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DOES THE GENDER OF THE HEAD OF THE HOUSEHOLD AFFECT THE LABOUR MARKET OUTCOMES FOR FEMALES? AN EMPIRICAL ANALYSIS FOR PAKISTAN BASED ON LABOUR FORCE SURVEY (LFS 2017-2018)

Higher women's labour force participation (LFP), is a significant contributing factor in achieving economic growth, poverty reduction, and female empowerment. Although women's LFP increased from 14% in 2001-02, to 20% in 2017-18, Pakistan is still lagging behind in women's labour market participation compared to countries on a similar development ladder. The presented study explored the contributing factors of low female LFP in Pakistan for male and female-headed households separately, using the micro data set from Pakistan Labour Force Survey 2017-18. The empirical evidence for the contributing factors of female LFP suggests that urban women are less likely to be engaged in work activities. Women with higher education, from extended families and those who received vocational training, will engage more in labour market activities. Regarding the heads of households, the results reveal that women from female-headed households supply their labour services more than those from male-headed households. The authors infer from their analysis that due to gender norms and patriarchy at the household level, most women from male-headed households are not part of the labour force.

Keywords: women's LFP, female-headed household, Pakistan

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1. INTRODUCTION

Increasingly, a higher women's labour force participation (LFP) is recognised as a crucial factor for economic development as it not only empowers women but also generates an additional supply of human capital which ultimately reduces

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poverty (Klasen & Pieters, 2015). A society with economically empowered women also possesses other associated benefits, such as educational attainment, improved nutrition and more women's engagement in household decision making. However, the literature contributes several contextual factors which cause lower women's economic participation. These factors include women's mobility, traditional cultural norms prevailing in society, and fertility (Andlib & Khan, 2018; Sarfraz et al., 2022). Among these contextual factors, some recent studies have indicated culture and gender role attitudes to be critical in explaining women's labour supply (e.g. Cavapozzi et al., 2021; Xiao & Asadullah, 2020; Ucal & Günay, 2019).

Regarding labour market participation, men and women exhibit different behavioural patterns; men prefer to be part of the labour force immediately after completion of their studies, whereas women face constraints that arise from childbearing and other household responsibilities. Additionally, there are cases of job market discrimination against women (Yasin et al., 2010). Moreover, unlike men, women are heavily concentrated in a few specific job categories like nursing, teaching, secretarial work, sales, and various service occupations. Empirical evidence also reveals occupational segregation between men and women (Blau & Kahn, 1996; Teo, 2003; Zveglich & Rodgers, 2004; Nasir, 2005; Ahmed & Hyder, 2008). Pakistani society is essentially considered as having patriarchal cultural norms, hence its labour market is also characterised by gender differentials and occupational segregation (Farooq & Sulaiman, 2009; Sabir & Aftab, 2007; Naheed et al., 2012; Irfan et al., 2013).

The literature also suggests that the number of female-headed households is relatively low due to patriarchal norms in society that restrict women in making independent decisions in the presence of male household heads (Buvinić & Gupta, 1997). Moreover, in many low-income countries, female-headed households are considered unusual and isolated (Chant, 1997). Nevertheless, even if households are headed by women in the form of *de jure* (by widows) and *de facto* (wives of migrants), they experience different challenges in terms of women's role in the labour market and everyday household activities (Rajkarnikar & Ramnarain, 2020). Pakistan is a lower-middle-income country with a high incidence of feminisation of poverty (Qazi et al., 2013) and strict gender norms, where female-headed households are mainly those where the husband has migrated, is disabled, or dead (Mannan, 2003). These constitute 14% of the household in Pakistan, whereas 86% of households are headed by males (Government of Pakistan, 2018).

The existing empirical evidence has linked several phenomena with female-headed households, such as the household's poverty situation (Buvinić & Gupta, 1997; Fuwa, 2000), access to assets, land ownership, education (Lewis, 1993; Mannan, 2000), and health promotion (Siddiqui & Bergquist, 2021). However, to the best of the authors' knowledge, there is a lack of studies centred around the labour market outcomes for women from female-headed households. This study is an attempt to contribute to the literature on female-headed households and

addresses the issues pertaining to the labour market conditions for women. The study utilised the Pakistan Labour Force Survey 2017-18 to examine the prevalence of female headship, the household and individual level characteristics of male- and female-headed households, and the impact of male and female headship on women's labour force participation. The analysis presented in this paper is valuable as it aimed to disaggregate women's LFP patterns for male- and female-headed households separately. This allows for a detailed and closer analysis of the implications of male versus female headship for women's LFP. Moreover, the objective was also to identify any distinctions between the characteristics of male and female-headed households.

Considering the above, the research addressed the following research objectives:

- investigate the link between household and individual level factors and women's LFP,
- explore the association between gender of household head and women's LFP.

The structure of the paper is organised as follows. Section 2 briefly presents the overall situation of women's LFP in Pakistan and its comparison with other South Asian countries. Section 3 provides a selective literature review on female LFP. The econometric methodology is presented in Section 4. The data source and variable definitions are given in Section 5. Section 6 presents the empirical findings, and lastly, Section 7 presents the conclusion and policy implications.

