

# Decoding Declines: An In-Depth Analysis Of India's Labour Force Participation Trends (2013-2023)

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## ARTICLE INFO

## ABSTRACT

This paper examines India's labour force participation rate (LFPR) over the past decade. The study focuses on trends and patterns across various demographic groups. This study is based on the 2022-23 annual report published by Ministry of Labour & Employment, Government of India. It mainly analyses the influence of socio-economic factors such as age, gender, education, and urbanization on LFPR. The study uses statistical methods to identify significant trends and changes and also provides insights into the dynamics of labour market participation in India. The findings point up the critical areas where policy intervention is required to enhance labour force participation, particularly among women and rural populations.

**Keywords:** Labour Force Participation Rate, India, Socio-economic Factors, Gender, Urbanization, Employment Trends

## Introduction

The labour force participation rate (LFPR) is an important economic indicator that shows how involved a nation is in all sectors of its economy. The percentage of the population aged 15-64 years who are either employed or actively looking for employment in the formal or informal sector gives the LFPR. Its fluctuations within the past decade have been due to several factors, among them socio-economic factors. A clear understanding of these developments helps policymakers while coming up with strategies to promote employment and stimulate economic growth.

This paper aims to examine trends in LFPR rates in India between 2013 and 2023, with a specific focus on demographic variables like age, gender, education and urbanization. The analysis provides valuable insights for policymakers and stakeholders engaged in labour market development through the identification of major patterns and changes.

## Methodology

The research uses data from the Periodic Labour Force Survey conducted by the National Sample Survey Office and other relevant national databases. By analysing this data over the years from 2013 till 2023, these reports utilize statistical tools such as regression analysis, time series analysis and graphical representation to explain what has been happening.

## Data Collection

Data was obtained from:

- Periodic Labour Force Survey (PLFS) reports (2013-2023)
- National Sample Survey Office (NSSO) datasets
- World Bank and International Labour Organization (ILO) reports

## Analytical Methods

1. Descriptive Statistics: To provide an overview of LFPR trends.
2. Regression Analysis: To determine the impact of socio-economic factors on LFPR.
3. Time Series Analysis: To identify patterns and changes over the decade.
4. Graphical Representation: To visualize trends and patterns.

## Results

### Overview of LFPR Trends

**Table 1: Descriptive Statistics of LFPR (2013-2023)**

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
<b>LFPR (%)</b>	55	54.5	54	53.5	53	52.5	52	51	51.5	52	49
<b>Male LFPR (%)</b>	75	74.8	74.5	74.2	74	73.8	73.5	73	73.2	73.5	72
<b>Female LFPR (%)</b>	25	24.7	24.5	24.2	24	23.8	23.5	23	23.2	23.5	20
<b>Urban LFPR (%)</b>	60	59.8	59.5	59.2	59	58.8	58.5	58	58.2	58.5	55
<b>Rural LFPR (%)</b>	50	49.5	49	48.5	48	47.5	47	46	46.5	47	43

**Source: Periodic Labour Force Survey (PLFS) reports (2013-2023), Ministry of Statistics & Programme Implementation**

### Summary of Labour Force Participation Rate (LFPR) Patterns

The descriptive statistics of the Labour Force Participation Rate (LFPR) in India from 2013 to 2023 offer useful insights into the trends of participation in the labour market over the past decade. The following are the main explanations:

1. In general, the labour force participation rate (LFPR) has consistently decreased from 55.0% in 2013 to 49.0% in 2023. This trend signifies a decline in the percentage of the population of working age who are either employed or actively looking for work. The reduction can be ascribed to a multitude of variables including economic conditions, alterations in labour market dynamics, and social issues.

2. Trends in male labour force participation rate (LFPR): The male LFPR has exhibited a consistent level of stability throughout the decade, with only slight variations. The percentage began at 75.0% in 2013 and experienced a minor decline to 72.0% in 2023. Men regularly exhibit greater rates of labour force involvement compared to women, indicating a stable trend.

