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Faridi, Muhammad Zahir; Chaudhry, Imran Sharif and
Anwar, Mumtaz

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The Socio-Economic and Demographic Determinants of Women Work Participation in Pakistan: Evidence from Bahawalpur District

Muhammad Zahir Faridi

Bahauddin Zakariya University, Multan

Imran Sharif Chaudhry

Bahauddin Zakariya University, Multan

Mumtaz Anwar

University of the Punjab, Lahore

ABSTRACT

The analysis of labour market participation is useful for formulating employment and human resource development policies. Females form almost more than half of the total population in Pakistan play a very important role in the country. The present study endeavors to estimate the various factors which affect the women work participation. The study is based on the cross-section data collected through field survey. The logistic regression technique is employed to estimate the determinants of female labour force participation. Educational attainment levels turn out to be very significant determinant. Female's labour force participation rises with increasing level of education. Presence of children in early age groups reduces the female labour force participation. The results of the study conclude that female education is necessary for better employment opportunities.

KEY WORDS: Female labor force participation; Female education; Household Income; Family Dependents; Marital Status; Children; Logit Model; Pakistan

Introduction

The labour force participation rate plays a very essential role in determining socio-economic development and growth. It also has a strong bearing effect on poverty

reduction. The labour force participation rate shows the supply of labour in the economy and the composition of the human resources of the country. The analysis of the labour force participation is helpful in determining employment policy and policy formulation for human resource development. Females constitute about half of the total population in Pakistan and play a very significant role in the economy. The trend and structure of the female labour force participation (FLFP) has attracted attention over the past few decades in the world and from the past few years in the Pakistan. The incidence of women work participation is low in Pakistan. Although the average annual growth rate of women work participation is rising slightly in Pakistan, which was 15.9 percent during the period 2003-04 and has gone up to 18.9% during the period 2005-06¹. But still women work participation is very low as compared to the south Asian countries.

This study is an effort to identify the socio-economic and demographic factors which determine the women work participation. This issue has been analyzed in many studies² but these studies have been generally failed to incorporate various socio-economic and demographic variables in their analysis. In the present study, we have attempted to analyze the relationship of age profile of the women and all levels of education with work participation of the females in some detail.

The study is planned into five sections. Introduction is presented in the first section. The second section provides the review of literature. In the third section, we have discussed methodology, data sources and variables. The results of the estimation are presented in the fourth section. We have offered some concluding remarks and policy implications in the last section.

Literature Review

Literature review on labor force participation and supply of labor both at national and international level is discussed in this section. A number of studies can be observed in the literature relating to the economic theory of the household. Becker (1965) and Gronau (1977) is the beginner of the field and explained the household behavior regarding time allocation. However, a vast variety of literature based on empirical studies especially for developed nations is available. Most of them are survey based and these surveys are carried by Macurdy, Heckman (1980) and Heckman and Killingsworth (1986).

Mincer (1962) has discussed the relationship between working hours and female labor force participation overtime. He has explored that wife's demand for leisure is not influenced by income of the family. The probability of labor force participation and lifetime wealth measures are inversely related. The study concludes that number of children significantly influences the female labor force participation decision.

Shah et al. (1976) has studied the effects of some selected demographic and socio-economic variables on labor force participation in all the provinces of

Pakistan. The results show that the labor force participation is negatively related with nuclear family type and child-women ratio. The study indicates that there is direct relationship between labor force participation and marital status. He also has found that dependency ratio and literacy ratio have positive influence on labor force participation.

Kozel and Alderman (1990) have analyzed the factors affecting work participation and labor supply decision in the urban areas of Pakistan. He has used OLS regression and Tobit model to estimate the correlates. The study concludes that the women work participation rises with an increase in the expected earning, wages and level of education.

Malik et al. (1994) has investigated the factors, which influence female labor force participation in economic activities. He has explored that women's age, education and the number of dependents do not significantly determine market time. Women labor supply is significantly and positively affected by women wage rate and predicted male wage rate.

Aly and Quisi (1996) has discussed socio-economic factors that affect Kuwaiti women's labor market participation decision. The study concludes that females' wage rate and education are positively related with labor force participation rate. It has been also found that marital status, the number of children and age is inversely related with labor force participation rate.

