Power BI Inflation Analysis: Journeying Through Global Economic Terrain

-Aishwarya Bharathy Babu

1. Introduction

1.1 Project Overview

The **Power BI Inflation Analysis: Journeying Through Global Economic Terrain** project aims to analyse global inflation patterns across multiple countries and years using interactive data visualization techniques. Inflation is a crucial economic indicator that reflects changes in price levels and economic stability. However, raw inflation data is often complex and difficult to interpret without proper structuring and visualization.

This project utilizes **Power BI** to transform a global inflation dataset into meaningful insights through data pre-processing, visualization, and dashboard development. The final output is an interactive dashboard that enables users to explore inflation trends over time, compare inflation rates across countries, and understand the overall distribution of inflation values.

1.2 Objectives

The key objectives of this project are:

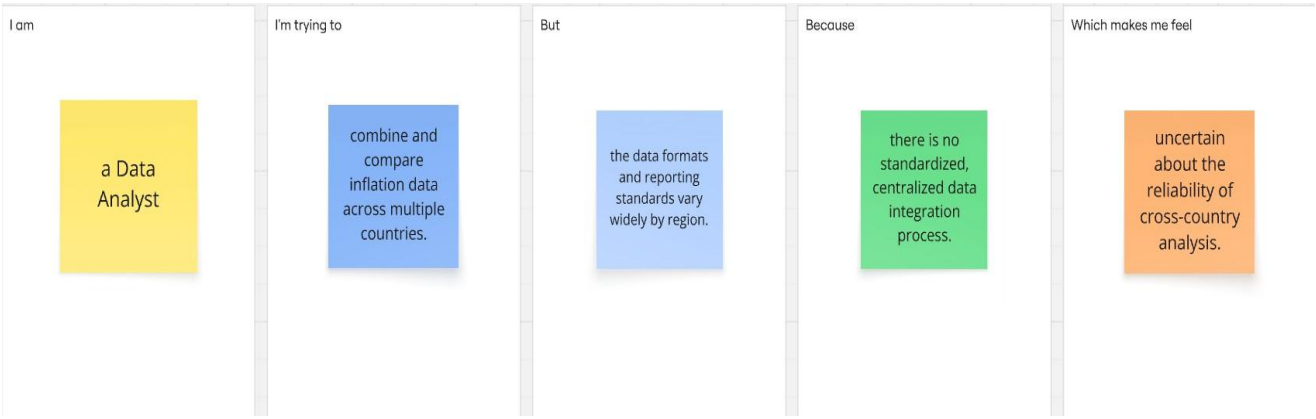
- To analyse global inflation trends across multiple years
- To compare inflation rates between different countries
- To identify countries with high and extreme inflation levels
- To understand the distribution and categories of inflation rates
- To develop an interactive Power BI dashboard for effective analysis and decision-making

2. Project Initialization and Planning Phase

2.1. Define Problem Statement

Date	8 December 2025
Team ID	xxxxxx
Project Name	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	3 Marks

PROBLEM STATEMENT 1 :



PROBLEM STATEMENT 2 :

2.2. Project Proposal (Proposed Solution)

Date	8 December 2025
Team ID	xxxxxx
Project Title	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	3 Marks

Project Proposal (Proposed Solution):

Project Overview	
Objective	To develop a unified, interactive Power BI dashboard that standardizes global inflation data, enables accurate trend analysis, and supports reliable forecasting for strategic decision-making.
Scope	1. Collect, clean, and standardize inflation data from multiple countries. 2. Integrate all datasets into a centralized data model in Power BI. 3. Build visuals showcasing trends, comparisons, and correlations. 4. Implement forecasting techniques using available historical data. 5. Deliver insights and recommendations tailored to each market.
Problem Statement	
Description	Global inflation data is inconsistent across regions due to varying formats and reporting methods, making integration difficult. Additionally, many countries lack sufficient historical data, limiting the accuracy of forecasting and long-term analysis.

Impact	Solving these issues will enable the organization to generate reliable cross-country inflation insights, support accurate forecasting, and improve pricing, budgeting, and investment decisions across global markets.
Proposed Solution	
Approach	1. Establish a standardized data preparation workflow to clean and unify datasets. 2. Build a centralized Power BI data model for integration and analysis. 3. Use Power Query for transformation and DAX for calculated measures. 4. Apply forecasting techniques using available historical data. 5. Create interactive dashboards to visualize inflation trends and support decision-making.
Key Features	1. Standardized global inflation dataset across all regions. 2. Centralized Power BI model enabling consistent comparison. 3. Trend analysis, cross-country benchmarking, and forecasting tools. 4. User-friendly visuals for decision-makers and strategic teams. 5. Automated refresh and scalable architecture for continuous updates.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	Intel(R) Core(TM) i3-10110U CPU @ 2.10GHz
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	233 GB
Software		
Frameworks	Python frameworks	Microsoft Power BI Desktop
Development Environment	IDE, version control	Power BI Desktop
Data		
Data	Source, size, format	Kaggle dataset, Number of rows: 196 Number of columns: 47 CSV file

