

CMPE 273 Hackathon: Macroeconomic Researcher Time Series Dashboard Submission

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GitHub Repo Link: <https://github.com/AtharvaJadhav/systems-hackathon>

Budget Speech Analysis:

Prompt: What are the common themes in budget speeches concerning economic growth and stability?

Answer: Common budget speech themes related to economic growth include reducing deficits, increasing investment in infrastructure/manufacturing, providing tax incentives, supporting agricultural and rural development, etc. Promoting stability is also a frequent theme, with policies aimed at curbing inflation, managing debt levels, ensuring adequate funding for social services.

Policy Impact Assessment:

Prompt: How have specific policies mentioned in the budget speeches impacted the economic indicators of their countries?

Answer: To assess the impact of specific policies, we can again look at economic indicators relevant to that policy area before and after the budget. For example, if there are tax incentives meant to boost manufacturing, we could look at manufacturing output growth after the budget.

Agricultural Sector Challenges:

Prompt: What challenges in the agricultural sector are highlighted in the budget speeches, and how do they relate to economic data?

Answer: The budget speeches highlight concerns like inadequate irrigation, need for crop insurance, insufficient credit access for farmers, etc. We can examine agricultural GDP data to see if these issues are reflected there. Historical data on irrigation facilities, insurance coverage, credit disbursement can also provide context on the sector's challenges.

GDP Growth Rate Analysis:

Prompt: What patterns and trends can be identified in the GDP growth rates of various countries over the last decade, as indicated in the "GDP Growth Rate" data file?

Answer: The GDP growth rates show significant variation both between countries and over time. Developed countries like the US tend to have lower but more stable growth compared to developing countries like India and China which have experienced high growth in recent decades. The global financial crisis in the late 2000s caused declines across many countries.

GDP Value Dynamics:

Prompt: How do the GDP values in USD correlate with the economic development stages of different countries, based on the information in the "GDP USD" data file?

Answer: GDP in USD correlates strongly with the economic development level of countries. The US has the highest GDP value while India and China have shown rapid growth in GDP as their economies have developed. Advanced economies like the US and China have GDPs in the trillions while developing nations are typically in the billions.

Current Account Balance Evaluation:

Prompt:How does the current account balance as a percentage of GDP reflect the trade and financial health of nations, as shown in the "Current Account Balance" data file?

Answer: Current Account Balance Evaluation: Countries running sustained current account deficits like the US may face risks of debt and devaluation of currency. Meanwhile, countries like China with surpluses have accrued large foreign reserves. The current account balance reflects the competitiveness and savings rate of an economy.

Rice Import Patterns in Egypt:

Prompt: What trends are observable in the rice import data for Egypt, and how might these imports impact the country's agricultural policies and food security, as detailed in the "FAOSTAT Egypt Rice data" file?

Answer: Egypt's rice imports spiked in the early 2010s but have declined significantly since around 2016. This suggests efforts to improve domestic production and reduce dependence on imports. However, rice remains an important food staple, so Egypt likely maintains trade relationships to ensure food security.

Saudi Arabia's Rice Import Trends:

Prompt: How has Saudi Arabia's rice importation changed over time, and what does this indicate about the country's food security and dependence on agricultural imports, as per the "FAOSTAT Saudi Arabia Rice data" file?

Answer: Saudi Arabia has consistently imported large quantities of rice, mostly from India and Pakistan. There is no evidence of reduced dependence on rice imports to date. This highlights Saudi Arabia's continued reliance on imported food, as domestic agriculture is very limited in the desert climate.

Global Fertilizer Consumption Patterns:

Prompt: How have global patterns in fertilizer consumption (as a percentage of fertilizer production) changed over the past decade, as per the "Fertilizer consumption (% of fertilizer production)" data file?

Answer: Global fertilizer consumption as a percentage of production has increased over the past decade, indicating greater agricultural intensity and dependence on fertilizers. Developing regions like Sub-Saharan Africa and South Asia show particularly high and rising consumption ratios.

Trends in Net FDI:

Prompt: How have trends in net foreign direct investment (BoP, current US\$) evolved globally and in key economies over recent years, as indicated in the "Foreign direct investment, net (BoP, current US\$)" data file?

Answer: Net FDI trends show significant volatility in flows over recent years. While advanced economies like the US saw net outflows during 2015-2020, emerging economies like China and India attracted increasing inflows up until 2019 before declines in 2020.

FDI Inflows and Economic Growth:

Prompt: What is the relationship between net inflows of FDI as a percentage of GDP and the economic growth of recipient countries, based on the "Foreign direct investment, net inflows (% of GDP)" file?

Answer: There does not appear to be a clear correlation between net FDI inflows as percentage of GDP and economic growth rates of recipient countries. While some major FDI recipients have seen robust GDP growth, other advanced economies have had modest growth despite significant FDI inflows.

Analysis of FDI Outflows:

Prompt: How do the outflows of FDI (BoP, current US\$) reflect the investment strategies and economic priorities of the source countries, as shown in the "Foreign direct investment, net outflows (BoP, current US\$)" data file?

Answer: The rising FDI outflows from countries like China and India reflect their growing overseas investments and economic influence. For advanced economies like the US, changes in net outflows reflect fluctuations in overseas investments as well as returns/divestments back to the US.

Comparison of FDI Inflows and Outflows:

Prompt: How do the patterns of FDI inflows and outflows differ among developed and developing nations, and what implications do these patterns have for global economic balance?

Answer: Emerging economies have generally attracted increasing FDI inflows while also beginning to make greater overseas investments in recent years. Advanced economies continue to be the dominant source of FDI outflows globally.

Impact of Fertilizer Consumption on Agricultural Output:

Prompt: What correlations can be drawn between the percentage of fertilizer consumption (relative to production) and the agricultural output or productivity in various countries, as indicated in the "Fertilizer consumption (% of fertilizer production)" data file?

Answer: The high fertilizer consumption ratios in many developing countries underscore the dependence of their agricultural sectors on fertilizers to boost yields. However, consumption ratios alone do not demonstrate a direct correlation with productivity without considering other factors like acreage under cultivation, irrigation, mechanization etc.