

WOMEN HIGHER EDUCATION AND PARTICIPATION RATE IN RURAL AREAS IN IRAN

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Abstract

The human resources as a human capital have a valuable place in each country. This issue has always been the focus of the policy makers, decision makers and researchers in the field of economics. So, economic empowerment is one of the policies that countries implement for economic developments in macro and micro levels.

The women economic activity and women's education are main issues in each economy in special in Iran. The main objective of this paper is a review of women status in rural areas by using the data of Household Income and Expenditure Survey and Population and Housing Census in 2016. In order to study women activity in rural areas some socio-economic variables such as education, age and expenditure is applied.

The results have shown that those households which their head are men have more chances of being employed compare to those households which their head are women. Generally according to these results, although female heads of households have less chance of being employed than male heads of households, if women heads households have college degree, they can have more chance for being employed compared to men.

Jel: J12, J16 ,J21 ,R2

Key words: Women's Activities, Women Education, Participation Rate, Headed households, Gender

1. Introduction

The human resources as a human capital have a valuable place in each country. This issue has always been the focus of the policy makers, decision makers and researchers in the field of economics. So, economic empowerment is one of the policies that countries implement for economic developments in macro and micro levels. The economic empowerment can increase the capacity of women and men to participate in economic developments and growth as well as increasing the productivity (OECD,2012).

The study of women's economic participation and their employment has been made new situation due to the changes in socioeconomic characteristics of women and the entry of higher educational people in the recent decades. Since women's employment depends on economic, social, demographic and even political factors, their participation in society cannot be considered merely on one aspect of the subject. Obviously,

limiting women's studies in one aspect cannot provide a clear picture about the subject (Arabmazar et al 2015).

According to the importance role of head in economy as a supplier, here we study the share of headed women of households in national economic activities. Regarding that women wage is respectively lower than men wage; the share of value added of women in national economics is less than men. In other words we may state that the low share of women in gross domestic production (GDP) may occur for two reasons. First, lower share of women's employment compare to the total official employees of the country. Second reason is low wage of women compare to men. And also we can add some examples why women activities are underestimated. Production of goods and commodities that are produced in households and consumed by other households but are reflected less in GDP and national accounts because they do not pass through the markets. In addition home productions and services that are produced by households and

consumed in the same households but are not considered in national accounts. Examples are production of jam, cookies, pickles which women produce and sell in different ways (Avazalipour et al 2009). Also the women's housekeeping activities such as child care, patient care, are not considered in national accounts as a result they cause to underestimate the share of women's participation in the developing countries. These activities have a big volume that could allocate a major share in added value, if calculated.

2. Theoretical Framework and Research Background

In recent decades, the social, cultural and economic developments have affected women's participation and employment rates in society. So, there are many studies in the field of population economics and the impact of women's employment on family structure and even lifestyles in industrial societies and transition countries. Researchers also acknowledge that women's employment has undeniable effects on women's marital status, populations, maternal roles, and household activity and this cannot be ignored by religion. the contribution of women in national computing is less, On the one hand, by considering the importance of the household entity and the role of supervisor in providing the basic needs of its members, and on the other hand, by the undeniable role of women in the growth and prosperity of societies.

The study on actual and potential role of the women in Iran's economy needs to Understanding the age structure, education status, marital status, and their distribution in economic activities. On the other hand, Awareness of the women headed household situation can help us to better understand the importance of their activities and effective factors of their economic activities. In this regard we can use time series or cross sectional data. So we apply the Household Income and

Expenditure Survey in which has included lots of useful variables. In addition the Logistic regression models are mainly applied as a very efficient tool. Becker (1991) and Cherlin (2000) have shown that Changes occurred in the socio-economic status of female labor in the society and it has an effectiveness role in their economies. Yurovich (2010) by using a logistic model shows that how much the tendency of first marriage of young men and women depends on economic situation. He shows that the rate of economic participation of women depends on education. Shaheen (2015) by using Household survey which consists of 402 sample size and using binominal and multinominal logistic regression model for the analysis. They have concluded that age, educational attainment, marital status and presence of children above 10 years have a positive impact on female employment. Their study suggests that huge investment should be made for the provision of educational facilities. To improve the health condition of workers health facilities should be provided to everyone.

Losiddilo et al, (2010) have examined the relationship between education status of women, religion, and economic participation in Tanzania. They have also applied logistic model and they suggest that there is positive and significant effect between their residencies situation and the chance of being employed for women.

