Predicting the effect of U.S. debt burden on the interest rates.

Problem statement: Can we predict federal interest rates 2025 based on macroeconomic factors and rising US debt?

Context:

In this project, I would like to forecast the federal interest rate in the USA. The federal rates depend on many factors, such as unemployment, GDP growth, and US dollar rates. However, US debt has been rising for years and has been affecting macroeconomic factors for a long period. Therefore, I want to incorporate US public debt and budget deficit into the analysis to see if they are features that have an effect.

Constraints:

US debt could be a confounding variable that directly affects unemployment, GDP growth, US dollar rates, and, hence, interest rates. Public debt has rarely decreased, so there is no room to analyze fluctuations. However, the rate it has been increasing recently, which could tell a significant story.

Stakeholders:

- US Congress
- US Senate
- Federal Reserve of the United States

Criteria for success:

A model that can predict federal interest rates well based on past macroeconomic data. Clear conclusion about whether US debt significantly impacts federal interest rates.

Scope:

The analysis is limited to the USA. A time series analysis will probably be needed to study historical data about macroeconomic factors.

Key data sources:

The data are available at https://fred.stlouisfed.org/

The data for this study, crucial for understanding the impact of US debt on the federal interest rates, are sourced from a reliable and widely used database: https://fred.stlouisfed.org/. This database has been providing comprehensive data since the 1920s, and I have verified the availability of data for the features mentioned above, ensuring the reliability of our research.