



Factors Determining the Labour Force Participation in Haryana

Ajad Singh¹

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ABSTRACT

This paper uses a parametric logistic regression to identify the main factors associated with the probability of participating in the labour force. The regression has been applied to PLFS 2017-18 unit-level data of Haryana State. The results indicate that belonging to a large family size, being a female, and belonging to a middle level of income earning family are all factors that negatively impact the probability of being in the labour market. However, years in education, being married and belonging to a family with more jobs positively impact the probability of being in the labour market. Based on the empirical results, the paper suggests policy options to overcome the labour market's main challenges. These policies focus on developing a sustainable strategy for increasing the labour force participation rate in Haryana; empowering females in rural areas; improving working conditions, reviewing the early retirement policy; improving education quality and encouraging enrolment in higher education, and adopting balanced development policies among both Eastern and Western regions of Haryana.

Keywords: Logit, Labour force Participation Rate, Family Size, Working Age.

INTRODUCTION

Haryana was established on November 1, 1966, after which Haryana's economy expanded very fast. In the last 30 years, the GDP in Haryana increased by more than 7 per cent annually. Accordingly, there has not been growth in the field of employment. Haryana's employment growth rate has been zero in the last 20 years. Besides it, there is still shifting within the limited employment. In rural Haryana, Women's participation rate in the labour force is declining very fast. In this paper, we want to estimate the main determinants of Labour forces with the help of PLFS 2017-18 data. This will help the government to make appropriate policies to increase employment in all sections of society.

LITERATURE REVIEW

Lisaniler and Bhatti (2005) found the importance of women's education, age and location on women's participation in labour supply as patriarchy and cultural factors are crucial in the decision-making of women in labour participation in NorthCypriot women. Ntuli (2007) used the decomposition technique devised by Even and Macpherson (1990) and found the importance of education in female participation in the labour force along with factors such as non-labour income, marriage, fertility and geographical variations. Ackah et al. (2009) found the importance of women's education and fertility as crucial for women's participation in the labour force for Ghana in a study conducted at two points in 1991 and 2006. Pastore and Verashchagina (2008) estimated female labour force participation for the years 1996 and 2001 on the basis of Belarusian Household Survey and found that the elasticity of female participation in wages is low at around 0.45 in 1996 and 0.41 in 2001. They also found lower women participation among low-income households, which is a sign of poverty trap mechanisms.

Chaudhry and Nosheen (2009) used data from the district of Southern Punjab to construct a cumulative index for women empowerment using four indices: personal autonomy, family decision-making, domestic economic decisions and political autonomy. The finding shows the influence of education, access to media, sociocultural norms of the community, women's jobs, and household participation rate as crucial in determining women's empowerment.

Faridi et al. (2011) investigated the factors that influence women's participation in self-employment in Pakistan. Their study used primary data and logistic regression technique to estimate the women's self-employment model to show that age and experience positively affect women's self-employment. They concluded that education, location and number of dependents significantly reduce the women's work participation as self-employed workers. Similarly, Bibi and Afzal (2012) found education of the respondent, number of offsprings, number of dependents, family size, income of the husband, monthly expenditures of the family, positive attitude of husband and family towards the job of women, job satisfaction examined the factors affecting married women's decision to participate in the labour force. The age, staying with

¹ Associate Professor in Economics Department, Motilal Nehru College- Delhi university

husband, contentment in life, restrictions from family and number of earners in the family negatively affect the married women's participation in the labour force.

Baridam(1996) from the experience of Nigeria found that women avoid the effect of their employment on their families by employing house-holds. Olusoji(2006) used a survey carried out during January and October 2001 and found that the number of hours work spent depends upon respondents' income, family size, relationship with household head, sector of participation, education and location. Chukuezi (2010) carried out a survey of married women in Owerri, Nigeria and found the importance of cultural expectations about different gender responsibilities despite the level of education and earnings. Oladejo et al. (2011) found a negative impact of household size and marital status on the women's participation in agricultural production in Nigeria.

Objective of the paper

1. To find out the impact of family size and education level on labour force participation in Haryana.
2. To find out the role of gender, caste and rural-urban as determinants of labour force participation at the household level in Haryana.

Research methodology of the paper

This analysis is based on secondary data. The main source of secondary data of the Periodic Labour Force Survey (PLFS) 2017-18 on Employment and Unemployment is used. The extraction of this data is done using appropriate software.

