

Inflation and Cpi statistics: Interactive Data Visualization for Economic Insights and Forecasting using Predictive Methods

Introduction

The **Visualization Dashboard** is an interactive platform designed to analyze and visualize price indices for various food items and states across India. Developed as part of the "Innovate with GoIStats" hackathon organized by the **Ministry of Statistics and Programme Implementation (MoSPI)**, this dashboard leverages official government data from 2014 to 2025 to provide actionable insights for policymakers and stakeholders.

The dashboard enables users to explore trends, compare regions, and forecast future price indices through dynamic visualizations such as line charts, bar charts, heatmaps, and choropleth maps. By offering a user-friendly interface and automated insights, the tool empowers evidence-based decision-making to address regional disparities and support economic planning towards building a "Viksit Bharat" (Developed India).

Visualization

Data Insights

Automated analysis of trends and patterns

Insights for motor car; jeep

- Total change: 26.00 index points (18.34%)
- Average monthly change: 0.74 index points
- Highest value: 167.80 (Month: 2024-11)
- Lowest value: 141.80 (Month: 2022-1)
- Largest monthly increase: 2.50 index points
- Largest monthly decrease: -0.10 index points



Innovate with GoIStats: Data-Driven Insights for Viksit Bharat

Interactive Price Index Dashboard for Economic Analysis

Welcome to the GoIStats Dashboard

Explore price trends across India through interactive visualizations

Hover over the map to see state-wise inflation trends

[Start Analysis](#)

Analysis Controls

Select analysis type and parameters below

Select View Type:

<input checked="" type="radio"/>	Item-wise Analysis
<input type="radio"/>	State-wise Analysis
<input type="radio"/>	Comparative Analysis
<input type="radio"/>	Forecasting

Select Item:

Select Date Range:



Select Visualization Type:

☐ Line Chart ☐ Bar Chart ☐ Heatmap ☒ Seasonal Decomposition

Data Visualization

Interactive charts based on your selections

Seasonal Pattern for motor car; jeep (2022-2024)



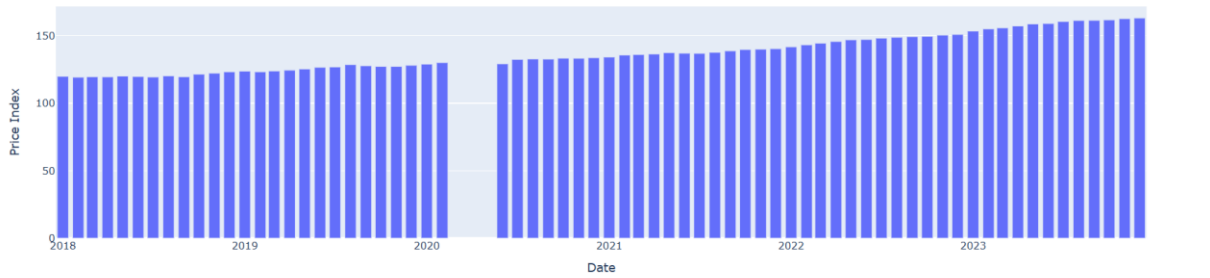
Select Visualization Type:

☐Line Chart☒Bar Chart☐Heatmap☐Seasonal Decomposition

Data Visualization

Interactive charts based on your selections

Price Index Trend for motor car; jeep (2018-2023)



Heat map:

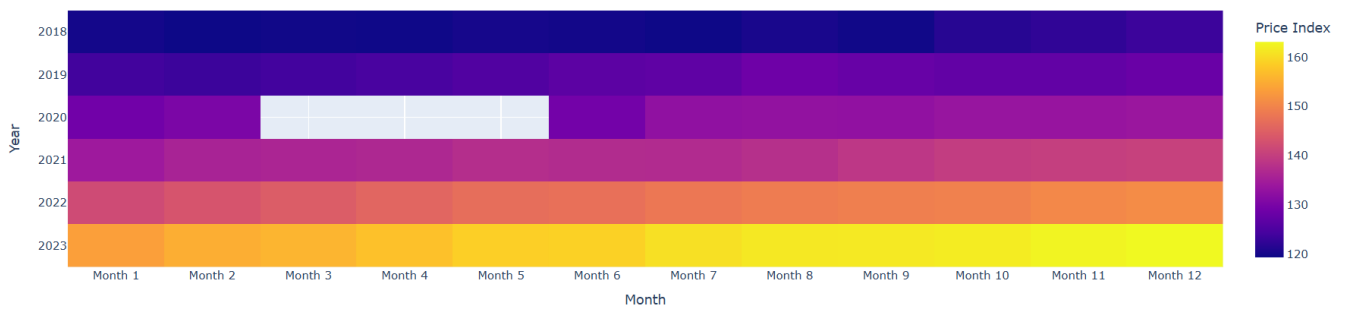
Select Visualization Type:

☐Line Chart☐Bar Chart☒Heatmap☐Seasonal Decomposition

Data Visualization

Interactive charts based on your selections

Monthly Price Index Heatmap for motor car; jeep (2018-2023)