2. TRENDS IN WOMEN'S LABOUR FORCE PARTICIPATION IN PAKISTAN

In an effort to better understand women's LFP in Pakistan, it is essential to analyse its time-trend, and then look at its regional characteristics. In this section, the authors present the rural-urban comparison of female LFP in Pakistan, and in addition examine it across provinces. Regarding the share of women's employment, the majority i.e. 73% are engaged in the agricultural sector. Primarily, the proportion of females working in the public sector is low because of the slow transition from agriculture to the public sector (Government of Pakistan, 2018). Another underlying problem is the lack of association between women's labour market outcomes and education. In the last three decades, there has been a huge influx of women into higher education, but it is not translating into favourable labour market conditions for women mainly due to gender discrimination. Another point of concern is that women's LFP is overstated due to the inclusion of contributing family workers in the labour force.

Figure 1 presents the trends in women's LFP in Pakistan and rural-urban comparison over time. It can be observed that there was a sluggish rise in women's LFP in Pakistan from 2001-02 to 2017-18. It increased slightly from 14.4% in 2001--02 to 20.1% in 2017-18. Moreover, rural LFP stood at 16.8% in 2001-02 and rose to 25.6% in 2017-18. Regarding rural trends in women's LFP, it should be noted

that this is overstated because 55% of women who are unpaid/contributing family workers, were included in the labour force as of 2015, which dropped slightly to 52% in 2018 (Government of Pakistan, 2018). In urban areas, women's LFP has almost remained stagnant during these years, i.e. from 10% in 2001-02 to 11.1% in 2017-18. Figure 2 presents the province-wise trends in women's LFP rate in Pakistan from different LFS survey reports. In Punjab, women's LFP was 19.9% in 2001-02 which increased to 26.5% in 2017-18. However, in Sind, KPK, and Balochistan, the LFP rate has persisted at the same level in comparison to Punjab (Government of Pakistan, 2018).

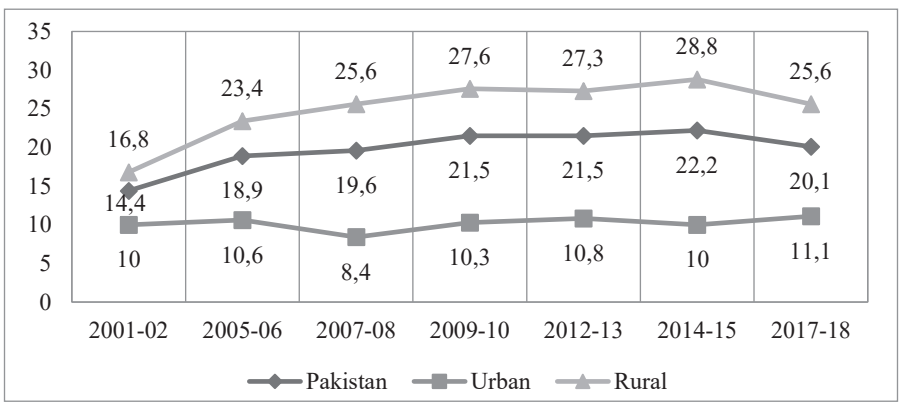

Fig. 1. Overall and rural-urban comparison of women's LFP in Pakistan

Source: LFS, Government of Pakistan, (2017-18).

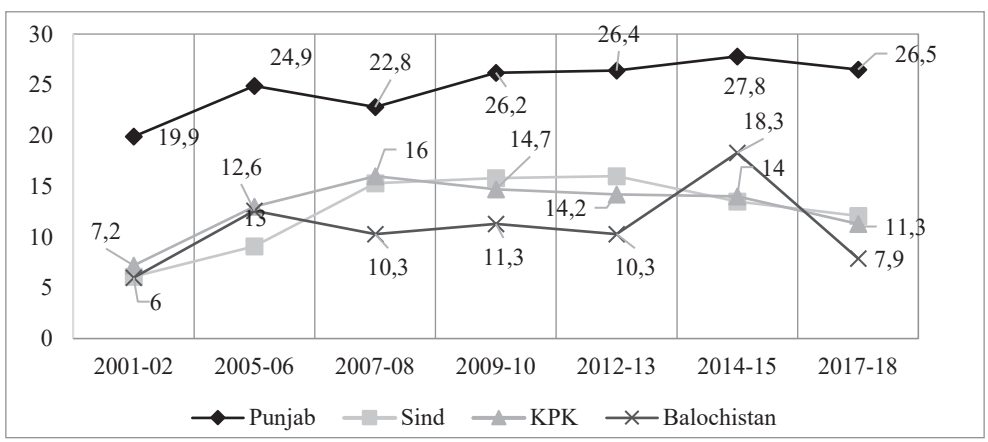

Fig. 2. Province-wise trend in women's LFP in Pakistan

Source: LFS, Government of Pakistan, (2017-18).

