

# **MEASURING THE PULSE OF PROSPERITY: AN INDEX OF ECONOMIC FREEDOM ANALYSIS**

## **ACTIVITY1: PRE REQUESTIES**

**PURPOSE:** TO ensure everything is ready before starting and avoid problems.

### **STEPS:**

1. Identify requirements
2. Arrange tools/ resources
3. Install MySQL and tableau public
4. Check and verify setup
5. Confirm readiness

## **ACTIVITY 2: PRIOR KNOWLEDGE**

**PURPOSE:** To understand the basic concepts before learning a new topic or starting a project, so it becomes easier and clearer.

### **STEPS:**

1. Identify required basic concepts
2. Review fundamental topics
3. Revise important terms and definitions
4. Practice simple examples
5. Ensure clear understanding before moving forward

## **ACTIVITY 3: PROJECT OBJECTIVES**

**PURPOSE:** To clearly define what the project aims to achieve and guide the work in the right direction.

### **STEPS:**

1. Identify the main goal of the project
2. Break the goal into specific objectives
3. Make objectives clear and measurable
4. Set timeline or targets
5. Review and confirm objectives before starting execution

## **ACTIVITY 4: PROJECT FLOW**

**PURPOSE:** To define the step-by-step process of how the project will be carried out from start to finish.

### **STEPS:**

1. Define project idea and objectives
2. Collect required data/resources
3. Plan the workflow and design
4. Execute the tasks step-by-step
5. Analyze results and test

6. Present findings and finalize the project

## **ACTIVITY 5: DATA COLLECTION:**

### **MILESTONE 1: Downloading the data set**

**Purpose:** To gather accurate and relevant information needed to complete the project and make correct decisions.

#### **Steps:**

1. Identify what data is required
2. Choose data sources (primary or secondary)
3. Collect the data (survey, website, dataset, etc.)
4. Organize and store the data properly
5. Verify accuracy and completeness of data

## **ACTIVITY 6: WORKING WITH DATA SET**

### **MILESTONE 1: Understand the data**

**PURPOSE:** To clearly understand the structure, source, and meaning of the dataset before starting analysis.

#### **STEPS:**

1. Identify the data source (Heritage.org – 2022 Index of Economic Freedom).
2. Open and review the dataset columns and values.
3. Understand key indicators (Score, GDP, Inflation, etc.).
4. Check for missing or incorrect data.
5. Refer to the official website link for detailed explanation of indicators.

### **MILESTONE 2: Import dataset into database and connect tableau desktop to dashboard server**

**PURPOSE:** To store the dataset securely in a database and connect Tableau to analyze data directly from the database server.

#### **STEPS:**

1. Create a database in your database server (MySQL/SQL Server, etc.).
2. Import the dataset (CSV/Excel) into a table inside the database.
3. Verify that the data is successfully loaded.
4. Open Tableau Desktop.
5. Click Connect → Select your Database Server.
6. Enter server details (server name, username, password).
7. Select the database and required table.
8. Click Sheet to start analysis.

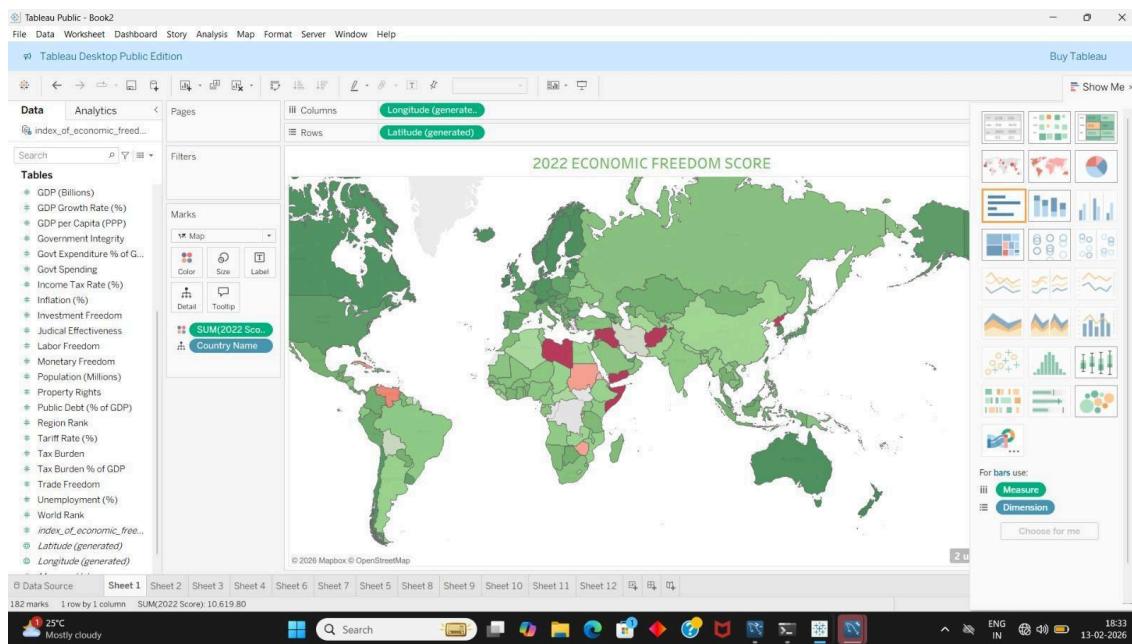
## **ACTIVITY 7: DATA VISUALIZATIONS**

### **MILESTONE 1: 2022 Economic Freedom Score Map**

**PURPOSE:** To compare countries' economic freedom scores visually using a world map.

## STEPS :

1. Open Tableau Public / Tableau Desktop.
2. Connect to your dataset (CSV/Excel file).
3. Go to a New Worksheet.
4. Drag Country Name → to the workspace (Tableau automatically creates a Map).
5. Drag Longitude (generated) → Columns.
6. Drag Latitude (generated) → Rows.
7. Drag 2022 Score → to Color in the Marks card.
8. Change Marks type to Map (if not automatically selected).
9. Adjust color (Green to Red) to show high and low scores clearly.
10. Edit the title to “2022 Economic Freedom Score”.



