# Consumer Sentiment Forecasting Project

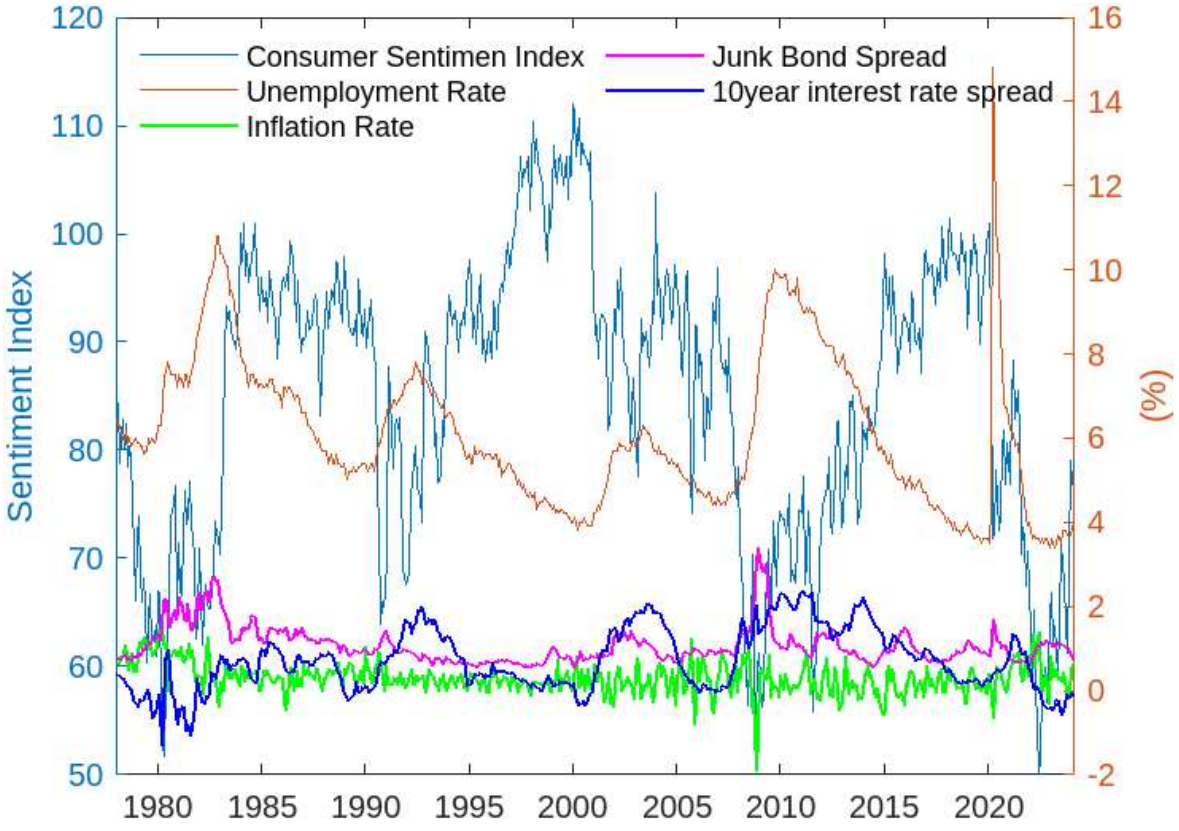
Main Findings and Results

# About the project

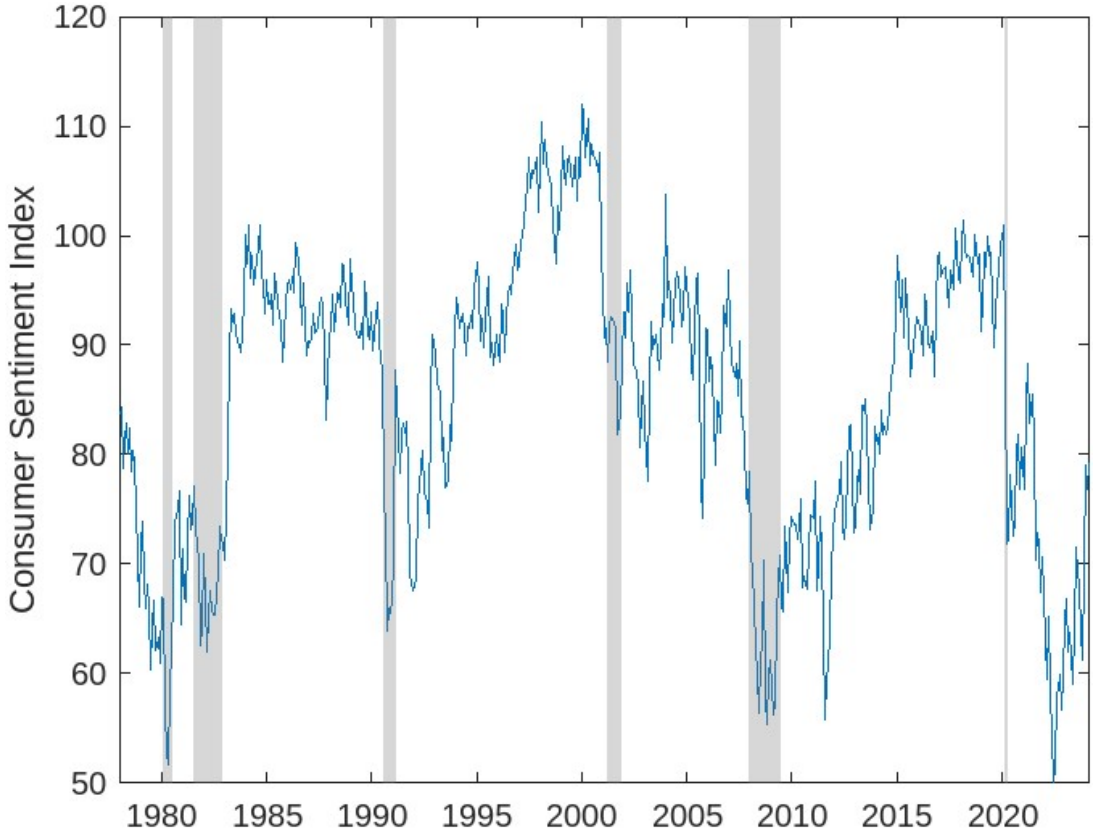
We aimed to explore the Consumer Sentiment Index and forecast its trajectory for a 12-month period starting from April 2024. The project consists of the following analysis:

- Exploratory Data Analysis of Consumer Sentiment Index and explanatory variables.
- Statistical tests, such as Unit root and Granger Causality tests on six potential causal variables.
- Forecasting model selection considering the predictive effect of 12 lags of all indicators and the lowest Akaike Information Criterion (AIC) score.
- The final forecast model includes six lags of the Consumer Sentiment Index, one lag of the inflation rate, and five lags of the high-yield bond spread.

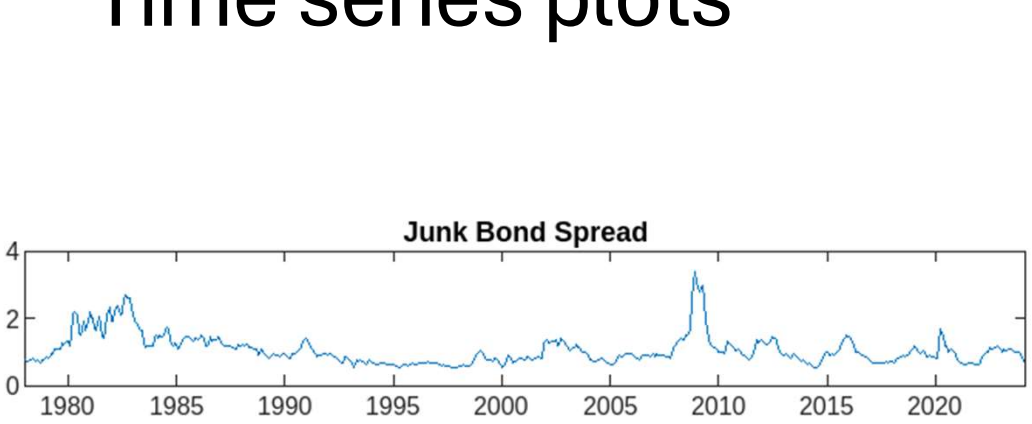
# Consumer Sentiment Index and Explanatory Variables