2.3. Initial Project Planning

Date	8 December 2025
Team ID	xxxxxx
Project Name	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	4 Marks

Product Backlog, Sprint Schedule, and Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
Sprint-1	Data Collection	USN-1	As a user, I search for suitable inflation datasets and download the required dataset from the source.	2	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Working on Templates	USN-2	As a user, I fill in the templates for the Project Initialization & Planning Phase, including Defining the Problem Statements and Project Proposal.	3	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Working on Templates	USN-3	As a user, I complete the templates for Raw Data Sources Identification Report, and Data Quality Report.	3	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-4	As a user , I explore the Global Inflation dataset to understand its structure and identify data quality issues so that pre processing requirements can be defined.	1	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-5	As a user, I remove unnecessary columns (such as Indicator) so that the dataset remains focused on inflation analysis.	1	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
Sprint-1	Data Preprocessing	USN-6	As a user, I clean and standardize country names so that grouping and filtering work correctly in visualizations.	2	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-7	As a user, I remove blank rows and error records so that invalid data does not affect analysis results.	1	Medium	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-8	As a user, correct data types for Year and Inflation Rate so that aggregations and sorting behave correctly.	2	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-9	As a user, I unpivot year columns into a long format so that time-series and trend analysis can be performed.	3	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-10	As a user, I identify missing inflation values so that data completeness can be assessed and communicated.	2	Medium	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-11	As a user, I create inflation categories (Low, Moderate, High, Very High) so that categorical analysis can be visualized.	2	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-12	As a user, I create country-wise summary tables (Average, Minimum, Maximum inflation) so that comparative insights can be derived.	3	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025
Sprint-1	Data Preprocessing	USN-13	As a user, I apply and save all pre processing steps so that the cleaned dataset is ready for dashboard creation.	1	High	Aishwarya Bharathy Babu	08-Dec-2025	12-Dec-2025

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
Sprint-2	Data Visualization	USN-14	As a user, I create a KPI card to display the average inflation rate so that I can get a quick global overview.	1	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization	USN-15	As a user, I create a bar chart showing countries with the highest inflation rates so that I can compare country-wise inflation levels.	2	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization	USN-16	As a user, I create a line chart to visualize the global inflation trend over years so that I can identify patterns and spikes.	2	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization	USN-17	As a user, I create a country-level inflation trend line chart so that I can analyze inflation changes for a selected country.	2	Medium	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization	USN-18	As a user, I create a donut chart showing inflation category distribution so that inflation severity can be summarized visually.	1	Medium	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization	USN-19	As a user, I create a histogram-style column chart to understand the distribution of inflation rates.	2	Medium	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization	USN-20	As a user, I create a bar chart showing average inflation by country so that long-term inflation levels can be compared.	2	Medium	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization	USN-21	As a user, I create a table showing minimum and maximum inflation rates by country so that inflation variability can be analyzed.	1	Medium	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
Sprint-2	Dashboard Building	USN-22	As a user, I add Year and Country slicers so that all visuals can be filtered dynamically.	1	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Dashboard Building	USN-23	As a user, I arrange visuals logically on the dashboard so that insights are easy to interpret.	2	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Dashboard Building	USN-24	As a user, I apply consistent formatting, titles, and themes so that the dashboard looks professional.	2	Medium	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Dashboard Building	USN-25	As a user, I validate interactivity between slicers and visuals so that the dashboard responds correctly.	1	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization Template	USN-26	As a user, I document all business questions with their corresponding visualizations so that analysis objectives are clearly mapped to visuals.	2	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Data Visualization Template	USN-27	As a user, I include screenshots of each visualization so that the visual outputs are clearly demonstrated.	1	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Dashboard Template	USN-28	As a user, I document the overall dashboard layout and structure so that the design approach is clearly communicated.	2	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Dashboard Template	USN-29	As a user, I document the interactive elements (Year and Country slicers) so that dashboard interactivity is clearly explained.	1	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Dashboard Template	USN-30	As a user, I list the potential outcomes derived from the dashboard so that key insights are summarized effectively.	2	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
Sprint-2	Report Template	USN-31	As a user, I write observations based on inflation trends over time so that temporal patterns are clearly explained.	2	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Report Template	USN-32	As a user, I document country-wise inflation performance so that differences across countries are highlighted.	2	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Report Template	USN-33	As a user, I summarize distribution-based insights and extreme inflation cases so that overall economic implications are captured.	2	Medium	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-2	Report Template	USN-34	As a user, I conclude the report with key takeaways so that the project outcomes are clearly communicated.	1	High	Aishwarya Bharathy Babu	13-Dec-2025	17-Dec-2025
Sprint-3	Project Executables	USN-35	As a user, I save the dataset so that it is preserved for future use.	1	High	Aishwarya Bharathy Babu	18-Dec-2025	22-Dec-2025
Sprint-3	Project Executables	USN-36	As a user, I save the Power BI report (.pbix) so that all visuals and dashboards are retained.	1	High	Aishwarya Bharathy Babu	18-Dec-2025	22-Dec-2025
Sprint-3	Project Executables	USN-37	As a user, I ensure the dataset and Power BI file are stored together so that the project can be easily executed by reviewers.	1	High	Aishwarya Bharathy Babu	18-Dec-2025	22-Dec-2025
Sprint-3	Project Documentation	USN-38	As a user, I compile all completed templates into a single project document so that the project is well-structured.	2	High	Aishwarya Bharathy Babu	18-Dec-2025	22-Dec-2025
Sprint-3	Project Documentation	USN-39	As a user, I finalize the documentation in PDF format so that it is ready for submission.	1	High	Aishwarya Bharathy Babu	18-Dec-2025	22-Dec-2025

