value in labor supply simply means that the formal markets are absent rather than the individuals are absent looking for work, as agricultural economies with little wage employment mostly based on family product. (Killingsworth and Hackman, 1986).

Women paid work provide satisfaction to her that is done by the women outside the home, and can serve as a substitute to children, in the form of companionship, recreation, inspiration, innovative activity and socio-economic rewards. These different activities compete with the rising number of kids for working female. (Blake 1965, Collver 1968, Kasarda 1971). A female being an earning member of the household, can develop her position and can get the better tendency to participate in the household decision making. It was also shown that, as the husband-wife participation increases in household decision making, it leads towards the lower fertility. (Chaudhury 1976, Lupri 1969, Mukherjee 1975, Ridley 1959, Weiler 1969). Each additional child in the family increases the opportunity cost of a working mother, as the income forgone while having stay at home to bringing up children. This indirect cost cast a negative impact on having an additional child. (Chaudhury 1983).

The growing participation of females in labor market in different employment status is certainly one of the prominent characteristic of the recent evolution of developing economies. However, the increase of female labor participation and employment opportunities are still significant policy objectives in most of the developing countries including Pakistan. Both the engagement of females in different employment status and contribution of females in different economic activities are influenced by supply and demand factors. Participation rate of woman in earning activities may be little because of two factors: firstly, that a woman has no desire to enter in the labor market. Secondly, that many jobs are not being obtainable or suitable for women. In the first case low involvement rates are explained by women's preferences and in the second case the participation rate are explained by employers' preferences.

Women play significant role in the development of any economy. A most visible trend of the 2nd half of the 20th century that there was an immense increase in females participation in earning activities in both, developed and developing economies. The structure of female labor force participation has attracted enormous attention in the world as well as in Pakistan over the past few decades.

The engagement of women in working activities in Pakistan is widespread and their contribution ranging from formal to the informal sector. Majority of their activities are performed in the informal sector. They are also performing a lot of invisible activities that are not being considered as economic activities. Woman having higher qualification would like to be a worker in formal sector with salaried work. Labor force participation of Pakistani female is 13.29 million out of total labor force of 57.24 million (Labor force survey (2010-2011) while the females constitute about half of the total population in Pakistan.

Pakistani women face considerable challenges in their usual lives. They are getting jobs outside their homes as well as they are forced to combine their familial responsibilities

with their jobs. This research aimed at to find the various factors that determine the employment status of women in Pakistan. This research will also explain how females effect and affected by the socio- economic attitudes.

This study is organized into V sections. Introduction is presented in section I. section II describe the brief review of literature. In the III section we will discuss the data and methodology. Estimates of the present study are presented in IV section. Last section V ends with some concluding remarks.

2. Literature Review

The demographic and socio-economic determinants of female labor force participation have attracted considerable attention in recent years. The analysis of labor supply focused on the effect of increasing real wages on the amount of labor supplied by the workers to the labor market. The main concern of the policy makers is the efficient allocation of resources. Due to efficient allocation of resources the output will increase and process of development will start. Issue concerning the role of women's participation in labor market was introduced with significant contributions by Mincer (1962), Becker (1965), and Cain (1966).They developed the interests of many researchers towards this issue. Now many researchers analyzed the female labor supply decision by using different explanatory variables and by different econometric tools and techniques.

Economic theory provides a number of structural models of labor supply of women. It was generally assumed in these structural models that females can get utility from income, leisure time and by having children. All of them need time to spend on them. Leisure and children also cost money. However, a worker can earn income by only doing work for pay. The proper work environment can be provided to women by the accessibility to appropriate work and the opportunity to get such a job. The limitations faced by females are specified by the time and budget restrictions and also by discrimination in labor market. (Vlasblom and Schippers, 2004).

Mincer (1962) analyzed that woman choose the level of work time on the basis of permanent wage rate and income. He found that an increase in the level of income has a direct impact on Leisure time and negatively affect the time allocation between familial responsibilities and market activities. Wife's wage rate has a strong positive impact on female labor supply while the no. of children also cast a significant impact on female's lifetime labor supply. He also reported that high unemployment rate and general business cycle fluctuations discourage a female to participate in working activities. Backer (1965) investigated that females allocate the time capital between household responsibilities and market activities in order to maximize their utility function. This theory of allocation of time provides a basis for household production model. A woman's educational attainment has turned out to create benefits both at market and also at home. Market benefit consists of mainly increased in earning and market wage offered to a female. Non market (household) benefits consist of private and social benefits through increased efficiency in home based activities. Hafeez and Ahmad (2002) identified that female in joint family, education level, and women with low monthly income are more likely to participate in working activities. Woman having less education, more no. of workers in a household, nuclear family, high monthly income and more financial assets, are less likely to participate in be in labor force. Caruana (2006) concluded that the higher the wage rate the higher the opportunity cost of non-market activities. So, wage rate is a significant determinant of

woman's decision to choose non-market activities (housework & leisure) and income earning activities.