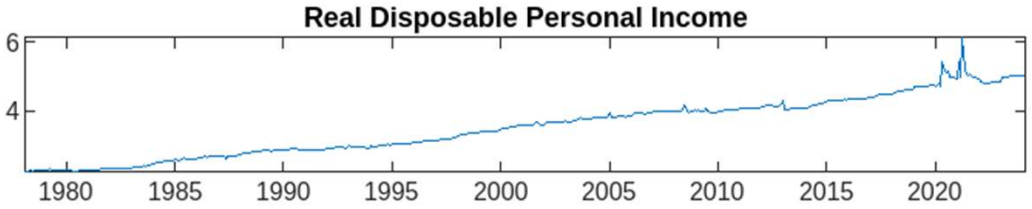


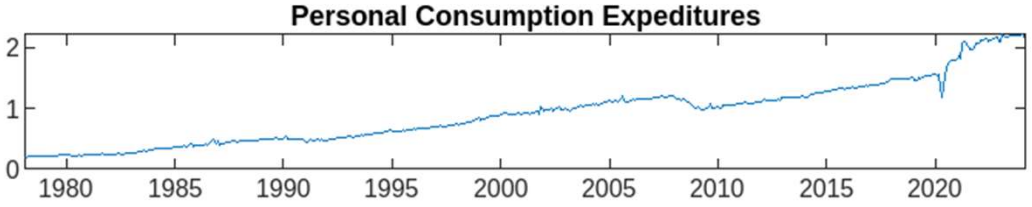
# Consumer Sentiment Index and Major Recessions

