

Power BI Inflation Analysis: Journeying Through Global Economic Terrain

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1. Introduction

1.1 Project Overview

This project explores global inflation trends from **1980 to 2024** using an interactive Power BI dashboard. It features **DAX-driven KPIs**, **continent-level mapping**, **category segmentation** (High, Moderate, Low), and a **dynamic narrative layer** to deliver contextual insights. Developed as part of a **virtual internship with SmartInternz**, in collaboration with **TheSmartBridge**, the project simulates real-world data analytics delivery standards.

1.2 Objectives

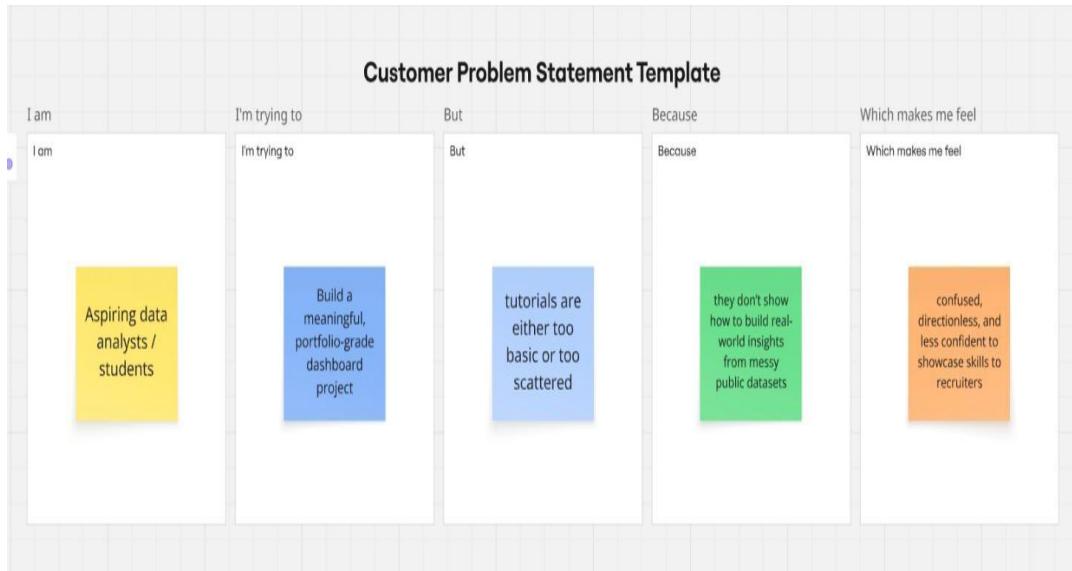
- To design a clean, executive-level Power BI dashboard for professional use.
- To apply **Power Query** and **DAX** techniques in a real-world data analytics scenario.
- To transform raw data into actionable insights using dynamic visuals and interactive filters.
- To communicate insights effectively through **data storytelling** and well-structured visual narratives.

2. Project Initialization and Planning Phase

2.1 Define Problem Statement

Customer Problem Statement Template				
I am	I'm trying to	But	Because	Which makes me feel
I am Government policy analysts and economists	I'm trying to Understand historical inflation trends across countries and continents	But existing data is scattered, raw, and lacks interactive visual context	Because most sources are text-heavy spreadsheets without storytelling or comparative insight	Which makes me feel overwhelmed, limited, and unsure of policy decisions without clear data support

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Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	Government policy analysts and economists	Understand historical inflation trends across countries and continents	existing data is scattered, raw, and lacks interactive visual context	most sources are text-heavy spreadsheets without storytelling or comparative insight	overwhelmed, limited, and unsure of policy decisions without clear data support
PS-2	Aspiring data analysts / students	Build a meaningful, portfolio-grade dashboard project	tutorials are either too basic or too scattered	they don't show how to build real-world insights from messy public datasets	confused, directionless, and less confident to showcase skills to recruiters

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2.2 Project Proposal (Proposed Solution)

Project Overview	
Objective	To design an interactive, executive-ready Power BI dashboard that visualizes global inflation trends across countries and regions from 1980 to 2024, enabling data-driven decisions and insights.
Scope	The project covers data collection, transformation, analysis, and visualization of global inflation data. It includes DAX-based KPIs, regional comparisons, category segmentation, and an insight narrative, all presented through a clean, two-page Power BI dashboard.
Problem Statement	
Description	Inflation data is often raw, fragmented, and hard to interpret, especially across global time periods and geographic regions. Analysts and decision-makers lack a centralized, visualized tool to explore inflation dynamics effectively.
Impact	A dashboard that brings together cleaned, categorized, and interactive inflation metrics empowers students, economists, and analysts to understand patterns, derive insights, and make more informed decisions across sectors.
Proposed Solution	
Approach	Use Power BI to connect, model, and visualize global inflation data. Preprocess data in Power Query, design DAX measures to calculate KPIs (avg, max, delta), apply category thresholds, and build visual dashboards with slicers, maps, and smart narratives.

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Key Features	<ul style="list-style-type: none">• Dynamic KPI cards (Avg/Max/Δ Inflation Rate)• Filterable country-wise and region-level visuals• Inflation category segmentation (High/Moderate/Low)• Page 2 insights with narrative text, donut charts, and maps• Professional formatting for resume/portfolio readiness
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Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	Local machine for Power BI Desktop	4-core CPU, integrated GPU
Memory	RAM	8 GB
Storage	Disk space	5–10 GB (datasets, PBIX, visuals)
Software		
Frameworks	Visualization Platform	Power BI Desktop
Libraries	Data prep, DAX, PQ functions	Built-in DAX & Power Query
Development Environment	Report Design + GitHub Documentation	Power BI + VS Code / Git for README
Data		
Data	Sourced from Kaggle: <ul style="list-style-type: none">• global_inflation_data.csv (1980–2024 inflation by country)	CSV format, ~63.8 KB total size

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	• continents.csv (region mapping)	
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2.3 Initial Project Planning

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
Sprint-1	Project Initialization	PBIA-1	As a data analyst, I want to define the problem statement and planning documents to scope the dashboard objective clearly.	2	High	Bhushan Parate	19 June 2025	19 June 2025
Sprint-2	Data Collection & Preprocessing	PBIA-2	As a data analyst, I will identify, clean, and preprocess global inflation and region data for further analysis.	3	High	Bhushan Parate	19 June 2025	19 June 2025
Sprint-3	Data Modeling & DAX	PBIA-3	As a data analyst, I will	3	High	Bhushan	20 June 2025	20 June 2025

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Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
			create DAX measures to calculate KPIs like Avg/Max /Δ inflation rate and prepare data for visuals.			Parate		
Sprint-4	Dashboard Design (Page 1)	PBIA-4	As a data analyst, I will create the main dashboard page with KPIs, charts, and slicers with responsive layout and formatting .	3	High	Siddharth Chauhan	20 June 2025	20 June 2025
Sprint-5	Dashboard Insights (Page 2)	PBIA-5	As a data analyst, I will build a second report page with donut charts, region maps, and smart DAX-	3	Medium	Bhushan Parate	21 June 2025	21 June 2025

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Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members	Sprint Start Date	Sprint End Date (Planned)
			based narratives.					