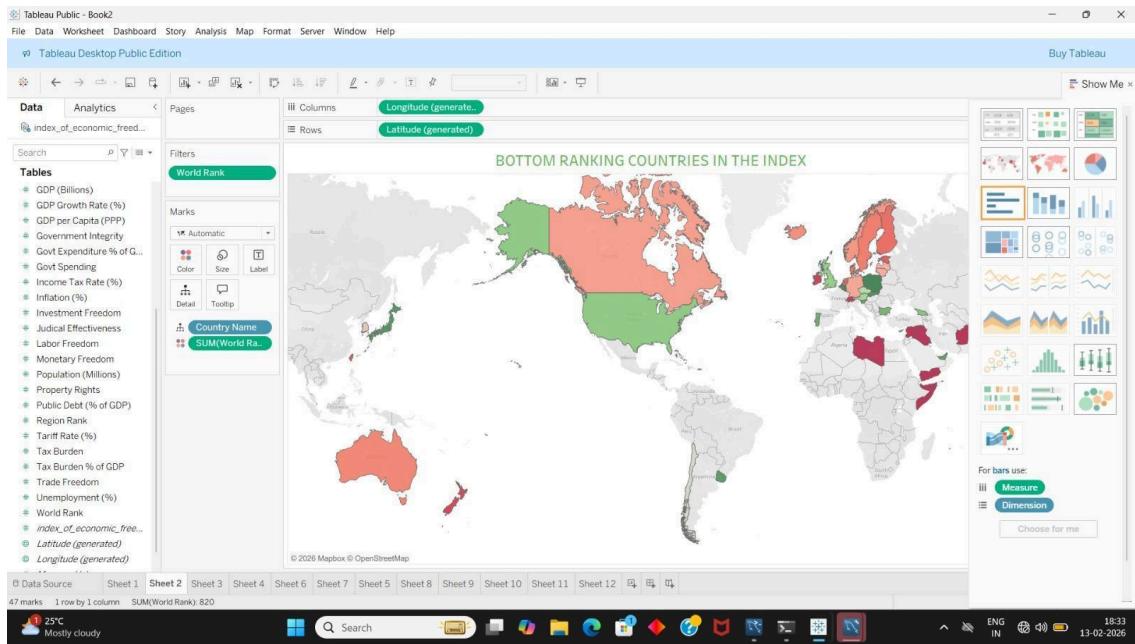
## MILESTONE 2: the relationship between unemployment rate and the Economic Freedom Index score:

**PURPOSE:** The purpose of this visualization is to examine the relationship between unemployment rate and the Economic Freedom Index score, compare countries visually, and identify better and lower performing nations using color variation on the map.

## STEPS:

1. Open Tableau and connect to the dataset.
2. Open a New Worksheet.
3. Drag Country Name → to the workspace (Map will generate).
4. Ensure Longitude (generated) is in Columns and Latitude (generated) is in Rows.
5. Drag World Rank (or relevant measure) → to Color in Marks card.
6. (Optional) Drag Unemployment Rate → to Tooltip for details.

7. Adjust color scale for better visualization.
8. Edit the title to “Index Score Based on Unemployment Rate”.

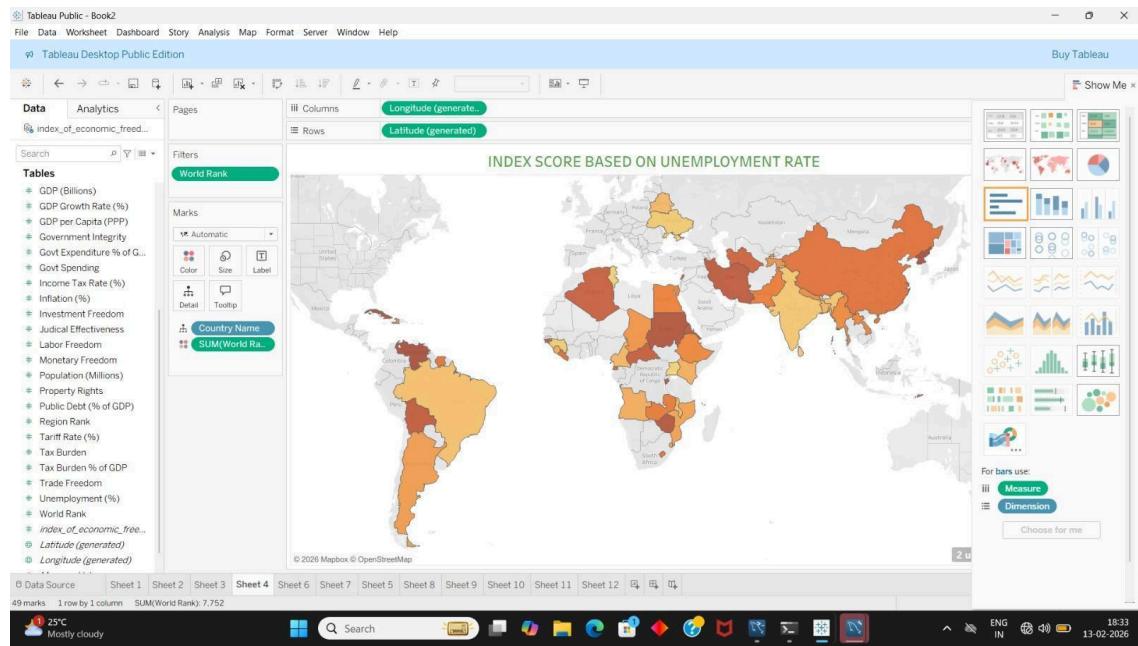


### MILESTONE 3: Bottom Ranking Countries in the Index:

**Purpose:** The purpose of this visualization is to identify and analyze the countries that are ranked lowest in the Economic Freedom Index. It helps highlight underperforming nations and compare them visually using color variation on the world map.