3. REVIEW OF LITERATURE

The pioneering work of Mincer (1962) and Becker (1965) drew the attention of researchers around the globe to deeply explore the female labour supply from several countries. The results were derived by utilising various econometric techniques on different types of data sets. A South African study by Ntuli (2007) explained the factors that affect women's LFP decisions and found education to be positively associated with women's LFP. However, the study found a negative impact of non-labour income, number of children, and geographical variations in the economic development on women's LFP. Another study revealed the reason for low female LFP to be the combination of supply and demand side of the labour market in India (Klasen & Pieters, 2015). Additionally, a study from Cameroon also looked for several factors responsible for the change in women's LFP (Fika & Sokeng, 2016). Among these factors, age, education, location, female-headed household, and financial stability positively affect women's LFP. Anweh & Thomas (2018) constructed an employment vulnerability index for private-sector workers in Cameroon. According to the analysis, female workers from the informal sector and young age groups are more vulnerable. Workers without tertiary education and residing in rural setting are heavily experienced by vulnerable employment.

In recent literature, female headship has attracted specific attention. Widows who are household heads face challenges and difficulties in dealing with societal insecurity, and loss of livelihood in societies affected by wars and violent conflicts (Brück & Schindler, 2009). Regarding the effects of malehousehold-head outmigration, a study from Mexico found that it greatly alters gender practices and transforms cultural beliefs (Cohen et al., 2008). Studies also analysed women's autonomy, labour market participation, decision-making in households, and the mobility increase from female-headed households (Lipton, 1980; Sadiqi & Ennaji, 2004). Contrary to these findings, some studies revealed that women heading a household may be discouraged from out-of-home employment due to expected harassment they may face in absence of a male partner (Adhikari & Hobley, 2015). In another study from Nepal, its authors found that women household heads in remittances-receiving households have lower labour market participation compared to households with no remittances (Lokshin & Glinskayai, 2008).

In the recent years there were many studies in labour economics which focused on cultural, social, and gender norms and their impact on women's LFP decisions; the authors intend to analyse some of these originating from various countries around the globe. Fernández (2007) discussed the role of cultural constraints on females' decisions to take part in labour market activities for second-generation US women. The study used parents' characteristics and fertility as proxies for culture, and revealed a few interesting insights. For women whose parents belong to those countries where female LFP rates are low, the women's labour supply is low and vice versa if women's parents belong to those countries where female LFP rates are high.

Similarly higher levels of education of husbands and wives are negatively associated with fertility trends, however high household incomes are positively associated with the high incidents of fertility in the selected sample of US women. Gedikli (2014) discussed the role of social and gender norms on female LFP decisions for Turkish women. The study indicates that social and gender norms affect women's labour market participation, irrespective of their area of residence and levels of education. However, highly educated urban women have the edge in labour market participation compared to less-educated rural women; due to the prevailing gender norms, less-educated rural women work as unpaid family workers. The study suggested that policymakers should formulate policies such as childcare centres for mothers to participate in the labour market. Hosney (2016) illustrated women's economic participation in cases of Germany and Egypt, and highlighted that the heads of the household play an important role in FLFP decisions.

Ramírez & Ruben (2015) elaborated the role of gender norms in female LFP in the salmon industry of Chile. According to the empirical analysis, age and education are positively associated with female LFP decisions in Chile, whereas married women with children have lower LFP. Most of the selected women held the view that they have to face gender constraints to enter the labour market, because in Chilean society women are considered to be homemakers and they are less likely encouraged to enter the labour market. Another study observed the impact of gender and social norms on female LFP in Bangladesh (Heintz et al., 2018), and presented few interesting inferences with respect to gender norms for traditional societies. Divorced and widowed women are more economically active than those from male-headed households. However, the presence of the youngest children at home and larger household size is negatively associated with mothers' employment status. Women's education is following a U-shape pattern, with the secondary level of education threshold. Religion is an important determinant for female LFP and there is a lesser probability for Muslim women to opt for paid employment compared to their non-Muslim counterparts. Socioeconomic status and household head education has a negative impact on women's LFP decisions.

Chen & Ge (2018) observed the impact of social norms on female LFP among married women in urban China. The study showed that husbands are more likely to encourage their wives to participate in the labour market if they were raised by working mothers and vice versa. Women's education has a positive influence, whereas husbands' income and the number of children have a negative impact on wives' decisions to be part of the labour market activities. Yet, living with one's in-laws positively influences women's decisions to enter into the labour market in urban China. According to Codazzi et al. (2018), in China it is usually perceived that men are supposed to earn more compared to their wives, and if the wives are earning more there are more chances of divorce. The study analysed the same hypothesis for Brazil, and concluded that wives who are more likely to earn higher wages than their husbands are less likely to obtain permission to participate in the labour market.

However, the wives are encouraged to indulge in labour market activities only if they work fewer hours and opt for those occupations where they have lower potential incomes as compared to their employed husbands.