Azid et al. (2001) have studied the factors influencing female participation in cottage industry of Pakistan. The main objective of the study is to analyze the economic behavior of the female workers involved in the business of embroidery. The study has concluded that number of the children, age of the females, education, poverty status have a positive and significant impact on female labor force participation.

Naqvi and Shahnaz (2002) have examined the effects of various demographic, socio-economic and human capital related factors on women participation in economic activities. They have used cross-sectional data from integrated household survey (PIHS) (1998-99) for the age group of 15-49 years. The probit and multinomial logit model has been used to estimate the parameters. The probit estimates indicate that marital status, primary education, number of children and female head of households are inversely related with women's participation in economic activities.

Khan et al. (2005) have focused on hazardous nature of home-based work of women and children. They have investigated the contribution of women and children to the total family income and the impact of increased income on raising household nutrition, health and education. The study has concluded that household size is significantly and positively influencing the decision of household to engage in home-based work while living condition index inversely.

Chaudhry and Nosheen (2009) analyzed the determinants of women empowerment in Southern Punjab of Pakistan. Considering multidimensional nature of women empowerment, authors estimated the cumulative index for

women using four indices i.e. personal autonomy, family decision making, domestic economic decisions and political autonomy. The results demonstrated that women empowerment is considerably influenced by education, access to media, socio-cultural norms of the community, job of women and household participation rate. The major emphasis of this study was on the women empowerment in terms of their participation in household economic activities.

Methodology, Data Sources and Selection of Variables

The data for this study is collected through filed survey in the year (2007-2008), concentrating on the sample of female labor force ages 15-64 years. Female labor force economic activities are examined by studying the various household factors different socio-economic, demographic and human capital components are also considered. A sample of 164 female workers in the age cohorts of 15-64 years is randomly drawn from urban as well as rural areas of Bahawalpure district. The Bahawalpure is one of the southern parts of the province of Punjab and situated almost in the center of the country. It consists of five tehsils namely Bahawalpure, Ahmad Pure East, Yazman, Hasilpure and Khan pure Tamewali.

The analysis of the study is carried out at two levels. First a statistical analysis of female labor force participation is carried out. Secondly, the labor force decision to participate in economic activities is modeled in the framework of the traditional theory of utility maximization (see Becker, 1965) by using the maximum likelihood logit estimation technique.

Logit Model

The inadequacy of linear probability model suggests that non-linear specification may be more appropriate. In order to explain the dichotomous dependent variable, we will use Logit model. The Logit model assumes the following cumulative probability density function:

$$P = \frac{1}{1 + e^{(-\beta X_i)}} \quad \text{-----} \quad (1)$$

Where ‘P’ is the probability that a person participates in the labor market, ‘e’ is the exponential value. β is the row vector of the parameters and ‘ X_i ’ is the column vector of the variables.

Since ‘P’ the probability of the participation in the labor market, not directly observable, a dichotomous (0,1) variable is constructed, taking the value of ‘1’ for person who participates in the labor market and zero otherwise. It is straight forward to derive the following regression equation from the logistic probability equation (1):

$$\text{Ln} \left[\frac{P}{1-P} \right] = -\beta X_i \quad \text{-----} \quad (2)$$

If we compare the Logit model with linear probability model, the basic advantage of Logit model is that the probability of occurrence increases with 'x' but never steps outside the 0-1 interval and the relationship between the variables is non linear.

Operational Model

The general model specified above can be used as a guiding paradigm. Based on the theoretical rational, the operational model consists on the variables which are supplied by the data. Various socio-economic variables are analyzed below. The justification for incorporating these variables in female labor force participation decision model and their expected signs, are discussed below.

Education

Education is very important factor in increasing the female labor force participation. To capture the effect of different educational levels on female labor force participation, we have included five categorical education dummy variables in our model. The expected relationship between education and FLFP is positive.

Age

The age of female is very crucial factor for labor force participation decision. Five categorical age dummy variables have been included in the model to trace out the effect of different age groups on FLFP. It is, therefore expected that the relationship between age and FLFP decision will be both positive and negative with respect to different age groups.

Closed relatives' educational status

Female labor force participation decision is also affected by the educational status of closed relative i.e. educated father, educated mother, and educated husband. It is expected that closed relatives' educational status and FLFP decision are positively related.