Faridi *et al.* (2009) showed that Educational attainment of female, the presence of educated husband, marital status, family setup and no. of children positively and significantly influence the decision the female to be in labor force. The presence of household assets, presence of children of early age group and spouse participation in earning activities reduce the chances that a woman take part in income earning activities. Ejaz (2007) explored that age, marital status, education, female belong to nuclear family, access to vehicle and female with fewer children were more likely to participate in working activities. Uraz *et al.* (2010) examined that the rural women are more likely to participate in labor force than urban women. Except primary level of education all educational level associated with a high probability of working of a female. As household wealth status and husband education level increase urban low skilled females decide not to work. Contreras and plaza (2010) investigated an inverse correlation with the presence of children below age 4 years with the female labor force participation. Education is positively related to FLFP. This study emphasis on potential role of educational and childcare policies as public policy instruments, that contributes toward greater female labor force participation. Chamlou *et al.* (2011) confirmed that each additional year spent on higher education increases the probability to participate in economic activities where the secondary and low level of education does not have any significant impact. Analysis showed that having younger children, disapproval of women working outside the home and being married were negatively associated with female labor force participation.

Avazalipour *et al.* (2012) investigated the role of woman in economic activities and employment as they are main issues in each economy after the industrial revolution. He was of the view that some activities of woman in formal sector (industry, services, and somewhat in agriculture sector) are measurable but the main activities in informal sector (house work, unpaid agriculture activities, training and education of the children, etc.) are not measurable. Researchers concluded that a woman play a major role in management of household expenditure than man. It was found that the academic education significantly and positively affect the job opportunities for female headed household. Afzal and Bibi (2012) have found that education, no. of dependents, family size, income of husband, positive attitude of husband towards woman's job, inflation rate and job satisfaction, positively affect the labor force participation of married woman. Age, living with husband, relationship with spouse before marriage, satisfaction of housewives with their current life, restrictions from family regarding job and other earner in the family negatively affects the decision of labor force participation.

Females take part on an equal footing as bread winners in the family unit in which they are residing. Females are essential part of economic process in reality, both at home and market place, at informal and in formal sector and either belong to urban area or she belongs to a rural locality. Due to various contributing factors the need to provide the educational and health facilities to girls has been accelerated. (Jehan, 1998)

3. DATA SOURCES AND METHODOLOGY

This section deals with the data sources, profile of the study area and the methodology to be used by the researcher.

3.1 Profile of Study Area

In the present context, Not so many researchers conducted researches on the present topic that researcher choose to investigate the determinants of female employment status in Pakistan. District Sahiwal was chosen as a study area. According to Population Census Organization the total population of the district Sahiwal is about 1843194 persons in 1998 in which 51.73% are male and 48.27% are female. Population density is about 575 people per square km and 301990 (16.38%) in urban and 1541204 (83.62%) are living in rural areas. The annual growth rate of the population is 2.16%. The average household size was 6.9. Sahiwal District consists of 531 villages. Some studies on Sahiwal district, they just cover some specified aspects of the labor force, there studies are narrowly investigate the determinants of female employment status in the area of district Sahiwal.

3.2 Data Sources

However, data was collected through field survey which consists of 402 female respondents. The sample consists of 220 economically active females and 182 non-working females. Economically active females are further categorized into 4 sub- sample with the relevance of their employment status. First sub-sample, salaried workers, consists of 87 female respondents. Second sub-sample, casual wage workers consist of 41 respondents. Third sub-sample, in which we include 63 women belonging to self-employed category of employment were interviewed. Last and the forth sub-sample, are of under employed workers in which information is recorded from 30 female. Collective information was recorded through a reasonably extensive questionnaire from the females and their household members. The questionnaires comprised on the questions on, age, education, occupation, no. of household members, marital status, no. of children, presence of assets, etc. This sample is used for the analysis of the determinants of female labor force participation in different employments status.