The authors also extend the review of literature on female LFP with special reference to Pakistan. One of the studies explored the socio-economic factors that are affecting female LFP in the public sector of Pakistan (Khadim & Akram, 2013). The study used data from PSLM (Pakistan Social and Living Standards Measurement) survey, 2007-08, and concluded that female LFP in public sector is significantly associated with graduation or above levels of education. Being married and living in a nuclear family setup is positively associated with female LFP decisions. Moreover, another study found that marital status, education, and the presence of children older than 10, are positively associated with women's economic participation decisions, whereas children below 10 years of age, household assets, household size, and women's health status (suffering from a disease) negatively influence the labour supply (Shaheen et al., 2015). Regarding rural women's labour supply, another study concluded that women's age, family setup (nuclear or joint), husband's health status, presence of young children, and income sources at household level, are important factors that affect women's decision to work as agriculture workers (Awan et al., 2015). However, most of the women are not in labour force due to the cultural norms in the selected area.

After analysing the literature, it was observed that most of the existing studies focused mainly on the determinants of female LFP. However, detailed analysis with respect to household headship and women's LFP is yet to be undertaken. Although in traditional societies, the head of the household plays an important role in decision-making. Thus, given the fact that the male household decides about the employment decisions of the women in the household, it becomes an important factor while discussing the women labour supply decisions. This study used the latest available data set from the Labour Force Survey 2017-18, and explored the household and individual factors for male and female-headed households. The study is particularly relevant to developing economies where the heads influence households' decision making which may affect women's labour supply decisions.

4. METHODOLOGY

4.1. The linear probability model

On the empirical side, the authors estimated their models by the ordinary least squares method. The linear probability model explains a binary response using regression analysis.

$$d_i = X_i\beta + u_i \tag{1}$$

However, one cannot ignore the two drawbacks of the linear probability model. First, the fitted probabilities can be less than zero or greater than one, and second, the partial effect of any explanatory variable is constant (Wooldridge, 2015). To overcome these drawbacks, the study also applied the binary logit model for the analysis of female LFP.

4.2. The logit regression model

Since the dependent variable is in a binary form, the binary logit model for the empirical estimation was used. The general form of the empirical model is:

$$y_{ij}^{*} = \alpha + \sum \beta_k x_k + \varepsilon_{y_{ij}^{*}}, \tag{2}$$

where y_{ij}^{*} is 1 when a woman is part of labour force activities, and 0 if the woman is not in the labour force; x_k is the vector of regional and household-level characteristics that affect women's LFP, and $\varepsilon_{y_{ij}^{*}}$ is the error term.

$$y_{ij} = \begin{cases} 1, \text{ if } y_{ij}^{*} = 1 \\ 0, \text{ if } y_{ij}^{*} = 0 \end{cases} \tag{3}$$

Equation (3) in terms of the observed binary variable y_{ij} has the form:

$$Pr\left(y_{ij} = 1\right) = y_{ij} = G\left(x_k \beta_k\right), \tag{4}$$

where G(×) has the binomial distribution (Wooldridge, 2015; Norton et al., 2019). To interpret the results, the authors calculated marginal effects (ME) as given in equation (5).

$$y_{ij} = Pr\left(y_{ij} - 1\right)\left(1 - Pr\left(y_{ij} - 1\right)\right)\beta_k \tag{5}$$

As stated earlier, the objective of the study was to analyse the effect of the gender of household heads on women's LFP in Pakistan. As mentioned previously, in order to accomplish the objectives the authors apply linear probability models (LPM) and binary logistic models. Three regressions and the models take the following forms.

Model 1

$$FLFP = \alpha_0 + \alpha_1 X_i + \mu \tag{6}$$

In model 1, if FLFP = 1, then it represents the case when the respondent woman is either working or looking for work, whereas the reference category is when a woman is not in the labour force; X_i is the explanatory variables and μ is the error term.

Model 2

$$FLFP_{MH} = \beta_0 + \beta_1 X_i + \mu \tag{7}$$

Model 2 elaborates the case of the male household head. The model captures the female labour force outcomes in the case of male-headed households. The hypothesis is that females in the male-headed households are less likely to be part of the labour force.

Model 3

$$FLFP_{FH} = \beta_0 + \beta_1 X_i + \mu \tag{8}$$

Similarly, Model 3 illustrates case where the head of the household is a female, where X_i represents a vector of different socio-economic and demographic variables, female worker's age, education status, area and province of residence, and household heads characteristics, etc.

5. DATA AND VARIABLES CONSTRUCTION

The study utilised the data set from the Pakistan Labour Force Survey (LFS) 2017-18,whose most important objective is to collect comprehensive and reliable data for government, international agencies, and researchers. This information is useful for employment generation, skill development, and outlines the quantity and quality of employment. The Pakistan Labour Force Survey also compiles data on different dimensions of the labour force, i.e. number of persons who are employed, underemployed, unemployed, and out of the labour force. Furthermore, the LFS collects information about the different employment statuses, occupational categories, the number of hours worked, and the demographic characteristics of employed, underemployed, unemployed, and out of labour force persons. The reference period is one week before the date when the survey was carried out. The total sample size for this study was 68,330 women. Next, the authors divided their estimation into two parts; first, to see the overall picture and explore the individual and household factors behind low female LFP in Pakistan, then to divide the sample concerning the gender of the head of the household and observe LFP decisions of women in male-headed households, and followed by female-headed households. Table 1 presents an explanation of dependent and other independent variables.