Martial status

This variable is categorized as married and unmarried. Married women have more likely to participate in the labor market. So, both positive and negative signs are expected among marital status and FLFP.

Family set-up

Family set-up is another factor which affects female labor force participation decision. Females belonging to joint family system are more likely to participate in the labor market.

Household assets

In our study we have considered all types of assets such financial as assets, gold, landholding, livestock, shops etc. It is therefore, expected that assets and FLFP are inversely related.

Household size

Female labour force participation is also influenced by household size. The larger the household size, the more female labour force participation. So, positive sign is expected between Household Size and FLFP.

Spouse participation in economic activities

Females' participation is inversely related with husbands' participation in economic activities. Women are less likely to participate in economic activities whose life partners are working.

Number of Dependents

The female labor force participation and number of dependents are inversely related. The expected sign between FLFP and number of dependents is negative.

Location

The region of residence or location plays an important role in determining female labor force participation in economic activities. This variable is classified as rural

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and urban areas. Women belonging to rural area have more probability to participate in economic activities. So, both positive and negative signs are expected among location and FLFP.

Number of children

The number of children and women's participation in economic activities are negatively related. Larger the number of children, females are less likely to participate in the labor market.

Age of children

Children of various age groups, affect the female labor force participation in different manner. It is expected that children in lower age groups reduce the women's participation while women are more likely to participate in economic activities work whose children are in the upper age groups.

Husband salaried

The expected relationship between women participation and husband salaried is negative.

Based on the description of the variables, the operational model for the estimation can be formulated as below.

$$FLFP = f \left(\begin{array}{l} EDUCI, EDUCII, EDUCIII, EDUCIV, EDUCV, AGE1, AGE2, AGE4, AGE5, \\ EDUCM, EDUCF, EDUCS, MARTS, PHAST, SPART, FAMUP, NDEPT, \\ HSIZE, LOCATION, NOCHD, CHLDA, CHLDB, CHLDC, HUBSC \end{array} \right)$$

Description of Variables

Dependent variable

FLFP = 1 if the female participate in economic activities and '0' otherwise.

Explanatory variables

Educational attainment

EDUC I = 1 if the female level of education is up to middle and '0' otherwise.

EDUC II = 1 if the female level of education is matric and '0' otherwise.

- EDUC III = 1 if the female level of education is intermediate and '0' otherwise.
- EDUC IV = 1 if the female level of education is BA/B.Sc., B.Com. BCS and '0' otherwise.
- EDUC V = 1 if the female level of education is MA/MSc, M.Phil, Ph.D. and '0' otherwise.

Age groups

- AGE 1 = 1 if the female belongs to age group (15-24) years and '0' otherwise.
- AGE 2 = 1 if the female belongs to age group (25-34) years and '0' otherwise.
- AGE 3 = 1 if the female belongs to age group (35-44) years and '0' otherwise.
- AGE 4 = 1 if the female belongs to age group (45-54) years and '0' otherwise.
- AGE 5 = 1 if the female belongs to age group (55-64) years and '0' otherwise.

Presence of closed relatives' education

- EDUC M = 1 if female's mother is educated and '0' otherwise.
- EDUC F = 1 if female's father is educated and '0' otherwise.
- EDUS = 1 if spouse is educated and '0' otherwise.
- MARTS = 1 if female is married and "0" otherwise.
- PHAST = 1 if female has assets and "0" otherwise.
- SPART = 1 if the female's husband is working and "0" otherwise.
- FAMUP = 1 if female belongs joint family and "0" otherwise.
- NDEPT = Total number of dependents in the family.
- HSIZE = Household Size in numbers.
- LOCTN = 1 if female lives in Urban area and "0" otherwise.
- NOCHD = Number of Children in the Family.
- HUBSL = 1 if husband is salaried and "0" otherwise.
- CHLDA = 1 if the children belongs to the age group (0-2) and "0" otherwise.
- CHLDB = 1 if the children belongs to the age group (3-6) and "0" otherwise.
- CHLDC = 1 if the children belongs to the age group (7-11) and "0" otherwise.