4. Methodology

The explained variable in this present study is binary or dichotomous. This variable may assume just two binary values. "1" if the worker is contributing in economic activities and "0" if she is not working. To analyze the binary response variable, we have used Logit model which appears in the from normal cumulative distribution function (Berndt, 1991; Gujarati, 1995; and Greene 1992). It assumes the following cumulative probability density function.

4.1 Binomial Logit Model

$$L = \frac{1}{1 - p_i}$$

$$L = \frac{1}{1 + e^{-\beta_j x_i}}$$

Where,
"p" is the probability that a person work as an active participant in labor market. It has two binary values between (0, 1) because it is not directly observable. "1" if worker is participating and "0" otherwise. "e" is the exponential value.

4.2 Multinominal Logit Mode

We can know that how a female decide to participate in different employment status by employing multinominal logit regression technique. To estimate this model researcher use the multinominal logit model and probability for this model is given below:

$$Prob\ (Y\ =\ 1)\ =\ \frac{e^{\beta_k x_i}}{1+\sum_{k-1}^{j} e^{\beta_k^1 x_i}}$$

$$Prob\ (Y\ =\ 0)\ =\ \frac{1}{1+\sum_{k-1}^{j} e^{\beta_k^1 x_i}}$$

For j= 1, 2, 3 and 4
$\beta_k = Coefficients$
$x_k = Independent\ Variables$

4.3 Model Specification

After the specification of the general model this section states the operational model. This model shows and explains the variables that are supported by the data. The operational is specified as below,

FLFPR= f $\begin{bmatrix} AG1, AG2, AG4, AG5, EDP, EDM, EDS, EDI, EDB, EDH, MTS, CH1, \\ CH2, AST, HHS, HHI, SPT, SED, TWR, NDP, FST, RSD, MDS, CRA, \\ BNK \end{bmatrix}$

CWW= f $\begin{bmatrix} AG1, AG2, AG4, AG5, EDP, EDM, EDS, EDI, EDB, EDH, MTS, CH1, \\ CH2, AST, HHS, HHI, SPT, SED, TWR, NDP, FST, RSD, MDS, CRA, \\ BNK \end{bmatrix}$

SRE= f $\begin{bmatrix} AG1, AG2, AG4, AG5, EDP, EDM, EDS, EDI, EDB, EDH, MTS, CH1, \\ CH2, AST, HHS, HHI, SPT, SED, TWR, NDP, FST, RSD, MDS, CRA, \\ BNK \end{bmatrix}$

SLE= f $\begin{bmatrix} AG1, AG2, AG4, AG5, EDP, EDM, EDS, EDI, EDB, EDH, MTS, CH1, \\ CH2, AST, HHS, HHI, SPT, SED, TWR, NDP, FST, RSD, MDS, CRA, \\ BNK \end{bmatrix}$

UDE= f $\begin{bmatrix} AG1, AG2, AG4, AG5, EDP, EDM, EDS, EDI, EDB, EDH, MTS, CH1, \\ CH2, AST, HHS, HHI, SPT, SED, TWR, NDP, FST, RSD, MDS, CRA, \\ BNK \end{bmatrix}$

e) Variables description

Table: 1 Variables Description

Dependent Variable = expected effect	
FLFP = 1 for female participation, 0 otherwise	
Explanatory Variables	
AG1= 1 if female is from age group (16-25), 0 otherwise	positive
AG2= 1 if female is from age group (26-35), 0 otherwise	positive
AG3 =1 if female is from age group (36-45), 0 otherwise	positive
AG4 =1 if female is from age group (46-55), 0 otherwise	positive
AG5=1 if female is from age group (56-65), 0 otherwise	negative
EDP=1 if female has up to primary level of education, 0 otherwise	positive
EDM =1 if female has up to middle level of education, 0 otherwise	positive
EDS=1 if female has up to metric level of education, 0 otherwise	positive
EDI= 1 if female has up to intermediate level of education	positive
EDB=1 if female has up to bachelors level of education, 0 otherwise	positive
EDM=1 if female has up to masters or more level of education,0 otherwise	positive
MTS=1 if female is married, 0 otherwise	positive
SED= 1 if female's spouse is educated, 0 otherwise	negative
CH1= no. of children below 10 years negative	
CH2= no. of children above 10 years	positive
AST= 1 if female has assets, 0 otherwise	negative
SPT= 1 if female's spouse is working, 0 otherwise	positive
HHS= size of the household	negative
FST=1 if female is living in joint family, 0 otherwise	positive
TWR = total working persons of a household	positive
NDP = no. of dependents in a household	positive
RSD= 1 if female is living in urban area, 0 otherwise	positive
CRA=1 if female has access to credit, 0 otherwise	negative
BNK= 1 if female is living in urban area, 0 otherwise	negative
RSD= 1 if female is living in urban area, 0 otherwise	positive

