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The Paradox of Out of Labor Force Educated Women in Pakistan: Evidence from PSLM 2013-14 Household Survey

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Abstract

The study investigates the issue of out of labor force women in Pakistan, one of the possible causes of the lowest FLFP rate of Pakistan amongst the South Asian regional countries. The study uses PSLM (2013-14) household survey data and explores different socio-economic and demographic factors which are influencing educated women to stay out of the labor force. It concludes that women, who belong to the younger age groups living in urban areas, belonging to higher consumption groups, who have the youngest children at home are more likely to be out of the labor force. The women whose employment decisions are taken by the heads of the households are also more likely to be out of the labor force. As the education levels of the women increase, they are less likely to stay out of the labor force. The results of the study provides useful insights to policymakers to formulate different policies to motivate women to participate in labor market activities.

Keywords: Out of Labor Force; Low Female Labor Force Participation; Probit Model

JEL Classifications: J01, J08, J16

Introduction

Pakistan has the lowest female labor force participation (FLFP) rate in the South Asian region. According to Labor Force Survey 2017-18, the distribution of the working-age population between the labor force and *not in the labor force* is 69%: 31% for males and 20%: *80 %* for females, whereas, out of the total labor force of 61.04 million (employed and unemployed), 76% (46.4 million) are males and only 24% (14.7 million) are females. If we segregate the total employed persons in the labor force by gender then we come to know that this figure is 77%

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for males and only 23% are females. The unemployment rate for males is 5% and for females, it is 9% (Labor Force Survey 2017-18). Beyond the national level, there is substantial regional and provincial variation in FLFP rates. Due to inclusion of the unpaid or contributing family workers in the labor market activities, the FLFP rate is higher for rural women as compared to their urban counterparts. At the provincial level, it ranges from 8% in Balochistan to 27 % in Punjab. At the same time, it is also observed that 73% of the total employed women are concentrated in the informal sector and only 23% of women are engaged in the formal sector (LFS 2017-18). These figures are showing a constant trend for the past decade, thus indicating that the growth rate of the formal sector does not bode well for the wellbeing of the women workers (Zaidi & Farooq, 2016)

There are many contextual factors both at demand side and supply side that restrict women to opt for paid employment. The decision making power given to women to participate in labor market activities at the household level, the household responsibilities including taking care of children, number of other earners at home, the area of residence, family type (joint or nuclear) are few of the important supply-side contributing factors for women to stay out of labor force (Jayachandran,2019). The demand-side factors include, low wages, inaccessibility, and non-availability to the appropriate job opportunities for females, non-availability of the daycare centers at workplaces, gender discrimination and occupation segregation, etc (Klasen & Pieters 2015).

In recent times, Pakistan is experiencing the lowest FLFP rate in the south Asian region. Out of the labor force, women are one of the contributing factors of low FLFP in Pakistan. Therefore the present study is an attempt to explore the factors that are influencing women to stay out of the labor force in Pakistan.

The layout of the study is as follows. Section 2 sums up the previous literature. Section 3 discusses the methodology, whereas Section 4 presents the data employed and construction of variables. The empirical results are presented in Section 5 and finally, in Section 6 we conclude the study and provide some policy insights.

Review of Literature

According to Naqvi & Shahnaz (2002) age, level of education, marital status, area of residence, number of children at home, education and employment status of the household's head exert a significant influence on women to indulge in labor force activities. Assaad & Zouri (2003) also highlight the same factors for FLFP in Morocco. The presence of young and school-going children at home is negatively associated with women's decision to take part in labor force

activities, whereas women's education and education of their fathers exert a positive influence on their labor market status.