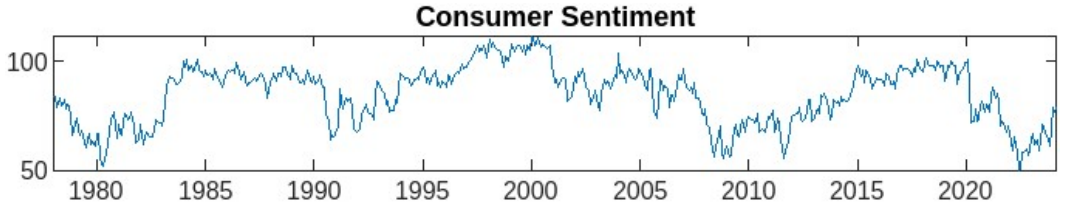


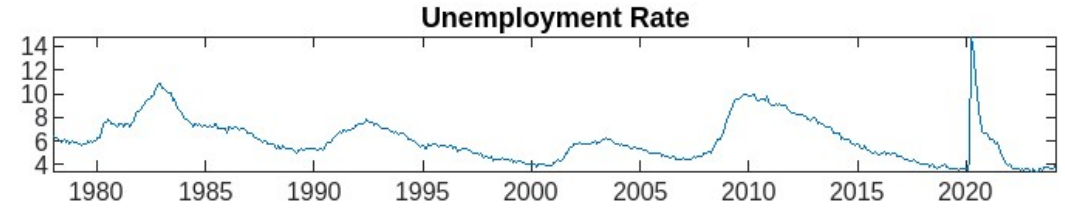
# Time series plots

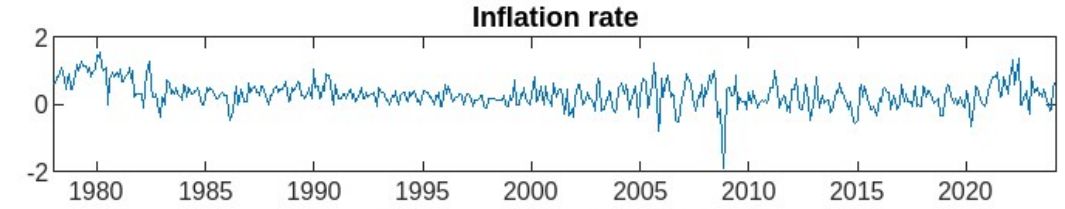


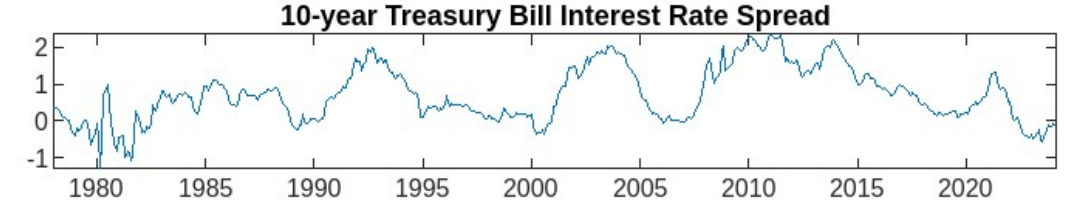



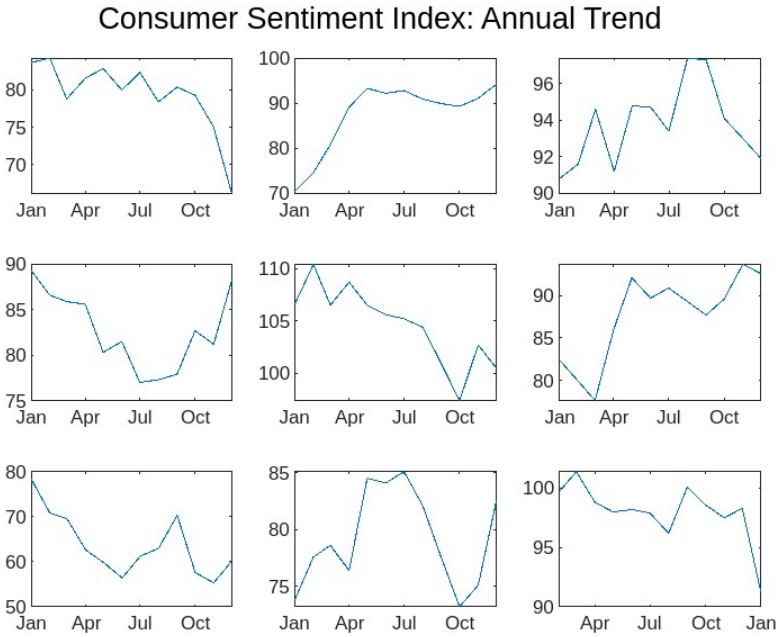