IV. Results and discussion
a) Correlation analysis

Pair wise correlation coefficients of the data were presented in table 2. Pair wise correlation measure the degree of association among the repressors. It is stated that all the variables have some degree of association. It was also observed that no variable in correlation analysis is exactly related.   The present analysis is free from the problem of multicollinearity.

b) Descriptive analysis

Descriptive analysis of the study is presented in table 3. Table 3 consists of 7 columns. Column 1 shows the explanatory variables. Mean of all the explanatory variables is described in column 2. Standard deviation of the regressors is described in column 3. Column 4 shows the skewness and the next column 5 explains the kurtosis of the explanatory variables. Jarque-bera and the probability is described in column 6 and 7 respectively.

Table 1: Descriptive Statistics

	Mean	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability
EDP	0.1418	0.3493	2.0537	5.2178	364.9867	0.0000
EDM	0.1418	0.3493	2.0537	5.2178	364.9867	0.0000
EDS	0.1393	0.3467	2.0834	5.3404	382.5575	0.0000
EDI	0.1567	0.3640	1.8886	4.5668	280.0937	0.0000
EDB	0.1343	0.3414	2.1447	5.5996	421.3710	0.0000
EDH	0.1592	0.3663	1.8630	4.4706	268.7547	0.0000
AG1	0.2512	0.4343	1.1471	2.3157	95.9974	0.0000
AG2	0.3955	0.4896	0.4273	1.1826	67.5586	0.0000
AG3	0.2612	0.6464	8.8409	129.2008	272008.2000	0.0000
AG4	0.0821	0.2748	3.0449	10.2713	1506.7640	0.0000
AG5	0.0323	0.1771	5.2874	28.9565	13158.2200	0.0000
MTS	0.6891	0.4635	-0.8169	1.6673	74.4578	0.0000
CH1	0.7388	1.1707	1.6851	5.3099	279.6185	0.0000
CH2	1.3557	1.9147	1.3901	4.4725	165.7826	0.0000
HHS	5.5100	2.2043	0.8203	3.9610	60.5537	0.0000
TWR	2.2313	1.1227	1.8969	9.6357	978.6283	0.0000
NDP	1.7463	1.6427	0.6366	2.5293	30.8660	0.0000
SED	6.1567	5.9752	0.2288	1.5147	40.4596	0.0000
RSD	0.3706	0.4836	0.5356	1.2869	68.3789	0.0000
AST	0.6791	0.4674	-0.7673	1.5888	72.8071	0.0000
MDS	0.2985	0.4582	0.8806	1.7755	77.0743	0.0000
SPT	0.7239	0.5003	0.8095	14.6739	2326.5990	0.0000
FST	0.5572	0.4973	-0.2304	1.0531	67.0472	0.0000
CRA	0.9726	0.1633	-5.7943	34.5736	18947.3600	0.0000
BNK	0.5622	0.4967	-0.2507	1.0629	67.0662	0.0000

C) Estimate of Binominal logit Regression:

Binominal logit model predict the probability for woman to be in labor force or not. Considering female labor force participation we estimate a binominal logit model. Researcher has used two tailed test of significance or Z statistics for determining the acceptance or rejection of our null hypothesis.

Table: 3 binomial logistic regression analyzes of the sample data

Independent Variable	Coefficients	z-Statistic
C	-2.524426	-1.450246
Educational attainment (non-formal education reference category)		
EDP	-0.397914	-0.450289
EDM	1.906605**	2.062054
EDS	2.737462***	2.833570
EDI	3.911647***	4.110180
EDB	4.289961***	4.305477
EDH	6.876929***	5.894307
Age groups [age 3 (36-45)] reference category		
AG1	1.318340	1.335006
AG2	0.612510	0.713440
AG4	1.194194	1.059791
AG5	-5.447751***	-3.290829
Other socio-economic variables		
MTS	4.504908***	4.270836
CH1	-0.391704	-1.287050
CH2	1.439821***	4.340549
HHS	-0.717353***	-3.661589
TWR	0.564953***	2.464560
NDP	0.508915**	1.889279
SED	-0.125096**	-1.855172
RSD	1.014916*	1.643630
AST	-3.368075***	-5.269018
MDS	-1.553605***	-3.393622
SPT	0.121737	0.220437
FST	3.424701***	5.249946
CRA	-0.692138	-0.508010
BNK	-1.662329***	-2.539529