Table 1

Definitions of variables

Variable	Definition
Outcome variable:	
FLFP	=1 if a woman is in the labour force; 0 otherwise.
Included explanatory variables	
Woman's characteristics	
Age	Woman's age in completed years (15 to 65 years).
Agesqu	Square of the age
Marr	= 1 for every married woman (reference category: never married)
Prima	= 1 if a woman attains 5 years of schooling
Midd	= 1 if a woman attains 8 years of schooling
Mat	= 1 if a woman attains 10 years of schooling
Secon	= 1 if a woman attains 12 years of schooling
Gradu	= 1 if a woman attains 14 years of schooling
High	= 1 if a woman attains > 14 years of schooling (reference category: no formal education.
TVT	= 1 technical/vocational training (reference category: no TVT)
Nat	= 1 a woman is native in a province (reference category: migrated woman)
Household head characteristics	
HHF	= 1 HH head is a female; 0 otherwise. (reference category: male HH)
HH Age	Age of the HH head
HH Some Edu	=1 if HH head completed class 1-9
HH 10 years or more Edu	=1 if HH head completed class 10 or above (reference category: no formal education)
HH Emp	=1 if HH head is an employer
HH Paid	=1 if HH head is a paid employee
HH Self	=1 if HH head is a self-employed
HH Contri	=1 if HH head is a contributing family worker; 0 otherwise (reference category: neither working nor looking for work)
Household characteristics	
SizeHH	Household size
Child	Children 0-5 years of age
JFam	= 1 joint family; 0 otherwise. (reference category: nuclear family)
Region	
Urb	= 1 urban area (reference category: rural area).
Pun	= 1 Punjab
Sin	= 1 Sindh
KP	= 1 KPK (reference category: Balochistan province)

Source: LFS 2017-18.

5.1. Descriptive statistics

Table 2 presents the descriptive statistics illustrating that in this analysis, 14% of heads of the household are female, whereas the rest of the households (86%) are headed by males. The descriptive statistics elucidated a few interesting insights. The average age of women was 33, however, for female-headed households it was 35. In the selected sample, most of the married women are not in the labour force (81% in the overall and male-headed sample), whereas the proportion of married women in the female-headed households amounts to 77%, and a large number of women are from rural areas. Similarly, the descriptive statistics illustrate that majority of the women come from Punjab province in the three models. However, a notable point is that the lowest number of women who are engaged in labour force activities and belong to the female-headed households, is located in Balochistan province. Punjab province is the most developed in terms of human development indicators, and therefore the study observed there less evidence of stereotypes compared to KPK and Balochistan province. Besides, in Balochistan and KPK provinces, gender norms are stricter compared to the rest of those two provinces. The next included variable was the level of education of the respondent woman. The authors could not find promising results in this regard, as more than half of the respondent women have no formal education. However, this proportion is comparatively lower, i.e. 51% in the case of female-headed households. On the other hand, only 2% of women have higher education, i.e. M.A./M.Sc./M.Phil./Ph.D. in the overall sample, as well as in the female-headed household sample. One can infer from the analysis that aside from lesser human capital, these women have little social capital (cognitive skills) which are also extremely important in the workplace.

The descriptive statistics suggest that only 11% of women migrated from another province to their province of residence at the time of the survey in case of the overall sample. However, if one looks at the female-headed household sample, then a comparatively higher number of women (18%) are migrants, and they are part of labour force activities. In addition, this proportion is 3% higher compared to women from male-headed households and are part of the labour force activities. In the overall and male-headed sample, 14% of women received any kind of TVT, however once again, the proportion is 4% higher in female-headed households.

The average age of a household head was 46 in the overall sample for Pakistan, however, it was comparatively lower (44) in female-headed households. The authors also included education levels of household heads in the analysis, divided their education into three categories: no formal education, some education, and 10 and more years of education. Most of the heads of the household in the three samples had no formal education; this proportion was higher in female-headed households. Regarding the employment status of the head, mostly they are self-employed workers and the same is true for the male/female-headed households' subsamples. However, in the female-headed household sample, a sizeable proportion of women were not currently working.

Table 2

Descriptive statistics

Explanatory variables	Pakistan	Male-headed	Female-headed
Women's characteristics			
Age	33.73	33.72	35.08
Agesqu	1297.67	1297.66	1403.31
Marr	0.81	0.81	0.77
Unmarr	0.19	0.18	0.22
NoEdu	0.62	0.62	0.51
Prima	0.13	0.15	0.17
Midd	0.07	0.07	0.1
Mat	0.09	0.07	0.11
Secon	0.04	0.04	0.05
Gradu	0.03	0.04	0.04
High	0.02	0.01	0.02
TVT	0.14	0.14	0.18
NoTVT	0.86	0.86	0.82
Nat	0.85	0.85	0.83
Mig	0.15	0.15	0.18
Household head characteristics			
HHM	0.86	–	–
HHF	0.14	–	–
HH Age	46.79	46.79	44.03
HH NoEdu	0.45	0.43	0.65
HH Some Edu	0.42	0.3	0.21
HH 10 years or more Edu	0.13	0.27	0.14
HH Emp	0.02	0.01	–
HH Paid Emp	0.31	0.31	0.11
HH Self	0.5	0.5	0.18
HH Contri	0.01	0.02	0.03
HH Not working	0.16	0.16	0.68
Household characteristics			
Size	7.4	7.52	5.60
Child	0.59	0.59	0.47
Nuc	0.44	0.56	0.72
Joint	0.56	0.44	0.28
Region			
Urb	0.34	0.34	0.32
Rur	0.66	0.66	0.68
Pun	0.5	0.5	0.68
Sin	0.23	0.23	0.06
KP	0.16	0.16	0.25
Balo	0.11	0.11	0.01