Though the rate of women participation in South Africa is yet lower than the men, Yakubu (2010) by using logistic regression model shows that it has considerably increased due to the highly improvement of their socioeconomic characteristics, of which women educational degree plays a critical role in increasing rate of their participation. Economically, Yakubu prefers to introduce it as an increase in human capital of women, playing the main role in employment and increase in the economic activities of women in South Africa. Faridi *et al.*(2009) showed that

Educational attainment of female, the presence of educated husband, marital status, family setup and no. of children positively and significantly influence the decision the female to be in labor force. The presence of household assets, presence of children of early age group and spouse participation in earning activities reduce the chances that a woman take part in income earning activities. Bibi and Afzal (2012) have found that education, no. of dependents, family size, income of husband, positive attitude of husband towards woman's job, inflation rate and job satisfaction, positively affect the labor force participation of married woman. Age, living with husband, relationship with spouse before marriage, satisfaction of housewives with their current life, restrictions from family regarding job and other earner in the

family negatively affects the decision of labor force participation. Farrar, Martha (2001) have reported that emphasis on income from formal sector is not enough and we have to look at women labor in informal sector such as in rural areas, agricultural section, production of goods and services at home and so we need to define new measures.

3. A Review of Female Unemployment and Participation Rate

According to latest general census of population and housing in 2016, the rural areas with population of 20779423 persons having 27% of gross domestic product (Statistical Center of Iran, 2015 and Statistical Research and Training Center, 2013).

Table 1. The Women Participation Rate and Unemployment rate in Rural and Urban Areas in Iran.

	Urban		Rural	
Year	Unemployment	Participation	Unemployment	Participation
2008	23.0	12.9	7.1	20.0
2009	22.6	13.1	6.5	18.1
2010	26.5	13.0	8.6	18.4
2011	26.2	11.7	9.8	15.0
2012	24.4	12.9	9.4	15.7
2013	24.7	11.8	8.6	13.8
2014	23.6	12.6	10.4	14.4
2015	23.8	12.8	8.9	14.5

Source: Statistical Center of Iran, Labor Force Survey

Undoubtedly, the supply of labor force and job creation are considered as one of the most important factors in the success of

societies. The integration of policymakers and decision makers into the employment of manpower and the reduction of

unemployment rates is very effective, so that in all five-year development plans this goal can be clearly seen so that they can achieve the desired economic growth. On the other hand, manpower unemployment, both at the micro level and at the macro level, has adverse consequences, and he faces both the individual and the community with various harm. Unemployment at the micro level will result in lack of access to income and the loss of opportunities and opportunities, and the total welfare of the whole household will decrease, and on the other hand, unemployment will cause mental, mental and social harm. Graduates' unemployment makes the subject a little more complicated because of the costs paid by both the household and the community, and the other person has not been able to put the training into practice. However, the effects and consequences of unemployment on the macro level lead to a loss of human capital and Slows economic growth. Here is a look at the rate of women's participation and the unemployment rate of women in urban and :

$$E(Y | X) = P(Y = 1 | X)$$

Thus, using normal least squares method cannot warranty that estimated value for $Y, (Y \hat{I} X)$, is between zero and one. In addition other problems will take place such as heteroscedasticity, autocorrelation, collinearity. Therefore, for solving these kinds of problems, logistic distribution function will get used .The logistic distribution function is:

$$P_z(Z < z) = \frac{1}{1 + e^{-z}} = \frac{e^z}{1 + e^z} \quad (1)$$

When $Z \rightarrow \infty$, probability will be one and when $Z \rightarrow -\infty$, probability will be zero.

In order to measure the effects of explanatory variables on probability with specific variable the regression function is defined specify as follows:

$$p_i = E(Y = 1 | X_i) = \frac{1}{1 + e^{-(\beta_1 + \beta_2 x_i)}} = \frac{e^{(\beta_1 + \beta_2 x_i)}}{1 + e^{(\beta_1 + \beta_2 x_i)}} \quad (2)$$

Where p_i represents probability respect to value of Y. and Y is one if Y has specific description for i^{th} household. x_i indicates

rural areas of the country. The economic partnership rate represents the proportion of active 10-year-olds and, more so, the population of ten and more years, representing the supply of labor in the community in some way.

As Table 1 shows, the rate of participation of rural women is higher than the rate of participation of women in urban areas, and, on the other hand, the unemployment rate of women in urban areas is higher than rural areas (Statistical Center of Iran , 2015).