The screenshot shows the Jira Timeline view for the "Power BI Inflation Analysis" project. The sidebar on the left includes links for "For you", "Recent", "Starred", "Apps", "Plans", "Projects", "Recent", "View all projects", "Teams", and "More". The main area displays the "Timeline" tab for the project. The timeline spans from June to August. Sprints are listed on the left: PBIA-1 (Project Initialization), PBIA-2 (Data Collection & Preprocessing), PBIA-3 (Data Modeling & DAX), PBIA-4 (Dashboard Design (Page 1)), PBIA-5 (Dashboard Insights (Page 2)), and PBIA-6 through PBIA-10. Most tasks under these sprints are marked as "DONE". A search bar at the top allows filtering by "Epic" and "Status category". Navigation buttons at the bottom allow switching between "Today", "Weeks", "Months" (selected), "Quarters", and "Years".

3. Data Collection and Preprocessing Phase

3.1 Data Collection Plan and Raw Data Sources

Section	Description
Project Overview	The project aims to analyse global inflation patterns across countries and regions from 1980 to 2024 using Power BI. The goal is to build an interactive dashboard with dynamic KPIs, regional insights, and category-based inflation segmentation.
Data Collection Plan	Data was collected by independently sourcing structured CSV files from Kaggle. This includes inflation data across 40+ years and a corresponding country-to-region mapping file. These datasets were curated, cleaned, and modeled using Power Query and DAX inside Power BI.
Raw Data Sources Identified	Two raw datasets were identified: (1) historical inflation data per country by year, and (2) a region mapping file that assigns countries to continents for better aggregation in Power BI visualizations.

Raw Data Sources Template

Source Name	Description	Location/URL	Format	Size	Access Permissions

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	Contains inflation rates by country and year from 1980 to 2024. Used as the primary dataset for analysis.	https://www.kaggle.com/datasets/sazidthe1/global-inflation-data	CSV	44.6 KB	Public (Kaggle)
continents.csv	Country-to-continent mapping reference for regional analysis.	https://www.kaggle.com/datasets/andradaoalteanu/country-mapping-iso-continent-region	CSV	19.2 KB	Public (Kaggle)

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	analysis in Power BI visuals.				
...

3.2 Data Quality Report

Data Source	Data Quality Issue	Severity	Resolution Plan
global_inflation_data.csv	Inflation data was spread across multiple year columns (wide format)	Moderate	Unpivoted year columns in Power Query to convert the dataset into long format: Country, Year, InflationRate.
global_inflation_data.csv	No unique row identifier	Low	Added an Index column in Power Query to uniquely identify each row post-transformation.
global_inflation_data.csv	Some columns were redundant or incorrectly named	Low	Removed unnecessary columns, cleaned and renamed column headers consistently

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			(e.g., Country_name → CountryName).
global_inflation_data.csv	Adjusted Inflation Rate was missing	Low	Created a new column AdjustedInflationRate = InflationRate * 0.01 using Power BI calculated column.
global_inflation_data.csv	Inflation category classification was missing	Moderate	Created a DAX-calculated column InflationRateCategory based on value thresholds (Low < 2, Moderate < 5, else High).
continents.csv	Extra columns unrelated to analysis present	Low	Removed all extra columns, retained only CountryName and Region for clean joining.
continents.csv	Mismatch in country name spellings across datasets	Moderate	Standardized country names in both files within Power Query to enable accurate mapping and merging.
continents.csv	No relationship with main dataset	Low	Performed a left join in Power BI using CountryName as key to enrich dataset with regional context.

3.3 Data Exploration and Preprocessing

Section	Description
Data Overview	The dataset includes year-wise inflation data from 1980–2024 for various countries (global_inflation_data.csv) and a mapping of countries to regions (continents.csv). These datasets were combined and processed to enable continent-level, time-based inflation analysis.
Data Cleaning	Removed unnecessary columns, promoted headers, standardized column names (Country_name → CountryName), and added an Index column for unique identification. There were no missing values or duplicates, so no imputation was required.
Data Transformation	In Power Query, the year columns (1980–2024) were unpivoted to normalize the dataset into long format with fields: CountryName, Year, InflationRate. A calculated column AdjustedInflationRate = InflationRate * 0.01 was also created in Power BI.
Data Type Conversion	Converted Year to numeric data type, ensured InflationRate and AdjustedInflationRate are of decimal type. CountryName and Region fields were kept as text type to allow for relational mapping.
Column Splitting and Merging	Region dataset (continents.csv) was trimmed to retain only CountryName and Region. No actual column splitting or merging was required beyond schema alignment for joining.
Data Modeling	A one-to-many relationship was established between continents [CountryName] and GlobalInflationData [CountryName]. Calculated DAX measures were created for KPIs: Average InflationRate, Max InflationRate, and InflationRate Change.
Save Processed Data	The processed dataset was saved within Power BI's internal data model as part of the .pbix file (InflationAnalysis_SiddharthChauhan.pbix). Final datasets were not exported separately but used directly for dashboard and reporting visuals.

4. Data Visualization

4.1 Framing Business Questions & Visuals

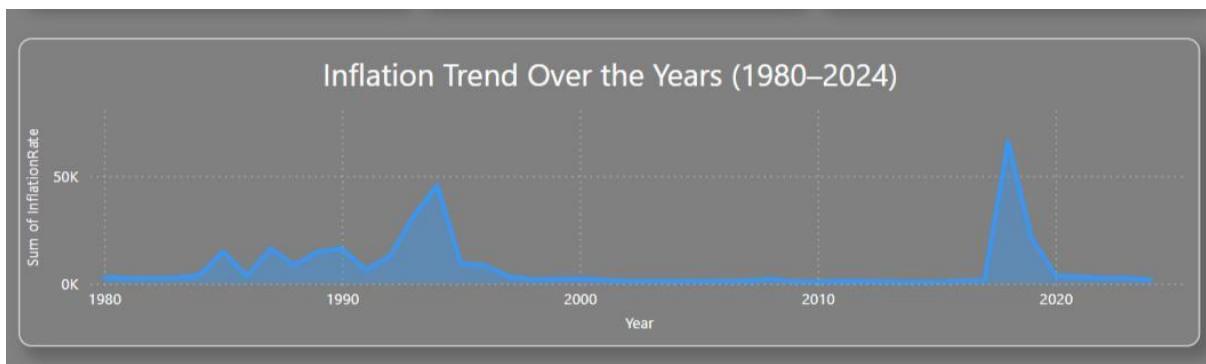
1. What is the global average, maximum inflation rate, and number of regions represented in the dataset?