Ntuli (2007) analyses the factors that are affecting the FLFP decisions in South Africa. The empirical findings indicate that FLFP is significantly associated with the level of education among South African women, whereas nonlabor income, number of children at home, being married negatively influence the FLFP. Ejaz (2007) examines the household factors that are affecting the FLFP decisions of Pakistani women. The study concludes that educational attainment, age, and marital status are significantly and positively related to FLFP decisions. There are more chances for women to participate in labor market activities if they belong to nuclear families. The presence of the youngest children of age group 0 to 4 years at home are negatively affecting women's decisions to participate in labor market activities. According to Kabeer (2011) generally, women are not given enough autonomy to decide at the household level to participate in labor market activities. Most of the time due to patriarchy in traditional societies, male members of the family decide for women to opt for paid employment. Bhalla & Kaur (2012) pointed out that male education is one of the possible causes behind low FLFP; higher male education leads to lower FLFP, especially in urban areas. Hussain, Anwar, & Haung. (2016) explore the socio-economic factors that directly or indirectly affect the FLFP decisions in Pakistan by using survey data from LFS 2008-09. The empirical findings infer that age, region, level of education and technical and vocational training has a positive and significant impact on the labor force participation decision in Pakistan.

There are enormous studies in the existing literature of labor economics in Pakistan that discuss the determinants of FLFP (for example Hafeez & Ahmed, 2001; Khan & Khan, 2009; Ejaz, 2011; Faridi & Rashid, 2014; Hussain, Anwar, & Haung, 2016; Farooq & Faridi, 2016; Shaheen, Shabir &Faridi, 2015 and Khan & Hafeez, 2017). All of these studies are *indirectly* giving us insights into the important factors that are influencing women not to participate in the labor force. However, we could not find any study that *directly* discusses the factors that are influencing women to stay out of the labor force in Pakistan. This study will contribute to the existing literature of labor economics by discussing the factors that are influencing women to stay out of the labor force in Pakistan.

Methodology

Probit Model

To explain the dichotomous dependent variable, we will use the Probit model that emerges from the normal cumulative distribution function. The standard probit model will take the following form (Wooldridge, 2016).

$$\hat{y} = \acute{x}\beta + \varepsilon \quad (1)$$

Here x and β are standard variables and parameter matrices whereas ε is also a vector matrix of normally distributed error terms. The probability P_i of a woman to stay out of labor force over in the labor force can be shown in the following expression, whereas $\emptyset$ is representing cumulative standard normal distribution function.

$$P_i = prob(y_i = 1 \mid x) = \int_{-\infty}^{\acute{x}_\iota\beta} (2\pi)^{-1/2} \text{ Exp } (-\frac{t^2}{2})\, dt \quad (2)$$

$$= \emptyset\,(\acute{x}_\iota\beta) \quad (3)$$

The relationship between a selected variable and the outcome of the probability is expressed through marginal effects (MEs), which represent the partial change in probability for different explanatory variables. We can express the ME for a continuous explanatory variable x_k on the probability$p(y_i = 1 \mid x)$, while keeping all other variables constant as:

$$\frac{\partial p_i}{\partial x_{ik}} = \varphi\,(\acute{x}_\iota\beta)\beta_k \quad (4)$$

φ is a pdf of a standard normal distribution. The calculation of ME for a dummy variable is different from continuous variables.

$$\Delta = \emptyset\,(\bar{x}\,\beta, d = 1) - \emptyset\,(\bar{x}\,\beta, d = 0) \quad (5)$$

Here the MEs explain how explanatory variables shift the probability of a woman to stay out of the labor force. We calculate MEs for every variable while keeping all other variables constant at their sample mean values.

Data Source and Construction of Variables

The analysis for out of labor force women is carried out by using household and individual-level data of Pakistan Social and Living Standard and Measurement (PSLM) Survey 2013-14. This survey is conducted by Pakistan Bureau of Statistics (PBS), Government of Pakistan. PSLM surveys at the district level collect information on key social variables i.e education, employment, health, water and sanitation, whereas PSLM provincial level survey gathered data on social indicators as well as on income and consumption levels of the households. In 2013-14 the PSLM survey data were collected from a nationally representative sample of 28286 households consisting of 119018 individuals, stratified by urban and rural residence and by province, in which, 59544 are male and 59474 are females. Since women's involvement in decision making

at the household, level is considered to be an important factor that influences FLFP decisions. In PSLM survey 2013-14, 26852 women of the ages 15 to 49 years were included in decisions making module and were asked this question that who is deciding for them at the household level to opt for paid employment. This question is given different options to the respondent women (mentioned in Table 1). However, we excluded those women who are too old to work, from our analysis. We also excluded all those women who are currently attending any educational institution (school, college or university). Finally; to make the analysis more realistic our sample contains only women who belong to the age group of 20 to 49 years and have at least matric level of education. The dependent and explanatory variables are discussed in detail in Table 1.