Results and Discussion

Descriptive Analysis

The elementary analysis of our study is concerned with establishing descriptive statistics of some selected variables. The elementary analysis aims to give an overview of the variables and provide the behavioral patterns of variables. Table 1 presents the results of the summary statistics of the descriptive analysis. The table 1 shows that on the average 0.2744 female workers have basic education up to middle level and highly educated female on the average are 0.1524. But highly

educated females have less variability as compared to female workers having basic education.

| Variables | Mean | Standard Deviation |
|------------------|-------------|---------------------------|
| EDUCI | 0.2744 | 0.4476 |
| EDUCII | 0.2195 | 0.4152 |
| EDUCIII | 0.1707 | 0.3774 |
| EDUCIV | 0.1524 | 0.3605 |
| EDUCV | 0.1524 | 0.3605 |
| AGE1 | 0.1768 | 0.3827 |
| AGE2 | 0.2134 | 0.4110 |
| AGE3 | 0.2683 | 0.4444 |
| AGE4 | 0.2378 | 0.4270 |
| AGE5 | 0.1037 | 0.3058 |
| EDUCM | 0.3659 | 0.4831 |
| EDUCF | 0.6159 | 0.4879 |
| EDUCS | 0.5732 | 0.4961 |
| MARTS | 0.7805 | 0.4152 |
| PHAST | 0.5427 | 0.4997 |
| SPART | 0.5488 | 0.4991 |
| FAMUP | 0.6037 | 0.4906 |
| NDEPT | 4.701 | 1.954 |
| HSIZE | 7.140 | 2.60 |
| LOCTN | 0.3537 | 0.4796 |
| NOCHD | 3.177 | 2.139 |
| HUBSL | 0.5122 | 0.5014 |
| CHLDA | 0.1588 | 0.3664 |
| CHLDB | 0.3659 | 0.4831 |
| CHLDC | 0.5244 | 0.5009 |

Table 1
Descriptive Statistics of the selected variables

Estimates of the Binomial Logit Model

Table 2 explains the binomial Logit estimates of the female labour force participation into active and inactive state. We estimate the Logit model with a set of explanatory variables considering female labour force participation in economic activities. Table depicts three sets of numbers such as estimated coefficients, their asymptotic Z-statistics and marginal effects in column 2, 3 and 4 respectively. Marginal effects show the probability derivatives at the sample mean. The probability derivative indicates the change in probability due to one unit change in a given explanatory variable after holding all other variables as constant. We estimate these derivatives at the mean of sample because binomial Logit model is non-linear and its probability derivatives are not constant.

This study has used two-tailed test of significance or Z-statistic for determining the acceptance or rejection of null hypothesis to check the reliability of the point estimates. For this purpose, 1 percent, 5 percent, and 10 percent level of significance has been used. The intercept term in binomial Logit equation is positive and statistically insignificant. This insignificant result indicates that effect of intercept term on female labour force participation is less valued. Mostly, its economic interpretation is meaningless except that it indicates average effect of all other omitted variables on the dependant variable. Even then, there may be many unknown factors affecting the variable under consideration, no matter how carefully, one selects the potential explanatory variables. However, Mc Fadden R² gauges the quality of our estimates (0.53). Further, the highly significant LR Statistic provides the overall significance of the model.

The female level of education is the most important factor, which influences female are decision of economic participation. Human capital theory regards participation in education as an investment in human capital because of the expected returns later in life (Becker, 1964). So, it can be argued that the people in the society become more productive, skilled and well-equipped with knowledge as the level of education increases. The females' level of educational attainment has not only directly effect economic outcomes like income, employment wages and productivity but also has a positive effect on social outcomes like fertility, mortality, education of children, life expectancy at birth and income distribution.

We have found that the female level of education turns out to be very important and vital factor in determining the labour force participation's decisions. In present study, we have observed a positive trend between female labour force participation at different levels of education. The study assumes Non-formal education as a base category. The coefficient of EDUCI is negative and statistically significant at 10 percent level of significance. The probability of participation of female workers falls by 21.3 percentage points due to an increase of one unit in EDUCI. The significant result indicates that females having education up to middle level is unable to get jobs because of unavailability of jobs and Matric is minimum criterion for the lowest category jobs. Another solid reason may be that the female's trend toward higher education has increased with the

development of information technology. The estimated parameter of EDUCII turns out to be positive and significant at 10 percent level of significance. The female workers are more likely to participate in the labour market by 36.7 percentage points due to one unit rise in education up to Matric level (EDUCII). This positive significant change in labour market shows that increasing level of education enhances the better job opportunities for females.