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
Sprint-3	Project Demonstration Recording	USN-40	As a user, I plan the demonstration flow so that the explanation follows business questions logically.	1	High	Aishwarya Bharathy Babu	18-Dec-2025	22-Dec-2025
Sprint-3	Project Demonstration Recording	USN-41	As a user, I record a screen-capture video explaining the dashboard and visualizations so that project functionality is clearly demonstrated.	2	High	Aishwarya Bharathy Babu	18-Dec-2025	22-Dec-2025
Sprint-3	Project Demonstration Recording	USN-42	As a user, I review and export the demonstration video in MP4 format so that it is ready for submission.	1	High	Aishwarya Bharathy Babu	18-Dec-2025	22-Dec-2025

3. Data Collection and Preprocessing Phase

3.1. Data Collection Plan and Raw Data Sources Identified

Date	9 December 2025
Team ID	xxxxxx
Project Title	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	2 Marks

Data Collection Plan

Section	Description
Project Overview	The project focuses on analyzing global inflation trends across different countries from 1980 to 2024. The objective is to build an interactive Power BI dashboard that provides insights into inflation fluctuations, long-term trends, and country-level comparisons to support informed economic decision-making.
Data Collection Plan	The primary data source for this project is an openly available Kaggle dataset that consolidates historical inflation data for 196 countries. The data was collected directly from the Kaggle repository in CSV format. No secondary or private datasets were used.
Raw Data Sources Identified	The main dataset identified is the Global Inflation Data dataset available on Kaggle. It contains annual inflation values for multiple countries collected over a span of 44 years. This dataset is suitable for time-series visualization, forecasting, and cross-country comparative analysis.

Raw Data Sources

Source Name	Description	Location/URL	Format	Size	Access Permissions
Dataset 1 Global Inflation Data	Contains annual inflation rates for 196 countries from 1980–2024. The dataset includes 47 columns (years and metadata) and is used for time-series analysis and economic trend exploration.	https://www.kaggle.com/datasets/sazidthe1/global-inflation-data	CSV	~200 KB	Public

3.2. Data Quality Report

Date	9 December 2025
Team ID	xxxxxx
Project Title	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	3 Marks

Data Quality Report

Data Source	Data Quality Issue	Severity	Resolution Plan
Global Inflation Dataset (Kaggle)	Dataset is in wide format with years as separate columns	High	Convert the dataset into a long format using **Unpivot Other Columns** to create Year and InflationRate columns.
Global Inflation Dataset (Kaggle)	Missing values in inflation rate data	High	Identify missing values using **Column Quality** and retain them as blanks so that averages and trends are not distorted.
Global Inflation Dataset (Kaggle)	Incorrect data types for Year and InflationRate columns	High	Convert **Year** to Whole Number and **InflationRate** to Decimal Number using Power Query.

Global Inflation Dataset (Kaggle)	Presence of unnecessary Indicator column	Low	Remove the Indicator column as it does not contribute to inflation analysis.
Global Inflation Dataset (Kaggle)	Blank rows in the dataset	Low	Remove blank rows using **Remove Blank Rows** to avoid empty records in visuals.
Global Inflation Dataset (Kaggle)	Formatting inconsistencies in Country names	Low	Apply **Trim** and **Clean** transformations to standardize country names.
Global Inflation Dataset (Kaggle)	Duplicate country–year records (if present)	Low	Remove duplicate rows after unpivoting based on Country and Year columns.
Global Inflation Dataset (Kaggle)	Error values in numerical columns	Low	Remove error rows using **Remove Errors** to prevent visualization issues.