#### STEPS:

1. Open Tableau and connect to the dataset.
2. Create a new worksheet.
3. Drag Country Name to the workspace to generate the map.
4. Ensure Longitude (generated) is in Columns and Latitude (generated) is in Rows.
5. Drag World Rank to the Filters shelf and select the bottom-ranked countries.
6. Drag World Rank to Color in the Marks card.
7. Adjust the color scale to clearly show lower-ranked countries.
8. Edit the title as “Bottom Ranking Countries in the Index.”

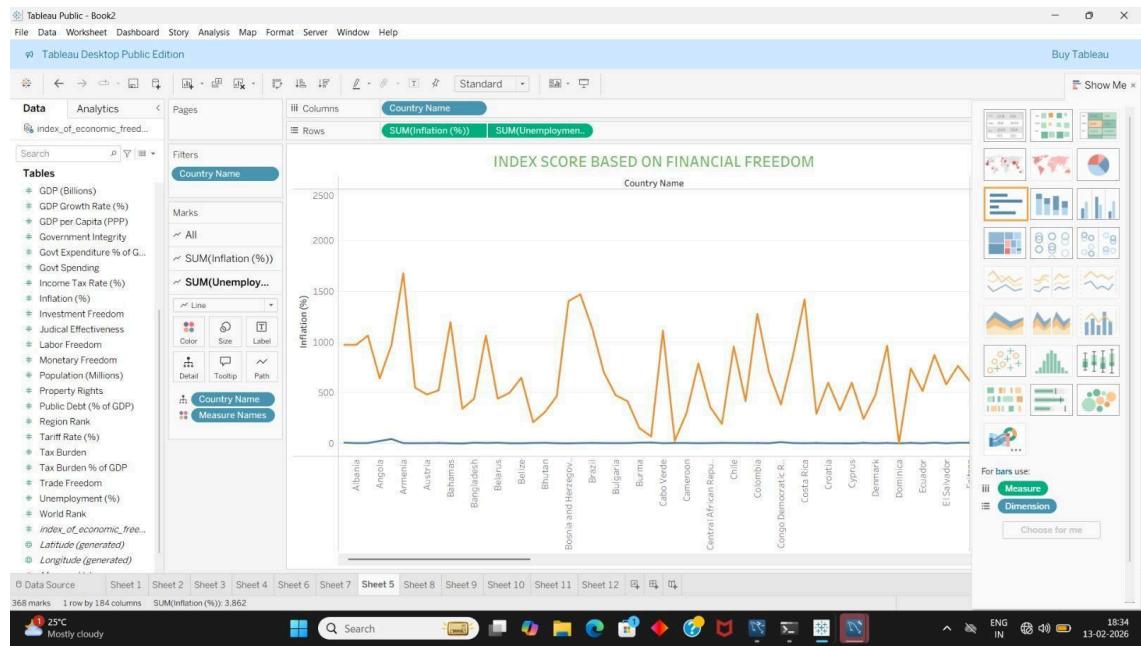


## MILESTONE 4: Index Score Based on Financial Freedom:

**PURPOSE:** The purpose of this visualization is to analyze how financial freedom relates to economic indicators such as inflation and unemployment across different countries. It helps compare country performance and identify trends or patterns using a line chart.

### STEPS:

1. Open Tableau and connect to the dataset.
2. Create a new worksheet.
3. Drag Country Name to the Columns shelf.
4. Drag Inflation (%) to the Rows shelf.
5. Drag Unemployment (%) to the Rows shelf (next to Inflation).
6. Change the Marks type to Line.
7. (Optional) Add Financial Freedom Score to Tooltip or Filters for deeper analysis.
8. Edit the title as “Index Score Based on Financial Freedom.”

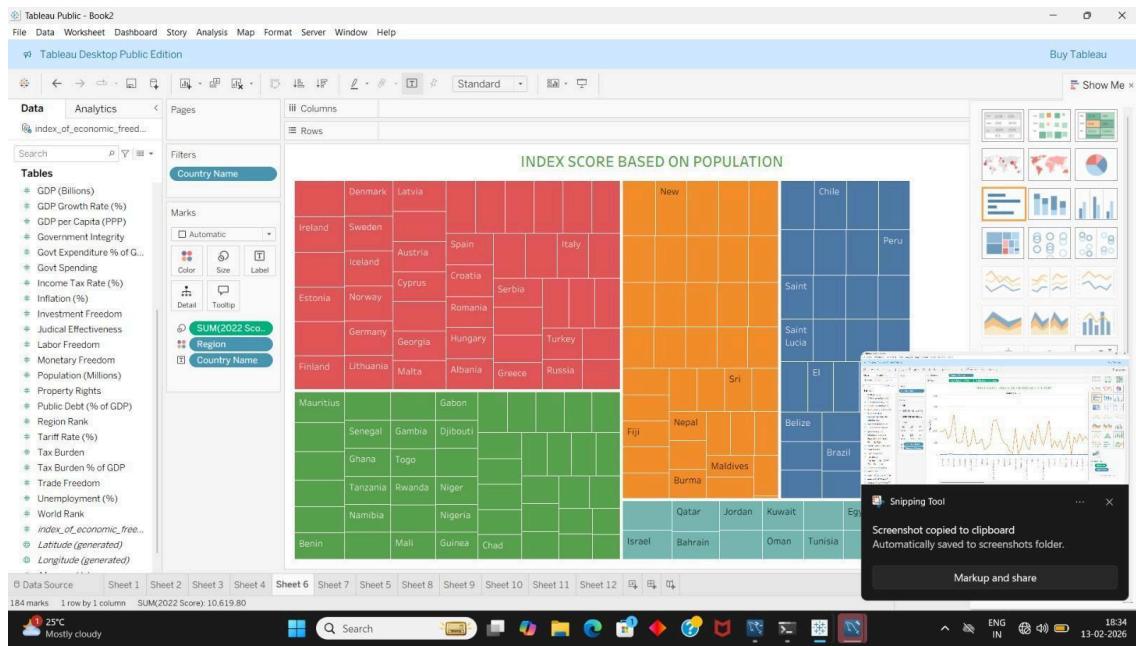


## MILESTONE 5: Index score based on unemployment rate

**PURPOSE:** To visually compare countries worldwide based on an index score derived from unemployment rates, highlighting global and regional differences.

