Understanding Inflation in India: CPI-Based Insights Up to April 2023

Executive Summary

This case study analyses **India's Consumer Price Index (CPI) and inflation trends** using **Microsoft Excel**, with the objective of identifying key drivers of inflation, understanding long-term and short-term trends, and assessing the impact of major domestic and global events on price levels.

Objectives

- Identify the **contribution of broader categories** (such as food, energy, transportation, and services) to overall CPI.
- Analyse **year-on-year inflation trends** from 2017 onward and identify peak inflation periods.
- Examine **food inflation dynamics**, including month-on-month changes and category-level contributors.
- Assess the **impact of COVID-19** on CPI behavior before and after March 2020.
- Evaluate the influence of **imported crude oil price fluctuations (2021–2023)** on inflation across categories.

Methodology

- Conducted data cleaning and preparation in **Excel**.
- Used **pivot tables, formulas, and calculated fields** to aggregate CPI indices and inflation rates.
- Created **line charts, bar charts, and trend visuals** to analyse YoY and MoM movements.
- Grouped detailed CPI components into **broader buckets** to assess contribution percentages.
- Applied **correlation analysis** to study the relationship between imported oil prices and inflation.

Key Insights

- **Food-related categories** consistently emerged as the **largest contributors** to CPI, particularly during inflation spikes.
- India's inflation showed a **clear YoY upward trend post-2017**, with notable peaks driven by food and energy prices.

- The **COVID-19 period marked a structural shift** in inflation behavior, especially in essentials such as food and healthcare.
- A sharp rise in food prices led to **elevated retail inflation in late 2023**, confirming food inflation as a key risk factor.
- **Imported crude oil prices (2021–2023)** displayed a strong relationship with inflation in fuel, transportation, and allied categories.

Conclusion

The analysis highlights that India's inflation is largely driven by **food and energy price volatility**, with external shocks such as pandemics and global oil price movements playing a significant role. The project demonstrates how **Excel can be effectively used for macroeconomic analysis**, combining quantitative rigor with clear visual storytelling to support policy and business decision-making.