

Do Drivers of Labor Force Participation Differ according to Gender in the Rural and Urban in India?



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1. Abstract

The labor force participation rate of women in India has been decreased despite economic growth, unlike most countries, which has made their rights weak. The paper has studied determinations of the participation by gender between rural and urban using Probit model with India human development survey (IHDS) during 2011-12 to analyze the factors that set a restriction on the participation to the workforce. The estimation results are listed below. First, the marital status of the male, whether rural or urban, has a significant impact on the participation due to their family support, but females has affected by multiple restrictions such as caste, religion, which demonstrates that sociocultural factors have limited the participation irrespective of the regional factors. Second, educational years of the female worker in rural is negative for labor participation, but the constraints of marriage are rather weaker than urban area. The female who is in the lower caste participated more in the labor force in rural, which is interpreted as a result of the industrial structure consisting of agriculture. Otherwise, the restraint of caste system makes negative effects to the participation of the female in urban. Finally, these results indicate that the low labor participation of females is the result of complicated processes affected by various factors including regional effects. Therefore, it is necessary to low the barrier to entry and encourage economic incentives for more women to spontaneously enter into the labor market considering regional effects in terms of the policy for women to grow as a group of social leaders.

2.1 Background

Women have usually been forced into household activities until a recent date, but their roles have been changed to participate as the workforce to meet new demands of labor markets in the process of economic development, and women's voluntary participation in economic activities naturally increases over time with economic growth in many countries (Pampel & Tanaka, 1986).

However, the labor force participation rate of women unexpectedly decreased by 6%p from 28% to 22% in India from 1961s to 1991 against the generic theories (Chhibber, 2011). Women labor force participation in the working-age population in 2012 in India shows about 32%, which is lower than other emerging nations according to the National Sample Survey Office (NSSO) (Sorsa, 2015).

That's why we focus on the labor force participation in India and try to understand the determinants from the spatial side as India has diverse cultures with complex social structures according to the region.

2.2 Method

Data - India human development survey (2011-12): Cross-section regarding 42,152 households in India including personal information reported by NCAER and the University of Maryland. We focus on the economically active population (Age 15-59 years).

Probit model assuming a standard normal distribution as follow.

$$Y_i = \alpha + \beta X_i + \epsilon_i$$

Y_i : Dependent Variable, β : Coefficient Value

X_i : Explanatory Variables, ϵ_i : Error Term

2.3 Variable

Table 1. Descriptive statistics of variables

Variables	Total (n = 125,279)
Workforce participation (%)	
Yes	49.25
No	50.76
Personal character	
School (years)	6.99
Experience (years)	21.32
Square value of experience	669.01
Marital status (%)	
Married without absent	65.00
Others	35.00
Education of household head (%)	
High Secondary or above	30.62
Others	63.78
Numbers of family members	5.79
Regional location (%)	
North	23.53
Northeastern	4.64
Eastern	16.17
Western	13.63
Southern	21.47
Caste levels (%)	
Brahmin	5.15
Forward (Except Brahmin)	23.59
SC(Scheduled Caste) & ST(Scheduled Tribe)	29.41
OBC (Other Backward Caste)	40.52
Religion (%)	
Hinduism	80.42
Islam	12.99
Sikhism	2.41
Christianity	2.68
Regional structure (%)	
Urban	36.22
Rural	63.78
Gender (%)	
Male	49.19
Female	50.81

Data: India human development survey (2011-12)

3. Result

Table 2. Analysis results of economic participation by the gender

Variables	Total	Male	Female
School	0.016*** (0.001)	-0.015*** (0.003)	-0.001 (0.002)
Experience	0.143*** (0.002)	0.194*** (0.002)	0.075*** (0.002)
Square value of experience	-0.002*** (0.000)	-0.003*** (0.000)	-0.001*** (0.000)
Marital status	0.218*** (0.013)	0.806*** (0.022)	-0.288*** (0.017)
Highest education	-0.177*** (0.012)	-0.030 (0.020)	-0.130*** (0.016)
Members	-0.003 (0.002)	-0.010*** (0.003)	-0.025*** (0.003)
North	0.023 (0.015)	-0.114*** (0.024)	0.145*** (0.021)
Northeastern	-0.100*** (0.025)	-0.274*** (0.039)	0.057 (0.036)
Eastern	-0.010 (0.016)	-0.149*** (0.026)	0.117*** (0.022)
Western	0.255*** (0.017)	0.037 (0.028)	0.498*** (0.023)
Southern	0.521*** (0.015)	0.059** (0.025)	0.872*** (0.020)
Brahmin	-0.259*** (0.046)	-0.391*** (0.079)	-0.155** (0.061)
Forward (Except Brahmin)	-0.195*** (0.042)	-0.207** (0.073)	-0.165** (0.053)
SC & ST	0.102** (0.042)	-0.111 (0.073)	0.245*** (0.053)
OBC	-0.140*** (0.041)	-0.197** (0.072)	-0.078 (0.052)
Hinduism	-0.044 (0.038)	0.071 (0.062)	-0.106** (0.049)
Islam	-0.105** (0.041)	0.123* (0.066)	-0.342*** (0.054)
Sikhism	-0.152** (0.050)	0.006 (0.079)	-0.235*** (0.068)
Christianity	-0.111** (0.047)	-0.150** (0.076)	-0.045 (0.059)
Region	-0.199*** (0.010)	-0.127*** (0.016)	-0.244*** (0.015)
Gender	2.155*** (0.011)	-	-
Constant	-2.752*** (0.062)	-0.707*** (0.104)	-1.511*** (0.080)
Number of samples	120,344	60,560	59,784
Adjusted R-squared	0.4418	0.4597	0.1293

