



Challenges and Opportunities for Young People in Rajasthan's Labour Market: A Study of Labour Force Participation Trends and Factors

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ABSTRACT

The objective of this research paper is to examine the trends of labour force participation rate (LFPR) among young people (ages 15-29) in the state of Rajasthan, India, broken down by gender and rural/urban areas. The study also aims to investigate the factors that influence the LFPR of young people in Rajasthan during 2020-21, and identify any gender biasness in the labour force participation in Rajasthan. The research uses data from various sources to show that there is a decline in LFPR among young people in both rural and urban areas, and for both males and females. However, the decline is more pronounced among females, both in rural and urban areas. Additionally, the data suggests a gender biasness in the labour force participation in Rajasthan, as the females have a lower LFPR than the males in both rural and urban areas. The logit model from PLFS data of 2020-21 of young person also shows that there are a number of factors that influence LFPR, including family size, education level, number of jobs, and household income. The study concludes by highlighting the significance of addressing gender biasness and other factors that are affecting the LFPR of young people in Rajasthan in order to promote sustainable economic growth.

Keywords: **Labour force Participation Rate, Family Size, Young, Rajasthan, Logit, Odd Ratio**

INTRODUCTION

The participation of the labour force among young males and females in rural and urban areas of Rajasthan is a topic of significant interest due to the potential impact on the state's economy and society. The labour force participation rate (LFPR) is a measure of the proportion of the population that is economically active, and it is an important indicator of the health of an economy. In Rajasthan, the LFPR is lower than the national average, particularly among young people and in rural areas. This research paper aims to investigate the trends and factors that influence labour force participation among young males and females in rural and urban areas of Rajasthan.

The study will analyze data on the demographic, economic, and social factors that contribute to the participation of young people in the labour force in these regions. The research will focus on young people aged 15-29 years, as this age group is considered a critical demographic for the future of the labour force and the economy. The study will compare the participation rates of young males and females, and examine the differences between rural and urban areas.

One of the main factors that influence labour force participation is education. Education is known to be positively correlated with labour force participation, as it provides individuals with the skills and knowledge necessary to enter and participate in the labour market. In Rajasthan, the literacy rate is lower than the national average, particularly in rural areas. This may be a contributing factor to the lower LFPR in the state, as education is a key determinant of labour force participation.

Another important factor that influences labour force participation is economic conditions. A strong economy is typically associated with high labour force participation, while a weak economy is associated with low participation. In Rajasthan, the economy has been growing, but it is still relatively underdeveloped compared to other states in India. This may be a factor that contributes to the lower LFPR in the state.

Social factors, such as cultural norms and traditions, also play a role in labour force participation. In Rajasthan, traditional gender roles and societal expectations may limit the participation of young women in the labour force. Furthermore, the patriarchal nature of the society may also limit opportunities for young women. This research will examine the extent to which social factors influence labour force participation among young males and females in rural and urban areas of Rajasthan.

The study will use a combination of quantitative and qualitative methods to analyze the data. The quantitative analysis will include the use of statistical techniques to analyze the data on labour force participation, education, and economic conditions. The qualitative analysis will include the use of in-

depth interviews and focus group discussions to gain a deeper understanding of the social factors that influence labour force participation among young people in Rajasthan.

The findings of this research will provide valuable insights into the challenges and opportunities facing young people in the state and inform policies aimed at promoting greater participation in the labour force. The study will also contribute to the broader literature on labour force participation among young people in developing countries.

In conclusion, this research aims to investigate the trends and factors that influence labour force participation among young males and females in rural and urban areas of Rajasthan. The study will analyze data on the demographic, economic, and social factors that contribute to the participation of young people in the labour force in these regions. The findings of this research will provide valuable insights into the challenges and opportunities facing young people in the state and inform policies aimed at promoting greater participation in the labour force. It will also contribute to the broader literature on labour force participation among young people in developing countries.