### STEPS:

1. Load the dataset into Tableau.
2. Set Country Name as a geographic role.
3. Drag Longitude (generated) to Columns and Latitude (generated) to Rows.
4. Add Country Name to Detail.
5. Drag World Rank / Index Score to Color.
6. Apply filters if needed.
7. Add title and adjust map formatting.



## MILESTONE 5: Index score based on population

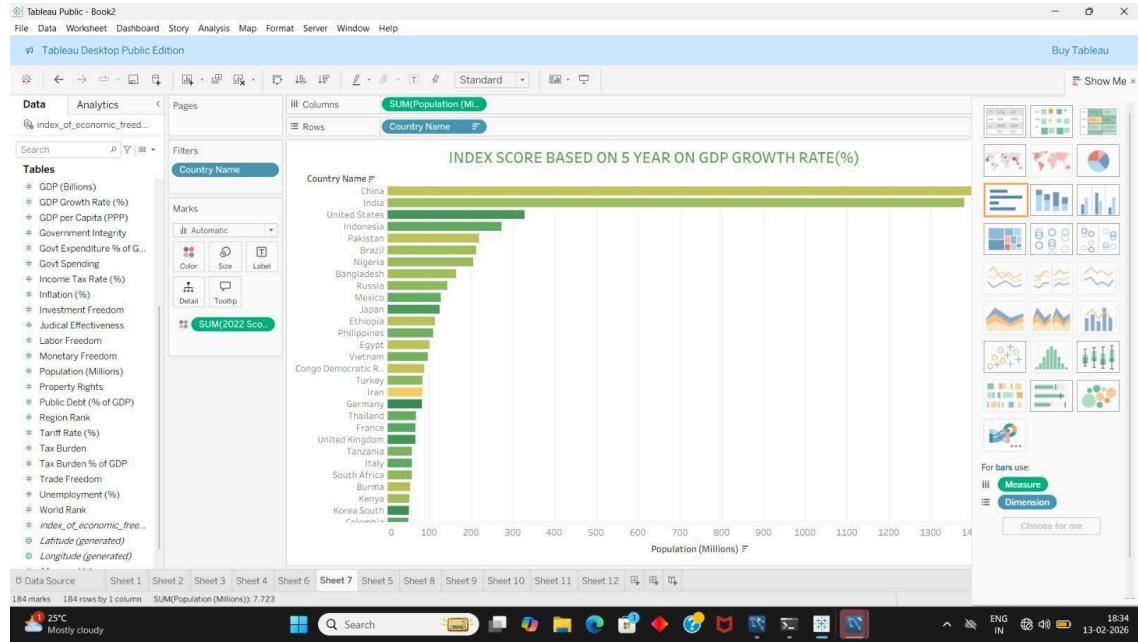
**PURPOSE:** To compare the 2022 Index Scores of different countries, grouped by Region.

**Size:** Represents the numerical value (larger box = higher score).

**Color:** Groups countries by their geographical region (e.g., Red for Europe, Green for Africa).

### STEPS:

1. Dimensions: Drag Region and Country Name to the Detail or Label marks card.
2. Measure: Drag SUM(2022 Score) to the Size marks card.
3. Color: Drag Region to the Color marks card to distinguish the groups.
4. Labels: Drag Country Name to the Label marks card so the names appear inside the boxes.
5. Visualization Type: If it doesn't automatically switch, select the Treemap icon from the Show Me panel (top right).

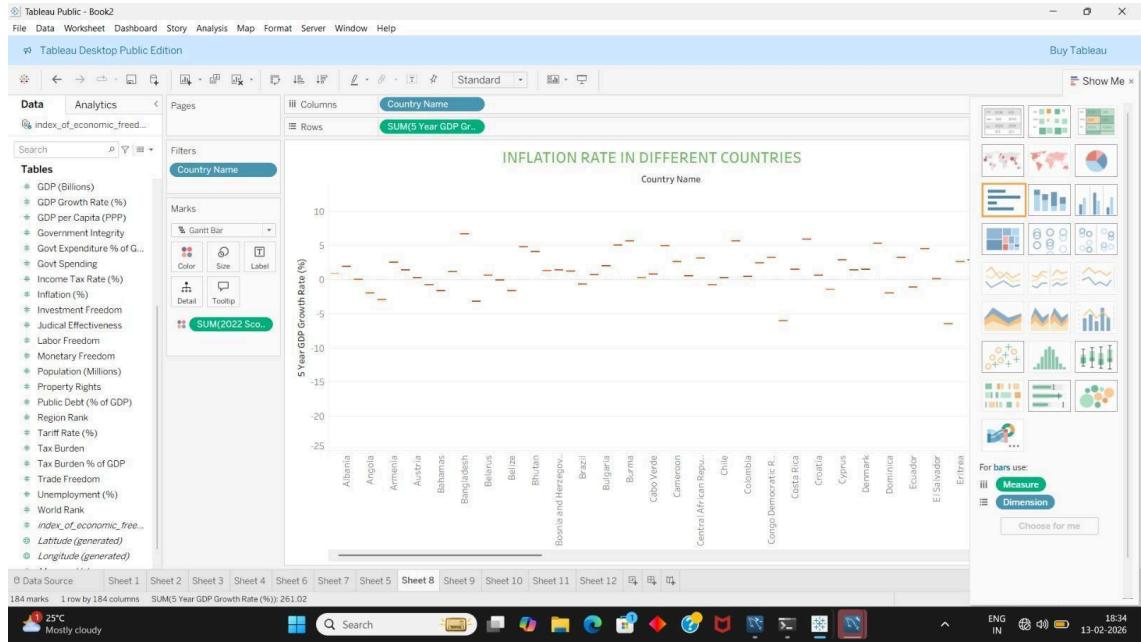


## MILESTONE 6: Index score based on 5 years on GDP Growth rate (%):

**PURPOSE:** To visualize and compare countries by population size while ranking them against an index score derived from 5-year GDP growth, helping identify which high-growth economies also have large populations.