This paper uses the logit model in order to analyze the factors determining labour force participation for the working-age group in Haryana across Eastern and Western regions. The logit model has been run separately for rural, urban areas also. The factors influencing the labour force participation include the size of the family, years spent in education, number of jobs, gender, social category etc. The analysis in this is based on the Marginal Effect at mean.

Basic Description of the Variables and Mathematical form used for Logit Model are:

Labor force participation is a qualitative characteristic. An observation consists of noting whether the characteristic is present. Thus, the dependent variable, designated as Y , is dichotomous and takes a value of 1 if the family member among age of 15-64 year had a job or was looking for work and a value of 0 if not in the labor force.

Dependent Variable:

- Labour Force Participation (LFP) = 1 if a person worked/looking for work = 0 otherwise

The factors influencing the labour force participation include (Independent Variables):

- Family Size
- Number of Jobs
- Income Group (dummy variable) 0-40, 40-80 and Top 20 Percentile based on per capita consumption level.
- Age Group (dummy variable) 15-29, 30-44 and 45-64 age groups
- Marital status (dummy variable) Unmarried, Currently Married and Widow/Divorcee
- Social Group (dummy variable) SCST, OBC and General Caste
- Sector (dummy variable) Rural/Urban
- Gender (dummy variable) Male/Female
- Region (dummy variable) Western/Eastern

Logit Model for Labour Force Participation of persons in Haryana:

$$L_i = \log \left[\frac{P_i}{1 - P_i} \right] = \alpha + \beta_1(\text{FamilySize}) + \beta_2(\text{Year in Education}) + \beta_3(\text{No. of jobs}) + \beta_4(40 - 80/0 - 40\text{Percentile}) \\ + \beta_5(\text{Top}20/0 - 40\text{Percentile}) + \beta_6(30 - 44/15 - 29\text{Age}) + \beta_7(45 - 64/15 - 29\text{Age}) \\ + \beta_8(\text{Married/Unmarried}) + \beta_9(\text{Widow/Unmarried}) + \beta_{10}(\text{OBC/SCST}) + \beta_{11}(\text{General/SCST}) \\ + \beta_{12}(\text{Female/Male}) + \beta_{13}(\text{Western/Eastern}) + \beta_{14}(\text{Urban/Rural})$$

The main analysis undertaken in this chapter is based on the marginal effect at mean. It is important to emphasize here that the marginal

effect at mean is estimated in such cases when the magnitude is important to be observed.

Result Analysis

The analysis done in this section is for the year 2017-18 by comparing the marginal effect at means for different variables in the logit model.

Family size: The marginal effect at mean for LFPR in the 15-64 age group for per unit change in family size is negative and significant for the year 2017-18. The joint family concept is very popular in rural Haryana and most take pride in being a part of such families. But our results clearly highlight that the LFPR is negatively and significantly adversely affected by the number of family members in the household (Table 1). In case of overall Haryana, the increase in family size by one member results in 10 % decline in probability of LFPR.

Average level of Education per Household: For the average level of education per household, the results are significant and positive for the year 2017-18. In case of overall Haryana, the increase in one level of increase in education results in 1.3 % increase in probability of LFPR. This is relevant for most of the groups such as rural and urban Haryana as well as for Eastern and Western regions of Haryana during the year 2017-18, but magnitude varies.

Number of Jobs in the Family: The marginal effect at mean for LFPR in the working-age group per unit change in the number of jobs is positive and significant for the year 2017-18. This means a higher number of jobs in the family impact positively in the LFPR for the overall persons in the age group 15-64, but its impact is very high for the year 2017-18 (Table 1). This is true for most of the groups such as rural and urban Haryana as well as for Eastern and Western regions of Haryana.

Dummy Variable for Age groups of 30-44 and 45-64 compared to 15-29: It is a very significant factor for LFPR. This is true for most of the groups such as rural and urban Haryana as well as for Eastern and Western regions of Haryana. In the middle age group, everyone settles down and has to work to support the family in the majority of cases. Thus, in this productive age, most do one or another kind of job. The age group 30-44 compared to 15-29 also impact positively on LFPR and is significant at 1% level for all the above-described groups. This means with a change in persons belonging to the 30-44 age group compared to the 15-29 age group, the chances of participation in the labour force improve. In case of overall Haryana, the probability of participation in labour force in case of 30-44 age group are 35.7% higher compared to 15-29 age group.