3.3. Data Exploration and Preprocessing

Date	12 December 2025
Team ID	xxxxxx
Project Title	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	10 Marks

Section	Description
Data Overview	• The dataset used for this project is the Global Inflation Dataset sourced from Kaggle. • It contains annual inflation rate values for 196 countries covering the period from 1980 to 2024. • The dataset is originally provided in a wide format, with 47 year columns along with country and indicator details. • This dataset enables trend analysis, country-wise comparison, and overall inflation pattern exploration using Power BI.
Data Cleaning	• Missing values in inflation data were identified using Column Quality tools in Power Query. • Blank rows and error rows were removed to prevent issues during visualization. • Duplicate records (if any) were checked and removed after unpivoting based on Country and Year. • Unnecessary columns such as the Indicator column were removed as they did not add analytical value.
Data Transformation	• Power Query was used to unpivot year columns to convert the dataset from wide format to long format (Country, Year, InflationRate).

	• Basic filtering and sorting were applied where required for validation. • A simple Inflation Category column (Low, Moderate, High, Very High) was created using a Conditional Column for categorical analysis.
Data Type Conversion	• The Year column was converted to Whole Number datatype. • The InflationRate column was converted to Decimal Number datatype. • Country name columns were ensured to be of Text datatype to support filtering and grouping.
Column Splitting and Merging	• No column splitting or merging was required for this project. • The dataset structure remained simple, and all required analysis was performed using the transformed long-format table.
Data Modeling	• A single-table data model was used, as the analysis did not require multiple tables or relationships. • Simple aggregations such as Average, Minimum, and Maximum inflation values were handled directly through Power BI visuals without complex measures.
Save Processed Data	• The cleaned and transformed dataset was saved by using Close & Apply in Power Query. • The processed data was loaded into Power BI for building dashboards and visualizations. • This ensures the dataset is reusable for future analysis and reporting.

4. Data Visualization

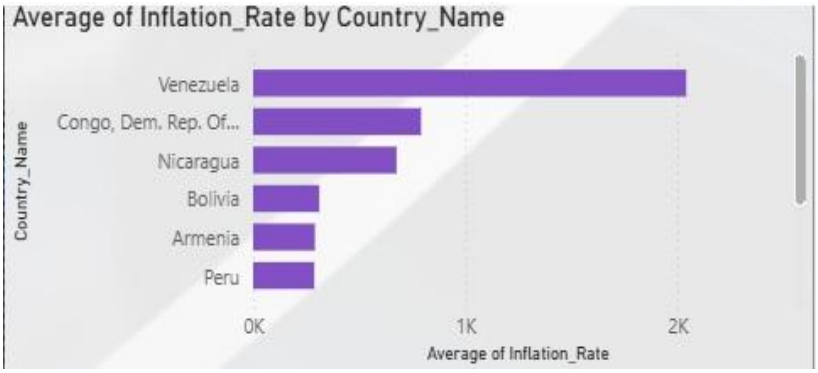
4.1. Business Question and Visualization Report

Date	13 December 2025
Team ID	PNT2022TMIDxxxxxx
Project Name	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	5 Marks

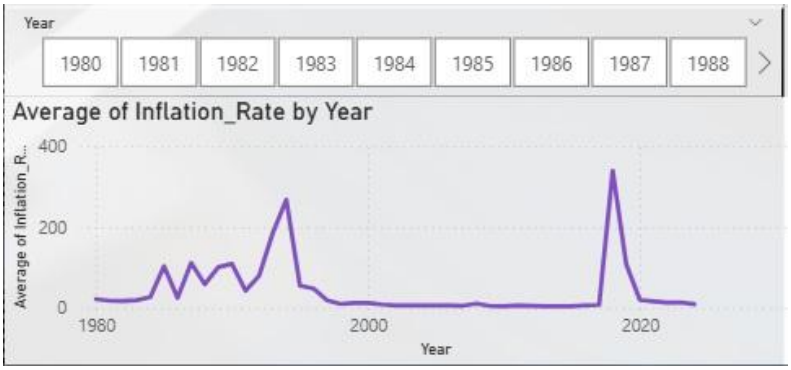
Business Questions and Visualisation

1. **What is the average inflation rate across all countries for a selected year?**
   - *Visualization*: Card (KPI) displaying the average inflation rate with a Year slicer.
   - *Screenshot of visualisation*