LITERATURE REVIEW

The literature review presents a collection of recent studies that examine the labour force participation rate among young people and women.

The first study is "Youth Labour Market in India" by N. Bisht and Falguni Pattanaik (2020), which examines the current situation of the youth labour market in India by analyzing National Sample Survey data on employment and unemployment from 1993/94 to 2011/12. The study engages in trend analysis of key indicators of the labour market and applies logistic regression to address the magnitude of socio-economic and demographic determinants on youth employment. The authors find an overall decline in the employment status of youth despite the ongoing demographic dividend phase. The study also finds that postgraduate and graduate youth witness the highest unemployment, indicating a grim role of the labour market in engaging the educated youth. The findings raise concern for achieving the targets of the Sustainable Development Goals (SDGs), as a high share of educated youth strives for decent and gainful employment.

The second study is "Climbing the Jobs Ladder Slower: Young People in a Weak Labour Market" by Bryn Lampe, C. D. Fontenay, Jessica Nugent and P. Jomini (2022) published in the Australian Economic Review. The study investigates the labour market scarring that may have occurred during the period of 2008 to 2018 in Australia. Specifically, the study examines whether young people entering the labour market during and following the 2008 Global Financial Crisis had a harder transition into employment than those entering earlier, and whether that experience could have longer-term impacts on the labour market outcomes for this cohort. The study uses data from the Australian Bureau of Statistics and finds that young people experienced nearly zero growth in real wage rates from 2008 to 2018, and that workers aged 15-24 experienced a large decline in full-time work and an increase in part-time work. The authors also find that from 2008 to 2018, young people had more difficulty getting jobs in the occupations they aspired to, and if they started in a less attractive occupation, it was even harder than before 2008 to climb the occupation ladder. This suggests that poor initial opportunities could have serious long-term consequences. This study is relevant to literature survey on labour force participation rate among young people in Australia.

The third study is "Participation in the Labour Market - Generation Y and Other Age Groups" by Agnieszka Stanimir (2014). In this study, the author examines the labour market participation of people from generation Y in comparison to other age groups in Poland. The study aims to analyze the factors that influence the level of employment rate among different age groups in Poland, as the country aims to achieve an employment rate of 71% by 2020 as per Europe 2020 strategy. The author uses statistical analysis methods to investigate the impact of various factors such as education, family size, and income on the labour market participation of generation Y and other age groups.

The fourth study is "Women Labour Force in Haryana and its Determinants" by Ajad Singh (2022). The study examines the trend of women's labour force participation rate (LFPR) and its primary reasons in the state of Haryana. The study uses data from various National Sample Survey Office (NSSO) rounds over a period of 25 years and employs logit model to analyze the determinants of women's LFPR. The study finds that factors such as family size, households jobs, years in education, urbanization, age, and marital status are significant determinants of women's LFPR, while social categories have no significant effect. The study also finds that education experience, having no job in a household and becoming married have a positive effect on the LFPR while family size hurts the work participation of women. Living in an urban area compared to the rural area and living in western Haryana in comparison with the Eastern region have a negative impact on LFP both for men and women.

The fifth study is "Trends of Labour Force Participation Rate in Rajasthan and its Major Determinant Factors" by Ajad Singh and Malti Kapoor (2022). This study analyses the trends in the Labour Force Participation Rate (LFPR) in Rajasthan from 1991 to 2020-21. The study uses NSSO data of different rounds to understand the LFPR trends in rural and urban Rajasthan and employs a parametric logistic regression to identify the main factors associated with the probability of participating in the labour force. The study uses unit-level household data of PLFS 2020-21 of Rajasthan. The results indicate that belonging to a large family size, being a female, and belonging to a middle-level income-earning family are all factors that negatively impact the probability of being in the labour market. However, years of education, being married, and belonging to a family with more jobs positively impact the probability of being in the labour market. The study suggests policy options to overcome the labour market's main challenges, such as developing a sustainable strategy for increasing the labour force participation rate in rural and urban Rajasthan, empowering females in rural and urban Rajasthan, improving working conditions particularly for females and improving education quality and encouraging enrolment in higher education.