- **Visualization:** KPI Cards (Average, Maximum, Region Count)
- **Screenshot:**



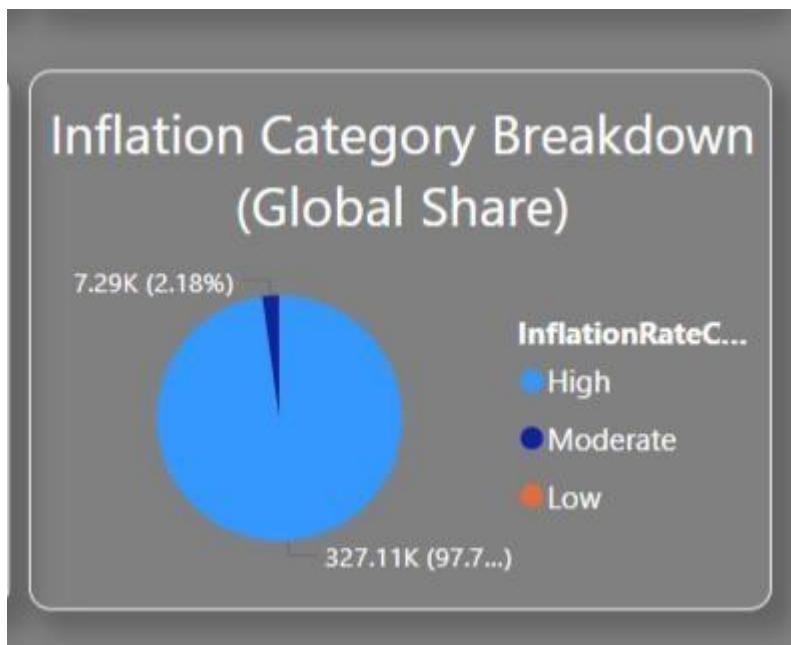
2. How has the inflation rate changed globally between 1980 and 2024?

- **Visualization:** Line Chart (Sum of Inflation Rate over Years)
- **Screenshot:**



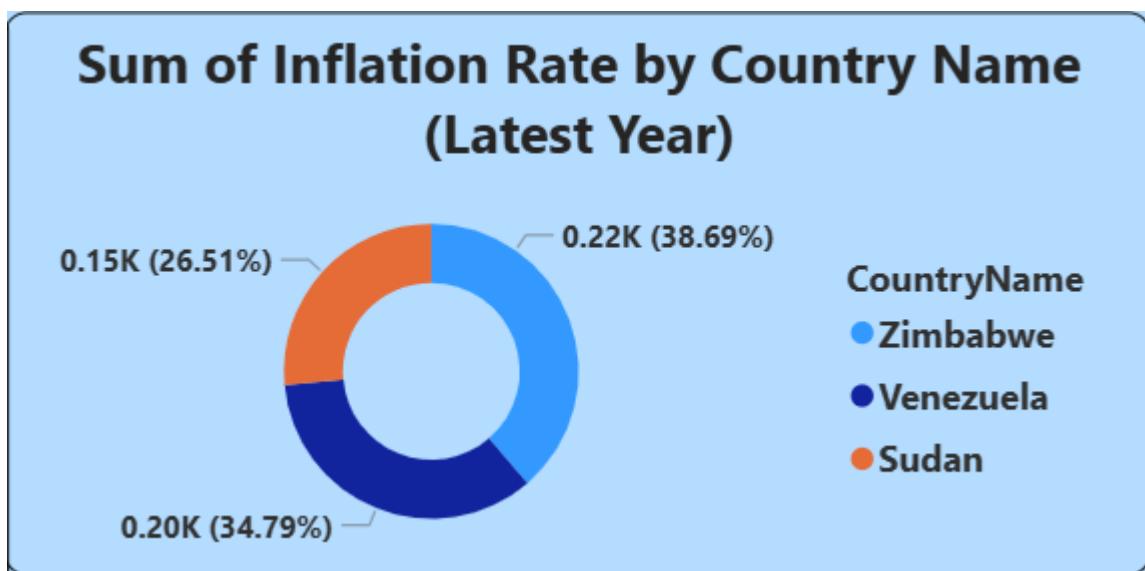
3. What is the global distribution of inflation categories (High, Moderate, Low)?

- **Visualization:** Pie Chart (Category share breakdown)
- **Screenshot:**



4. Which countries contributed the most to inflation in the latest year?

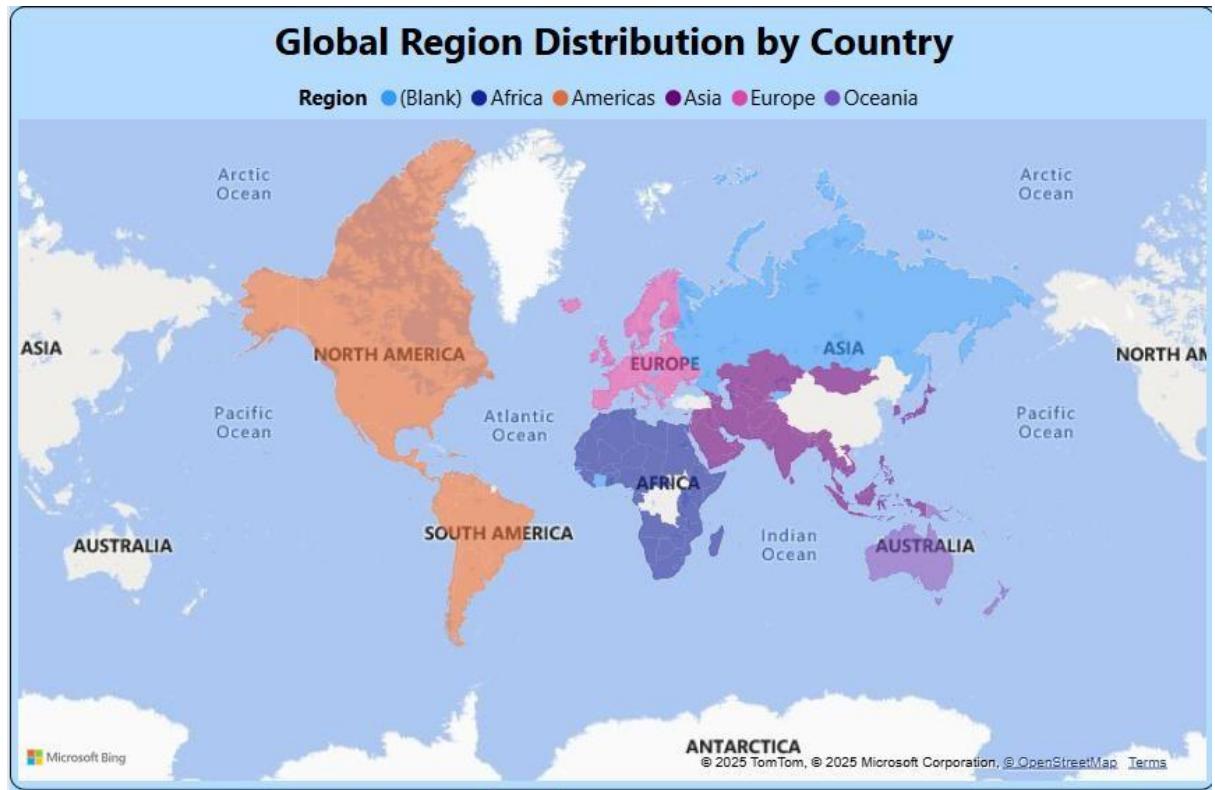
- **Visualization:** Donut Chart (Top 3 Countries – Latest Year)
- **Screenshot:**