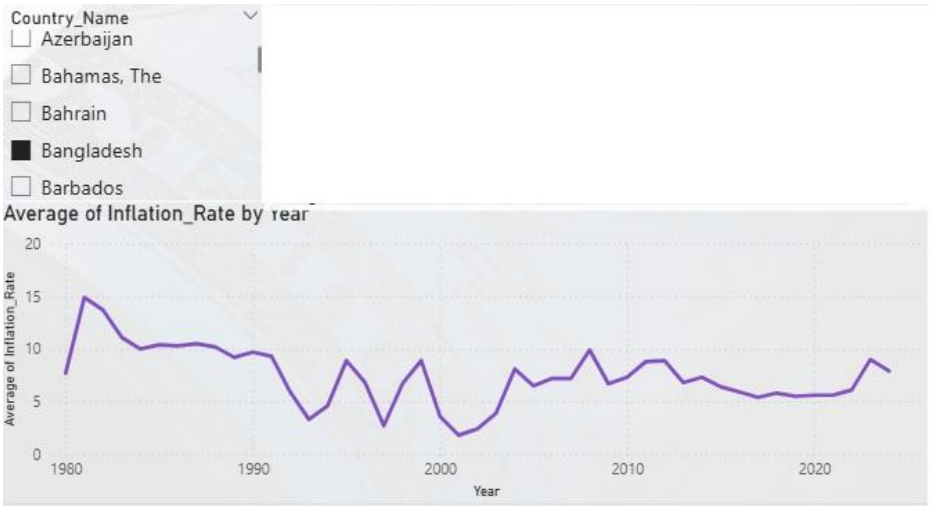
2. **Which countries have the highest inflation rates?**
   - *Visualization*: Clustered Bar Chart comparing average inflation rate by country (Top N countries)
   - *Screenshot of visualisation*



3. **How has the global average inflation rate changed over time?**
    - *Visualization*: Line Chart showing average inflation rate by year
    - *Screenshot of visualisation*

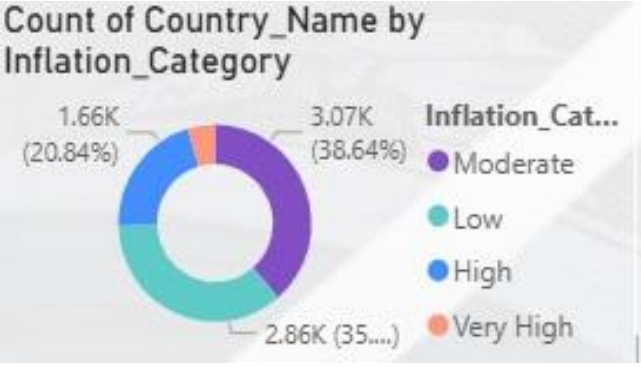


4. **How has inflation changed over time for a selected country?**
    - *Visualization*: Line Chart with year on the X-axis and inflation rate on the Y-axis , controlled by a Country slicer.
    - *Screenshot of visualisation*



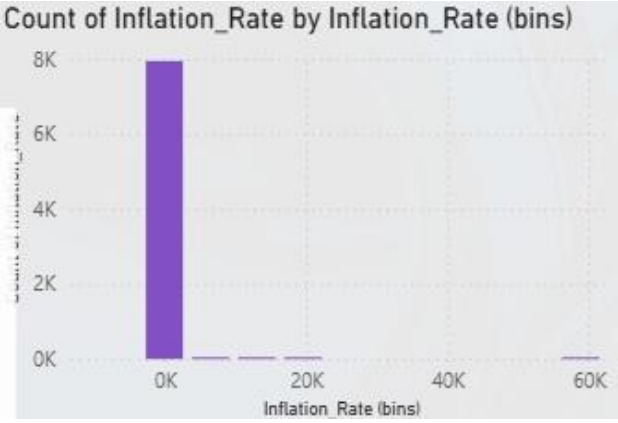
5. **How many countries fall into Low, Moderate , High & Very High inflation categories?**

- *Visualization*: Donut Chart showing the distribution of inflation categories
- *Screenshot of visualisation*



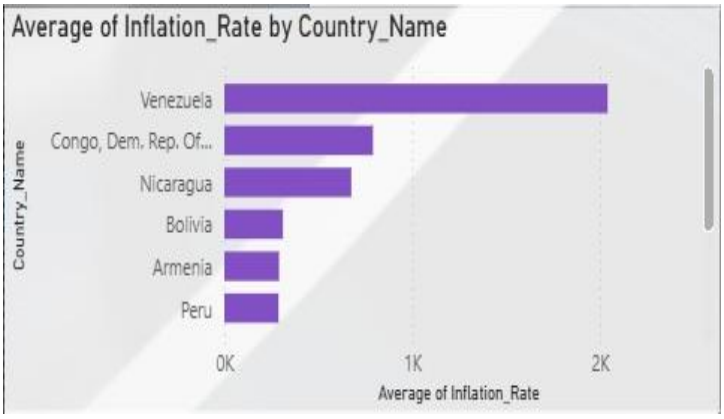
6. **What is the overall distribution of inflation rates in the dataset?**

