Power BI Case Study: Global Debt Analysis (1950–2022)

Business Context

The **Global Debt Database (GDD)**, developed by the International Monetary Fund, captures the **total gross debt of the nonfinancial sector** across 190 economies—spanning **government, corporate, household, and private debt**—from **1950 to 2022**. This wide-ranging dataset enables stakeholders to monitor, compare, and analyze debt accumulation trends across time, income groups, and world regions.

Business Problem

As the global economy continues to evolve, understanding how debt levels have changed over time is critical for:

1. Identifying periods and patterns of debt surges or decline across country groups.
2. Comparing public vs. private sector debt trends.
3. Assessing regional vulnerabilities to fiscal shocks.
4. Exploring correlations between different debt types.
5. Supporting data-driven policymaking and financial risk forecasting.

Your goal is to leverage this dataset to extract insights and help policymakers and financial analysts gain a clearer picture of historical debt dynamics.

Key Business Questions

1. General Debt Trends

- How has global debt evolved over time by sector: **central government**, **general government**, **household**, **non-financial corporate**, and **private**?
- Which decades saw the **highest debt growth rates** across sectors?
- What is the **average debt level (as % of GDP)** by sector in each income group: low, middle, and high-income countries?

2. Country-Level Insights

- Which countries currently have the **highest levels of each debt type**?

- Which countries have seen the **most dramatic changes** in debt levels over the past 30 years?
- How do debt levels in **developed vs. developing countries** compare over time?

3. Sector Comparisons

- Which debt type (e.g., household vs. corporate) is growing the fastest globally?
- Are there notable **trade-offs** between government and private debt levels in some countries?
- Which countries have **balanced** vs. **imbalanced** debt profiles (e.g., high government but low private debt)?

4. Impact of Economic Events

- How did **global financial crises (2008–09)** and **COVID-19 (2020–21)** affect debt levels across regions?
- Which economies were most impacted during these periods?

5. Regional & Temporal Patterns

- Which **regions** (e.g., Europe, Africa, Asia-Pacific) have experienced the **steepest debt increases**?
- How have **household** and **corporate** debt trends varied by region and income level?

6. Additional Insights (Student-Discovered)

- Identify **two original insights** not covered in the questions above. These may be trends, outliers, or country-specific patterns that offer useful lessons or highlight risks.

Expected Deliverables

Interactive Power BI Dashboard

- Visualizations that clearly answer the key business questions.
- Filters for dynamic exploration (e.g., by country, region, debt type, income group).
- Key metrics (e.g., average debt-to-GDP ratio, year-over-year change).

Presentation (10–12 Slides)

- **Introduction**: Brief overview of the GDD and project objectives.
- **Methodology**: Steps taken to clean, transform, and model the data.
- **Findings**: Key insights aligned with each business question (with visuals).
- **Recommendations**: Data-driven strategies or policy implications.
- **Limitations**: Highlight any data constraints or assumptions.

Success Criteria

Your work will be assessed on:

✔ **Insightfulness** – Do your findings reveal valuable patterns or trends?
✔ **Visualization Quality** – Are visuals clear, interactive, and well-labeled?
✔ **Relevance** – Do your insights help understand global debt dynamics?
✔ **Originality** – Did you go beyond surface-level trends to uncover deeper meaning?

Next Steps

- Begin exploring the five debt datasets in Power BI.
- Clean and standardize historical columns (1950–2022) for analysis.
- Create calculated measures (e.g., YoY growth, averages, change over decades).
- Design a professional and interactive dashboard.
- Prepare your presentation.

Timeframe: 10 - 12 days (deadline: 22nd April, 2025).