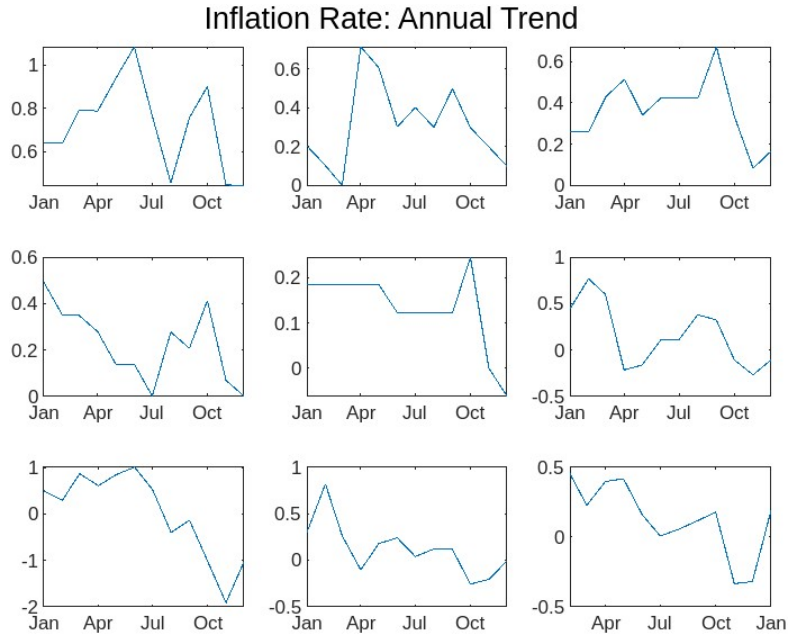



# Seasonality check



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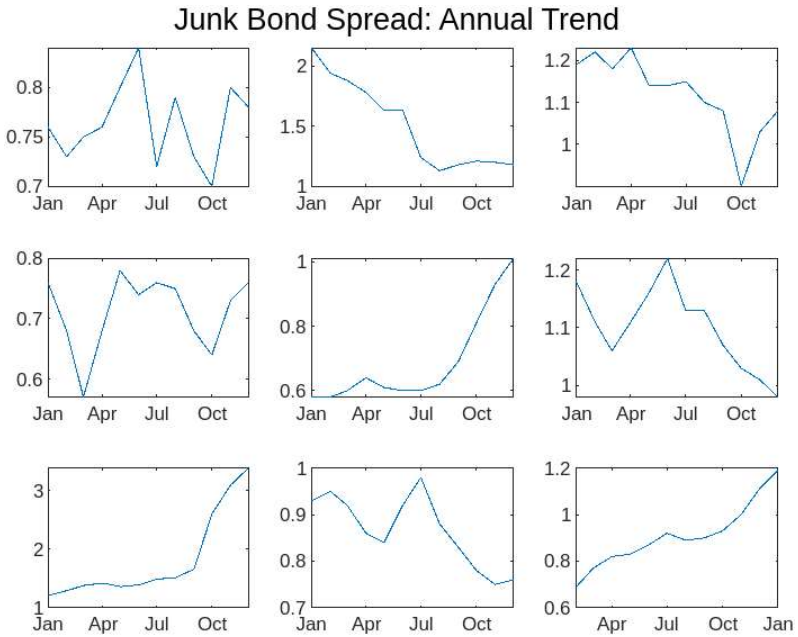
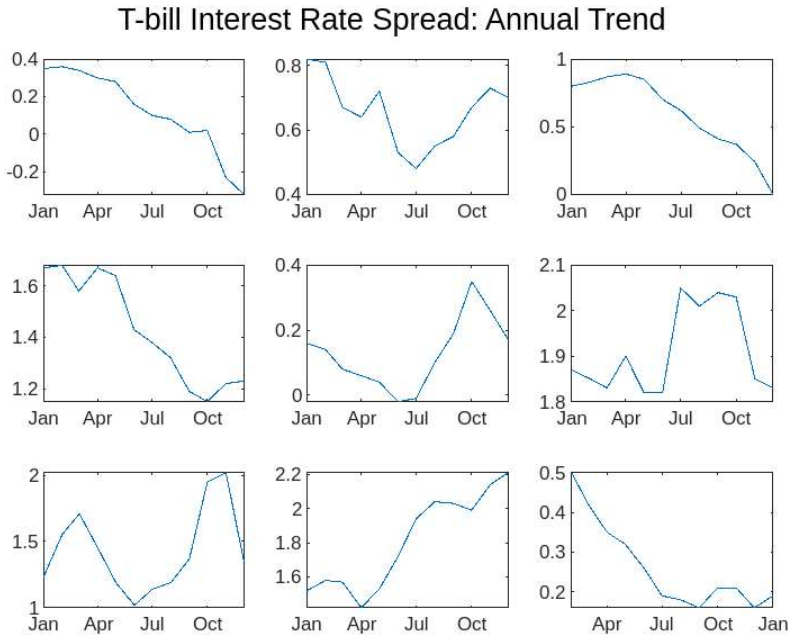