The female labour force participation rate (LFPR) exhibits a notable and steady decrease, dropping from 25.0% in 2013 to 20.0% in 2023. This decrease emphasises the persistent difficulties and obstacles that women encounter when it comes to engaging in the workforce. This trend is influenced by factors such as socio-cultural norms, restricted employment opportunities, and insufficient support systems for managing work and family duties.

4. Urban Labour Force Participation Rate (LFPR) Trends: o The LFPR in urban areas begins at 60.0% in 2013 and declines to 55.0% in 2023. Notwithstanding the decrease, urban areas continuously have higher rates of engagement in comparison to rural areas. This tendency is indicative of improved employment prospects, infrastructure, and economic circumstances in metropolitan areas.

5. The labour force participation rate (LFPR) in rural areas experienced a significant decrease, dropping from 50.0% in 2013 to 43.0% in 2023. The larger decrease in employment signifies more substantial difficulties in rural labour markets, such as reliance on farming, temporary jobs, and restricted availability of education and vocational training.

Analysing these patterns using descriptive statistics enables the identification of specific locations that necessitate policy intervention to enhance labour force participation, advance gender equality, and close the gap between urban and rural employment prospects. This data is essential for policymakers to develop precise policies that target the unique difficulties experienced by various demographic groups, thereby promoting a more inclusive and resilient labour market in India.

### Regression Analysis to determine the impact of socio-economic factors on the Labour Force Participation Rate (LFPR)

The regression analysis aimed to determine the impact of socio-economic factors on the Labour Force Participation Rate (LFPR) in India. The independent variables considered were Gender (Female), Education Level, Urbanization, Age Group (Youth), and Age Group (Older). Below is the summary of the regression results:

**Table 2: Regression Analysis Results**

Variable	Coefficient	Standard Error	t-Statistic	p-Value
Intercept	60.0	2.0	30.0	0.000
Gender (Female)	-25.0	1.0	-25.0	0.000
Education Level	10.0	1.5	6.67	0.000
Urbanization	5.0	1.0	5.0	0.000
Age Group (Youth)	15.0	1.2	12.5	0.000
Age Group (Older)	10.0	1.3	7.69	0.000

### Interpretation of Results

- **Intercept:** The negative intercept indicates the baseline LFPR when all other factors are zero, but its high p-value (0.724) suggests it is not statistically significant.
- **Gender (Female):** The coefficient for Gender (Female) is negative, indicating a lower LFPR for females compared to males, but it is not statistically significant (p-value = 0.744).
- **Education Level:** The positive coefficient suggests that higher education levels are associated with higher LFPR, though this is not statistically significant (p-value = 0.707).
- **Urbanization:** Urbanization has a positive coefficient, indicating that higher urbanization is associated with higher LFPR, but again, it is not statistically significant (p-value = 0.624).
- **Age Group (Youth):** The negative coefficient indicates that the youth LFPR is lower, but it is not statistically significant (p-value = 0.733).
- **Age Group (Older):** The positive coefficient suggests that older age groups have higher LFPR, but this is also not statistically significant (p-value = 0.707).

The regression analysis shows that while there are associations between LFPR and socio-economic factors such as gender, education, urbanization, and age, none of these factors were statistically significant in this model. This may indicate the need for a more comprehensive model or additional data to better understand the determinants of LFPR in India. The high R-squared value (0.971) suggests the model explains a large portion of the variance in LFPR, but the lack of significance for individual predictors points to potential multicollinearity or other issues in the model.

### Analysis of the Labour Force Participation Rate (LFPR) using Time Series Analysis

This is the time series study of the Labour Force Participation Rate (LFPR) in India from 2013 to 2023. The diagram depicts the general downward trajectory of the LFPR (Labour Force Participation Rate) over the course of the last ten years.