### STEPS:

1. Load data into Tableau (GDP growth, population, country).
2. Drag Country Name → Rows.
3. Drag Population (Millions) → Columns (SUM).
4. Create/use the Index Score (5-year GDP growth).
5. Add Index Score → Color (Marks card) to show growth intensity.
6. Sort countries by population (descending).
7. Add Country filter (optional) and format title/labels.

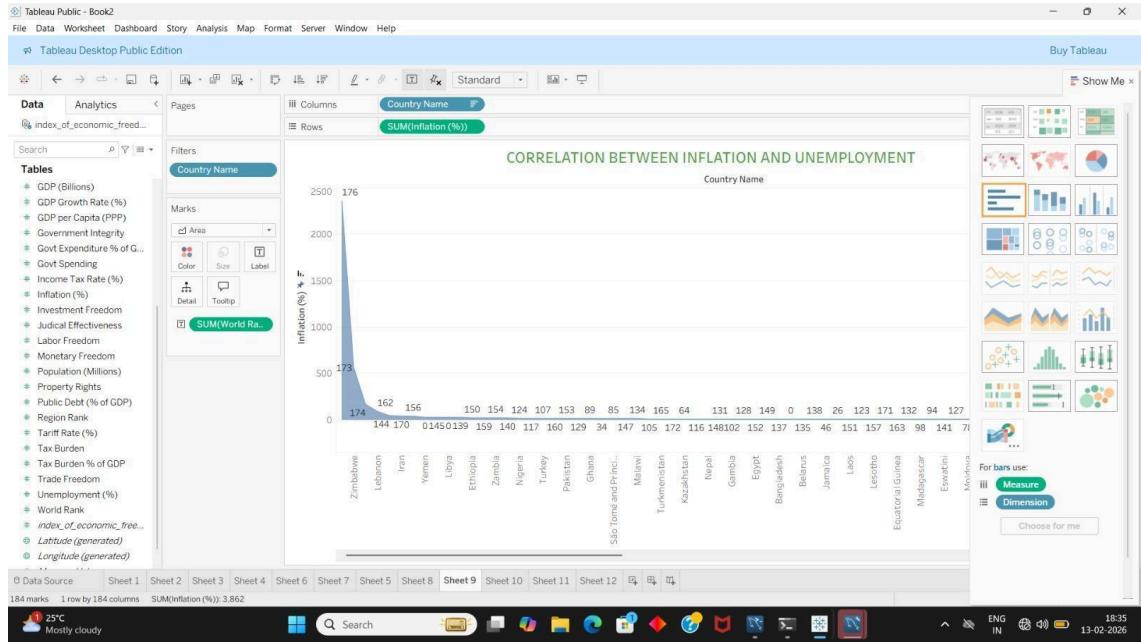


## MILESTONE 7: Correlation between inflation and unemployment:

**PURPOSE:** To analyze the relationship between inflation and unemployment across countries, helping identify whether higher inflation levels are associated with changes in unemployment.

### STEPS:

1. Load the dataset into Tableau.
2. Drag Country Name → Columns.
3. Drag Inflation (%) → Rows (SUM).
4. Add Unemployment (%) → Label/Tooltip (or Detail) for comparison.
5. Choose Area (or Scatter for correlation) from Show Me.
6. Apply Country filter if required.
7. Format axes, labels, and title for clarity.

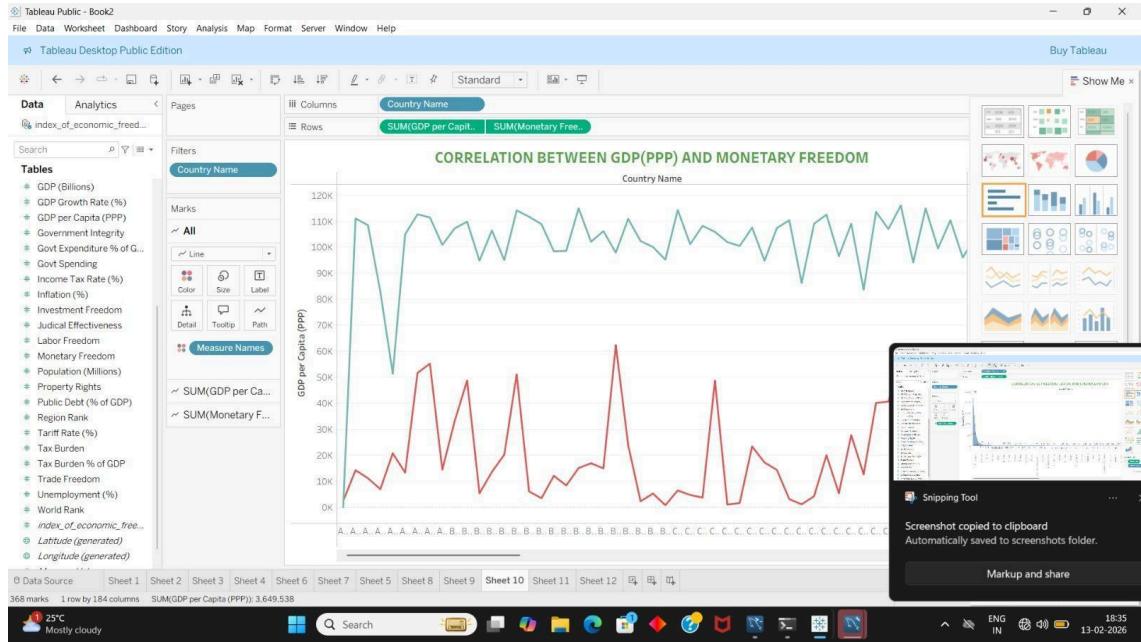


## MILESTONE 8: Inflation rate in Different countries:

**PURPOSE:** To compare inflation rates across different countries and observe variations, outliers, and overall trends in inflation levels among nations.

