

## Factors That Affect the Participation of Female in Labor Force: A Macro Level Study of Pakistan

Dr. Rummana Zaheer<sup>1</sup>, Miss Sahar Qaiser<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Economics, University of Karachi

<sup>2</sup>Mphil, Department of Economics, University of Karachi

---

**Abstract:** This paper examines the factors that affect the Participation rate of female in labor force of Pakistan. Macro level factors such as Population of female, Unemployment rate of female, GDP growth rate of the country, Fertility rate of female and Mortality rate are used to show whether these variables have significant or insignificant effect on female labor participation rate. The data has been taken from 1990 to 2013. The major source of data is World Development Indicator. The Ordinary Least Square testing approach is used to run the regression. The result of the regression indicate that unemployment rate of female and mortality rate have a negative and significant impact, while population of female has a positive and significant impact on participation of female labor force. The other factors like GDP<sup>1</sup> growth rate of the country and Fertility rate have negative but insignificant impact on participation of female in labor force of Pakistan.

---

### I. Introduction

Men and women are two pillars of society and without their equal participation; no society can make any progress. As far as women are concerned, they are not less than men. But despite this, the participation rate of female in the labor force of Pakistan is substantially lower than men's in the world

Female labor force Participation is not only an important part of social and economic development, yet it is an important factor for the advancement of women. Factors effecting the employment of women are complex. At the microlevel, the decision of women about work is effecting by the factors like availability of jobs, number of children, husband's education etc. At the macrolevel, participation rate of female in labor force is determined by population of female, literacy rate and so on.

### II. Some Other Factors That Can Affect Participation Rate Of Female In Labor Force

#### Custom and Tradition

Custom and tradition is one of the social factors that reduce the female labor force participation rates. In rural areas of Pakistan, most of the female accept the social responsibility of child-care and housekeeping; so they are counted out from the civilian labor force and thus leads to low female participation rates. However, in urban areas, the effect of customs on labor force participation rate is reduced because of number of economic and demographic factors.

#### Level Of Education

Education is an important factor that affects the female labor force participation rate to a great extent. At the lowest education level, the participation rate of female in labor force is the lowest and as the education level increases, it also increases the participation rate of female.

#### Marital Status

Marital status is also the factor that affects the participation rate of female in labor force. In Pakistan, family is an important institution and in this institution women play a great role. Married women tend to have a low rate of participation especially in the presence of the small children. We also might have different reasons behind this. It might be husband's market work and it might be social and cultural values of the society.

### III. Comparison With Other Islamic Countries

In this section, we will make a short comparison of participation rate of female in labor force of Pakistan with other Islamic countries like Bangladesh, Iran, Iraq, Oman, Qatar, and Turkey. Table 1 shows the data of these countries from 2004 to 2013. From the table 1, it is cleared that the Bangladesh is the country which has the largest female participation rate from 2004 to 2013 among these countries. Qatar has second largest participation rate of female in labor force and Iraq has lowest female participation rate among all the countries that was listed above.

---

<sup>1</sup> Gross Domestic Product

**Table 1 Participation rate, female in labor force (% of female population)**

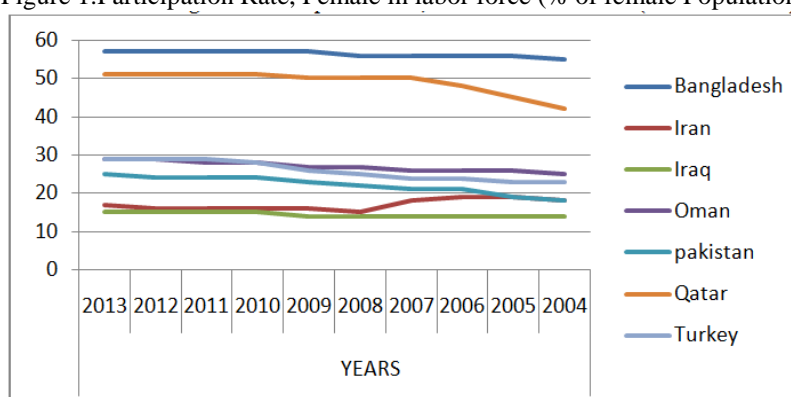
COUNTRIES	YEARS									
	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Bangladesh	57	57	57	57	57	56	56	56	56	55
Iran	17	16	16	16	16	15	18	19	19	18
Iraq	15	15	15	15	14	14	14	14	14	14
Oman	29	29	28	28	27	27	26	26	26	25
Pakistan	25	24	24	24	23	22	21	21	19	18
Qatar	51	51	51	51	50	50	50	48	45	42
Turkey	29	29	29	28	26	25	24	24	23	23

Source: World Development Indicator

Table 1 also shows that the participation rate of female in labor force in Pakistan is lower than Bangladesh, Oman, Qatar and Turkey but greater than the rate of Iran and Iraq. The same thing also shown with the help of figure 1.