5. What is the distribution of countries by continent or global region?

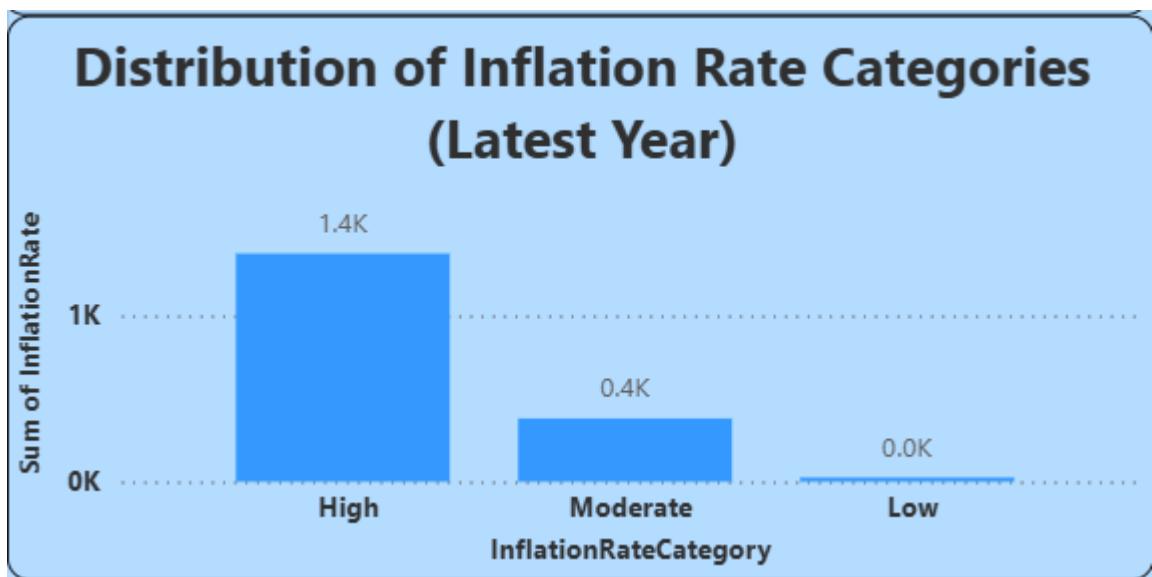
- **Visualization:** Filled Map Chart (Region → Country Mapping)
- **Screenshot:**

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6. How does inflation rate differ between 'High' and 'Low' category segments?

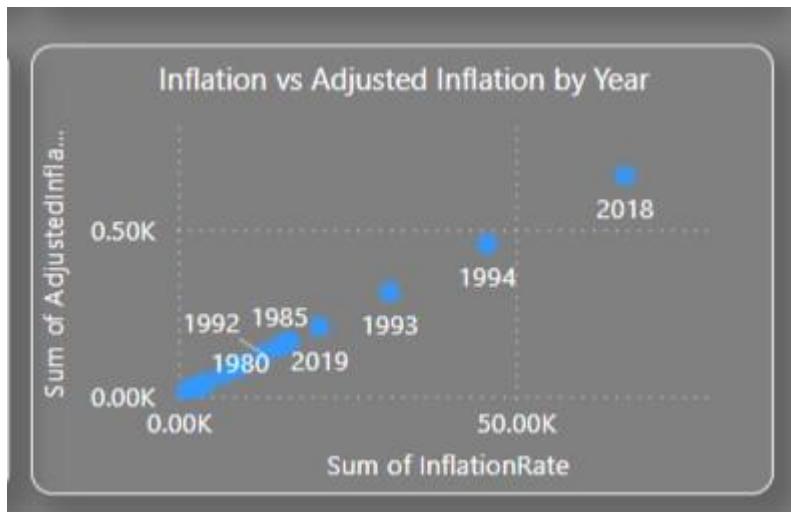
- **Visualization:** Bar Chart (High vs Low Sum of Inflation)
- **Screenshot:**



7. How does Adjusted Inflation Rate relate to the original inflation rate?

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- **Visualization:** Scatter Plot (Inflation vs Adjusted Inflation)
- **Screenshot:**



8. What are the yearly peaks in inflation and where did they occur?

- **Visualization:** Column Chart (Annual Sum of Inflation Rate)
- **Screenshot:**

4.2 Developing Visualizations

This project applies professional dashboard design principles to ensure clarity, engagement, and usability for end-users — whether they are students, analysts, or executives.

Key design choices include:

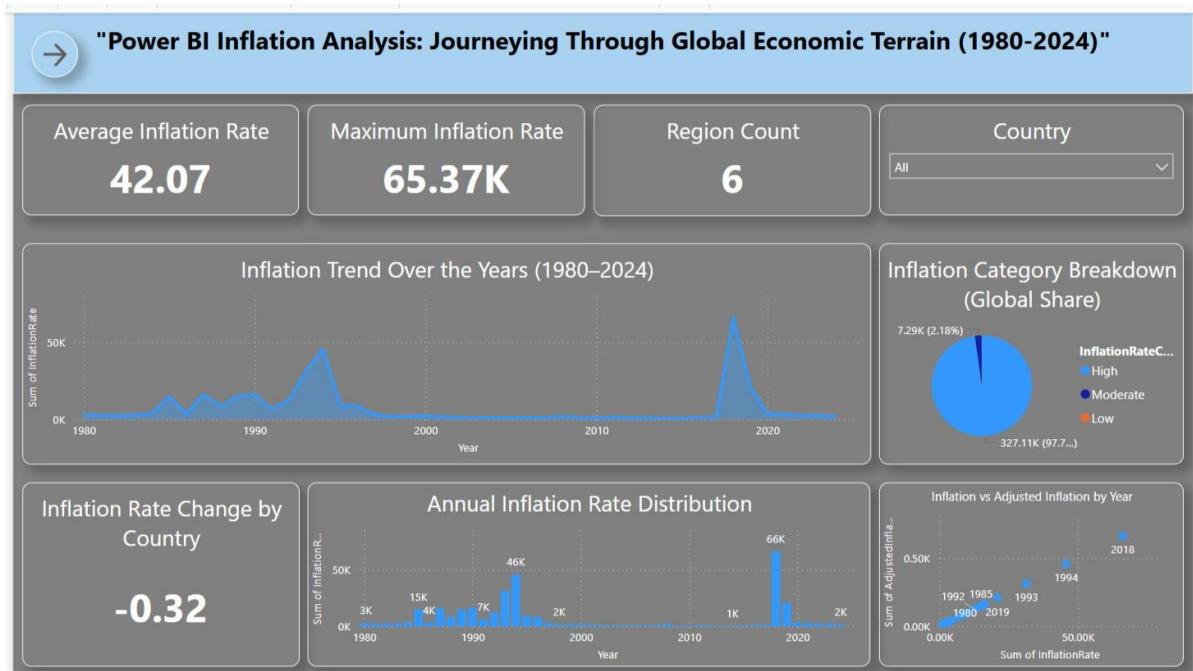
- **Clear and Intuitive Layout:** Two cleanly structured pages with consistent grid layout, readable fonts, and minimal distractions.
- **Appropriate Visualizations:** Line charts, donut charts, pie charts, KPIs, maps, and scatter plots selected based on data patterns.
- **Color and Theming:** Dual-tone color schemes (cool blue + gray) for contrast, readability, and visual appeal.
- **Interactive Filters and Slicers:** Country slicers and cross-filtering ensure user-driven exploration.
- **Drill-Down Ready Design:** Visuals are positioned for future drill-down or tooltip integration.
- **Responsive and Balanced:** Uniform card sizes, chart spacing, and padding deliver responsive balance.