Table 1: Definition and description of dependent & explanatory variables

Variable name	Definition
Dependent variable:	
Out of LF	=1 if out of labor force; 0 otherwise
Key explanatory variables:	
Woman's Characteristics	
Age	
Age_1	=1 if age ≥ 20 and ≤ 29 years; 0 otherwise
Age_2	=1 if age ≥ 30 and ≤39 years; 0 otherwise (Age_3; 40 – 49 in completed years is the base category)
Marital Status	
Ever married	=1 ever married; 0 otherwise. (Woman never married is the base category)
Education level	
Higher secondary	=1 FA/F.Sc ; 0 otherwise
Graduation	=1 BA/B.Sc; 0 otherwise
Higher	=1 MA/M.Sc/M.Phil/Ph.D; 0 otherwise
Professional	=1 professional degree; 0 otherwise (Matric level of education is the reference category)
Decision making	
Head alone	=1 if household head (HH) decides alone; 0 otherwise
Head spouse	=1 if HH decides with spouse; 0 otherwise
Head with women	=1 if HH decides with the woman concerned; 0 otherwise
Head and spouse with women	=1 if the HH and spouse decide with consultation of the woman concerned; 0 otherwise
Head with other	=1 if the head and other male members decide; 0= otherwise
Woman is not interested	= 1 if woman is not interested in paid employment; 0 otherwise (Woman deciding herself is the reference category)

Consumption expenditures	
Quintile2	=1 if the HH consumption expenditures falls in quintile two; 0 otherwise
Quintile3	=1 if quintile three; 0 otherwise
Quintile4	=1 if quintile four; 0 otherwise
Quintile5	=1 if quintile five; 0 otherwise (Quintile one is the reference category)
Children at home	
Children (0-4)	No of children 0-4 years of age
Children (5-9)	No of children 5-9 years of age
Children (10-14)	No of children 10-14 years of age
Head's education	
Primary	=1 if HH completed class 0-5; 0 otherwise
Matric	=1 if HH completed class 6-10; 0 otherwise
Graduation	=1 if HH completed class 11-14; 0 otherwise
Higher	=1 if HH completed class MA/M.Sc/M.Phil/Ph.D ; 0 otherwise
Professional	=1 if HH completed any other professional degree; 0 otherwise (No formal education is the reference category)
Head's occupation	
Manufacturing	=1 Manufacturing; 0 otherwise
Services	=1 Service; 0 otherwise (Agriculture sector is the reference category)
Head's sex	
Female	=1 female; 0 otherwise (Male is the reference category)
Family type	
Joint	=1 joint family; 0 otherwise (Nuclear family is the reference category)
Region	
Urban	= 1 urban area; 0 otherwise. (Rural area is the reference category).
Punjab	= 1 Punjab; 0 otherwise.
Sindh	= 1 Sindh; 0 otherwise.
KPK	= 1 KPK; 0 otherwise. (Balochistan is the reference category)

Source: PSLM 2013-14

Descriptive Statistics

Table 2 presents the descriptive statistics of the selected women with minimum matric (equivalent to 10 years of schooling) level of education and belong to the age group 20-49 years.

Out of the total sample, 58% of women reside in Punjab whereas 19 % reside in KPK, 19 % are residing in Sind and 4% are residing in Balochistan province. The descriptive statistics reveal that Punjab and KPK/Sind are those provinces where the majority of the out of labor force women reside. As far as regional dummies are concerned, the statistics show that 67 % of women belong to urban areas whereas 33 % of women reside in rural areas in our selected sample.