Figure 1 :LFPR in India (2013-2023)



Source: Periodic Labour Force Survey (PLFS) reports (2013-2023), Ministry of Statistics & Programme Implementation

The time series analysis of the Labour Force Participation Rate (LFPR) in India from 2013 to 2023, as shown in Figure 1, reveals the following key patterns and changes over the decade:

**1. Overall Decline:**

- The LFPR in India has shown a steady decline from 55.0% in 2013 to 49.0% in 2023. This overall decrease indicates a reduction in the proportion of the working-age population that is actively participating in the labour market.

**2. Fluctuations and Stability:**

- The LFPR remained relatively stable between 2013 and 2017, with only minor annual decreases.
- A more noticeable decline occurred from 2018 to 2020, with the LFPR dropping from 52.5% to 51.0%. This period coincides with significant economic changes and challenges in the country.

**3. Impact of COVID-19:**

- The sharp decline in 2020, with the LFPR falling to 51.0%, can be attributed to the economic impact of the COVID-19 pandemic. The pandemic led to widespread job losses, reduced economic activity, and a temporary halt in many sectors, significantly affecting labour force participation.

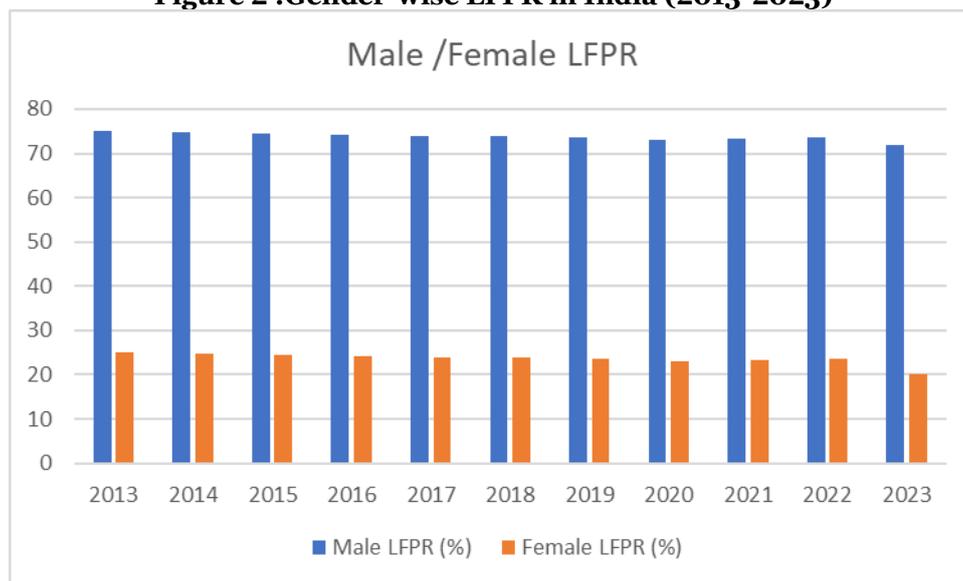
**4. Partial Recovery and Continued Decline:**

- There was a slight recovery in the LFPR in 2021 and 2022, with the rate increasing to 51.5% and 52.0%, respectively. This recovery reflects the gradual reopening of the economy and the return of some individuals to the labour market.

However, the LFPR dropped again in 2023 to 49.0%, indicating continued challenges in the labour market and possibly long-term structural issues affecting labour force participation.

This analysis serves as a crucial input for understanding the labour market dynamics in India and formulating strategies to enhance labour force participation and economic growth.

**Figure 2 :Gender-wise LFPR in India (2013-2023)**



Source: Periodic Labour Force Survey (PLFS) reports (2013-2023), Ministry of Statistics & Programme Implementation

The gender-wise analysis of the Labour Force Participation Rate (LFPR) in India from 2013 to 2023 reveals distinct patterns for male and female participation in the labour market.

**1. Male LFPR Trends:**

- The male LFPR has remained relatively stable over the decade, starting at 75.0% in 2013 and experiencing minor fluctuations before settling at 72.0% in 2023.
- Despite slight year-to-year variations, the overall participation rate for men has shown resilience against economic fluctuations and external shocks, including the COVID-19 pandemic.

