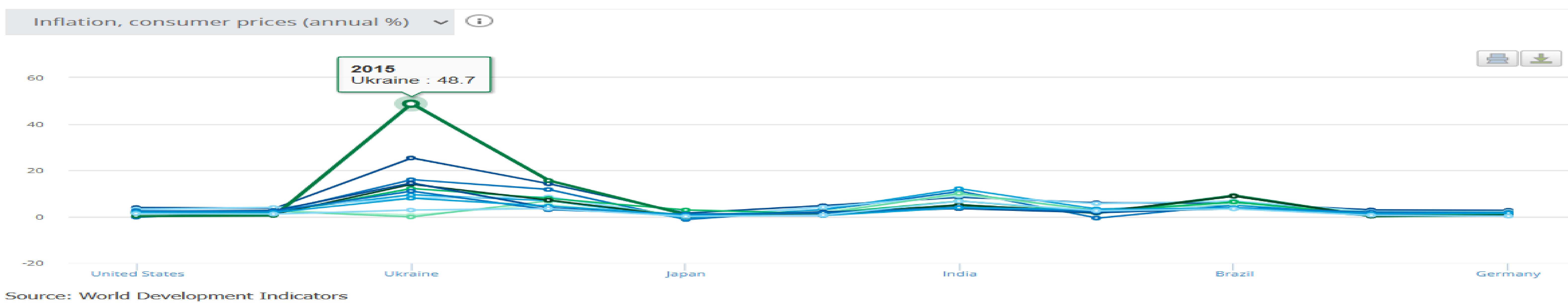


# Inflation actual and predicted for the selected countries from 2008 to 2030

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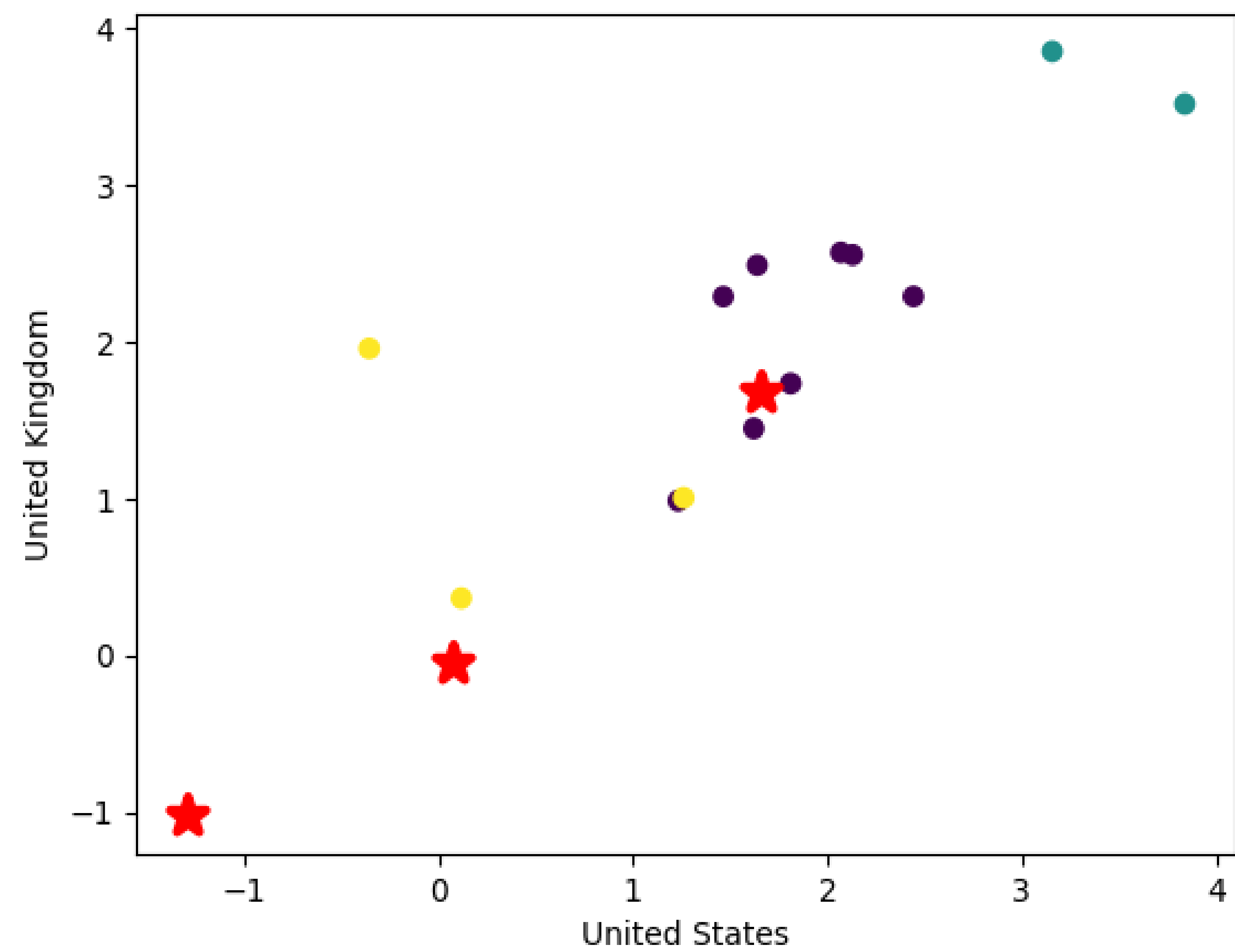
## Introduction:

### Data Source:

International Monetary Fund, International Financial Statistics and data files.

### Inflation, consumer prices (annual %)

- It reflects the rate at which the general level of prices for these goods and services is increasing over time.
- The measurement considers the cost changes experienced by consumers in purchasing a fixed or variable basket of goods and services.
- By tracking inflation through consumer prices, we gain insights into the purchasing power of consumers, the stability of the economy, and the potential impact on various sectors and individuals.



## Clustering and polynomial regression analysis on inflation data

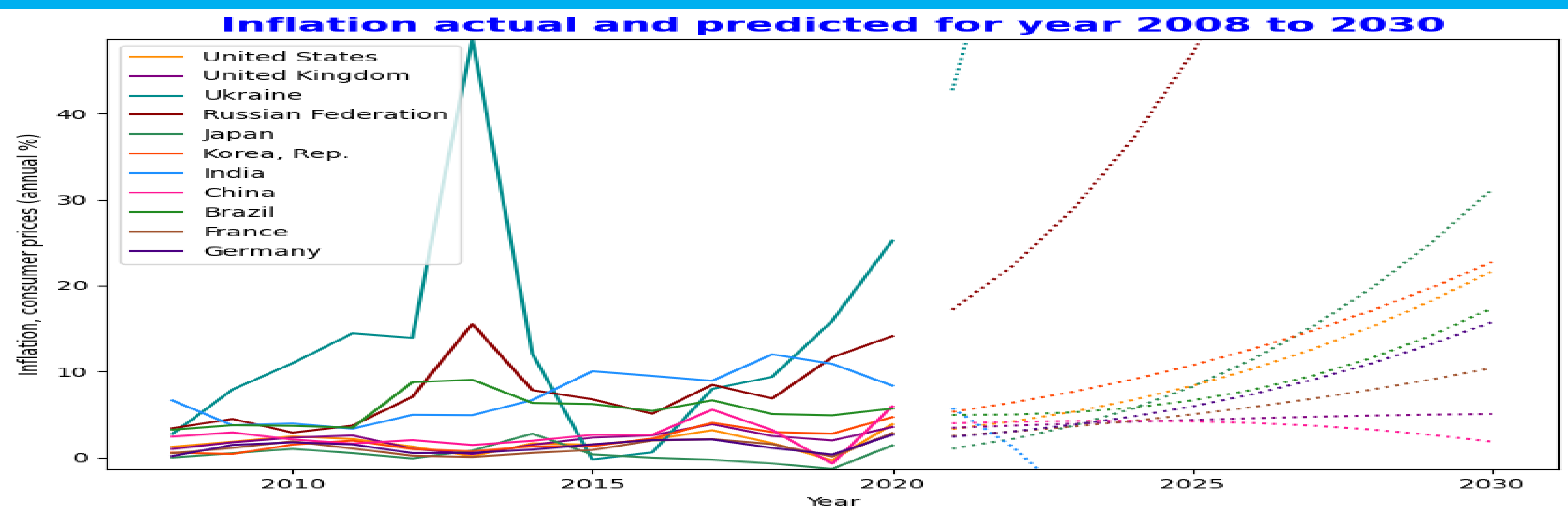
### Clustering:

- We use K-means clustering to group the countries based on their inflation data.
- The scatter plot displays the relationship between the inflation rates of the United States and the United Kingdom, with different colors representing different clusters.
- The cluster centers are marked with red asterisks on the plot.

### Polynomial Regression to Predicting:

We perform polynomial regression for each country individually to predict inflation for the next 10 years (2021-2030).

- The actual inflation data from 2008 to 2020 is plotted with solid lines for each country. The predicted inflation values for the next 10 years are plotted with dotted lines.
- Each country's data and prediction are displayed with different colors. The plots have clear labels for the x-axis (Year) and y-axis (Inflation, consumer prices (annual %)).
- The legend shows the country names corresponding to the data and prediction lines.



The analysis focuses on inflation, specifically consumer prices, using data from the International Monetary Fund. By tracking inflation through consumer prices, we get valuable insights into the purchasing power of consumers, economic stability, and potential impacts on various sectors and individuals. From the graph, it seems that Ukraine has the worst inflation among these countries.