We included in our analysis a very important variable that is who is deciding at the household level for the respondent woman to opt for paid employment. This variable gives us an interesting insight into women's autonomy to join labor market activities in Pakistan. In our selected sample only 19% of the total women decide themselves to opt for a paid job. Our data found 32 % women are those, whose employment decisions are taken by their heads of the households alone, whereas 25 % women's employment decisions are taken by their heads with the consultation of their spouses, 10 % women's employment decisions are taken by their heads of the households in consultation of the woman concerned, there are 5 % women whose employment decisions are taken by heads and their spouse with consultation of concerned woman and 3 % women are those whose employment decisions are taken by their heads with other male members of the family. Also, 5 % women responded that they have no interest in paid employment.

Since different age groups are associated with different labor market states we divided the ages of selected women (20 – 49 years) into three groups. The majority of the women (58%) belong to the age group of 20-29 years, whereas 30 % of women belong to the age group of 30-39 years and only 12% of women are in the age group of 40-49 years.

The decisions to opt for paid employment or indulging in labor force activities are highly correlated with the marital status of selected women. In our selected sample 28% of women are never married, whereas 72% of women are ever married that includes currently married, widows and divorced women. In our selected sample majority of the out of labor force, women have young children belonging to the age group 0 – 4 years at their homes.

We use consumption quintiles as a proxy for household income since higher consumption quintiles are generally associated with a higher level of household income. These quintiles indicate that in our analysis the majority (50%) of the educated out of labor force women happened to fall in quintile five.

We divided the level of education into five important categories. In our selected sample, the highest number of women have matric levels of education whereas 13 % of women have above graduation or higher degrees, whereas only 3 % of women are holding professional degrees.

In our selected sample most of the household heads have completed secondary level of education. A large number of household heads belong to the services sector (50%) while only 11% of heads belong to the manufacturing sector. In our sample, only 11% of households are headed by females while 59% of women live in nuclear family system.

Table 2: Descriptive statistics

Variables	Mean	Standard deviation
Key independent variables:		
Age of the out of labor women		
Age_1	.58	.49
Age_2	.30	.45
Age_3	.12	.32
Marital status of the out of labor women		
Ever married	.72	.44
Never married	.28	.44
Education of the out of labor women		
Matric	.44	.49
Higher secondary	.23	.42
Graduation	.17	.37
Above graduation	.13	.33
Professional	.03	.16
Who is taking decision for her paid employment		
Woman alone	.19	.38
Head alone	.32	.46
Head spouse	.25	.43
Head with women	.10	.30
Head and spouse with women	.05	.22
Head with other	.03	.17
Woman is not interested	.06	.23
Children at home		
Children (0-4)	1.20	1.20
Children (5-9	.69	1.01
Children (10-14)	.59	.92
Consumption expenditures		
Quintile1	.04	.18
Quintile2	.09	.28
Quintile3	.15	.35
Quintile4	.22	.41
Quintile5	.50	.50
Head's education		

No formal education	.16	.50
Primary	.10	.37
Matric	.37	.29
Graduation	.24	.48
Higher	.09	.42
Professional	.04	.29
Head's occupation		
Agriculture	.39	.48
Manufacturing	.11	.31
Services	.50	.50
Head's Sex		
Male	.89	.31
Female	.11	.31
Family type		
Nuclear	.59	.49
Joint	.41	.49
Region		
Urban	.67	.46
Rural	.33	.46
Punjab	.58	.39
KPK	.19	.49
Sindh	.19	.39
Balochistan	.04	.20
Source: PSLM 2013-14		

Empirical Results

Results of Probit Estimation

According to the estimated results in Table 3, as compared to the base category Balochistan province, the educated women residing in Sind, Khyber Pakhtunkhwa and Punjab are more likely to stay out of the labor force, but it is significant for the province of Punjab only. It is observed from the empirical findings that urban women are more likely to stay out of the labor force than their rural counterparts.One of the possible reasons of a lower proportion of out of labor force rural women could be that most of the women are either involved in agriculture sector activities or working as unpaid/contributing family workers (Sarwar & Abbasi, 2013) which overstate their FLFP.