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- **Smart Narratives:** Dynamic insight text powered by DAX to highlight summary findings.
- **Icons and Infographics:** Custom back button, page headers, and chart annotations for enriched user experience.

5. Dashboard

5.1 Dashboard Design File



Major Dashboard Outcomes

- Global Average Inflation:** The dashboard displays an average inflation rate of **42.07** across 40+ years and 150+ countries.
- Yearly Trends Identified:** Inflation spikes are clearly visible around **1990 and 2018**, helping flag potential economic shifts.
- Category Breakdown (High/Moderate/Low):** Pie chart and bar charts show **High** inflation dominates at over **97%** globally.
- Top Contributing Countries:** Donut chart ranks **Zimbabwe, Venezuela, and Sudan** as the top inflation contributors in 2024.
- Smart Summary Narrative:** Automatically generated narrative highlights key facts, including the **5436.29% gap** between high and low categories.
- Region Mapping:** Countries are color-coded by continent using Power BI's **filled map** visual.
- Adjusted vs Raw Inflation:** Scatter plot compares **raw vs adjusted rates**, offering cross-perspective interpretation.
- Polished UI:** Shadowed card KPIs, font hierarchy, icon buttons, and consistent section spacing make it **executive-presentation ready**.

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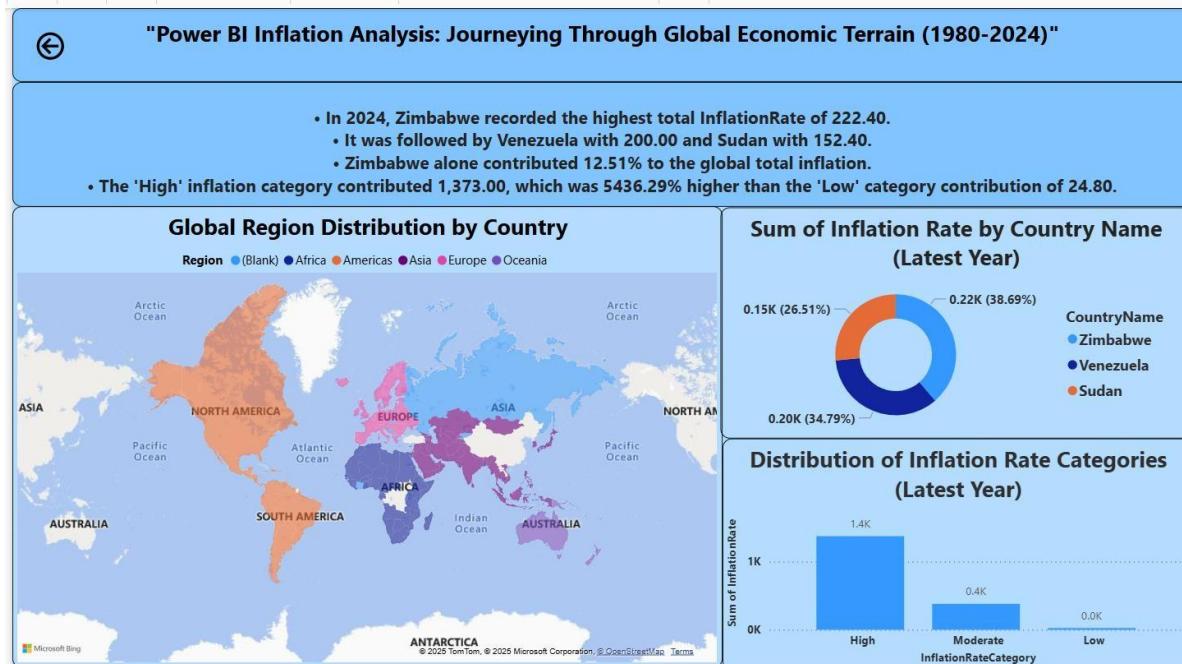
6. Report

6.1 Story Design File

Overview

This Power BI report page focuses on the **latest year (2024)** to provide a sharp, regional and categorical breakdown of global inflation. The layout is tailored for stakeholders who want to immediately identify key contributors, patterns across continents, and inflation category trends — all on a single, interactive screen.

It integrates geospatial visuals, categorical comparisons, and a smart DAX-driven narrative to deliver executive-level insights with clarity.



Key Observations from the Power BI Report

- Top Countries by Inflation Contribution (2024):**
 - Zimbabwe led globally with an inflation rate of **222.40**, followed by **Venezuela (200.00)** and **Sudan (152.40)**.
 - These three countries cumulatively contributed a substantial share of 2024's global inflation — Zimbabwe alone made up **12.51%** of the total.
- Smart Narrative Summary (Auto-Generated via DAX):**
 - The high inflation category contributed **1,373.00**, which was a staggering **5436.29%** higher than the low category (24.80).