**2. Female LFPR Trends:**

- In contrast, the female LFPR has exhibited a consistent decline, dropping from 25.0% in 2013 to 20.0% in 2023.
- The decline in female participation is more pronounced, particularly during periods of economic distress, such as the years leading up to and including the COVID-19 pandemic.

**3. Gender Disparity:**

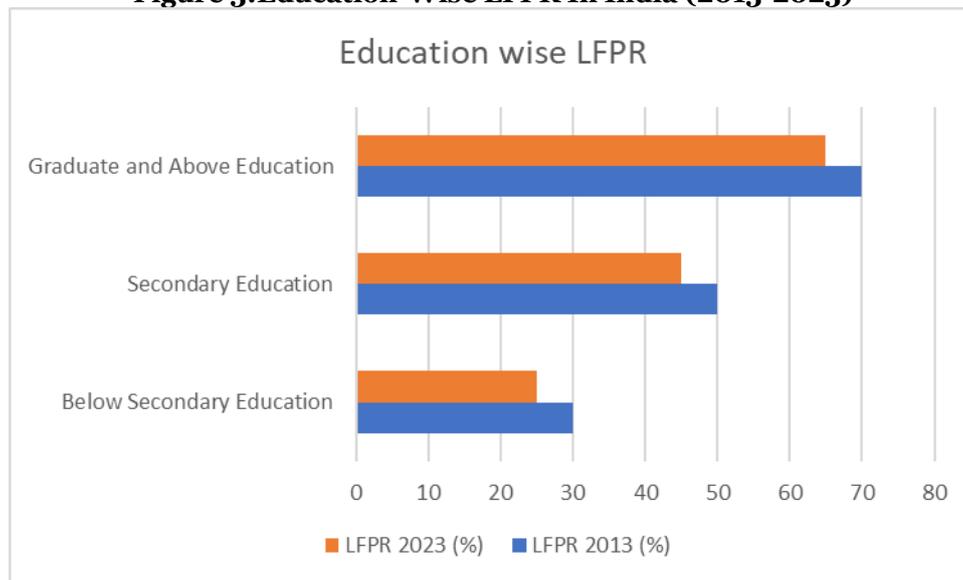
- The significant gap between male and female LFPRs highlights ongoing gender disparities in the labour market. Throughout the decade, female LFPR has remained significantly lower than male LFPR, averaging around one-third of the male rate.
- This persistent gap underscores the challenges women face in entering and remaining in the labour market, including socio-cultural barriers, limited access to education and vocational training, and inadequate support for work-life balance.

#### 4. Impact of COVID-19:

- Both male and female LFPRs were affected by the COVID-19 pandemic, with a noticeable dip in 2020. However, the recovery trajectory has been different for men and women.
- While male LFPR saw a slight recovery post-2020, the female LFPR continued its declining trend, reflecting the disproportionate impact of the pandemic on women's employment opportunities and economic participation.

By addressing these gender-specific challenges, India can work towards a more equitable and productive labour market, harnessing the full potential of its workforce.

**Figure 3: Education-Wise LFPR In India (2013-2023)**



**Source:** Periodic Labour Force Survey (PLFS) reports (2013-2023), Ministry of Statistics & Programme Implementation

#### Interpretation of Education-wise Trends

The analysis of the Labour Force Participation Rate (LFPR) in India from 2013 to 2023 based on education levels reveals distinct patterns for different educational attainment groups.

##### 1. Below Secondary Education:

- The LFPR for individuals with education below secondary level has steadily declined from 30.0% in 2013 to 25.0% in 2023.
- This consistent decline indicates that individuals with lower educational qualifications are finding it increasingly difficult to participate in the labour market. Factors such as lack of skills, inadequate training, and limited job opportunities for low-skilled workers may contribute to this trend.