At a later stage, they can afford to not opt for a job once their children settle down. At an early age, they are still searching for a job. The results for the age group 45-64 compared to 15-29 are, however, not significant.

Dummy Variable for Upper 20 percentile and Middle 40 percentile Income Group compared to Bottom 40 percentile: It is significant at 1% level and is negative for most of the groups such as rural and urban Haryana as well as for Eastern and Western regions of Haryana. The poor cannot afford to without participate in the labour force. It, however, is not significant in all the models.

In case of overall Haryana, the probability of participation in labour force in case of top 20 percentile income group is 12.8% lower compared to the poorest 0-40 percentile income group. In case of middle 40-80 percentile income group, the probability of participation in labour force in case of overall Haryana is 9.6% lower compared to poorest 0-40 percentile income group.

Dummy Variable for Marital Status, i.e. Married against Unmarried: It is significant at 1% level and is a positive factor impacting LFPR. It is significant at the 1% level and is positive for most of the groups such as rural and urban Haryana as well as for Eastern and Western Haryana. The results are similar in the case of widow and unmarried persons for all the groups analysed above.

In case of overall Haryana, the probability of participation in labour force in case of married person is 49.2% higher compared to unmarried person. In case of widow/divorce, the probability of participation in labour force in case of overall Haryana is 66.1% higher compared to unmarried person.

Dummy Variable for Social Groups such as General and OBC as against SC/STs: These are not found significant in most of the logit models fitted for LFPR of Haryana in rural and urban areas and across regions and genders.

Dummy Variable for Gender: In case of overall Haryana, the probability of participation in labour force in case of females is 82.0% lower compared to males.

Dummy Variable for Western Vs Eastern Region of Haryana: In case of overall Haryana, the probability of participation in labour force in case of Western Haryana is 6.2% lower compared to Eastern Haryana.

Dummy Variable for Urban vs Rural: This variable is not significant even at 10% level of significance.

Table 1: Marginal Effect at Mean for Persons (15-64 years) during 2017-18: Logit Model

VARIABLES	Haryana	Rural	Urban	Eastern	Western
Family Size	-0.099***	-0.090***	-0.122***	-0.089***	-0.126***
Year in Education	0.013***	0.013***	0.017***	0.017***	0.011***
No. of Jobs	0.381***	0.377***	0.406***	0.357***	0.435***
40-80/0-40 Percentile	-0.096***	-0.101***	-0.082**	-0.095***	-0.088***
Top 20/0-40 Percentile	-0.128***	-0.135***	-0.146***	-0.143***	-0.105**
30-44/15-29 Age	0.357***	0.325***	0.417***	0.340***	0.406***
45-64/15-29 Age	0.020	-0.010	0.075*	0.005	0.051
Married/Unmarried	0.492***	0.563***	0.395***	0.461***	0.555***
Widow/Unmarried	0.661***	0.760***	0.514***	0.635***	0.716***
OBC/SCST	-0.026	-0.035	-0.031	0.009	-0.069*
General/SCST	0.012	0.032	-0.029	0.022	-0.017
Female/Male	-0.820***	-0.840***	-0.805***	-0.826***	-0.814***
Western/ Eastern	-0.062***	-0.064**	-0.038		
Urban/Rural	-0.029			-0.036	0.007
Observations	8,165	4,357	3,808	5,288	2,877

Note: *** p<0.01, ** p<0.05, * p<0.1

Source: Household data from PLFS 2017-18

Conclusion:

The main findings drawn from this Chapter are that the LFPR is positively affected by average education level, number of jobs, while it is adversely affected by the number of family members in the household. These results are relevant for both the regions of Haryana, both rural and urban areas and both genders. The LFPR is relatively high for age group 30-44 compared to other age groups and for married and widow compared to unmarried, while it is low for upper and middle income groups compared to low-income groups, as poor can afford to not participate in the labour force. Based on the empirical results, the paper suggests policy options to overcome the labour market's main challenges. These policies focus on developing a sustainable strategy for increasing the labour force participation rate in Haryana; empowering females in rural areas; improving working conditions, reviewing the early retirement policy; improving education quality and encouraging enrolment in higher education, and adopting balanced development policies among both Eastern and Western regions of Haryana.

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