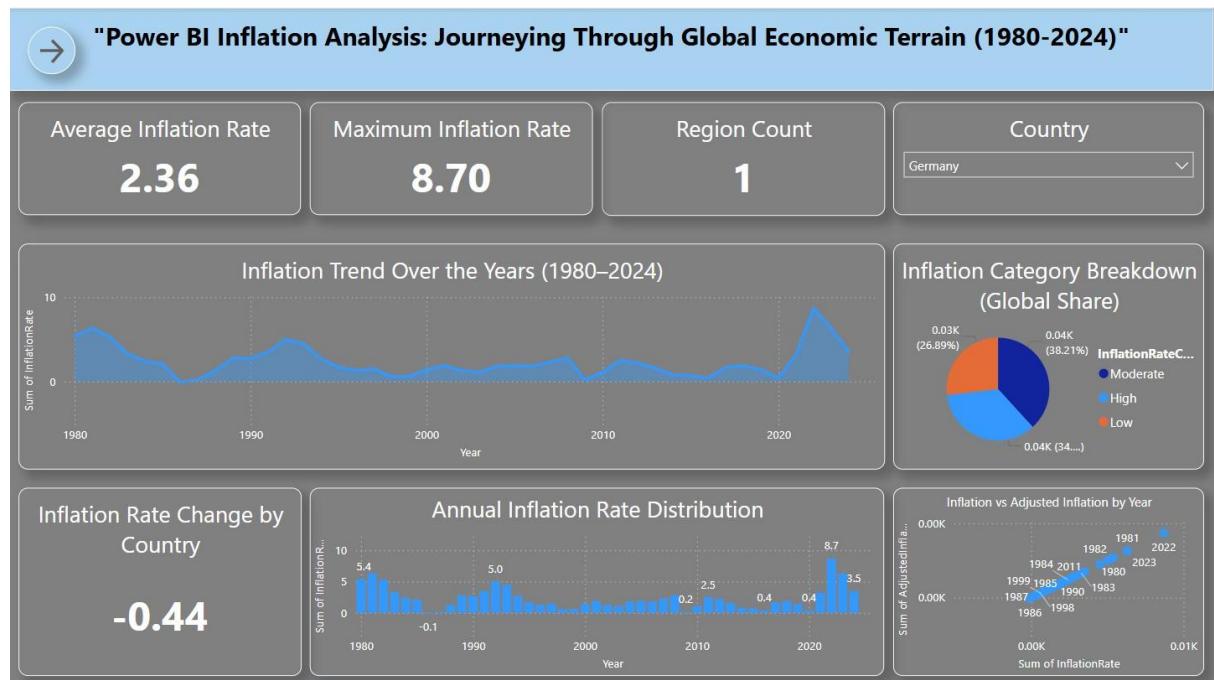
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- This automated narrative allows stakeholders to grasp critical insights instantly without analyzing visuals individually.
- 3. **Global Region Mapping:**
 - Countries are visually grouped into regions (Africa, Americas, Asia, Europe, Oceania) via a filled map.
 - This helps users understand regional spread and identify continent-wise inflation distribution at a glance.
- 4. **Donut Chart – Country-Level Contribution:**
 - The donut chart provides a proportionate view of the **top 3 countries' inflation rates**, highlighting the steep imbalance and emphasizing countries with recurring economic volatility.
- 5. **Inflation Category Distribution (Latest Year):**
 - A bar chart presents a breakdown by **High**, **Moderate**, and **Low** categories:
 - **High:** 1.4K
 - **Moderate:** 0.4K
 - **Low:** 0.0K
 - The visualization clearly signals that most of the world in 2024 experienced extreme inflation rates.

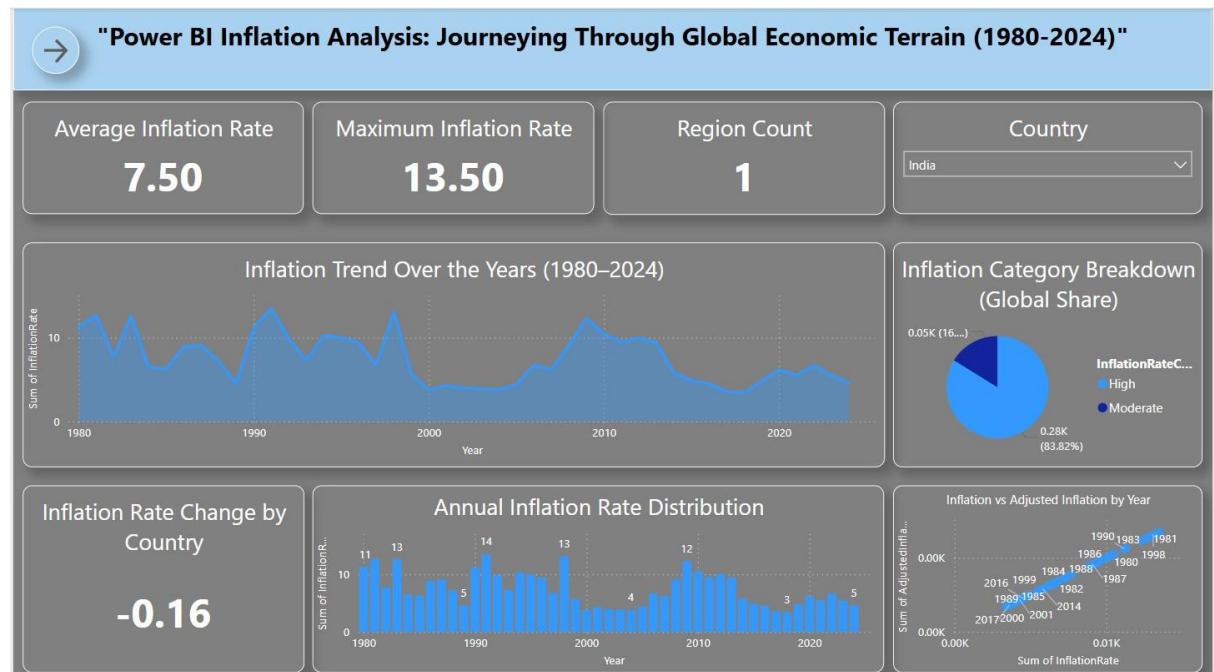
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7. Performance Testing

7.1 Utilization of Filters



Selected Country: Germany



Selected Country: India

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7.2 Number of Calculation Fields

- Conditional Columns

- AdjustedInflationRate

The screenshot shows the Power BI Data View interface. A new column named "AdjustedInflationRate" has been added to the "GlobalInflationData" table. The formula for this column is: `1 AdjustedInflationRate = 'GlobalInflationData'[InflationRate]*0.01`. The table contains 7,952 rows and 7 columns. The columns are: Index, CountryName, Year, InflationRate, Region, AdjustedInflationRate, and InflationRateCategory. The "Region" column shows values like Africa, Asia, Europe, etc. The "AdjustedInflationRate" column shows values ranging from 0.005 to 0.29. The "InflationRateCategory" column shows values like Low, Moderate, High. The Power BI ribbon at the top includes File, Home, Help, Table tools, Column tools, and a Data pane on the right.