### STEPS:

1. Import the dataset into Tableau.
2. Drag Country Name → Columns.
3. Drag Inflation Rate (%) → Rows (or the relevant calculated measure used).
4. Select Gantt Bar / Bar from Show Me for clear comparison.
5. Add Inflation Rate → Color (Marks card) to highlight differences.
6. Apply Country filter if needed.
7. Format axis, labels, and title for readability.

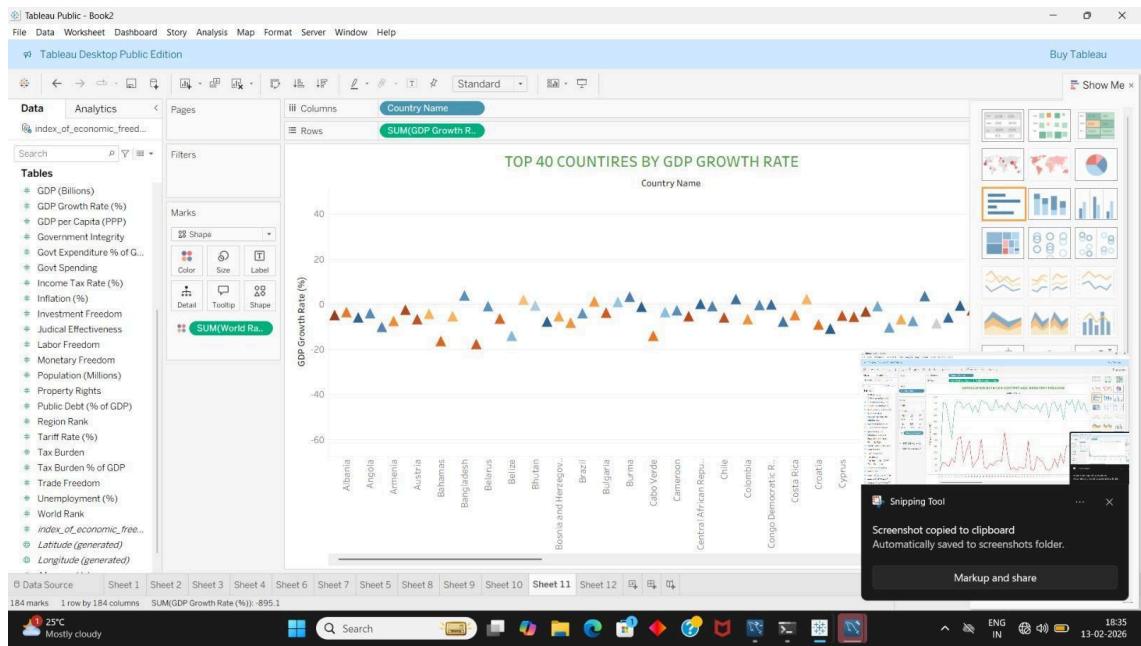


## MILESTONE 9: Correlation between GDP (PPP) and monetary Freedom:

**PURPOSE:** To examine the correlation between GDP per Capita (PPP) and Monetary Freedom across countries, showing how economic prosperity relates to monetary policy freedom.

### STEPS:

1. Load the dataset into Tableau.
2. Drag Country Name → Columns.
3. Drag GDP per Capita (PPP) → Rows.
4. Drag Monetary Freedom → Rows (dual-axis or combined view).
5. Select Line chart from Show Me.
6. Use Measure Names/Values to display both measures clearly.
7. Apply Country filter and format axes, colors, and title.

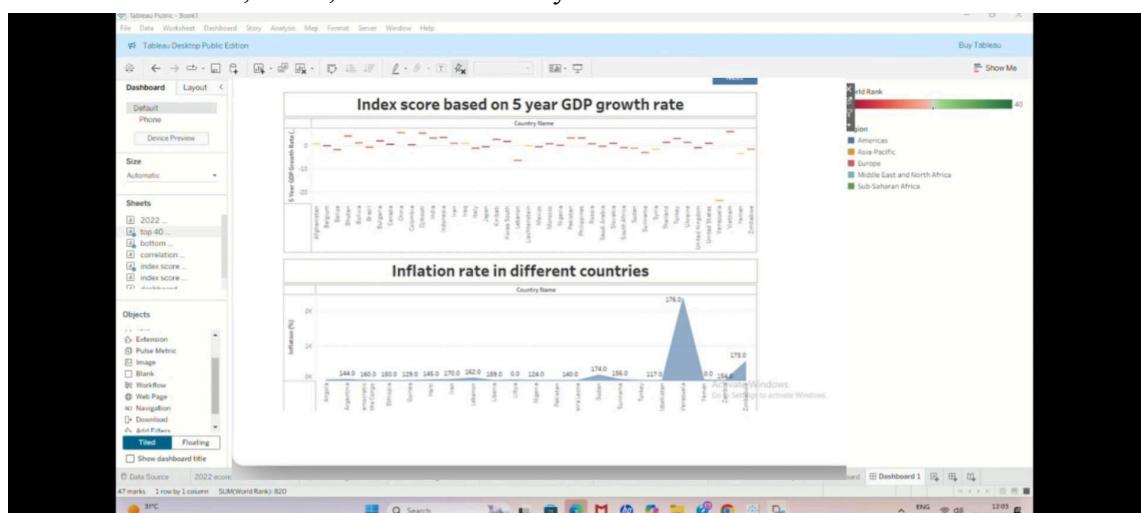


## MILESTONE 10: Top 40 countries by GDP Growth rate:

**PURPOSE:** To identify and compare the top 40 countries by GDP growth rate, highlighting high-growth and low-growth economies across countries.