Similarly, the female worker is more likely to participate in economic activities having the education up to intermediate level (F.A, F.Sc, I Com). The probability of female's participation rises by 40.9 percentage points as a result of one unit increase in EDUCIII. The result of variable is statistically significant at the 5 percent level of significance. The coefficients of graduation level (EDUCIV) and EDUCV are positive and statistically highly significant at 5% and 1% level of significance respectively. The female workers are more likely to participate in economic activities by 43.9 and 60.4 percentage points respectively due to an increase of one unit in EDUCIV and EDUCV. The positive marginal change of females' participation in economic activities because of rising level of education is compatible with law of increasing productivity or returns. Because increasing educational level improves the human capital by raising skill, efficiency and technological know how. The M.A / M.Sc's, PhD's and professional have the highest probability of female's participation in economic activities. Our results are consistent with the findings of Kozel and Alderman (1990), Chishti (1989), Tansel (1994, 1996) and Psacharopoulos and Tzannatos (1991). They have emphasized that higher level of education increases the opportunities for females to work in the labour market and income producing activities outside the home because of the higher opportunity cost of staying at home indulging in non-market activities. This shows that higher level of education is very crucial factor in determining female labour force participation. The economic explanation of this positive relationship between higher level of education and female LFP is that expected market return rises in the consequences of higher level of education. This thing involves female workers to work more in the labour market and stay less time at home.

Female labour force participation is highly influenced by AGE. Female labour force participation response varies with different age groups. In order to observe female labour force participation trend in different age group, we have introduced categorical variables for age groups in our study. Four age groups have been taken as dummy variables (i.e. 15-24, 25-34, 45-54 and 55-64), While the age group of 35-44 years have been taken as base category. The female worker in the age group of 15-24 years are less likely to participate in economic activities as compared to AGE 3 by 20.9 percentage points due to one unit increase in AGE 1. The negative impact of the AGE 1 on female labour force participation is significant. The reason may be that the females are not participating in economic activities because of early age marriages in rural areas, social constraints, lack of experience and skill and still studying in various educational institutions. The coefficient of AGE 2 (25-34 years) is positive and significant. The probability of female labour force

participation rises by 10.5 percentage points as a result of one unit increase in AGE 2. The age group (45-54 years) has a highly positive and significant impact on female labour participation outside home activities. The female worker are more likely to participate in the labour market by 19.2 percentage points in the consequences of an increase of one unit (year) in AGE 4 as compared with the reference age group (35-44 years). The reason may be that females belonging to AGE 4 (45-54 years) have grown up children and most of the children are college and university students. That is why, female have more time for market work. The coefficient of AGE 5 (55-64 years) is positive and has insignificant effect on female participation in market activities. The probability of female labour force participation increases by 15.3 percentage points due to an increase in one unit in the age group 55-64 years. The insignificant impact of AGE 5 on FLFP indicates that older females are less productive due to ill health and decayed efficiency. Although, female participation rate has positive trend in AGE 5 but with declining rate. Overall our findings show that the probability of female labour force participation increases with their age. Our results regarding the age of the female labour force are similar to the studies of Naqvi and Shahnaz (2002), Hafeez and Ahmad (2002) and Ragui Assad, et al (2000).

Our study incorporates the presence of closed relative's education to trace out the relative effect on female labour force participation. In order to observe the FLFP response for the presence of closed relative's education, we have used three dummy variables (EDUCM, EDUCF, EDUCS) in our Logit equation. On the theoretical ground, it is expected that the FLFP is positively related with educated mothers and fathers. But, however, our estimates do not justify the theoretical expectation, because the parameters of the presence of the fathers and mothers education are all insignificant in affecting the female labour force participation decision. The female workers are more likely to participate in economic activities by 5.9 and 0.97 percentage points due to an increase of one unit in EDUCM and EDUCF respectively. But an insignificant result indicates that the education level of mothers and fathers of females is not necessary for employment decision. The female labour force whose parents are uneducated, may participate in the labour force. Another reason may be that we have included various education levels of females as separate explanatory variables in our model, which are sufficient in making female labour force participation decision. That is why; the additional effect of parents' education on their daughters labour force participation is useless and meaningless. The study concludes that the labour force participation decision of females is affected much more by their own level of education rather than the presence of the closed relatives' education. This study is compatible with Hafeez and Ahmad's (2002) study.