Source: LFS 2017-18.

Female LFP is also influenced by household size, namely 7 persons in each household in the selected sample. It was observed that family structure also affects the female LFP decisions. A sizeable proportion of women (44%) belong to the nuclear family system, while in the case of female-headed households, the vast majority(72%) of women belong to the nuclear family system.

6. THE ESTIMATION RESULTS OF LPM AND THE BINARY LOGIT MODEL

This section illustrates the empirical results of the three models analysed for the overall sample, and two subsamples, i.e. male-headed households and female-headed households. The hypothesis is that women in male-headed households have lower LFP than those from female-headed households. This can be justified on several grounds, e.g. the patriarchal social norms that prevail in conventional societies; one of the most significant reasons is that most male heads exercise controlling behaviour and restrict women's LFP. Female-headed households comprised the orphan, divorced, or widowed women, and these households are most likely to be vulnerable to the poverty trap. Therefore, in female-headed households, most of the women take part in labour force activities out of their financial need. In this analysis, in a female-headed household, there was a 7% higher probability for being in the labour force than for women from the male-headed households, which supports the formulated hypothesis.

The authors made prominent findings in terms of regional distribution. It is normally perceived that urban women are more empowered, and they prefer to be employed, yet this empirical investigation provides the opposite insight. The empirical estimation reveals that urban women are not in the labour force in the overall sample for Pakistan and male-headed households. The results are consistent with (Sefiddashti et al., 2016), highlighting the true situation of urban women and their employment outcomes. In Pakistan, urban women are facing higher unemployment compared to rural women, and the urban unemployment rate is much higher (17.5%) than their rural counterparts (8.3%). However, urban women are more likely to join the labour force, still this finding is insignificant.

The age of the respondent woman is another essential factor to influence female LFP (Faridi & Rashid, 2014). It is evident from the estimation results that age positively influences female LFP decisions, even though the magnitude is the highest for the women who belong to female-headed households. The authors also included age squared in the analysis. The study observed an inverse association between age squared and female LFP, which reveals that as the age of the selected women increases, the female LFP increases, but at a decreasing rate – also called the inverse "U shape" pattern of female LFP in the literature. These results are in line with the prior literature for Pakistan (Andlib & Khan, 2018, 2019; Sarfraz et al., 2021). When compared to Balochistan province, women from other provinces, i.e. Punjab, Sind,

or KPK, have a higher probability to be in the labour force if the household head is a male. However, in female-headed households, this effect is significant in the case of Punjab and Sind province only, because Balochistan and KPK province are stricter in terms of gender norms.

In the overall sample for Pakistan, it is (11%) less likely for married women to indulge in labour force activities, however, in the female-headed households subsample, there is a 10% lower probability for married women to be in the labour force. The result is in line with studies such as (Arango & Posada, 2007; Sarfraz et al., 2021). It is evident from the analysis that a lesser proportion of married females from female-headed households are not in the labour force, than in the case of women from male-headed households.

The earlier literature describes a significant interconnectedness between education and female LFP. Table 3 illustrates that in the overall sample and male-headed households, women with lower levels of education have a lesser probability to engage in the labour force. However, with higher levels of education, empirical results show a somewhat promising situation. The same result holds for women from female-headed households. Here, the difference between male and female-headed households is obvious. The magnitudes of the coefficients for primary, middle, and secondary levels of education are negative but smaller in the case of female-headed households, whilst in the female-headed household, the threshold is starting from the higher secondary level of education. It reveals that in female-headed households women feel a sense of responsibility to support their family, therefore they prefer to engage in the labour force even with the higher secondary level of education. These empirical findings are in line with the existing literature, e.g. Kanjilal--Bhaduri & Pastore (2018) elaborated a U-shape interconnection between education and employment in India. According to the empirical findings, the probability of participating in the labour market increases after a threshold level of education, i.e. secondary level. Furthermore, many studies incorporated the role of education in female LFP in Pakistan and other economies (Qadir & Afzal, 2019; Tanaka et al., 2020; Oryoie & Vahidmanesh, 2021).