Figure 1 basically shows the trend of participation rate of female in labor force of above seven Islamic countries. As time passes, the participation rate of female is increasing in almost all the countries but the increasing rate of Iraq is comparatively slow as compared to other countries.

Figure 1. Participation Rate, Female in labor force (% of female Population)



Source: Author's own estimation

#### IV. Review Of Literature

Over the several years, many researchers have done their study on the problem of participation Rate of female. These studies found the main determinants of Participation Rate of female in Labor Force by did a micro level study or by gathering a macro level data. The main findings of these studies are reviewed as under. Fong (1975) in his study saw the trend of change in participation rates of female in labor force from 1921 to 1957 and then related these to socio economic factors. Shah (1976) studied the cause and effect relationship between some economic variables and participation rate of female in labor force in all the four provinces of Pakistan. Sheehan and Standing (1978) found the relationship between participation rate of female in labor force and their education standard. Cramer, J.C (1980) did a study in fertility and female employment relationship and found a significant negative relationship. Rosenzweig and Schultz (1982) described the effect of female mortality rate on participation rate of female. He found that both are inversely related to each other. Irfan (1983) did a household based survey and found some social factors which affect the female labor supply of the country. For his finding, he used the Ordinary least square technique. Behrman and Wolfe (1984) investigate that number of years that female did study have a great impact on female labor supply. Smith and Ward (1985) found the negative relationship between education and female participation in the United States. For doing this study, he was conducting a questionnaire based survey from the household. Pampel and Tanaka (1986) found that the countries that have high Gross Domestic Product has the highest female labor participation rate, while the countries that have low Gross Domestic Product has the lowest female labor force participation rate. Rashed, Lodhi and Chisti (1989) investigate socio economic factors of women's labor force participation behavior for Karachi. Kozel and Alderman (1990) did a research and studied the factors determining work participation of females in urban areas of Pakistan by using Ordinary Least Square. Psacharopoulos and Tzannatos (1991) did a study and found that the education has a positive effect on female labor force participation. Malik (1994) did a household survey and concluded that women's age don't significantly affect women labor participation.

Goldin (1995) in his study found the relationship between participation rate of female in labor force and Gross Domestic Product. Aly and Quisi (1996) did a study to find the economic factors that affect women's participation rate. He concluded that Gross Domestic Product is positively related with labor force participation rate. Cheng, B.S (1996) investigates on causality between fertility rate and female labor participation rate. Klasen, S. (1999) did a study on Gender Inequality Reduces Growth and Development, for this he did a cross country regression. Brewster, K.L (2000) found a causality between fertility rate and female labor force participation rate in industrialized nations.

Azid (2001) studied the factors that affect participation rate of female in cottage industry of Pakistan. The study concluded that literacy rate has a positive impact on participation rate of female in labor force. Naqvi and Shahnaz (2001) have used cross sectional data from Pakistan Integrated household survey (1998-1999) and examined the effects of various socio-economic factors on women participation in economic activities. Ejaz (2007) took a micro data and did an empirical analysis of PSLM for finding the factors that affect the participation rate of female in labor force. Chauadhry and Nosheen (2009) studied the main factors that affect the empowerment of women in Southern Punjab of Pakistan. Bloom (2009) did a research and found that there is inverse relationship between fertility rate and female labor force participation rate.

Faridi (2009) estimate the model and concluded that mortality rate affects women's work participation rate in Pakistan. Salehi Esfahani and Shajari (2010) found positive relationship between population and participation rate of female in labor force. Muzi and Ahmed (2011) in their study investigate the negative relationship between unemployment rate of female and labor force participation of female in MENA<sup>2</sup> countries. Karshenas and Moghadam (2011) investigate the affect of GDP per Capita on participation rate of female. He found that higher GDP per capita allowed women to stay home in MENA<sup>4</sup> countries.