Generally, it is considered that a woman's autonomy at household level is positively associated with her decision to opt for paid employment (Kabeer, 2005; Kabeer, Mahmud, & Tasneem, 2011; Kabeer, 2011). If educated women are given this freedom to decide for them to opt for paid employment, it is more likely that they will join the labor market. The results indicate that as compared to the base category where the woman decide herself to join labor force, for all

other combinations of decision making (for example head alone, head with spouse, head alone in consultation of woman or head with spouse in consultation of woman concerned and head with other male members of the family) she is more likely to be out of labor force. The effect is the highest (11%) when the head of the household decides it alone for the respondent woman. The previous studies for Pakistan (Ejaz, 2011; Faridi, Malik, & Basit, 2009) also support this fact that women's empowerment at the household level is positively associated with women's labor market outcomes. Another important reason for the larger proportion of out of labor force women is when women show no interest in taking part in labor market activities. In our analysis, there is 13 % more likely for women to stay out of labor force when they report that they are not interested in taking part labor market activities as compared to the base category when women alone decide themselves to join labor market activities.

FLFP is highly influenced by age (Rashid & Faridi, 2014). In our analysis for out of labor force educated women, the results indicate that as compared to the base category of age group 40-49 years, the younger women (20 to 29 years of age) are more likely to be out of labor force. This effect is highly significant. This may be because of the reason that the age group 20-29 years is the childbearing age.

Results also indicate that as compared to the base category, never-married women, the ever-married women are 11 % more likely to be out of the labor force. Many studies indicate that marriage serves as a constraint for women to participate in the labor force (Naqvi & Shahnaz, 2002; Grantham, 2012; Hosney, 2016; Khan & Hafeez, 2017).

Theoretically, it is stated that the presence of the youngest children at home is negatively associated with the FLFP decisions at the household level (Ackah, Ahiadeke, & Fenny, 2009; Ejaz, 2007; Khan & Khan, 2009; Faridi & Rashid, 2014). We divided the ages of children at home into three groups; our results are in line with the previous literature that mothers of the youngest children are more likely to stay out of the labor force for example Bick, 2016; Emara, 2016; Klasen, 2019 and Dandarchuluun & Choi, 2019.

In our analysis, the households' consumption is divided into five groups and a higher consumption quintile represents a higher level of household income. It is also evident from the empirical analysis that women who are belonging to higher consumption quintiles have more probability to stay out of the labor force as compared to base category the lowest quintile. This is obvious that joining the labor force is most of the time a financial phenomenon in Pakistan. Women who belong to Poor and financially unstable households are more likely to join the

labor market because they need to support their families financially (Khadim & Akram, 2013; Iweagu, Denis, Nwokolo, & Bulus, 2015).

The education level of the woman significantly defines whether she will be out of the labor force or not. The results indicate that as compared to the base category where women have matric levels of education, the women possess any other higher level of education are less likely to be out of the labor force. Our results are also supported by the previous literature, for example, in studies conducted by Ejaz (2007), Ince (2010) and Hosney (2016).

In Pakistani society, heads of the household play an important role at the household level to influence the women's decisions to opt for paid employment. The results indicate that as compared to the base category head with no formal education, for all other levels of education (of heads), women are more likely to be out of the labor force. This is obvious as the education levels of the heads of the households increase then their incomes also increase, then sometimes they do not allow women to take part in labor market activities (Blau & Kahn, 2007; Faridi & Rashid, 2014; Klasen & Pieters, 2015). As compared to the base category heads belonging to the agriculture sector, the women are more likely to be out of labor force if households' heads belong to either the manufacturing sector or to the services sector. In female-headed households, women are less likely to stay out of the labor force (Faridi & Rashid 2014; Klasen & Pieters 2015; Klasen, 2019); though the result is insignificant. Results also indicate that the women living in joint families are more likely to be out of the labor force but it is not significant.