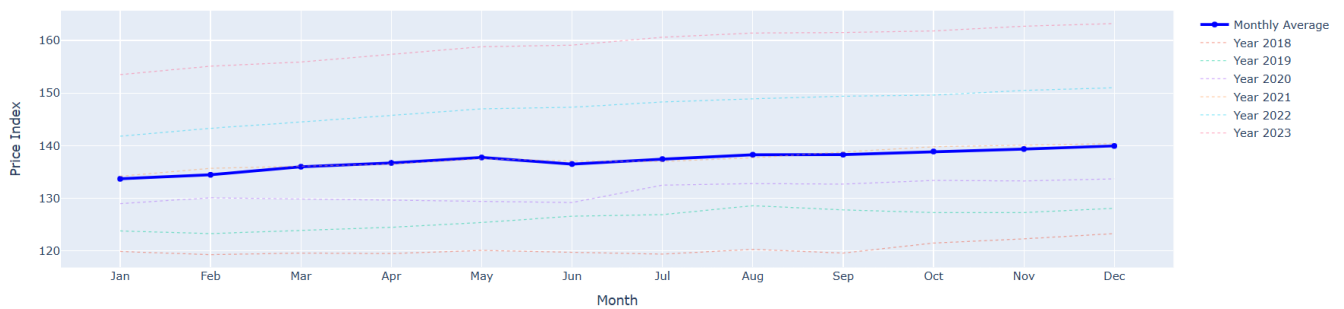
Seasonal Decomposition

☐Line Chart☐Bar Chart☐Heatmap☒Seasonal Decomposition

Data Visualization

Interactive charts based on your selections

Seasonal Pattern for motor car; jeep (2018-2023)



State wise analysis

Bar graph – quarter analysis



Data Insights

Automated analysis of trends and patterns

Insights for Andhra Pradesh (Combined)

- Total change: 16.20 index points (11.24%)
- Average monthly change: 0.04 index points
- Starting index: 144.10
- Current index: 160.30
- Difference from national average: -2.30 index points (-1.41%)

Comparative Analysis

Comparing bikes and cars Inflation

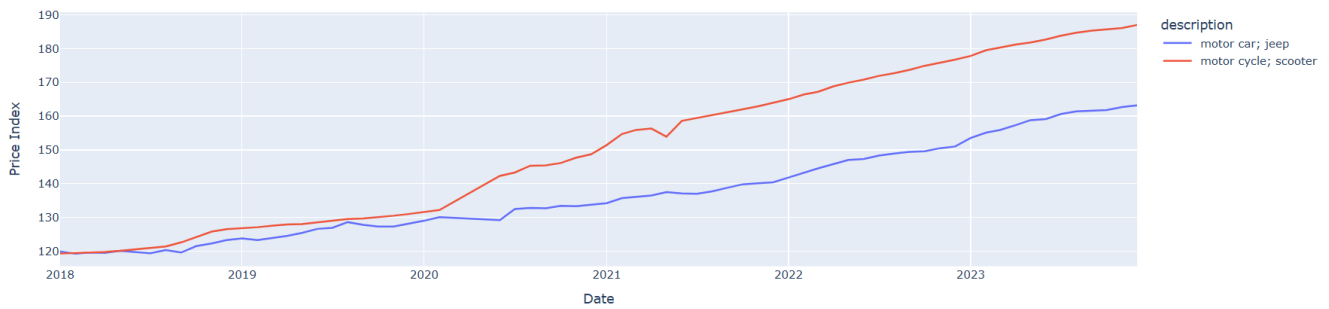
Select Visualization Type:

☒ Line Chart ☐ Bar Chart ☐ Radar Chart

Data Visualization

Interactive charts based on your selections

Comparative Analysis of Items (2018-2023)



[Errors](#) [Callbacks](#) | v3.0.0 [Dash update available - v3.0.1](#) | [Server](#)

Data Insights

Automated analysis of trends and patterns

Comparative Insights

Price Index Change (%)

- motor car; jeep: **36.11%**
- motor cycle; scooter: **56.75%**

Comparative

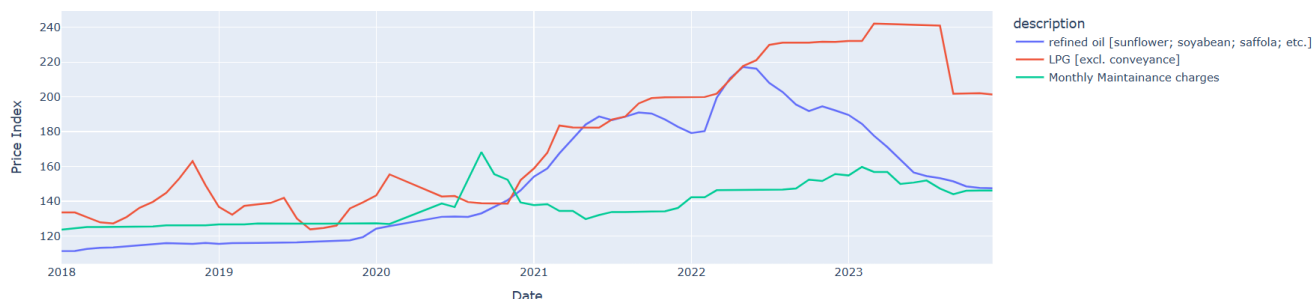
Select Visualization Type:

☒ Line Chart ☐ Bar Chart ☐ Radar Chart

Data Visualization

Interactive charts based on your selections

Comparative Analysis of Items (2018-2023)



Data Insights

Automated analysis of trends and patterns

Comparative Insights

Price Index Change (%)

- LPG [excl. conveyance]: **50.86%**
- refined oil [sunflower; soyabean; saffola; etc.]: **32.43%**
- Monthly Maintenance charges: **18.20%**

Forecasting methods

Linear Regression

Moving Average

Exponential Smoothing

Forecasting Method:
☒ Linear Regression ☐ Moving Average ☐ Exponential Smoothing

Data Visualization
Interactive charts based on your selections



Data Insights
Automated analysis of trends and patterns

Forecast Insights for motor car; jeep

- Current index value: 167.80
- Forecasted value (12 months from now): 166.41
- Expected change: -1.39 index points (-0.83%)
- Method: Exponential Smoothing

Interpretation:

Based on historical trends, we forecast a **fall of 0.83%** in the price index for motor car; jeep over the next 12 months.