Log likelihood   -83.18318   Probability (LR stat)   0.000000
LR statistic (24 df) 387.3266   McFadden R-squared   0.699533
 Size of sample   402
 Source: estimation by authors using E-views statistical software.
 Note: Significant at 1% = ***, Significant at 5% = **, Significant at 10% = *

Female educational attainment is the most important factor that forces a female to participate in working activities. Investment in education is regarded as investment in human capital because it gives us a flow of returns in the afterward life (Backer, 1964). With increase in education people become more productive and skilled and become more

equipped with knowledge. Educational attainment is positively and significantly related to economic outcome as being employed. Primary level of education is positively related to female employment decision but the results are not significant. The middle level of education also positively and significantly influences a female to participate in economic activities. Secondary level of education also cast a strong and positive impact on female labor force participation. The results are significant at 1 % level of significance. The coefficient of Intermediate level of education is positive and has a strong significant impact on female's decision to take part in earning activities.

Bachelors and higher level of education have a strong and significant impact on female labor force participation and results are significant at 1 %. Highly educated and the professionals have more attitude toward earning activities. Female's age is also an important determinant of female work participation. It is important to state that age plays a remarkable role in allocating a woman into working and non-working activities. We have introduced different categorical variables for age of female in order to see the impact of different age groups on FLFPR. As dummy variables we have selected five age groups (16-25, 26-35, 36-45, 46-55, and 56-65). Age group 36-45 has been selected as base category. As number of years of age increases, it motivates a female to be an active participant in labor market (Khandker, 1988). Females belonging to age groups (16-25), (26-35) and (46-55) years have more attitudes towards working activities. As age of female increases they become more skilled and professional. In the age group (46-55) females mostly have grown up their children and now they have more time for working activities. The coefficient of age group (56-65) is negative which shows that the females of this age group do not want to be employed. The reason may be that the female are not able to work efficiently due to bad health in this late age.

Marital status positively and significantly determines the decision of a female to participate in market activities. Married females have more responsibilities to fulfil and they also want to share the financial burden while the unmarried are not interested in earning activities. Females having more children of age less than 10 years are less likely to participate in economic activities because a female has to look after her child in this early age group. Results are significant at 1% level of significance. Presence of children of age above 10 years positively related to female employment because the children of this age group can better look after themselves. Results are significant at 1% level of significance. Presence of assets negatively and significantly related to female labor force participation. Presence of assets means that females are enjoying the basic needs as well as luxuries of life and they do not need to be an employee. Household size being a significant determinant, negatively related to the decision of a woman to take a part in earning activities. As size of the household increases females are less likely to be an active participant of the labor market. The reason is that with large no. of household females have to fulfil a large no. of responsibilities and they have no time for earning activities. Total working members of the household are positively and significantly related to earning activities because the presence of more workers in household motivates a woman to take a part in working activities. Presence of dependents pushes a female toward working activities because female have to fulfil the basic financial needs of the family. The coefficient of family setup is positive and shows that more of the females residing in joint family are doing jobs as compare to nuclear families. In joint families there are more members left in household to fulfil the other household responsibilities. The estimates of the residential areas shows that females living in urban areas are more likely to be employed as compare to females reside in rural areas. This is because in urban areas

females have more opportunities and more facilities that they are enjoying and the whole atmosphere increases the chances to get a job for a female. Presence of major disease restricts a female to have a job. This variable is a hurdle in the way of getting job and to continue job efficiently. Females having working spouse are more likely to participate in earning activities. Spouse education negatively and significantly influence the woman's participation in active labor force. The reason may be that the educated spouse already has greater opportunities to work or have enough earnings to fulfil necessities of life. So, a female has no need to do a paid work. Access to credit negatively and insignificantly affects FLFPR. The presence of bank in residential area negatively related to female labor force participation.

d)   Estimate of multinominal logit model

Binomial logit estimates of the determinants of female labor force participation, probability of being active female worker of age (15-65). This section deals with the analysis of determinants of different female's employment status as salaried worker, self-employed, under employed and casually employed. We have selected salaried work as a reference category. Table: 5 shows the multinational logit estimates of the determinants of casual wage worker. Table: 5 is organized into three columns. First column describes the nature of explanatory variable. Other two columns describe the estimated parameters and the corresponding Z- statistics respectively.

