

Prediction of the Federal Funds Target Rate

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Business Question

- How well can we predict changes in the Federal Funds Target Rate (FFTR) using past performance and macroeconomic indicators?

Criteria

- Ability of model to predict FFTR 1, 2, and 3 months out.
- Avoid predicting sub zero rate

Data Sources

- Data was sourced from FRED (Federal Reserve Economic Database) which is maintained by the Federal Reserve Bank of St. Louis.
- Data was limited to data from 1987 to 2024.



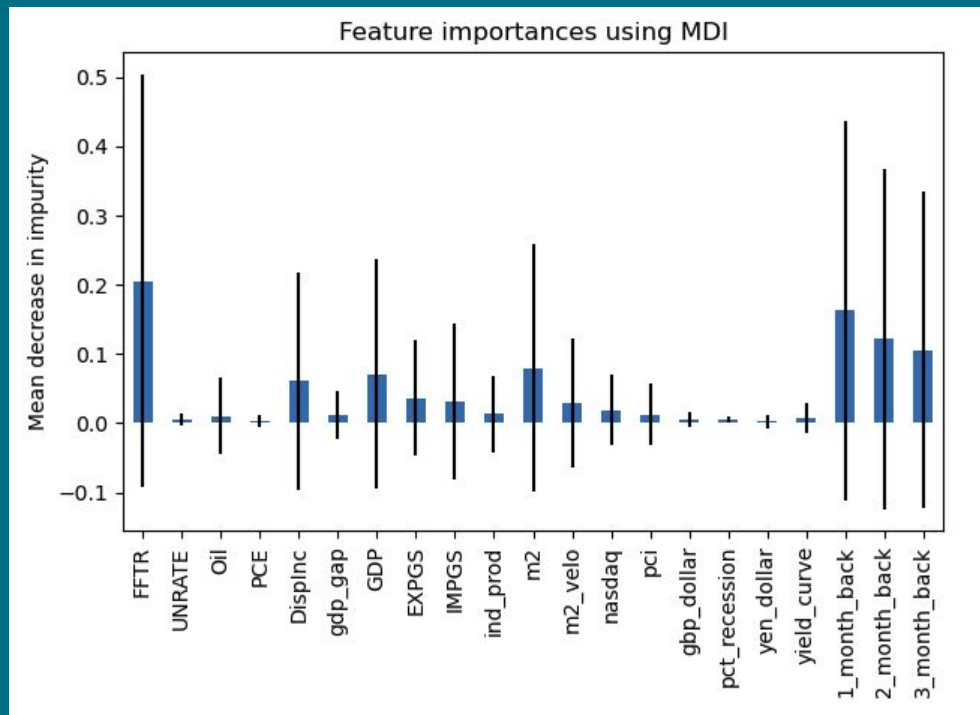
What is the FFTR

- FFTR is the interest rate that the Federal Open Markets Committee sets for banks to borrow from the FED.
- Dictates prime interest rate for US economy.

The Taylor Rule

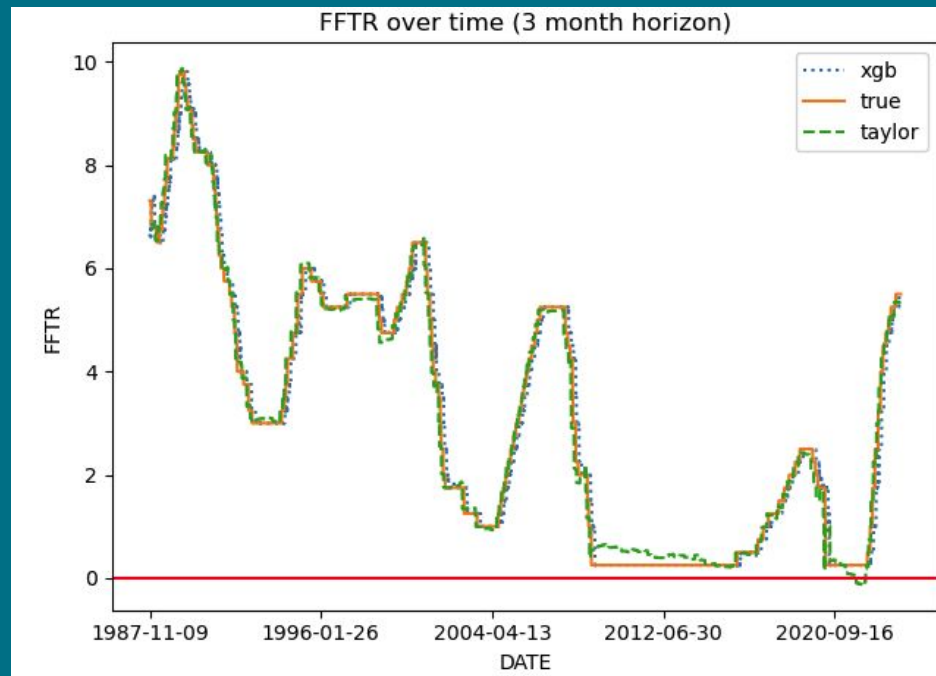
- Equation derived in the 1990s by economists that is a framework for central banks to set interest rates
- Only determinants were the current rate, the inflation rate, and the gdp gap
- Defined as $r = p + .5y + .5(p-2) + 2$
- Where r is the nominal interest rate, y is the inflation rate, and p is the % gdp gap

Included Features



Results

- Linreg taylor: MAE .31, acc 96.89%
- XGB: MAE .011, acc 99.96%
- Important to note taylor rule violating ZLB



Thank you!
Questions?