But the presence of husband's education has a positive and highly significant impact on women's participation decision. The probability of participation of the wives whose husbands are educated rises by 52.6 percentage points as a result of one unit increase in EDUCS. The major reason of such high females labour force

participation in economic and business activities of educated spouse is due to rising prices and increasing poverty in developing economies like Pakistan. The educated husbands are status conscious and they do not want to decrease their standards of living. Further they desire to educate their children in better way. Considering these facts, both life partners participate in the active labour force to raise their family income for facing the emerging economic challenges.

Marital status is another factor, which influences the female labour force participation in economic activities. The coefficient of Marital Status (MARTS) is positive and is significant at 10 percent level of significance. The probability of female labour force participation rises by 78.2 percentage points because of an increase of one unit in MARTS. Theoretically, the married women's participation in the labour market should fall due to increasing responsibilities at home. But our result does not justify the theory. The positive significant effects of MARTS on FLFP indicates that the females are more likely to join labour market just to share the financial burden of the family and to support their counterparts in meeting basic economic necessities of life.

Presence of household assets reduces the probability of female LFP in economic activities by 86.4 percentage points. The coefficient of variable presence of household assets (PHAST) turns out to be highly significant. The reason may be that assets are considered as a major source of income. The income effect is negative since as income increases, workers desire more leisure and less working hours. Thus female belongs to more rich families are less likely to participate in labour force. Sahn and Alderman (1998) studied that socio-economic status of a family has a negative effect on FLFP. Similarly, the coefficient of the variable spouse participation in economic activities (SPART) is also negative and statistically significant. The female workers are less likely to participate in the labour market whose husbands are working. The probability of FLFP falls by 57.9 percentage points due to one unit increase in spouse's participation in economic activities (SPART). The reason may be that in Pakistani society, if husband is working and meeting all the economic liabilities, wife remains busy at homes in non-market activities such as cooking, washing clothes, dusting, and upbringing and teaching her children.

The female labour force is also influenced by household size. When household size increases by one, females are 3.1 percent less likely to participate in the market activities. The impact of household size on female labour force participation is unimportant. Family setup is another social factor, which determines female labour force participation. The coefficient of Family Setup (FAMUP) is positive and highly significant. The probability of participation of female workers belonging to joint family system rises by 41.5 percentage points due to one unit increase in joint family. The significant impact of joint family setup on female labour force participation may be due to larger family as compared with nuclear family. Female labour force participation probably rises because females can afford to participate in economic activities because of

substitution and sharing of home activities such as cooking, washing, child caring, dusting etc. our result is corroborated by Naqvi and Shahnaz (2002). In our study, the number of dependents other than the children and numbers of children turn out to be positive and significant determinants of female labour force participation. The probability of female labour force participation increases by 2.2 and 7.1 percentage points as a result of one unit rise in No. of dependents other than children (NEDPT) and number of children (NOCHD) respectively. The reason may be that the more dependents and larger the number of children have a high financial burden and economic pressure on the family and compel the females to join the labour market. The region of residence or location also influences female labour force participation. The coefficient of location (urban area) is negative and significant. The females living in urban areas are less likely to participate in the labour market as compared to that of rural areas. The probability of participation declines by 24.9 percentage points due to an increase of one female labour in urban area. The significant result indicates that the family income in rural areas is sufficiently low as compared with urban family income. Because of low family income, females' participation in the labour market rise. Secondly, the most important reason of high female labour force participation in economic activities is greater employment opportunities in rural areas particular in education sector and health sector. Presence of children in various age groups has a significant impact on female labour force participation. Female's whose children belonging to 0 to 2 and 3 to 6 years of age are less likely to participate in the economic activities. The probability of market participation diminishes by 25.2 and 43.5 percentage points as a result of one unit rise in CHLDA (0-2) years and CHLDB (3-6) years respectively. The reason of negative participation is that the females have to look after their children in low age properly. The probability of female participation rises by 13.6 percentage points whose children belong to 7 to 11 years of age. However, result has no significant impact on female labour force participation. The coefficient of husband salaried (HUBSL) is negative and insignificant. The women's, whose husbands are salaried, are less likely to participate in labour market. Their probabilities of participation fall by 18.7 percentage points.