Based on the literature review, there is a gap in the research on the labour force participation rate among young people in Rajasthan. While studies have been conducted on the labour force participation rate in India and other regions, there is a lack of research specifically on young people in Rajasthan.

Moreover, the studies that have been conducted have not been specific to Rajasthan which has its own socio-economic and cultural context. A more in-depth study on the labour force participation rate among young people in Rajasthan, taking into account the specific socio-economic and cultural context, would provide valuable insights into the challenges and opportunities facing young people in this region.

Objective of the study

1. To examine the trends of labour force participation rate (LFPR) among young people (ages 15-29) in the state of Rajasthan, India, broken down by gender and rural/urban areas.
2. To investigate the factors that influence the LFPR of young people in Rajasthan, India during 2020-21.
3. To identify any gender biasness in the labour force participation in Rajasthan, India.

Hypothesis of the study

Hypothesis 1:

Null hypothesis (H0): The LFPR among young people in both rural and urban areas will not have decreased over time.

Alternative hypothesis (H1): The LFPR among young people in both rural and urban areas will have decreased over time.

Hypothesis 2:

Null hypothesis (H0): Family size, education level, number of jobs, socioeconomic status, and marital status will not have a significant effect on the LFPR of young people in Rajasthan, India during 2020-21.

Alternative hypothesis (H1): Family size, education level, number of jobs, socioeconomic status, and marital status will have a significant effect on the LFPR of young people in Rajasthan, India during 2020-21.

Hypothesis 3:

Null hypothesis (H0): The LFPR among females will not be lower than among males in both rural and urban areas in Rajasthan, India.

Alternative hypothesis (H1): The LFPR among females will be lower than among males in both rural and urban areas in Rajasthan, India.

Research methodology of the study

The primary source of data for this study is the various rounds of NSSO household data on 'Employment-Unemployment', which covers various employment and unemployment dimensions. The household data from the last four thick rounds of NSSO quinquennial rounds, i.e. 50th (1993-94), 55th (1999-2000), 61st (2004-05) and 68th (2010-11) and PLFS, 2017-18, 2018-19, 2019-20 and 2020-21 on Employment and Unemployment is used.

The data extraction process was carried out using appropriate software. The age group of the individuals studied in this paper falls within the range of 15-29 years, as defined by the International Labour Organization (ILO). This age group is considered as the young population, and their labour force participation is the focus of this study. The data collected is analyzed using logit model to identify the factors that determine the labour force participation of young people in Rajasthan. The logit model is applied to the extracted unit-level household data of PLFS 2020-21 of Rajasthan to identify the main factors associated with the probability of participating in the labour force.

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

Labour 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 15-29 year had a job or was looking for work and a value of 0 if not in the labour 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
- Years spends in education
- Number of Jobs
- Income Group (dummy variable) 0-40, 40-80 and Top 20 Percentile based on per capita consumption level.

- 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

Logit Model for Labour Force Participation of persons in Haryana:

$$L_i = \log \left[\frac{P_i}{1 - P_i} \right] = \alpha + \beta_1(\text{FamilySize}) + \beta_2(\text{YearinEducation}) + \beta_3(\text{No.ofJobs}) + \beta_4(40 - 80/0 - 40\text{Percentile}) \\ + \beta_5(\text{Top}20/0 - 40\text{Percentile}) + \\ + \beta_6(\text{Married/Unmarried}) + \beta_7(\text{Widow/Unmarried}) + \beta_8(\text{OBC/SCST}) + \beta_9(\text{General/SCST}) \\ + \beta_{10}(\text{Female/Male}) + \beta_{11}(\text{Urban/Rural})$$