- *Visualization*: Clustered Column Chart (Histogram-style) using Inflation Rate bins on the X-axis and count of records on the Y-axis.
- *Screenshot of visualisation*



7. **What is the average inflation rate for each country across all years?**

   - *Visualization*: Bar Chart comparing average inflation rate by country
   - *Screenshot of visualisation*



8. **What are the minimum and maximum inflation rates recorded for each country?**

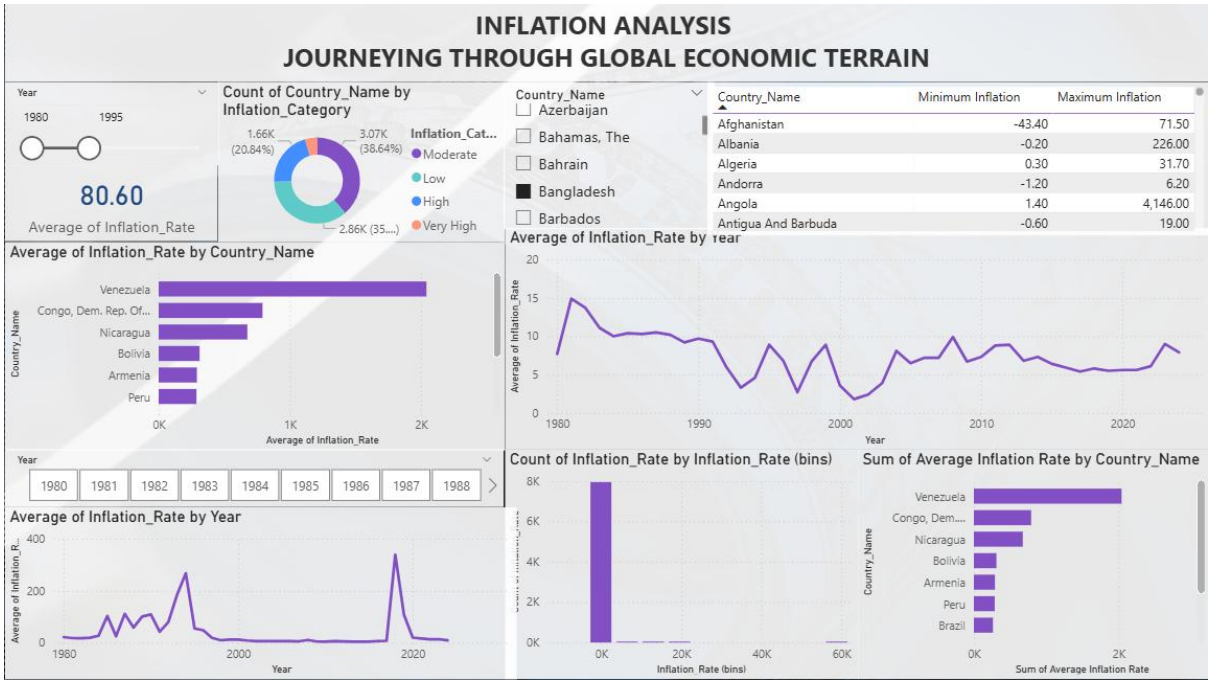
   - *Visualization*: Table displaying minimum and maximum inflation values per country
   - *Screenshot of visualisation*

Country_Name	Minimum Inflation	Maximum Inflation
Afghanistan	-43.40	71.50
Albania	-0.20	226.00
Algeria	0.30	31.70
Andorra	-1.20	6.20
Angola	1.40	4,146.00
Antigua And Barbuda	-0.60	19.00

5. Dashboard

5.1. Dashboard Design File

Date	15 December 2025
Team ID	PNT2022TMIDxxxxxx
Project Name	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	5 Marks



Potential Outcomes from the Global Inflation Analysis Dashboard

1. **Global Inflation Overview**

The dashboard indicates an average inflation rate of approximately 80.60, providing a high-level overview of global inflation behavior across the selected years. This helps users quickly understand the overall inflation magnitude.

2. **Countries with Highest Inflation Rates**

The bar chart comparing average inflation by country highlights that countries such as Venezuela, Congo (Dem. Rep.), and Nicaragua exhibit significantly higher inflation rates

compared to others. This insight helps identify countries experiencing extreme inflationary conditions.