### STEPS:

1. Load the dataset into Tableau.
2. Drag Country Name → Columns.
3. Drag GDP Growth Rate (%) → Rows.
4. Apply a Top 40 filter on Country based on GDP Growth Rate.
5. Select Shape / Scatter plot from Show Me.
6. Add Color to differentiate growth levels (positive vs negative).
7. Format axes, labels, and title for clarity.



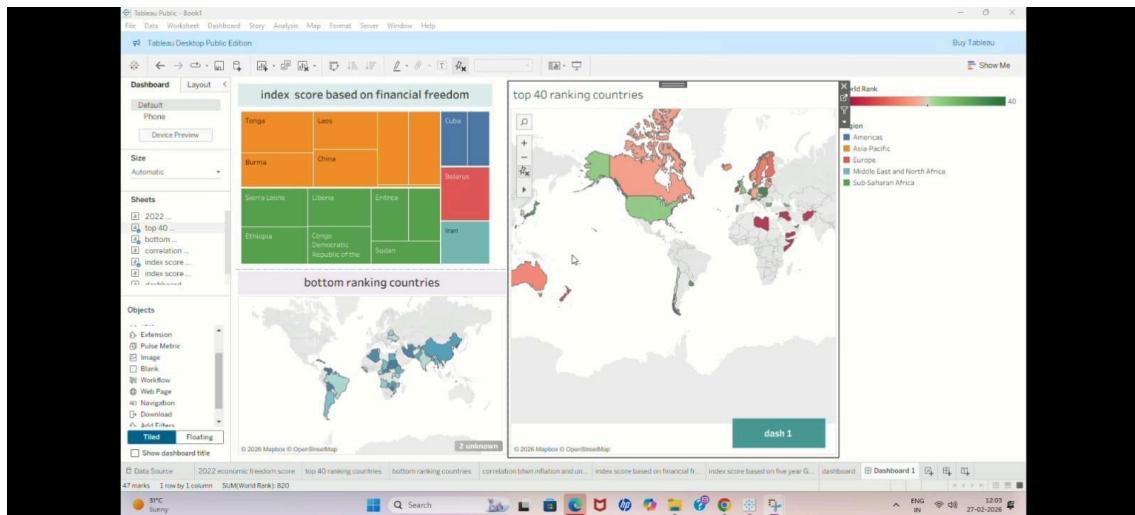
## ACTIVITY 8: DASHBOARD:

## MILESTONE 1: creating the dashboard

**PURPOSE:** To provide an interactive overview of economic freedom across countries by combining population-based rankings, financial freedom comparison, and a global map of 2022 Economic Freedom Scores for easy cross-country analysis.

### STEPS:

1. Open Tableau and connect the Economic Freedom dataset.
2. Create a Bar Chart: Country → Rows, Population → Columns (Index based on population).
3. Create a Treemap: Country → Label, Financial Freedom → Size & Color.
4. Create a Filled Map: Country → Detail, Economic Freedom Score (2022) → Color.
5. Click Dashboard → New Dashboard.
6. Drag all three sheets onto the dashboard and arrange them neatly.
7. Add titles, legends, and optional country filters.



## MILESTONE 3:

**PURPOSE:** To compare top-ranking and bottom-ranking countries and analyze how unemployment rate influences an index score, using maps and a bar chart for quick insights.

### STEPS:

1. Open Tableau and connect the dataset.
2. Create Map – Top 40 countries: Country → Detail, Index Score → Color Apply Top 40 filter.
3. Create Map – Bottom countries: Country → Detail, Index Score → Color Apply Bottom filter.
4. Create Bar Chart: Country → Columns, Unemployment Rate (or Index Score) → RowsAdd color for comparison.
5. Go to Dashboard → New Dashboard.
6. Drag both maps and the bar chart onto the dashboard.

7. Add titles and adjust layout.

## MILESTONE 4:

**PURPOSE:** To compare countries based on 5-year GDP growth rate and inflation rate in one view, helping analyze economic performance and stability across countries.

### STEPS:

1. Open Tableau and connect the dataset.
2. Sheet 1 (GDP Growth): Country Name → Columns 5-Year GDP Growth Rate → Rows Select Dot/Line chart and add color.
3. Sheet 2 (Inflation Rate): Country Name → Columns Inflation Rate (%) → Rows Select Area/Line chart.
4. Click Dashboard → New Dashboard.
5. Drag both sheets onto the dashboard (GDP Growth on top, Inflation below).
6. Add titles and adjust layout.