Result Analysis

Table 1 : Trends of LFPR of young (15 to 29 years) person in Rajasthan

Year	Female		Male		All	
	Rural	Urban	Rural	Urban	Rural	Urban
1993-94	687	204	796	625	744	433
1999-2k	580	152	746	579	665	386
2004-05	601	230	732	615	667	437
2011-12	410	146	583	509	498	345
2017-18	198	71	477	457	344	285
2018-19	214	76	482	438	351	261
2019-20	280	101	545	441	415	278
2020-21	296	79	531	428	416	264

This data shows the trends of labour force participation rate (LFPR) of young people (ages 15-29) in the state of Rajasthan, India, broken down by gender and rural/urban areas. The data is presented in thousands.

Overall, the data shows a decline in LFPR among young people in both rural and urban areas, and for both males and females. However, the decline is more pronounced among females, both in rural and urban areas. For example, in 1993-94, the LFPR for rural females was 687 out of 1000, while in 2020-21 it dropped to 296 out of 1000. Similarly, for urban females, the LFPR dropped from 204 out of 1000 in 1993-94 to 79 out of 1000 in 2020-21.

Additionally, in the rural areas, the LFPR for males is higher than for females and has decreased at a slower rate than for females. For example, in 1993-94, the LFPR for rural males was 796 out of 1000, while in 2020-21 it dropped to 531 out of 1000.

In urban areas, the LFPR for males is also higher than for females, but the decrease has been more pronounced for males as compared to rural areas. For example, in 1993-94, the LFPR for urban males was 625 out of 1000, while in 2020-21 it dropped to 428 out of 1000.

It's also notable that the LFPR for all genders combined is lower in rural areas than in urban areas, and has dropped more rapidly in rural areas than in urban areas.

The data suggests a gender biasness in the labour force participation in Rajasthan, as the females have a lower LFPR than the males in both rural and urban areas and have seen a more pronounced decrease over time.

Table 2: Odd Ratio for a Young Persons (15-29 years) during 2020-21 in Rajasthan: Logit Model

	(1)	(2)	(3)
VARIABLES	Rural	Urban	Overall
LFPR	.	.	.
Family Size	0.678***	0.755***	0.710***
Year in Education	0.963***	1.077***	0.998
No. of Jobs	3.003***	2.608***	2.765***
40-80/0-40 Percentile	0.844*	0.895	0.860**
Top 20/0-40 Percentile	0.991	1.371**	1.229**
Married/Unmarried	11.436***	4.713***	8.147***
Widow/Unmarried	9.905***	8.251**	9.253***

OBC/SCST	0.928	0.767**	0.863**
General/SCST	0.993	0.808	0.940
Female/Male	0.090***	0.066***	0.088***
Urban/Rural			1.392***
Constant	0.676**	0.361***	0.542***
Observations	3,920	2,381	6,301

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

Source: Household data from PLFS 2020-21

This table shows the results of a logit model that was used to estimate the factors that influence labour force participation rate (LFPR) of young people (ages 15-29) in the state of Rajasthan, India, during 2020-21. The table presents the odds ratios for each variable, which indicate the change in odds of a young person participating in the labour force for a one-unit change in the independent variable, while holding all other variables constant. The table also includes information on the significance level of each variable, as well as the sample size used in the analysis.

LFPR: The dependent variable in the model, which is the labour force participation rate of young people in Rajasthan.

Family Size: The odds of a young person participating in the labour force decrease as family size increases. The odds ratio of 0.678 for rural areas, 0.755 for urban areas, and 0.710 overall, indicates that for a one-unit increase in family size, the odds of a young person participating in the labour force decrease by 32.2%, 24.5%, and 29% respectively.

Year in Education: The odds of a young person participating in the labour force decrease as years of education increase. The odds ratio of 0.963 for rural areas, 1.077 for urban areas, and 0.998 overall, indicates that for a one-unit increase in years of education, the odds of a young person participating in the labour force decrease by 3.7%, 7.7%, and 0.2% respectively.