Data: India human development survey (2011-12)

Notes: *, ** and *** indicate "significant" at the 10% level, the 5% level and the 1% level, respectively

Table 3. Analysis results of economic participation between rural and urban

Variables	Rural		Urban	
	Male	Female	Male	Female
School	-0.021*** (0.004)	-0.020*** (0.003)	-0.001 (0.004)	0.022*** (0.003)
Experience	0.192*** (0.003)	0.073*** (0.003)	0.201*** (0.004)	0.080*** (0.003)
Square value of experience	-0.003*** (0.000)	-0.001*** (0.000)	-0.004*** (0.000)	-0.001*** (0.000)
Marital status	0.856*** (0.029)	-0.202*** (0.022)	0.747*** (0.036)	-0.467*** (0.030)
Highest education	-0.043 (0.027)	-0.165*** (0.021)	-0.049 (0.031)	-0.157*** (0.026)
Members	-0.009** (0.004)	-0.023*** (0.003)	-0.008 (0.005)	-0.024*** (0.005)
North	-0.150*** (0.031)	0.161*** (0.026)	-0.050 (0.040)	0.044 (0.037)
Northeastern	-0.188*** (0.051)	0.060 (0.047)	-0.403*** (0.064)	-0.007 (0.060)
Eastern	-0.142*** (0.034)	0.207*** (0.027)	-0.162*** (0.042)	-0.154*** (0.041)
Western	0.056 (0.035)	0.776*** (0.027)	0.030 (0.046)	-0.111*** (0.043)
Southern	0.175*** (0.033)	1.157*** (0.024)	-0.056 (0.041)	0.350*** (0.036)
Brahmin	-0.326** (0.108)	-0.120 (0.084)	-0.480*** (0.118)	-0.362*** (0.092)
Forward	-0.174* (0.099)	-0.055 (0.070)	-0.265** (0.110)	-0.386*** (0.083)
SC & ST	-0.020 (0.099)	0.503*** (0.069)	-0.245** (0.112)	-0.180** (0.084)
OBC	-0.117 (0.098)	0.162** (0.068)	-0.279** (0.109)	-0.420*** (0.081)
Hinduism	0.118 (0.080)	-0.047 (0.061)	0.060 (0.100)	-0.093 (0.084)
Islam	0.130 (0.087)	-0.256*** (0.068)	0.151 (0.105)	-0.353*** (0.090)
Sikhism	0.059 (0.099)	-0.133 (0.083)	0.083 (0.137)	-0.107 (0.123)
Christianity	-0.074 (0.099)	0.018 (0.076)	-0.183 (0.119)	0.064 (0.098)
Constant	-0.824*** (0.137)	-1.882*** (0.103)	-0.834*** (0.162)	-1.209*** (0.131)
Number of samples	38,311	38,297	22,249	21,487
Adjusted R-squared	0.4765	0.1717	0.4406	0.0764

Data: India human development survey (2011-12)

Notes: *, ** and *** indicate "significant" at the 10% level, the 5% level and the 1% level, respectively

4. Summary

The decision to labor participate is multiply influenced by various factors. In the case of men, there are some differences depending on the area of residence such as negative effects from education and meaningless values under high caste in rural residents to the labor participation. However, women in the rural area indicate low participation when they belong to low caste classes and residing in the southern and western regions. In addition, women urban residents show positive effects from education to the participants but making negative limitations from marriage under all caste called sociocultural factors in India. Therefore, the regional structure makes different effects with some limitations on the participation between rural and urban areas from impacts of local customs and industry.

5. Conclusion

Regional effects such as urban structure could be one of the important factors to decide the social role of women as the structure is affected by the local industry. Their labor force participation has been more helpful to relieve the discrimination against females. Therefore, it is essential to consider the spatial side when making policies for occupation opportunities with good qualities for women to participate in the labor market. These perceptions about regional characteristics will help increase spontaneous participation by themselves bring more equal society according to their local background.