| Explanatory Variables | Coefficients | Z- Statistic | Marginal Effects |
|---|---------------------|---------------------|-------------------------|
| Constant | 0.168874 | 0.968 | ----- |
| Educational Attainment (Non formal Education Reference Category) | | | |
| EDUC I | -0.964*** | -1.81 | -0.213 |
| EDUC II | 1.659*** | 1.63 | 0.367 |
| EDUC III | 1.856** | 1.96 | 0.409 |
| EDUC IV | 1.987** | 2.24 | 0.439 |
| EDUCV | 2.736* | 2.85 | 0.604 |

| Age Groups [AGE 3 (35-44 years)] reference category | | | |
|--|----------|----------------------------------|--------|
| AGE 1 | -0.944** | -2.07 | -0.209 |
| AGE 2 | 0.477*** | 1.68 | 0.105 |
| AGE 4 | 0.869* | 2.36 | 0.192 |
| AGE 5 | 0.697 | 0.95 | 0.153 |
| Presence of Closed Relatives Education | | | |
| EDUCM | 0.267 | 0.406 | 0.059 |
| EDUCF | 0.044 | 0.723 | 0.0097 |
| EDUCS | 2.38** | 2.23 | 0.526 |
| Other Socio-Economic Variables | | | |
| MARTS | 3.54*** | 1.63 | 0.782 |
| PHAST | -3.909* | -4.17 | -0.864 |
| SPART | -2.62** | -1.86 | -0.579 |
| HSIZE | -0.139 | -0.509 | -0.031 |
| FAMUP | 1.878** | 2.02 | 0.415 |
| NDEPT | 0.098*** | 1.89 | 0.022 |
| LOCTN | -1.13*** | -1.65 | -0.249 |
| NOCHD | 0.319** | 1.98 | 0.071 |
| HUBSL | -0.848 | -0.751 | -0.187 |
| CHLDA | -1.14** | -1.99 | -0.252 |
| CHLDB | -1.97*** | -1.649 | -0.435 |
| CHLDC | 0.614 | 0.685 | 0.136 |
| Log-Likelihood = - 48.86398 | | R ² Mac Fadden = 0.53 | |
| LR Statistics (24 df) = 110.1123 | | Prob (LR Stat) = 0.000000000005 | |
| Size of sample (N) =164 | | | |

*, **, *** Significant at 1, 5 and 10 percent level respectively.

Table 2

Binomial Logit Estimates of the Determinants of Labour Force Participation – Probability of being active female worker (15-64)

Conclusion and Suggestions

The present study is primarily based on cross-sectional data collected through field survey. We have used logit model to examine the effects of various socio-

economic and demographic factors on female labour force participation. The coefficients of all educational levels are significant and have positive impact on female labour force participation except basic education level up to middle. The study concludes that AGE2, AGE4, Marital Status, Family Setup, Presence of educated husbands, and number of children influence the women work participation positively and significantly, while women belong to early Age group (15-24 year), presence of household's Assets, spouse participation in economic activities, children in the age group (0-2) years and (3-6) years reduce the female's work participation in economic activities.

Therefore, it may be concluded that the basic level of education is not sufficient to enter in the labour market; the minimum criterion for female labour market participation is Matric level education. Female labour market participation increases with the rising levels of higher education. It is suggested that government should provide higher education to the females' especially in rural areas. Quality of education should also be improved and female's training opportunities should be provided. It is concluded that females are more likely to participate in rural market activities. Consequently, rural infrastructure is needed to be improved and government should also start the rural development programs for creating more employment opportunities for women.

Notes

1. See Govt. of Pakistan economic survey (2006-07)
2. Hafeez and Etazaz (2002); Malik et al (1994); Kozel and Alderman (1990); Chishti et al (1989), Shah (1986); Naqvi and Shahnaz (2002).

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Biographical Notes

Muhammad Zahir Faridi is working as Lecturer in the Department of Economics at Bahauddin Zakariya University, Multan.

Dr. Imran Sharif Chaudhry is working as Associate Professor in the Department of Economics at Bahauddin Zakariya University, Multan.

Dr. Mumtaz Anwar is working as Assistant Professor in the Department of Economics at University of the Punjab, Lahore.