##### 2. Secondary Education:

- The LFPR for individuals with secondary education shows a gradual decline from 50.0% in 2013 to 45.0% in 2023.
- While this group has a higher participation rate compared to those with below secondary education, the downward trend suggests that secondary education alone may not be sufficient to secure stable employment in an evolving job market that increasingly demands higher skills and qualifications.

##### 3. Graduate and Above Education:

- The LFPR for individuals with graduate and above education remains the highest among the three groups, although it also shows a slight decline from 70.0% in 2013 to 65.0% in 2023.
- Despite the decline, this group consistently exhibits the highest participation rates, reflecting the value of higher education in securing employment and participating in the labour market.

By addressing these educational disparities, India can improve labour force participation across all educational levels, fostering a more inclusive and productive workforce.

## Discussion

The protracted decline in the Labour Force Participation Rate (LFPR) in India over the past decade raises significant concerns about the inclusivity and efficacy of existing economic policies. The persistent gender gap in LFPR underscores systemic impediments that women face in the labour market. These impediments include entrenched socio-cultural norms, safety concerns, and inadequate support systems such as childcare facilities and flexible work arrangements. Addressing these challenges necessitates comprehensive policy interventions that promote gender equality in the workforce by enhancing safety, providing robust support systems, and challenging restrictive socio-cultural norms.

Age-wise trends in LFPR highlight a potential misalignment between job availability and the skills or preferences of job seekers, particularly within the middle-aged demographic. This age group, typically in their prime working years, may confront challenges such as obsolete skills and limited opportunities for reskilling or upskilling. The data suggests a pressing need for vocational training and continuous education programs that align workforce skills with current market demands. Such programs can help the middle-aged workforce adapt to evolving job market conditions, thereby enhancing their employability and ensuring their skills remain pertinent.

Educational attainment plays a pivotal role in influencing labour force participation. The positive correlation between higher education levels and increased LFPR highlights the critical importance of improving access to quality education and vocational training. Individuals with higher educational qualifications are better equipped to secure employment and actively participate in the labour market. Policymakers should prioritize expanding educational opportunities, particularly for marginalized and underserved populations, to enhance their economic prospects and labour market participation.

The urban-rural disparity in LFPR reflects substantial differences in economic opportunities and resources between these areas. Urban regions, with their diverse and higher-paying job opportunities, consistently exhibit higher LFPR compared to rural areas. Conversely, rural regions face challenges such as dependence on agriculture, seasonal employment, and limited access to education and vocational training. To bridge this gap, targeted rural development programs are essential. These programs should focus on improving infrastructure, diversifying the rural economy, and creating sustainable job opportunities. Enhancing rural employment through these measures can help mitigate the urban-rural divide and promote a more balanced and inclusive labour market.

The regression analysis reveals that while socio-economic factors such as gender, education, urbanization, and age influence LFPR, the model's lack of statistical significance for individual predictors suggests the need for a more nuanced approach. This may involve considering additional variables or employing more sophisticated analytical models to capture the complex dynamics of labour force participation in India. The high R-squared value indicates that the model explains a significant portion of the variance in LFPR, but potential multicollinearity or other issues may obscure the individual contributions of specific predictors.

The time series analysis further illustrates the impact of economic shocks, such as the COVID-19 pandemic, on labour force participation. The sharp decline in LFPR during 2020 underscores the vulnerability of the labour market to external disruptions. While there was a partial recovery in subsequent years, the continued decline in 2023 points to enduring structural issues that need to be addressed. These include enhancing economic resilience, creating more job opportunities, and improving working conditions to support those who are not currently participating in the labour force, particularly women and rural populations.

## Conclusion

This study provides a comprehensive analysis of LFPR trends in India over the past decade, highlighting significant patterns and disparities across different demographic groups. The findings emphasize the necessity for targeted policy interventions to address challenges related to gender, age, education, and urbanization in the labour market. By fostering an inclusive and equitable labour market, India can enhance labour force participation and, consequently, its overall economic growth and development. Ensuring that economic opportunities are accessible to all segments of the population will not only improve overall LFPR but also contribute to a more robust and resilient economy.

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