Table 3: Empirical results of Probit model

Variables	Odd ratios	Z value
Dependent variable:		
Age of the out of labor women		
Age_1	.129	5.72
Age_2	.061	3.52
Marital status of the out of labor women		
Ever married	.114	6.30
Education of the out of labor women		
Higher secondary	-.037	2.22
Graduation	-.131	5.81
Higher	-.319	11.05
Professional	-.199	3.83
Who is deciding for her paid employment		
Head alone	.118	8.90
Head spouse	.042	2.89
Head with women	.021	1.13
Head and spouse with women	.022	0.93

Head with other	.024	0.81
Woman is not interested	.130	11.76
Children at home		
Children (0-4)	.001	0.10
Children (5-9	.019	3.06
Children (10-14)	-.012	2.06
Consumption expenditures		
Quintile2	.038	1.35
Quintile3	.027	0.94
Quintile4	.053	1.99
Quintile5	.092	2.94
Head's education		
Primary	.011	0.55
Matric	.044	2.70
Graduation	.032	1.84
Higher	.023	1.05
Professional	.052	2.13
Head's occupation		
Manufacturing	-.019	-0.85
Services	-.016	-1.23
Head's Sex		
Female	-.023	-1.16
Family type		
Joint	.002	0.18
Region		
Urban	.064	4.74
Punjab	.054	2.01
Sindh	.018	0.69
KPK	.013	0.49

Source: PSLM 2013-14

Why educated women are not interested in paid employment?

Since our analysis shows that quite a few of the women are of the view that they are not interested in paid employment so we further probe the reasons for not taking interest in paid employment by using the micro data set of PSLM 2013-14. We got a few very interesting insights on this issue. The majority of the women reported that they are not interested because they are not allowed by their household heads to opt for paid employment. A sizeable proportion of 46 % women reported that they are so busy in domestic work that they don't find enough time to join labor market activities; whereas 10 % women say that they do not want to work outside home and 8 % women are of the view that they do not know if there are not enough job opportunities available for them.

Table 4: Reasons for women not actively seeking paid work:

Reasons for not actively seeking paid work	Percentage of women
Husband/ Head of the household does not permit	32
Does not want to work	10
Not enough employment opportunities	8
Low pay	2
Busy with household responsibilities	46
Not well aware of different employment opportunities	0.5
Any others	1.5

Source: Author's calculation from PSLM 2013-14

Conclusion & Policy Implications

The study used micro data of PSLM 2013-14 for the out of labor women analysis for Pakistan. We used probit model to estimate the factors that are influencing educated women to stay out of the labor force in Pakistan.

The study draws very important inferences for the policymakers. The study finds out that as compared to the base category Balochistan, Khyber Pakhtunkhwa and Punjab are those provinces where most of the educated women are out of labor force. Theoretically, it is assumed that the urban women are more empowered than their rural counterparts. However, our analysis depicts that the majority of the out of labor force educated women reside in the urban areas. We included a very important variable in our analysis that is, who decides for women to opt for paid employment. The study reveals that it is less likely for women to participate in labor market activities when the head of the household decide for women to opt for paid employment. It does not make any difference if the heads of the household decide it alone or with other members of the family. In each case, it is less likely for women to opt for paid employment as compared to the base category when women themselves decide it.

As far as the ages of the out of labor force women are concerned, it has been noted that as compared to the base category (40-49 years) most of the women belonging to younger age groups are out of labor force. It has been noted that woman's education is negatively associated with her out of labor force status. It is found that majority of the out of labor force women's heads of the household have primary and above level of education and they are employed either in manufacturing or in services sector as compared to the base category agriculture sector. The empirical analysis supports this notion that women who belong to high consumption quintiles are more likely to stay out of the labor force. When we further probe the question that why women are not interested to take part in paid employment, our analysis also supports our previous findings. Most of the women reported that their heads of the households do not allow them to take part in labor market activities or they are too busy to spare time to join labor market activities.

Based on our analysis we will suggest the following policy implications:

- It is important to create awareness through social and mass media for the heads of the households that they should not restrict women at home. There is a need to empower our educated women by their parents, brothers, and husbands and let them decide about the employment opportunities.
- Since many urban educated women are not opting for paid employment, it could be related to discouraged worker effect. It is necessary to create new job opportunities for urban educated women so that they can utilize their potential properly.
- Another important issue is that most of the women are of the view that they do not have information about job opportunities; therefore job opportunities should be widely advertised and also a job information portal should be established at national level and sub-national and local levels, where different public and private sector job opportunities are posted for the information of educated women.

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