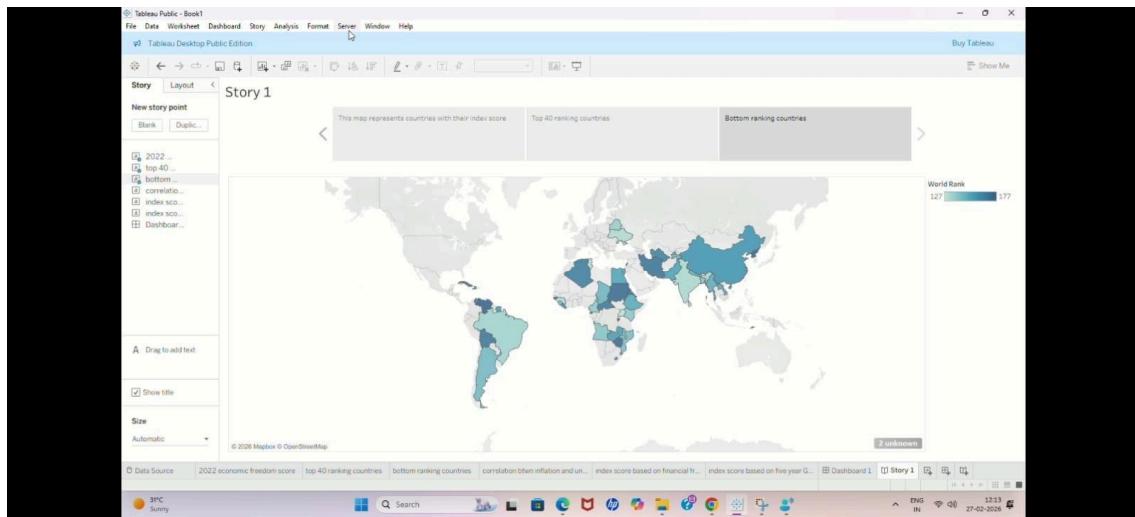
## ACTIVITY 9: STORY

### MILESTONE 1: Creating a story Board:

**PURPOSE:** To present a story view showing how economic indicators (index scores) vary across countries on a world map, enabling step-by-step insights through interactive storytelling.

### STEPS:

1. Create a Filled Map: Country → Detail, Index Score → Color.
2. Format color scale and add legend.
3. Click Story → New Story.
4. Drag the map sheet into Story Point 1.
5. Add captions explaining the insight.
6. Duplicate the story point and change filters/measures if needed.
7. Use Next/Previous to navigate the story.



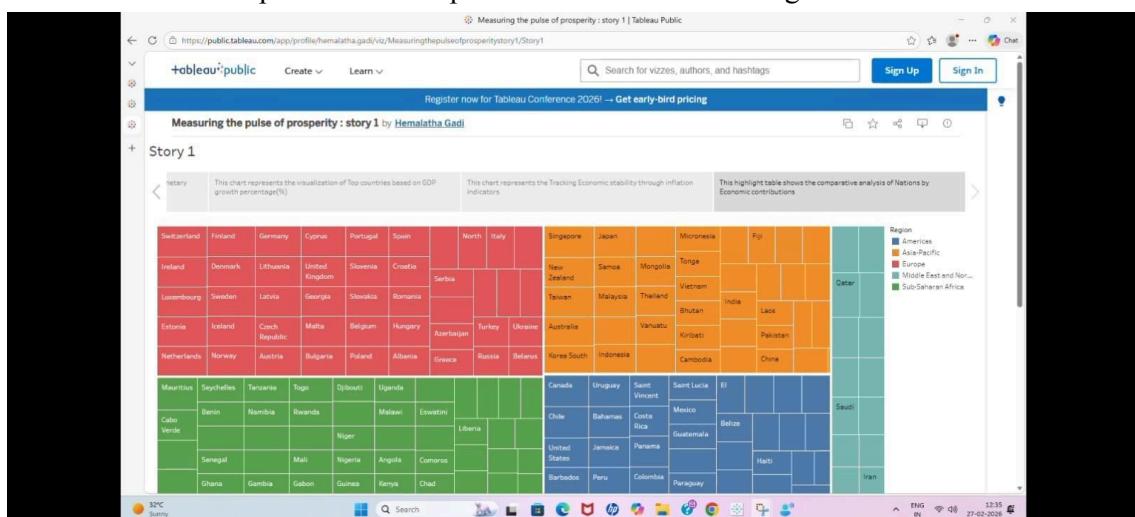
## ACTIVITY 10: PUBLISHING AND WEB INTEGRATION

### MILESTONE1: Publishing dashboard and reports to tableau public

**PURPOSE:** To publish and share Tableau dashboards online using Tableau Public, making visualizations accessible to others.

#### STEPS:

1. In Tableau Desktop, click Server → Tableau Public → Save to Tableau Public.
2. Enter server URL: <https://public.tableau.com> and click Connect.
3. Sign in with your Tableau Public username and password.
4. Provide a project name and click Save.
5. Dashboard is published and opens in a browser for sharing.



### MILESTONE 2: Integrating with web with Embed code

**PURPOSE:** To embed a Tableau dashboard into a web application or website so users can interact with the visuals directly online.

## STEPS:

1. Publish dashboard Save your dashboard to Tableau Public.
2. Open the published dashboard: Go to your Tableau Public profile and open the dashboard.
3. Get embed code: Click Share → select Embed Code → copy the HTML iframe code.
4. Open your website code: Open the HTML file (or page editor) where you want the dashboard.
5. Paste embed code: Paste the iframe code into the HTML body section.
6. Adjust size (optional): Modify iframe width and height values if needed.
7. Save and run: Save the file and open it in a browser to see the embedded dashboard.



## ACTIVITY 11: PERFORMANCE TESTING

### MILESTONE 1: Amount of Data Rendered To DB

**PURPOSE:** To store, manage, and analyze economic freedom data in a database and support performance testing by checking data volume and filter usage before connecting it to Tableau.

#### STEPS:

1. Open MySQL Workbench.
2. Create a schema (e.g., eco\_f\_index).
3. Import the dataset into a table (e.g., index\_of\_economic\_freedom).
4. Open the table and verify columns, rows, and data types.
5. Check row count and table size (Table Details → Info).
6. Run filtered queries (WHERE clause) to reduce data returned.
7. Click Analyze Table to update performance statistics.
8. Connect this database to Tableau for visualization.

## **MILESTONE 2: Utilization of Data Filters**

**PURPOSE:** To use data filters in Tableau to limit the dataset shown in visualizations, improving focus, interactivity, and performance.

### **STEPS:**

1. Open the worksheet in Tableau.
2. Drag a field (e.g., Country, Rank, Score) to the Filters shelf.
3. Choose the filter type (Top, Range, Condition, or Values).
4. Set the filter criteria (e.g., Top 40, score range).
5. Click Apply / OK.
6. (Optional) Right-click the filter → Show Filter for user interaction.