Household head's education is another essential variable to influence the women's labour force status. The earlier literature also used the education of the head as a proxy for income. There are few very clear indications in this regard. In the overall sample for Pakistan and male-headed subsample, in those households where the household head has some education or 10 years or more of education, women have the lesser probability to be employed. This could be attributed to the commonly known "income effect" in labour economics, when taking education as a proxy for income (Andlib & Khan, 2018). However, the situation is a bit different in female-headed households. When compared to the 'no formal education', if a female head has some education, women have a higher probability of LFP. Overall, it was indicated from the empirical analysis that mostly women are in the labour force to support the financial needs of the family. In cases when the male head of the household is not well educated, then

he must be either working on his own-account or is a contributing family worker. Therefore, the women help their heads by taking part in the labour market. Concerning the employment status of the household head, a few interesting findings were observed, such as that irrespective of the selected sample, there is higher women's LFP except for women from not working household head families.

Table 3

LPM and binary logit estimates of women's LFP

Explanatory variables	Pakistan		Male-headed households		Female-headed households	
	LPM	ME	LPM	ME	LPM	ME
1	2	3	4	5	6	7
Women's characteristics						
Age	0.018*** (0.005)	0.019*** (0.007)	0.017*** (0.003)	0.018*** (0.004)	0.028*** (0.006)	0.043*** (0.011)
Agesqu	0.001*** (0.000)	-0.001*** (0.000)	0.00*** (0.000)	-0.001*** (0.000)	0.000*** (0.000)	-0.001*** (0.000)
Marr	-0.092*** (0.031)	-0.112*** (0.029)	-0.111*** (0.029)	-0.321*** (0.022)	-0.066*** (0.020)	-0.071** (0.034)
Prima	-0.094*** (0.023)	-0.086*** (0.043)	-0.096*** (0.026)	-0.087*** (0.021)	-0.076*** (0.020)	-0.082*** (0.024)
Midd	-0.116*** (0.027)	-0.106*** (0.038)	-0.117*** (0.023)	-0.107*** (0.029)	-0.069*** (0.025)	-0.070** (0.035)
Mat	-0.114*** (0.019)	-0.116*** (0.039)	-0.116*** (0.034)	-0.119 (0.046)	-0.048** (0.024)	-0.073** (0.037)
Secon	-0.069*** (0.022)	-0.068*** (0.022)	-0.074*** (0.025)	-0.076*** (0.021)	0.015 (0.012)	0.037* (0.021)
Gradu	0.024*** (0.008)	0.048*** (0.012)	0.025*** (0.008)	0.050*** (0.013)	0.028 (0.025)	0.065** (0.033)
High	0.238*** (0.060)	0.343*** (0.069)	0.225*** (0.060)	0.324*** (0.063)	0.277*** (0.069)	0.466*** (0.113)
TVT	0.222*** (0.072)	0.254*** (0.051)	0.228*** (0.078)	0.260*** (0.061)	0.121*** (0.040)	0.231*** (0.045)
Nat	0.051*** (0.013)	0.059*** (0.020)	0.053*** (0.015)	0.059*** (0.018)	0.036*** (0.007)	0.059*** (0.010)
Household Head Characteristics						
HHF	0.072*** (0.020)	.093*** (0.025)	–	–	–	–
HH Age	0.000** (0.001)	-.000*** (0.000)	-0.001*** (0.000)	-.001*** (0.000)	0.001** (0.000)	0.002*** (0.000)
HH Some Edu	0.060*** (0.015)	0.051*** (0.016)	0.062*** (0.013)	-0.052*** (0.010)	0.010** (0.005)	0.008** (0.004)

1	2	3	4	5	6	7
HH 10 years or more Edu	-0.061*** (0.019)	-0.092*** (0.018)	-0.194*** (0.019)	-0.144*** (0.018)	-0.036 (0.029)	-0.052 (0.042)
HH Emp	0.038*** (0.010)	0.002 (0.002)	-0.046*** (0.015)	-.087*** (0.022)	_	_
HH Paid	0.109*** (0.022)	0.156*** (0.040)	0.008 (0.007)	0.013** (0.006)	0.653*** (0.163)	0.774*** (0.257)
HH Self	0.190*** (0.059)	0.219*** (0.062)	0.091*** (0.015)	0.097*** (0.027)	0.737*** (0.144)	0.831*** (0.259)
HH Contri	0.289*** (0.063)	0.251*** (0.058)	0.061*** (0.016)	0.080** (0.040)	0.657*** (0.174)	0.774*** (0.249)
Household characteristics						
SizeHH	0.001 (0.001)	-0.011** (0.005)	0.001 (0.001)	-0.009* (0.004)	-0.004*** (0.001)	-0.006* (0.003)
Child	-0.010* (0.006)	-0.009*** (0.003)	-0.010*** (0.002)	-0.010*** (0.002)	0.005 (0.005)	0.007 (0.006)
JFam	0.017*** (0.004)	.014*** (0.004)	0.009*** (0.002)	0.007** (0.003)	-0.005 (0.004)	-0.017 (0.014)
Region						
Urb	-0.160*** (0.052)	-0.174*** (0.058)	-0.170*** (0.040)	-.184*** (0.038)	-0.001 (0.001)	0.002 (0.002)
Pun	0.117*** (0.028)	0.119*** (0.023)	0.120*** (0.023)	0.124*** (0.034)	0.057** (0.029)	0.045** (0.023)
Sin	0.022*** (0.006)	0.028*** (0.007)	0.025*** (0.006)	0.031*** (0.007)	0.080** (0.041)	0.085* (0.046)
KP	-0.040*** (0.010)	0.048*** (0.012)	0.047*** (0.009)	0.052*** (0.010)	0.009 (0.008)	0.034 (0.024)

***, **,* significant at 1%, 5% and 10% respectively

Source: LFS 2017-18.