Index	CountryName	Year	InflationRate	Region	AdjustedInflationRate	InflationRateCategory
80	Algeria	1980	9.7	Africa	0.097	High
81	Algeria	1981	14.6	Africa	0.146	High
82	Algeria	1982	6.6	Africa	0.066	High
83	Algeria	1983	7.8	Africa	0.078	High
84	Algeria	1984	6.3	Africa	0.063	High
85	Algeria	1985	10.4	Africa	0.104	High
86	Algeria	1986	14	Africa	0.14	High
87	Algeria	1987	5.9	Africa	0.059	High
88	Algeria	1988	5.9	Africa	0.059	High
89	Algeria	1989	9.2	Africa	0.092	High
90	Algeria	1990	9.3	Africa	0.093	High
91	Algeria	1991	25.9	Africa	0.259	High
92	Algeria	1992	31.7	Africa	0.317	High
93	Algeria	1993	20.5	Africa	0.205	High
94	Algeria	1994	29	Africa	0.29	High
95	Algeria	1995	29.8	Africa	0.298	High
96	Algeria	1996	18.7	Africa	0.187	High
97	Algeria	1997	5.7	Africa	0.057	High
98	Algeria	1998	5	Africa	0.05	High
99	Algeria	1999	2.6	Africa	0.026	Moderate
100	Algeria	2000	0.3	Africa	0.003	Low
101	Algeria	2001	4.2	Africa	0.042	Moderate
102	Algeria	2002	1.4	Africa	0.014	Low
103	Algeria	2003	4.3	Africa	0.043	Moderate
104	Algeria	2004	4	Africa	0.04	Moderate
105	Algeria	2005	1.4	Africa	0.014	Low
106	Algeria	2006	2.3	Africa	0.023	Moderate
107	Algeria	2007	3.7	Africa	0.037	Moderate
108	Algeria	2008	4.9	Africa	0.049	Moderate
109	Algeria	2009	5.7	Africa	0.057	High

- InflationRateCategory

The screenshot shows the Power BI Data View interface. A new column named "InflationRateCategory" has been added to the "GlobalInflationData" table. The formula for this column is: `1 InflationRateCategory = SWITCH(TRUE(), 'GlobalInflationData'[InflationRate] < 2, "Low", 'GlobalInflationData'[InflationRate] < 5, "Moderate", "High")`. The table contains 7,952 rows and 7 columns. The columns are: Index, CountryName, Year, InflationRate, Region, AdjustedInflationRate, and InflationRateCategory. The "Region" column shows values like Africa, Asia, Europe, etc. The "AdjustedInflationRate" column shows values ranging from 0.005 to 0.29. The "InflationRateCategory" column shows values like Low, Moderate, High. The Power BI ribbon at the top includes File, Home, Help, Table tools, Column tools, and a Data pane on the right.

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83	Algeria	1983	7.8	Africa	0.078	High
84	Algeria	1984	6.3	Africa	0.063	High
85	Algeria	1985	10.4	Africa	0.104	High
86	Algeria	1986	14	Africa	0.14	High
87	Algeria	1987	5.9	Africa	0.059	High
88	Algeria	1988	5.9	Africa	0.059	High
89	Algeria	1989	9.2	Africa	0.092	High
90	Algeria	1990	9.3	Africa	0.093	High
91	Algeria	1991	25.9	Africa	0.259	High
92	Algeria	1992	31.7	Africa	0.317	High
93	Algeria	1993	20.5	Africa	0.205	High
94	Algeria	1994	29	Africa	0.29	High
95	Algeria	1995	29.8	Africa	0.298	High
96	Algeria	1996	18.7	Africa	0.187	High
97	Algeria	1997	5.7	Africa	0.057	High
98	Algeria	1998	5	Africa	0.05	High
99	Algeria	1999	2.6	Africa	0.026	Moderate
100	Algeria	2000	0.3	Africa	0.003	Low
101	Algeria	2001	4.2	Africa	0.042	Moderate
102	Algeria	2002	1.4	Africa	0.014	Low
103	Algeria	2003	4.3	Africa	0.043	Moderate
104	Algeria	2004	4	Africa	0.04	Moderate

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• Measures

○ InflationRateChange

The screenshot shows the Power BI interface with the 'Measure tools' tab selected. The 'InflationRateChange' measure is defined as follows:

```
1 InflationRateChange =  
2 VAR SelectedYear = MAX('GlobalInflationData'[Year])  
3 VAR CurrentInflation =  
4 CALCULATE(  
5     AVERAGE('GlobalInflationData'[InflationRate]),  
6     'GlobalInflationData'[Year] = SelectedYear  
7 )  
8 VAR PreviousInflation =  
9 CALCULATE(  
10    AVERAGE('GlobalInflationData'[InflationRate]),  
11    'GlobalInflationData'[Year] = SelectedYear - 1  
12 )  
13 RETURN  
14 IF(  
15     NOT ISBLANK(PreviousInflation),  
16     DIVIDE(CurrentInflation - PreviousInflation, PreviousInflation),  
17     BLANK()  
18 )
```

The preview table shows data for Algeria from 1980 to 1994, with the last row being a blank entry.

Index	CountryName	Year	InflationRate	Region	AdjustedInflationRate	InflationRateCategory
80	Algeria	1980	9.7	Africa	0.097	High
81	Algeria	1981	14.6	Africa	0.146	High
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84	Algeria	1984	6.3	Africa	0.063	High
85	Algeria	1985	10.4	Africa	0.104	High
86	Algeria	1986	14	Africa	0.14	High
87	Algeria	1987	5.9	Africa	0.059	High
88	Algeria	1988	5.9	Africa	0.059	High
89	Algeria	1989	9.2	Africa	0.092	High
90	Algeria	1990	9.3	Africa	0.093	High
91	Algeria	1991	25.9	Africa	0.259	High
92	Algeria	1992	31.7	Africa	0.317	High
93	Algeria	1993	20.5	Africa	0.205	High
94	Algeria	1994	29	Africa	0.29	High
95	Algeria	1995	20.9	Africa	0.209	Medium

○ InflationSummary

The screenshot shows the Power BI interface with the 'Measure tools' tab selected. The 'InflationSummary' measure is defined as follows:

```
1 InflationSummary =  
2 VAR LatestYear = MAX('GlobalInflationData'[Year])  
3  
4 -- Top 3 Countries and Their Inflation Values  
5 VAR CountryInflation =  
6 ADDCOLUMNS(  
7     SUMMARIZE ('GlobalInflationData', GlobalInflationData[CountryName] ),  
8     TotInfl1:=  
9         CALCULATE (  
10            SUM ('GlobalInflationData'[InflationRate] ),  
11            'GlobalInflationData'[Year] = LatestYear  
12        )  
13    )  
14  
15 VAR Top1 = TOPN ( 1, CountryInflation, [TotInfl1], DESC )  
16 VAR TopCountry = MAXX ( Top1, [CountryName] )  
17 VAR Top1Value = MAXX ( Top1, [TotInfl1] )  
18  
19 VAR Top2 =  
20 TOPN (  
21     1,  
22     EXCEPT ( CountryInflation, Top1 ),  
23     [TotInfl1], DESC  
24   )  
25 VAR Top2Country = MAXX ( Top2, [CountryName] )  
26 VAR Top2Value = MAXX ( Top2, [TotInfl1] )  
27  
28 VAR Top3 =  
29 TOPN (  
30     1,  
31     EXCEPT ( CountryInflation, UNION ( Top1, Top2 ) ),  
32     [TotInfl1], DESC  
33   )
```

The preview table shows data for Algeria from 1980 to 1982.

