

# REPORT

## 1. Introduction

This report presents a combined analysis of unemployment rates and trends in consumption across different states and union territories in India. The datasets used include the Unemployment Rate Dataset (2023-24) and the Household Consumer Expenditure Survey (HCES) 2011-12, 2022-23, 2023-24. The objective of this study is to understand the correlation between employment levels and spending habits, offering insights into economic conditions and regional disparities.

## 2. Data Sources and Methodology

### 2.1 Data Sources

- Unemployment Rate Dataset (2023-24): Provides rural and urban unemployment rates for different states/UTs, with gender-wise distribution.
- Household Consumer Expenditure Survey (HCES): Covers trends in Monthly Per Capita Expenditure (MPCE) over the years 2011-12, 2022-23, and 2023-24.
- The data was extracted from official reports, including survey results and microdata blocks of national statistical organizations.

### 2.2 Software and Tools Used

- Python (Pandas, Matplotlib, Seaborn, NumPy) for data processing and visualization.
- Jupyter Notebook for exploratory data analysis.
- MS Excel for initial data formatting.
- Tableau for interactive dashboard visualizations.

### 2.3 Data Processing

- Merging datasets based on State/UT.
- Cleaning and handling missing data.
- Normalizing consumption trends for comparison.
- Computing correlations between unemployment rates and MPCE trends.
- Visualizing data using bar charts, heatmaps, and trend lines.

### 3. Key Findings

#### 3.1 Unemployment Trends by Region

- **High Unemployment in Urban Areas:** Urban unemployment is consistently higher than rural unemployment across most states.
- **Gender Disparity:** Female unemployment is significantly higher than male unemployment in urban areas, particularly in Delhi, Kerala, and Jammu & Kashmir.
- **Regional Variations:** States like Bihar, Jharkhand, and Chhattisgarh have the lowest employment rates, aligning with their lower consumption levels.

#### 3.2 Trends in Household Consumption

- **Rising MPCE Over Time:** The national average MPCE has increased from ₹1430 (2011-12) to ₹4122 (2023-24) in rural areas and from ₹2630 to ₹6996 in urban areas.
- **Urban Consumption Growth:** The growth rate in urban areas is faster than in rural areas, highlighting increased urban expenditure.
- **Disparity in Spending:** States with high unemployment rates tend to have lower MPCE, indicating a correlation between economic activity and consumption levels.

#### 3.3 Correlation Analysis

- A moderate negative correlation was observed between unemployment rates and MPCE (higher unemployment often linked to lower spending power).
- States with a higher female unemployment rate also showed lower female-led consumption trends.
- Industrial and service-oriented states (Maharashtra, Gujarat, Tamil Nadu) exhibited better employment conditions and higher MPCE, whereas agriculture-dominated states (Bihar, Uttar Pradesh, Odisha) had lower MPCE and higher unemployment.

#### 4. Visualizations and Insights

Key visualizations include:

- Bar Charts: Comparing MPCE growth across states.
- Heatmaps: Highlighting the correlation between unemployment rates and MPCE.
- Line Graphs: Showing the trend in MPCE over different years.
- Scatter Plots: Analyzing the impact of unemployment on spending.
- Geomaps: State-wise MPCE in India

#### 5. Conclusion and Recommendations

- Policy Implications: The government should focus on skill development and employment generation in high-unemployment regions.
- Enhancing Rural Economy: Boosting employment opportunities in rural areas can reduce migration to urban centers and stabilize MPCE growth.
- Gender Employment Gap: Special attention is required to reduce female unemployment, especially in urban regions.
- Further Research: This study can be expanded by including sector-wise employment data to refine the relationship between workforce trends and consumption patterns.

#### 6. References

- Unemployment Rate Dataset (2023-24) – National Sample Survey Office (NSSO)
- Household Consumer Expenditure Survey (HCES) Reports (2011-12, 2022-23, 2023-24)
- Official Ministry of Statistics & Programme Implementation (MoSPI) Reports
- Additional literature on economic trends and unemployment in India