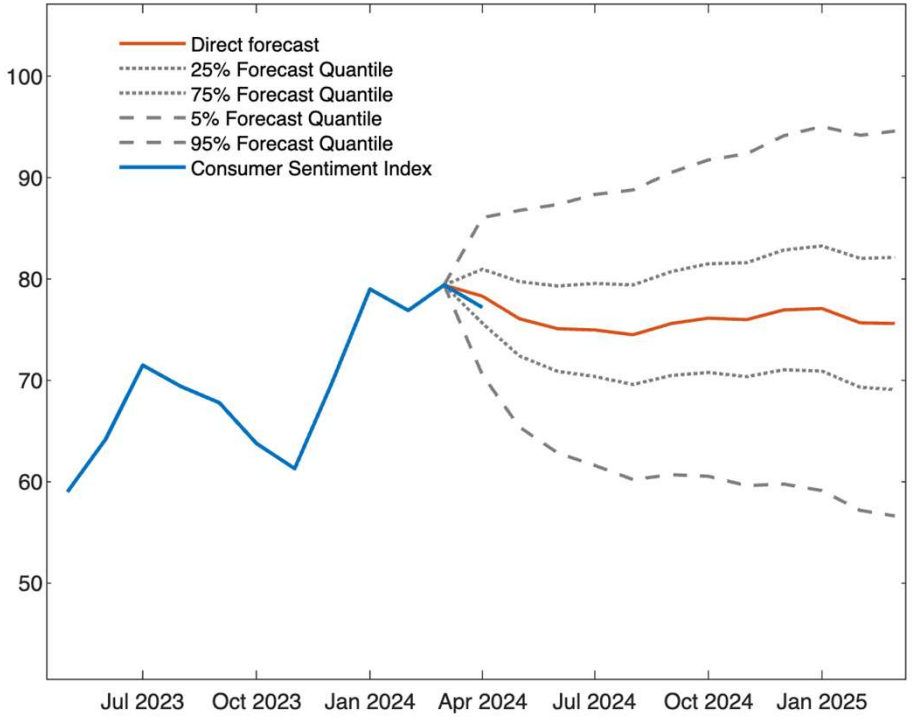



# Main findings and result

- By this project we revealed insights into consumer expectation formation, including the tendency of consumer sentiment to persist over the short run and the impact of high inflation and high-yield spread on sentiment.
- According to the forecast, overall tendency of consumer expectations is likely to decrease over the next four months and then increase after July 2024.
- Forecast interval indicates the Consumer Sentiment Index is expected to fluctuate between 69.1 and 83.3 with 50% confidence until March 2025.

# Forecast for 12-month period from April 2024

# Forecast Evaluation for April 2024




- Consumer Sentiment Index declined and reached 77.2 as of April 2024.
- The CSI realization for April falls within our 50% forecast interval and has forecast error of the point forecast is -1.1 from point forecast.
- The accuracy of our one-step ahead forecast proves strong predictive power of leading variables.