Index	CountryName	Year	InflationRate	Region	AdjustedInflationRate	InflationRateCategory
80	Algeria	1980	9.7	Africa	0.097	High
81	Algeria	1981	14.6	Africa	0.146	High
82	Algeria	1982	6.6	Africa	0.066	High

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InflationAnalysis_SiddharthChauhan * Last saved: 6/21/2025 at 12:48 PM

File Home Help Table tools Measure tools

Name InflationSummary Home table GlobalInflation... Format Text Auto Data category Uncategorized

```

28 VAR Top1 =
29   TOPN (
30     [TotInf1], DESC
31   )
32 VAR Top3Country = MAXX ( Top3, [CountryName] )
33 VAR Top3Value = MAXX ( Top3, [TotInf1] )
34
35 -- Share of Top 1
36 VAR GlobalTotal =
37   CALCULATE (
38     SUM ( GlobalInflationData[InflationRate] ),
39     GlobalInflationData[Year] = LatestYear
40   )
41 VAR Top1Share = DIVIDE ( Top1Value, GlobalTotal )
42
43 -- High vs low Category Comparison
44 VAR HighTotal =
45   CALCULATE (
46     SUM ( GlobalInflationData[InflationRate] ),
47     GlobalInflationData[Year] = LatestYear,
48     GlobalInflationData[InflationRateCategory] = "High"
49   )
50 VAR LowTotal =
51   CALCULATE (
52     SUM ( GlobalInflationData[InflationRate] ),
53     GlobalInflationData[Year] = LatestYear,
54     GlobalInflationData[InflationRateCategory] = "Low"
55   )
56 VAR HighVsLowPct = DIVIDE ( HighTotal - LowTotal, LowTotal )
57
58 -- Final Narrative Output
59
60 RETURN
61
62 /* In = & LatestYear & ", " & Top3Country & " recorded the highest total InflationRate of " &

```

Index CountryName Year InflationRate Region AdjustedInflationRate InflationRateCategory

Index	CountryName	Year	InflationRate	Region	AdjustedInflationRate	InflationRateCategory
80	Algeria	1980	9.7	Africa	0.097	High
81	Algeria	1981	14.6	Africa	0.146	High
82	Algeria	1982	6.6	Africa	0.066	High

Table: GlobalInflationData (7,952 rows) Column: InflationSummary (0 distinct values)

InflationAnalysis_SiddharthChauhan * Last saved: 6/21/2025 at 1248 PM

File Home Help Table tools Measure tools

Name InflationSumma... Home table GlobalInflation... Format Text \$ % Auto Data category Uncategorized

```

38 VAR GlobalTotal =
39 VAR TopShare = DIVIDE ( TopValue, GlobalTotal )
40
41 -- High vs Low Category Comparison
42 VAR HighTotal =
43 CALCULATE (
44     SUM ( GlobalInflationData[InflationRate] ),
45     GlobalInflationData[Year] = LatestYear,
46     GlobalInflationData[InflationRateCategory] = "High"
47 )
48 VAR LowTotal =
49 CALCULATE (
50     SUM ( GlobalInflationData[InflationRate] ),
51     GlobalInflationData[Year] = LatestYear,
52     GlobalInflationData[InflationRateCategory] = "Low"
53 )
54 VAR HighSlowPct = DIVIDE ( HighTotal - LowTotal, LowTotal )
55
56 -- Final Narrative Output
57 RETURN
58 /* & LatestYear & ", " & Top1Country & " recorded the highest total InflationRate of " &
59 FORMAT ( Top1Value, "#,##0.00" ) & "," & UNICHAR(10) & UNICHAR(10) &
60
61 /* It was followed by " & Top2Country & " with " & FORMAT ( Top2Value, "#,##0.00" ) &
62 " and " & Top3Country & " with " & FORMAT ( Top3Value, "#,##0.00" ) & "," & UNICHAR(10) & UNICHAR(10) &
63
64 /* " & Top1Country & " alone contributed " & FORMAT ( Top1Share, "0.00%" ) &
65 " to the global total inflation." & UNICHAR(10) & UNICHAR(10) &
66
67 /* The "High" inflation category contributed " & FORMAT ( HighTotal, "#,##0.00" ) &
68 " which was " & FORMAT ( HighSlowPct, "0.00%" ) &
69 " higher than the "Low" category contribution of " & FORMAT ( LowTotal, "#,##0.00" ) & ","
70
71
72
73
74

```

Index CountryName Year InflationRate Region AdjustedInflationRate InflationRateCategory

80	Algeria	1980	9.7	Africa	0.097	High
81	Algeria	1981	14.6	Africa	0.146	High
82	Algeria	1982	6.6	Africa	0.066	High

Data

Search

- continents
- global_inflation_data
- GlobalInflationData
- AdjustedInflationRate
- CountryName
- Index
- InflationRate
- InflationRateCategory
- inflationRateChange
- InflationSummary
- Region
- Year

7.3 Number of Visualizations

Dashboard Page (Page 1)

1. KPI Card – Average Inflation Rate
2. KPI Card – Maximum Inflation Rate
3. KPI Card – Region Count
4. Country Slicer – Dropdown Filter
5. Line Chart – Inflation Trend Over the Years (1980–2024)
6. Pie Chart – Inflation Category Breakdown (Global Share)
7. Card – Inflation Rate Change by Country
8. Column Chart – Annual Inflation Rate Distribution
9. Scatter Plot – Inflation vs Adjusted Inflation by Year

Report Page (Page 2)

10. Smart Narrative – Key Observations (Top Contributors + Category Contribution)
 11. Map – Global Region Distribution by Country
 12. Donut Chart – Sum of Inflation Rate by Country Name (Latest Year)
 13. Bar Chart – Distribution of Inflation Rate Categories (Latest Year)
-

8. Conclusion / Observation

The dashboard transforms complex macroeconomic inflation data into a clear, interactive narrative. By combining dynamic visuals, region-based mapping, and smart KPI indicators, it enables users to explore patterns, identify top contributing countries, and understand category-level inflation dynamics. Whether for a quick overview or an in-depth analysis, this solution delivers both clarity and context for decision-making.

9. Future Scope

- **Integrate Additional Economic Indicators:** Incorporate metrics such as GDP, CPI, and unemployment rates for multi-variable analysis.
- **Drill-Through Functionality:** Enable users to explore data at deeper levels — by year, country, or region — for targeted insights.
- **Forecasting Capabilities:** Apply Time Intelligence DAX to build predictive models for inflation trends.

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- **Power BI Service Integration:** Publish to Power BI Service with automatic refresh for real-time insights and collaboration.
-

10. Appendix

10.1 Source Code

All development was done using **Power BI Desktop**. The .pbix file includes all DAX measures, calculated columns, and visuals used in the project.

10.2 Project Links

-  **GitHub Repository:** <https://github.com/Bsp1994/BhuGlobal-Inflation-Analysis.git>
-