Table 5: Multinational logit estimates of determinants of female's employment status of being casual-employed-Economically active females

Independent Variable	Coefficients	z-Statistic
C	1.437	0.46
Educational attainment (non-formal education reference category)		
EDP	23	0.00
EDM	3.743***	2.36
EDS	-1.478	-0.90
EDI	-1.226	-0.79
EDB	-3.715**	-1.84
EDH	-24	-0.01
Age groups [age 3 (36-45)] reference category		
AG1	3.986***	2.41
AG2	3.365	3.03
AG4	-2.217	-1.60
AG5	5.945	0.68
Other socio-economic variables		
MTS	-1.141	-0.49
CH1	-0.2928	-0.57
CH2	0.9859***	2.48
HHS	0.3095	0.78
TWR	-0.4640	-1.00
NDP	-0.3224	-0.82
SED	-0.17799	-1.80
RSD	-1.689	-1.68
AST	2.0002**	2.18
MDS	1.954	1.90
SPT	0.195	0.07
FST	-1.7052**	-1.76
CRA	-3.782**	-2.01
BNK	2.351***	2.31

Log-likelihood = -147.127 Goodness-of-Fit Tests: Method Chi-Square   DF   P
DF = 72, P-Value = 0.000   Pearson   730.777   576 0.000   Test that all slopes are zero: G = 284.046,   Deviance   291.482   576 1.000

Source: Results are based on Authors' calculations using Mini-tab statistical software.
Note: Significant at 1% = ***, Significant at 5% = **, Significant at 10% = *

The constant term in multinomial estimates shows the insignificant impact. Here it's mean that the excluded variables of the model are of no importance. Female as being casually employed worker is influenced by the level of education. Education turns out to be a significant factor in determining casual employment of a female.

The coefficient of primary level of education is positive with casual employment but the impact is not significant. Middle level of education is positively related to casual employment because less educated females are more likely to participate in working activities as being a casual wage earner. And the results are significant at 1% level of significance. As, education level increases to secondary and intermediate level, it also

restricts a female to be a casual wage earner. The coefficient of bachelor's level of education is negative and shows an inverse relation with casual employment. And the results are significant at 5%. Higher level of education also reduces the probability of being casually employed. The reason is that females want to be salaried workers or want to have a job on permanent basis as they are highly qualified. Females with low level of education do not have enough opportunities to find a job on permanent and salaried basis. So less level of education allocate a female into casual employed category. Females having master degree do not want to be casually employed. Investment in human capital is very important factor for allocating a woman into casual employment. Females belonging to age group (16-25) and (26-35) are more likely to participate in earning activities as a casual wage earner. The reason may be that females do not yet complete their education or because of early marriages and presence of children in this low age group a female cannot give proper time to working activities so, they want to work on casual basis. Age group (46-55) of a female worker also have a negative and insignificant impact on casual employment of a female worker. Age group (56-65) positively related to female casual employment.

Marital status of worker is negatively and insignificantly influences the casual employment status of a female. The reason is that married females want to have a job on permanent basis and do not want to be casually employed. Numbers of children below 10 years negatively and insignificantly related to casual wage worker. Presence of children above 10 years positively and significantly related to casual employment. As one of the number of children above 10 years increase the probability of being casual employed increases. The reason is that females having more children they need more finance to feed them and for bringing up them in a better way. And she prefers to work than to remain free at home. Household size positively related to casual employment. Females with greater number of household are more likely to be a casual employed because other household tasks can be made fulfilled by the other household members. Family setup is negatively and significantly related to casual employment. Females that are living in joint families do not want to have a job on casual basis as compared to nuclear families. Number of dependents also negatively related to casual employment status. With more number of dependents females gives more time to household activities and prefer to stay at home.

Region of residence also negatively affect the female as being casual employed. Females living in rural areas are more likely to be casual employed. Our results shows that in the presence of assets a female do not want to have a full time work. Because she is already enjoying the facilities of life and have no more financial needs. Major diseases positively related to female employment status. Health of workers determines their employment. In this analysis major disease turns out to be a significant variable that determine casual employment. The reason may be that the female involved in major disease do not work efficiently o full time basis. Total working in a family negatively related to casual employment. As no. of worker at home increases a female is less likely to be a casual wage worker. Working spouse is positively related to female casual employment. And educated spouse negatively related to female casual employment. Access to credit negatively and significantly related to female casual employment. And presence of bank in residential area positively and significantly related to female employment as being a casual wage worker.