It can be detected from the literature that various economic factors have a significant effect on participation rate of female in labor force. However, it is felt that in each macro level study, the number of economic variable is only one. Means in each study, the researcher was took only one economic factor and found the significant impact of this variable. This study, is therefore, attempts to identify that what happen if we take more than one economic variable in a study, the coefficient are still significant or it become insignificant.

It is expected that this study will identifying the factors that are significantly affect female participation rate in labor force by improving the previous studies.

## V. Objective Of The Study

The main objectives of this paper are:

- i) To identifying the impact of multiple variables on labor force participation rate in Pakistan.
- ii) Point out some steps that will increase the participation rate of female.

## VI. Data And Methodology

To identify the effect of unemployment rate of female, Population rate of female, GDP growth rate of the country, Mortality rate and fertility rate on participation rate of female in labor force, the regression analysis has been used. For this purpose, annual time series data is collected from World Development Indicator for the period of 1990 to 2013. Participation rate of female in labor force is used as dependent variable, whereas population of female, unemployment rate of female, GDP growth rate of the country, Mortality rate and fertility rate are use as independent variable.

**Female labor force participation rate = B<sub>1</sub>+B<sub>2</sub> (population of female) + B<sub>3</sub> (unemployment rate of female) +B<sub>4</sub> (GDP Growth rate) +B<sub>5</sub> (Fertility rate) +B<sub>6</sub> (Mortality rate) +u<sub>i</sub>**

Here B<sub>1</sub> is constant and u represents an error term capturing all other omitted factors, measurement error and possible misspecification.

## VII. Estimation And Results

Regression analysis has been used to analyze the effects of independent variables on dependent variables, and the results are explained below.

**Table 2: Factors Effects Female Labor Force Participation Rate**

VARIBALES	COEFFICIENT	STANDARD ERROR	t-STATISTICS	P- Value
Constant	-68.3	58.4	-1.16	( 2 tail)
Population	2.57	1.019	2.5	0.022308
Unemployment rate	-0.151	0.066	-2.28	0.035015
GDP Growth rate	-0.069	0.1	-0.69	0.498995
Fertility rate	-0.083	0.72	-0.115	0.909718
Mortality rate	-0.208	0.07	-2.97	0.008203

Source: Author's Estimation

<sup>22</sup> Middle East and North Africa

**Table 3: Anova Table**

SOURCE OF VARIATION	SUM OF SQUARE	DEGREE OF FREEDOM	MEAN SQUARE OF ERROR	R SQUARE	F_VALUE
ESS	367.2	5	73.44	0.96	
RSS	14.94	18	0.83	ADJUSTED R SQUARE	432
TSS	382.15	23	16.61	0.95	

Source: Author's Estimation

The constant value which is Y-intercept is -68.3. The results show that all the variables except population rate of female have a negative impact while population rate of female has a positive impact on participation rate of female in labor force.

The value of R square and Adjusted R square shows that overall model is good, and we can say that 96% variation is explained by this model and 4% is explained by errors or residuals.

The P-value at two tail test tells us the lowest significant level at which we can reject our null hypothesis (the value of individual estimator is zero). Remembered, null hypothesis is a hypothesis that u want to reject. If the P-value is less than 0.05 it shows the good result, it means that we can easily reject our null hypothesis and our estimator is significant. But if the P-value is greater than 0.05 it means that we cannot reject null hypothesis and our estimator is insignificant.

So result shows that unemployment rate of female and mortality rate have a negative significant impact and population of female has positive significant impact on participation rate of female in labor force .While GDP growth rate and fertility rate have insignificant impact on participation rate of female in labor force.

### VIII. Conclusion

The paper has identified the impact of different factors on female Participation rate in labor force in Pakistan. For this purpose, the data has been obtained from World Bank. The study concludes that unemployment rate of female and mortality rate have a negative significant impact while the population of female has positive significant impact on female participation rate in labor force. But GDP growth rate and Fertility rate are the variables that have negative insignificant impact on female participation rate in labor force. In previous literature these two variables are significant, it may be because that these two variables have correlation with some other variables which significantly affect our dependent variable and not included in the previous studies.