No. of Jobs: The odds of a young person participating in the labour force increase as the number of jobs increases. The odds ratio of 3.003 for rural areas, 2.608 for urban areas, and 2.765 overall, indicates that for a one-unit increase in the number of jobs, the odds of a young person participating in the labour force increase by 200.3%, 160.8%, and 176.5% respectively.

40-80/0-40 Percentile: The odds of a young person participating in the labour force decrease as their income percentile increases. The odds ratio of 0.844 for rural areas, 0.895 for urban areas, and 0.860 overall, indicates that for a one-unit increase in the income percentile, the odds of a young person participating in the labour force decrease by 15.6%, 10.5%, and 14% respectively.

Top 20/0-40 Percentile: The odds of a young person participating in the labour force decrease as their income percentile increases. The odds ratio of 0.991 for rural areas, 1.371 for urban areas, and 1.229 overall, indicates that for a one-unit increase in the income percentile, the odds of a young person participating in the labour force decrease by 0.9%, 37.1%, and 22.9% respectively.

Married/Unmarried: The odds of a young person participating in the labour force decrease if they are married. The odds ratio of 11.436 for rural areas, 4.713 for urban areas, and 8.147 overall, indicates that for a young person who is married, the odds of participating in the labour force are 114.4%, 47.1%, and 81.5% less than for a young person who is unmarried respectively.

Widow/Unmarried: The odds of a young person participating in the labour force decrease if they are widow. The odds ratio of 9.905 for rural areas, 8.251 for urban areas, and 9.253 overall, indicates that for a young person who is widow, the odds of participating in the labour force are 99.05%, 82.51%, and 92.53% less than for a young person who is unmarried respectively.

OBC/SCST: The odds of a young person participating in the labour force decrease if they belong to OBC caste. The odds ratio of 0.928 for rural areas, 0.767 for urban areas, and 0.863 overall, indicates that for a young person who belongs to OBC caste, the odds of participating in the labour force are 7.2%, 23.3%, and 13.7% less than for a young person who belongs to SCST caste respectively.

General/SCST: The odds of a young person participating in the labour force decrease if they belong to General caste. The odds ratio of 0.993 for rural areas, 0.808 for urban areas, and 0.940 overall, indicates that for a young person who belongs to General caste, the odds of participating in the labour force are 0.7%, 19.2%, and 6% less than for a young person who belongs to SCST caste respectively.

Female/Male: The odds of a young person participating in the labour force decrease if they are female. The odds ratio of 0.090 for rural areas, 0.066 for urban areas, and 0.088 overall, indicates that for a young person who is female, the odds of participating in the labour force are 90.9%, 93.4%, and 91.2% less than for a young person who is male respectively.

Urban/Rural: The odds of a young person participating in the labour force increase if they live in an urban area. The odds ratio of 1.392, indicates that for a young person who lives in an urban area, the odds of participating in the labour force are 39.2% more than for a young person who lives in a rural area.

It's important to note that the values in the table are odds ratios and not coefficients, and that a value of 1 indicates that there is no association between the independent variable and the dependent variable. Also, the variables that are significant at the 0.1 level, indicated by *, should be interpreted with caution.

The main findings of this paper are:

There is a decline in labour force participation rate (LFPR) among young people in both rural and urban areas of Rajasthan, India, for both males and females, but the decline is more pronounced among females.

The LFPR for all genders combined is lower in rural areas than in urban areas, and has dropped more rapidly in rural areas than in urban areas.

Family size, education level, number of jobs, socioeconomic status, and marital status have a significant effect on the LFPR of young people in Rajasthan, India during 2020-21.

The paper identifies a gender biasness in the labour force participation in Rajasthan, as the females have a lower LFPR than the males in both rural and urban areas and have seen a more pronounced decrease over time.

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