Table 6: Multinational logit estimate of determinants of female's employment status of being self-employed-Economically active females

Independent Variable	Coefficients	z-Statistic
C	-1.441	-0.60
Educational attainment (non-formal education reference category)		
EDP	22	0.00
EDM	2.235	1.24
EDS	2.520*	1.62
EDI	3.057**	2.00
EDB	1.097	0.72
EDH	-0.684	-0.43
Age groups [age 3 (36-45)] reference category		
AG1	3.360***	3.33
AG2	1.5745**	2.09
AG4	-1.3423	-1.56
AG5	-17	-0.00
Other socio-economic variables		
MTS	-1.091	-0.79
CH1	-0.2981	-0.90
CH2	0.3601	1.27
HHS	-0.0614	-0.27
TWR	-0.3242	-1.03
NDP	0.2547	1.13
SED	-0.00821	-0.14
RSD	-0.9109	-1.43
AST	0.6889	1.35
MDS	0.3805	0.58
SPT	0.142	0.09
FST	-1.4085***	-2.39
CRA	0.479	0.36
BNK	0.5532	0.87

Log-likelihood = -147.127   Goodness-of-Fit Tests: Method   Chi-Square DF   P
DF = 72, P-Value = 0.000   Pearson   730.777   576 0.000 Test that all slopes
are zero: G = 284.046,   Deviance   291.482   576 1.000

Source: Results are based on Authors' calculations using Mini-tab statistical software.
Note: Significant at 1% = ***, Significant at 5% = **, Significant at 10% = *

Educational attainment plays a significant role in determining female employment as being self-employed. Level of education positively and significantly related to self-employment. Probability of being self-employed increases as there is one unit increase in education. There is positive relationship between education and self-employment. Self-employment increases with increase in education, because more educated persons can run their own business more efficiency and actively. Relationship of self-employment with primary and middle level of education is positive. Because less educated females are more likely to participate in working activities at home like stitching and embroidery etc. Secondary, intermediate and bachelors' level of education also positively related to female

employment as being self-employed. Our results clearly shows that as education level increases it enhances the probability of being self-employed. Higher level of education negatively related to self-employment. The reason may be that highly educated females want to be salaried employed instead of self-employed. Age of female also turn out to be very significant determinant of self-employment. Females belonging to age group (16-25) and (26-35) are more likely to participate in earning activities as a self-employed because with less age they did not complete their education that they get a salaried job. The coefficients of age group (46-55) and (56-65) shows a negative and insignificant impact on self-employment of a female worker. Reason for this negative sign of slop coefficient is that, they are not so much productive and active in their latter age groups and are unable to run a business on self-basis. Marital status is negatively and insignificantly related with self-employment.

Married women are less likely to participate in self-employment. Number of children below 10 years restricts a female to be self-employed because in presence of children it is difficult for a female to run her own business. Presence of children above 10 years allows a female to be self-employed. Household size is also a main determinant of female employment status, as self-employed. Household size negatively related to self-employment. Females with high number of household members are less likely to self-employed because a large numbers of home based activities and responsibilities are to be fulfilled by the females while living at home. Family setup is negatively and significantly related to self-employment status. Females that are living in joint families are less likely to be a self-employed as compared to nuclear families. In joints families' female has to fulfil all the responsibilities at home. Number of dependents also positively related to self-employment status. With more number of dependents females gives more time to household activities and prefer to perform a paid work at home. Region of residence negatively affect the females being self-employed, urban women are less likely to participate in active workforce as self-employed because they prefer to work at permanent basis. Major diseases positively related to female employment status. In this analysis major disease turns out to be an insignificant variable that determine self-employment because healthy females want to be salaried worker. Total working in a family negatively related to self-employment. As no. of worker at home increases a female do not need to be self-employed. Working spouse is positively related to female's self-employment and educated spouse negatively related to female self-employment. Access to credit and presence of bank in residential area positively and insignificantly related to female employment as a self-employed because as she can get credit easily she has more chances to start her own business.

Table: 6 Multinational logit estimates of determinants of female's employment status of being under-employed-Economically active females

Independent Variable	Coefficients	z-Statistic
C	-4.836	-1.41
Educational attainment (non-formal education reference category)		
EDP	22	0.00
EDM	2.954**	1.83
EDS	0.589	0.39
EDI	-2.631	-1.45
EDB	-3.108**	-1.76
EDH	-5.499**	-2.21
Age groups [age 3 (36-45)] reference category		
AG1	4.431***	3.22
AG2	2.734***	2.59
AG4	-1.315	-0.99
AG5	5.266	0.60
Other socio-economic variables		
MTS	-2.814	-1.34
CH1	-0.9461**	-1.90
CH2	0.2960	0.87
HHS	0.8542***	2.49
TWR	-0.6532	-1.44
NDP	-0.0855	-0.24
SED	-0.09456	-1.05
RSD	-1.5289	-1.56
AST	0.1258	0.14
MDS	2.1726***	2.37
SPT	5.333**	2.03
FST	-1.9268**	-2.06
CRA	-1.512	-0.88
BNK	2.1521**	2.21