Population of female is the only factor which has positive impact on female participation rate. Because as the population rate of female increases, the number of females that are more likely to participate in economic and business activities increases, which in turn increases the female labor force participation rate.

It is suggested that policy makers should take steps to decrease unemployment rates that will contribute to increasing female participation rate of female in labor force. There is also a need to create awareness program among women and to improve health facilities provided to women who in turn decreases the mortality rate of female and improve the female labor force participation rate. Government should provide facilities of higher education to women and should open health related and vocational training centers. There is also a need to create awareness among the people to have small size of family.

### Bibliography

- [1]. Aly, Y.H and Quisi, I.A. (1996), "Determinants of Female Labor Force Participation in Kuwait: A Logit Analyses", the Middle East Business and Economic Review.
- [2]. Brewster, K.L. and R.R. Rindfuss, 2000. Fertility and women's employment in industrialized nations, Annual review of sociology, 26:271-296.
- [3]. Cramer, J.C. 1980. "Fertility and female employment : Problems of causal direction." American Sociological Review.
- [4]. Chaudhry, G. and Khan, Z. (1987), "Female Labor Force Participation Rates in Rural Pakistan: Some Fundamental Explanations and Policy Implications", the Pakistan Development Review, 26(4).
- [5]. Cheng, B.S.1996. "An investigation of cointegration and causality between fertility and female labor participation". Applied Economics letters 3: 29-32.
- [6]. Ejaz, M. (2007) " Determinants of Female Labor Force Participation in Pakistan : An empirical analysis of PSLM(2004-05) Micro Data." The Lahore Journal of Economics special Edition.
- [7]. Faridi, M.Z. , Chaudhry I.S. and Anwar, M(2009) " The Socio\_Economic and Demographic Determinants of Women Work Participation in Pakistan : Evidence from Bhalwalpur District." Journal of South Asian Studies, 24(2): 351\_367.
- [8]. Gaddis, I. and S. Klasen. "Economic development, structural change, and women's labor force participation: A reexamination of the feminization U hypothesis." Journal of Population Economics. 27:3 (2014).
- [9]. Gunatilaka, R. Women's Participation in Sri Lanka's Labor Force: Trend, Drivers and Constraints. Colombo, Sri Lanka: ILO<sup>3</sup>, 2013.
- [10]. Hirway, I. and S. Jose. "Understanding women's work using time –use statistics: The case of India." Feminist Economics 17:4 (2011).

<sup>33</sup> International Labor Organization.

---

*Factors That Affect The Participation Of Female In Labor Force: A Macro Level Study Of Pakistan*

---

- [11]. Klasen, S. (1999) "Does Gender Inequality Reduces Growth and Development? Evidence from Cross\_country Regressions." Policy Research Report on Gender and Development, working Paper Series # 7.
- [12]. Rahman, R.I., and R. Islam. Female Labor Force Participation in Bangladesh: Trends, Drivers and Barriers, ILO<sup>5</sup> Asia-Pacific Working Paper, 2013.
- [13]. Kozel, B. and Alderman, H. (1990), "Factors Determining Work Participation and Labor Supply Decisions in Pakistan's Urban Areas", The Pakistan Development Review, 29(1).
- [14]. Miller, C and Xiao, J.J. (1999) "Effect of Birth Spacing and Timing on Mother's Labor Force Participation." University of Rhode Island USA. Effects of Birth Spacing.
- [15]. Naqvi, F. and Lubna, S. (2002) "How do Women decide to Work in Pakistan?" The Pakistan Development Review, 41(4), part II.
- [16]. Spitze, G. 1988. "Women's employment and family relations: A review." Journal of Marriage and the Family 50: 595-618.
- [17]. Sahn, D. and Alderman, H (198), "The Determinants of Labor Supply in a Developing Country", Journal of Development Economics, 29.
- [18]. Shah, N. M. (1986), "Changes in Female Role in Pakistan: Are the Volume and Pace Adequate?" The Pakistan Development Review, 25(3).
- [19]. Schultz, T.P. (1989) Women's Changing Participation in Labor Force; A World Perspective." Population and Human Resource Department, The World Bank, WPS 272.
- [20]. Tansel, A. (2002) "Economic Development and Female Labor Force Participation in Turkey: Time Series Evidence." Economic Research Center Working Papers in Economics.