Household size is another significant factor associated with female LFP in Pakistan. An increase in household size is negatively connected with female LFP in male-headed households and it is significant. The reason is that women have to take care of older family members and young children. Due to family responsibilities, they cannot take part in the labour force (Heintz et al., 2018; Darko & Carmichael, 2020). Similarly, the presence of the youngest children also becomes an obstacle for women to join the labour force (Chai et al., 2021). However, this relation is not significant in the case of a female-headed household. Furthermore, for male-headed households, women are in the labour force if they are residing together with their in-laws, and this evidence is consistent with (Akhtar et al., 2020),whereas in

female-headed households, living in the nuclear family system is more favourable for women to be in employment.

Nowadays, TVT (training/vocational training) plays an essential role in female LFP decisions (Torun & Tumen, 2019). The TVT unlocks new and better opportunities for women and marginalised groups. One can see if women receive any kind of TVT, then they are more likely to join the labour force. Mulugeta (2021) conducted a study for the Ethiopian economy and the empirical findings suggest that TVT is positively connected with female LFP. As expected, local women are also more likely to be part of the labour force in male and female-headed households.

CONCLUSION AND POLICY IMPLICATIONS

In traditional societies, the role of the household head is very important at household level. The gender of the head crucially impacts women's labour market outcomes. In most cases, the male head of the household does not allow women to take part in the labour force, on the other hand in female-headed households, women find this liberty to opt for employment opportunities to fulfil their financial needs. Therefore, this study compared the female LFP in male and female-headed households in Pakistan. The study used the data of the Labour Force Survey, and applied LPM and the logit model. The empirical analysis provided some interesting insights. Age followed an inverted "U shape" pattern irrespective of household headship. Women with graduation and higher levels of education have more LFP in male-headed households, whereas in female households, the threshold is the higher secondary level of education. TVT and non-migrant women have higher LFP in male and female-headed households.

Next, the authors incorporated the head of the household's age, education, and employment status in their analysis. Age has a negative correlation with female LFP in male as well as female-headed households. In the case of the head's education, one can draw some interesting insights. Compared to the reference category of no formal education, if the male head of the household has secondary and above level of education, then the probability is very low for women to join the labour force. Contrary to this, women from an educated female household headship have a higher probability of LFP. Similarly, regarding household heads' employment status, the empirical results show that, compared to the base category of non-working heads, in the case of other employment types of status, women are more likely to be in the labour force. This result is equally applicable for women irrespective of the gender of the head of the household. Furthermore, the youngest children also act as an obstacle for women to join the labour force. Household size also proved an essential variable in this study. As the empirical findings suggest, a large household size poses difficulties for women to join labour market activities because the women have to take care of their old age and other extended-family members.

Concerning the residential status of women, the authors surprisingly found that urban women have lesser engagement in the labour force than their rural counterparts. Furthermore, if the women come from Punjab province, then irrespective of the gender of the household head, there is a higher LFP. However, the probability of women in the labour force is low in the case of Balochistan province and also KPK province, where cultural norms are quite strict compared to Punjab province.

Overall, the empirical analysis concluded that there is a higher probability of women's LFP from female-headed households. However, the authors cannot rule out the issue of gender norms and the existence of patriarchy in the Pakistani labour market, as usually male heads of the households restrict women in their labour force activities. Therefore, there is lower probability for women to join the labour force in male-headed households. Furthermore, most female-headed households (in a particular context of divorced or widowed women) are vulnerable to poverty, and therefore, women in these households take it as a responsibility to engage in the labour force to fulfil their financial needs.

The statistical evidence presented in this paper suggests that the household decision-making patterns that constrain the labour market participation of female members of the household, also need to be adjusted by bringing about an attitudinal change at the household level regarding the value of a female's work in the labour market. A specific communication strategy needs to be devised and implemented through political messaging using the print and electronic media, social media, and interactions of the political leadership with the concerned segments of the society. Both male and female political leadership must strive to play a highly influential role in bringing about a positive attitudinal change at the household level for enhancing the role of females in all sectors of the economy of Pakistan.

The study provided a few important insights for future researchers. The research can be extended in various ways, for instance, given the low female LFP among urban women, the researchers can take the sample of urban women only and explore their labour force outcomes with respect to the gender of the household head. Then, based on their finding, the comparison can be made between rural and urban household heads and their role in determining female LFP. The research may use longitudinal data and compare the heads of the households' characteristics and their impact on female labour force activities for various years in Pakistan. In addition, this analysis can be carried out for four provinces separately, to compare where the role of the head of the household is more pertinent.

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