

# India CPI inflation Case study Analysis

**Problem Statement** – You are working with the National Statistical Office which is equipped to release inflation numbers in India. As an analyst, you are provided with CPI data and are equipped to find out insights from the data. Your senior wants you to find key trends and deep dive into the data to answer the following questions –

1. Based on the latest month's data, identify the contribution of different broader categories (food, energy, transportation, education, etc.) towards the CPI basket.  
Broader categories (buckets) can be created by combining similar categories into one bucket: Ex.: Meals, Beverages, Cereals can be clubbed to create "Food" category etc.
  - a. Which broader category has the highest contribution towards CPI calculation
  - b. Contribution is calculated by evaluating the underlying index values for broader category and should add to 100% when contribution from different broader categories is added.
2. A trend of Y-o-Y increase in CPI (rural + urban) inflation starting 2017 for the entire basket of products combined.
  - a. Create a graph depicting the growth rate Y-o-Y and identify the year with highest inflation rate
  - b. Highlight the reason why the year has the highest inflation (based on research)
3. With India's retail inflation reaching a 3-month high of 5.55% in November 2023, largely due to sharp rise in food prices. Analyze the following for 12-months ending may'23
  - a. Investigate trends in the prices of broader food bucket category and evaluate month-on-month changes. Highlight month with highest and lowest food inflation
  - b. Identify the absolute changes in inflation over the same 12 months period and identify the biggest individual category contributor (only within broader food category) towards inflation
4. Investigate how the onset the progression of the COVID-19 pandemic affected inflation rates in India. Analyze the impact of key pandemic milestone (first lockdown) on the CPI inflation %, specially focus on categories like healthcare, food and essential services.
5. Investigate how major global economic events (like imported crude oil price fluctuations) have influenced India's inflation. This can include an analysis of imported goods and their price trends.

- For the purpose of this analysis, focus only on the imported oil price fluctuations for years 2021 to 2023 (month-on-month)
- Identify trends in oil price change in inflation prices of all the categories and identify category whose inflation prices strongly changes with fluctuations in imported oil price