3. **Inflation Trend Over Time**

The line chart showing average inflation rate by year reveals major inflation spikes during certain periods (notably around the early 1990s and post-2020). This helps users understand how inflation has fluctuated globally over time.

4. **Country-Level Inflation Range**

The table displaying minimum and maximum inflation rates by country shows the extent of inflation volatility experienced by each country. For example, some countries show negative minimum inflation (deflation), while others record extremely high maximum inflation values, indicating economic instability.

5. **Inflation Category Distribution**

The donut chart illustrates that a large portion of inflation records fall under the Moderate and High inflation categories, while fewer records are classified as Low or Very High. This categorization helps summarize inflation severity across the dataset.

6. **Distribution of Inflation Rates**

The clustered column chart using inflation rate bins demonstrates that most inflation values are concentrated within lower ranges, while very high inflation rates occur less frequently. This highlights the skewed nature of global inflation data.

7. **Country-Wise Average Inflation Comparison**

The bar chart comparing average inflation rate by country enables easy comparison of long-term inflation behavior, helping identify countries with consistently high inflation over multiple years.

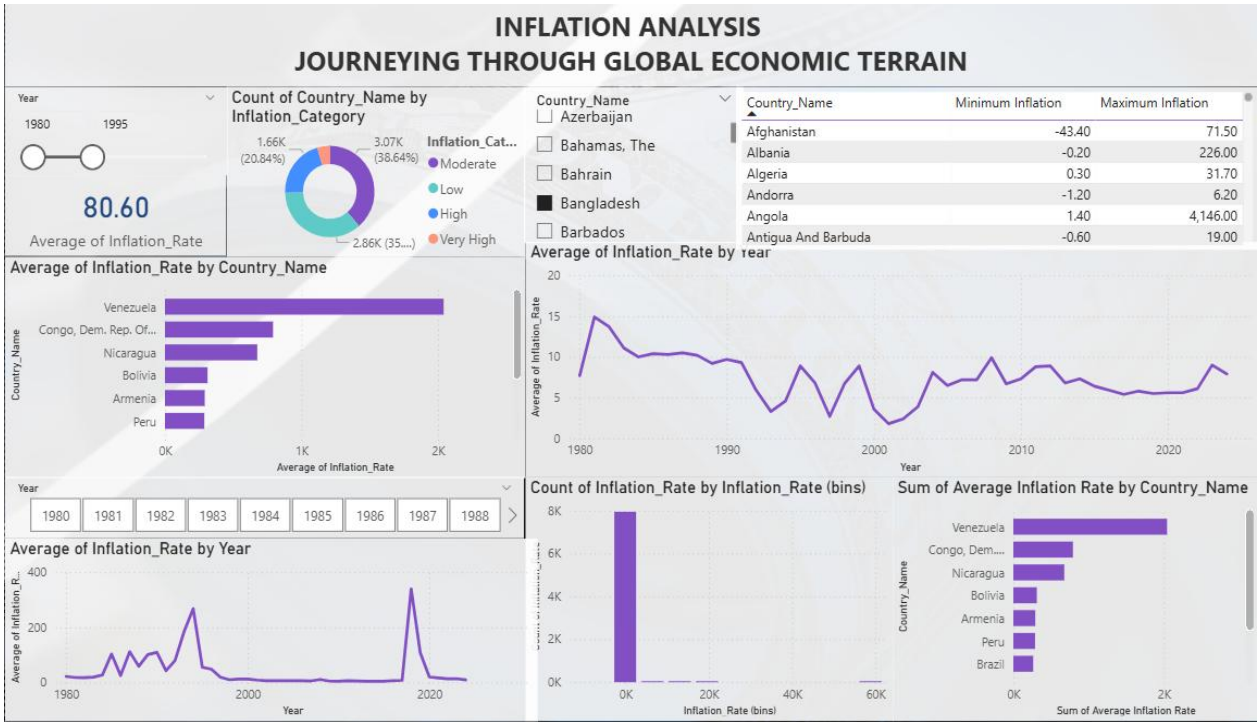
8. **Impact of Filters and Interactivity**

The Year and Country slicers allow users to dynamically filter the dashboard, enabling focused analysis for specific time periods or countries and supporting deeper exploratory analysis.

6. Report

6.1. Story Design File

Date	14 December 2025
Team ID	PNT2022TMIDxxxxxx
Project Name	Power BI Inflation Analysis: Journeying Through Global Economic Terrain
Maximum Marks	5 Marks



Observations Drawn from the Inflation Analysis Report (Power BI)

Observations derived from the Inflation Analysis report provide critical insights into global economic trends, country-level performance, and inflation distribution patterns over time.