Log-likelihood = -147.127 Goodness-of-Fit Tests: Method Chi-Square DF P
DF = 72, P-Value = 0.000 Pearson 730.777 576 0.000 Test that all slopes
are zero: G = 284.046, Deviance 291.482 576 1.000

Source: Results are based on Authors' calculations using Mini-tab statistical software.
Note: Significant at 1% = ***, Significant at 5% = **, Significant at 10% = *

The results of estimates of the multinominal logit model of the under employment are described in table: 7. primary and middle level of education is positively related to under employment the reason may be that less educated females cannot utilize their potential efficiently. The reason behind this is that if worker is less educated they are not able to engage in highly profile job. They have less probability and opportunities to be a salaried employee. Secondary, intermediate, bachelors and higher level of education negatively related to female employment as underemployed. More educated females not work as an underemployed worker. Educations as a determinant of female underemployment negatively and significantly determine female underemployment. Attainment of an

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incremental year of education negatively related to respondents' underemployment and underemployment steadily falls by attaining an incremental year of education. As educational status of a female increase the probability of being an underemployed decreases significantly. With more education and professional skills woman want to be a full time worker. So as a woman attain higher level of education the probability of being an under employed worker falls. Age of the respondents negatively related to female underemployment as compared with salaried employment. Age (16-25), (26-35) and (56-65) positively related to female under employment. Women would be less likely to be underemployed belonging to age group (46-55) because a female is much efficient and productive and have more attitude toward paid work as salaried employed. As a woman grown up she become more experienced and more professional and she would not been an under employed person having more skills and professionalism. With increase in age she would be able to work more hours a day because married woman having more no. of infants she has not enough time to give to working activities and with increase in age as child grown up she will be able to be a full time job holder.

Marital status is negatively related with underemployment. Married woman are less likely to be engage in paid employment as an underemployed wage earner. Number of children below 10 years restricts a female to be under-employed. They inversely affect the female employment status as an underemployed employee. Large no. of children has need of more time for caring of them and for seeing other household accomplishments. Presence of children above 10 years insignificantly allows a female to be under-employed. Spouse participation also positively related to females under-employment. Spouse educations also negatively influence the female employment status as an underemployed worker. Females having highly educated and salaried spouse are less likely to be a part of underemployed work force. Presences of assets encourages a female to be a part of active workforce as an under employed, Just in the presence of assets a female do not work in her full potential. Household size is positively related to female employment status as an underemployed participant of the workforce. Presence of more member in the household means that a female have to see other household activities and duties and due to this she cannot do her paid work efficiently. Joint family and urban residence also influence female labor force participation in comparison with rural residence and nuclear family setup. Presence of bank in residential area positively and significantly related to female employment as an under employed Access to credit negatively and significantly related to female under employment, with access to credit she can do her work efficiently.

V. Conclusion and policy recommendations

We have concluded that age, educational attainment has a positive impact on female employment as a paid worker. Each additional year of schooling increases the probability of being economically active participant of labor force. Education also increases the chances to be a self-employed and decrease underemployment. Marital status and presence of children above 10 years also positively influence female labor force participation. Presence of children below 10 years restricts FLFP. Presence of assets and household size negatively and significantly related to female employment while inverse is true for other employment status. As size of household increases people are less likely to participate in active workforce in all employment status except self-employment. Total working in family and no. of dependents positively affect female decision as an active earner while it has a negative effect on self-employment and underemployment. Presence of major decrease restricts a female to be an employed. Spouse participation in economic activities encourages female employment into any employment status. Joint family, urban residence

positively related to female employment, while it has inverse relation with other employment status, as compared to nuclear family and rural residence. Females having educated spouse are less likely to be in active workforce because they do not need to do a job to share the financial burden.

We have also concluded that at least a female have education more than primary level to enter in the labor force. So, the huge investment should be made for the provision of educational facilities. For both males and females technical and vocational training institute should be established. Attainment of professional degrees should be made possible especially for rural areas. To adjust the sphere labor more labor intensive industries should be installed. To improve the health condition of workers hospital should be built at each union council level.

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