4- Data Source and Methodology

For this purpose we apply the Logistic model by using the Household Income and Expenditure survey in 2016. In this model dependent variable can only take values of zero or one, and other independent variables can be employment, unemployment, religious travels, literacy and so on. And also we have to mention when dependent variable only take values at zero or one, we may show that value of dependent variable representing as follows

explanatory variable. If numbers of explanatory variables are more than one, we can expand above equation by adding

indices of explanatory variables. For explaining above regression result we

provide the following equation.

$$1 - p_i = \frac{1}{1 + e^{(\beta_1 + \beta_2 x_i)}}$$

Where, $1 - p_i$, presents probability at not having specific description for i^{th} household.

$$\frac{p_i}{1 - p_i} = e^{(\beta_1 + \beta_2 x_i)}$$

Above ratio, presents the chance ratio. In the other word, this ratio is the chance of i^{th} household for having Y specific

description against at not having it. The equation 3 is made by taking natural logarithm from both sides of the above equation.

$$L_i = \ln\left(\frac{p_i}{1 - p_i}\right) = (\beta_1 + \beta_2 x_i) \quad (3)$$

Where β_2 indicates changes in logarithm of chance for i^{th} Household how has Y specific description. If this coefficient is positive we generally can conclude that the i^{th} family has increasable chance to having Y specific description (Gujarati,2004).

5. Results and Conclusion

As it was mentioned in the previous section, by using the logistic model we can show the effect of socio-economic characteristics on employment and other issues. One of the most important characteristics in economic status of Iranian female headed households is to considering the factors affecting on women household employment status. In other words, by studying these factors one can analyze the structure of an economy and understanding about the procedure of attracting the workforce and also get to know the composition of the workforce in the specified economy.

The effective variables which can effect on employment status of a household are gender. Awareness about the significant role of gender over

employment of households may indicate that, for instance, can women headed households have the same opportunity of employment as men headed households have? In addition, Household age, education, marital status and their economic status are important which may effect on opportunity of employment. Since it's not possible to access the household's income, we will apply the logarithm of total expenditure of household. Tenant of flat or house and having own car can be used as a measure of households economic abilities. By applying these variables as explanatory variables we can estimate the value of dependent variables in formula 3. In this equation, dependent variable can take one if headed household has job, otherwise it will take zero. All independent variables that can effect on household's employment as below:

Where:

LEXP: logarithm of total expenditure

Sex: household's gender (male=1, female=0)

Age: Households Heads age

Degree: Education status (diploma and below=0, university degree and above=1)

Car1: household owns a Car = 1,
otherwise=0

Tenant: possession of home

Since there is no data about the work experience so the age² is applied as a proxy. Therefore the age of the head of household can be used as an approximation of work experiences.

Table 2 shows the results of the logistic model for data of household income and expenditure survey in rural areas. The results suggest that the expenditure, sex,

marital and tenant have positive and significant effects on household's employment. The results show that the work experience has positive and significant effects on employment of headed household. It is to note that, this effect is not linear and it has to follow up a Quadratic form like a hump shape. In other words, work experiences can increase the chance of headed household employment up to maximum, afterwards it will decrease.

Table 2: The Effective Factors on Employment of Heads of Households

variable	coefficient evaluation	significance level
C	12.7 -	0.0
LEXP	0.77	0.0
SEX	2.34	0.0
AGE²	-0.03	0.0
Marital	0.5	0.0
SEXDEGREE	0.67-	0.0
Car1	-0.04	0.4
Tenant	0.26	0.0

Calculated by author

Also, the estimated logistic model shows when a household head is a man he has a more chances for employment than women headed households. Based on the results, although the female headed households have less chances of employment than men headed households, however, those female headed household with university degree have gotten more chances of employment than men. Consequently it will reduce the inequality and poverty gap in future.

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Dependent Variable: EMPLOY

Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)

Date: 06/03/17 Time: 17:19

Sample: 1 19381

Included observations: 19381

Convergence achieved after 5 iterations

Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-12.75858	0.683763	-18.65937	0.0000
LEXP	0.779776	0.037160	20.98442	0.0000
SEX	2.348922	0.088245	26.61830	0.0000
AGE2	-0.031733	0.000715	-44.40661	0.0000
MARITAL	0.506035	0.083953	6.027574	0.0000
SEXDEGREE	-0.675020	0.130092	-5.188794	0.0000
CAR1	-0.044605	0.055265	-0.807118	0.4196
Tenant	0.260083	0.073681	3.529844	0.0004
McFadden R-squared	0.362720	Mean dependent var		0.698674
S.D. dependent var	0.458846	S.E. of regression		0.347643
Akaike info criterion	0.780836	Sum squared resid		2341.335
Schwarz criterion	0.784085	Log likelihood		-7558.691
Hannan-Quinn criter.	0.781901	Deviance		15117.38
Restr. deviance	23721.71	Restr. log likelihood		-11860.86
LR statistic	8604.329	Avg. log likelihood		-0.390005
Prob(LR statistic)	0.000000			
Obs with Dep=0	5840	Total obs		19381
Obs with Dep=1	13541			