1. Inflation Trends Over Time:

- The average inflation rate by year shows significant fluctuations from 1980 to recent years.
- Periods of sharp spikes, particularly around the late 1980s and late 2010s, indicate phases of economic instability or hyperinflation in certain countries.

- Overall, inflation trends suggest cycles of economic stress followed by stabilization phases at the global level.

2. Country-wise Inflation Performance:

- The average inflation rate by country highlights that Venezuela has the highest average inflation rate among all countries, making it a clear outlier.
- Countries such as Congo (Dem. Rep.), Nicaragua, and Bolivia also exhibit relatively high inflation, indicating persistent macroeconomic challenges.
- In contrast, countries like Peru and Armenia show comparatively lower average inflation, suggesting more stable economic conditions.

3. Inflation Category Distribution:

- The inflation category donut chart reveals that the majority of countries fall under the Moderate and Low inflation categories.
- A smaller proportion of countries experience High or Very High inflation, but these countries significantly influence global averages due to extreme values.
- This distribution indicates that while hyperinflation is not widespread, its impact is substantial.

4. Minimum and Maximum Inflation Analysis:

- The minimum and maximum inflation table by country highlights extreme inflation ranges.
- Countries like Angola and Venezuela show exceptionally high maximum inflation values, indicating periods of hyperinflation.
- Negative minimum inflation values observed for some countries suggest instances of deflation, reflecting economic contraction phases.

5. Inflation Rate Distribution (Bins):

- The histogram of inflation rates shows that a large number of inflation observations are concentrated in the lower inflation bins.
- Very few data points lie in the extremely high inflation bins, reinforcing the presence of outliers rather than a widespread trend.

- This skewed distribution emphasizes the importance of handling extreme values carefully during analysis.

6. Contribution to Global Inflation:

- The sum of average inflation rate by country indicates that a small number of countries contribute disproportionately to global inflation figures.
- Venezuela alone accounts for the highest contribution, followed by Congo (Dem. Rep.) and Nicaragua.
- This suggests that global inflation trends can be heavily influenced by economic conditions in a limited set of countries.

7. Temporal Filtering Insights:

- The year slicer enables focused analysis for specific time periods.
- When early years (1980s) are selected, inflation volatility is higher, whereas later periods show relatively more controlled inflation for many countries.
- This demonstrates how inflation dynamics have evolved over decades.

8. Overall Economic Insight:

- The dashboard clearly communicates that while most countries maintain manageable inflation levels, extreme inflation events in a few countries dominate global trends.
- Policymakers and analysts should focus on high-risk countries to understand systemic causes and mitigate spillover effects on the global economy.

7. Performance Testing

Performance testing was carried out to ensure that the Power BI dashboard functions efficiently and provides a smooth user experience during interaction.

7.1. Utilization of Data filters

The dashboard makes use of the following data filters:

- **Year Slicer:** Allows users to filter inflation data for specific years or year ranges
- **Country Slicer:** Enables country-level analysis and comparison

These filters dynamically update all visuals on the dashboard, ensuring interactive and responsive analysis.

7.2. Number of Calculation Fields

- No complex DAX measures were created in this project
- Calculations such as **Average, Count, Minimum, and Maximum** were handled using Power BI's default aggregation functions
- This approach keeps the model simple and improves performance

7.3. Number of Calculation Fields

The dashboard consists of the following visualizations:

- KPI Card (Average Inflation Rate)
- Bar Charts (Country-wise inflation comparison)
- Line Charts (Inflation trends over time)
- Donut Chart (Inflation category distribution)
- Histogram-style Column Chart (Inflation rate distribution)
- Table (Minimum and maximum inflation values)

8. Conclusion / Observation

The **Power BI Inflation Analysis** project successfully demonstrates how raw economic data can be transformed into meaningful insights through effective data preprocessing and visualization. The dashboard provides a clear understanding of global inflation behavior, highlights countries with extreme inflation rates, and reveals important trends over time. The interactive nature of the dashboard allows users to explore data dynamically, making the analysis intuitive and informative.

9. Future Scope

The project can be extended in the following ways:

- Integration of additional economic indicators such as GDP, unemployment rate, or interest rates
- Forecasting future inflation trends using advanced analytical techniques
- Region-wise or continent-level inflation analysis
- Automating data refresh using scheduled data pipelines

10. Appendix

10.1 GitHub & Project Demo Link

GitHub Repository:

https://github.com/Aishwarya210800/Inflation-Analysis-Journeying-Through-Global-Economic-Terrain-

Project Demo Video Link:
https://drive.google.com/file/d/1wrgdQSWSiHCyEVhOB0mQvfRO9W0WUAmo/view?usp=sharing