



Dollar Index futures forecasting

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The U.S. Dollar Index (USDX)

Dollar Index is a leading benchmark for the international value of the US dollar and the world's most widely recognized traded currency index. It represents the value of the US dollar relative to a basket of world currencies.

- Euro (EUR), 57.6% weight
- Japanese Yen (JPY), 13.6% weight
- British Pound (GBP), 11.9% weight
- Canadian Dollar (CAD), 9.1% weight
- Swedish Krona (SEK), 4.2% weight
- Swiss Franc (CHF), 3.6% weight

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The goal of the project: forecasting Dollar Index daily return

Data: 12 years of daily quotes, 3058 observations, 64 features

Predictors classes: currency exchange rates, major world indices
futures, commodities futures, government bond
prices and yields, banks interest rates

Metrics of success: on top of results from modeling simulate trade

- “Buy or sell” strategy
- Only “Buy” strategy
- Only “Sell” strategy

identify the most important features

The U.S. Dollar Index (USDIX)

Dollar/Dow Jones



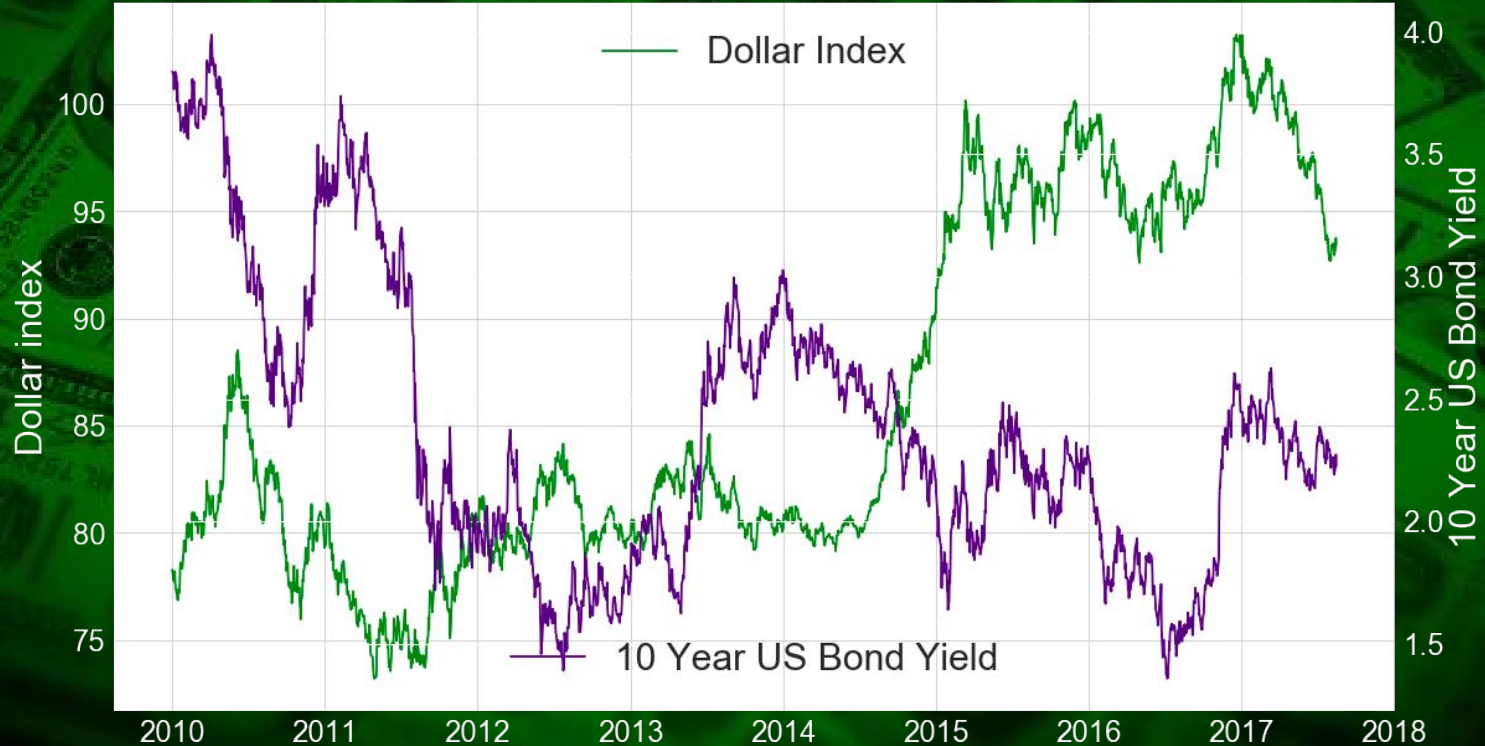
The U.S. Dollar Index (USDIX)

Dollar/Gold

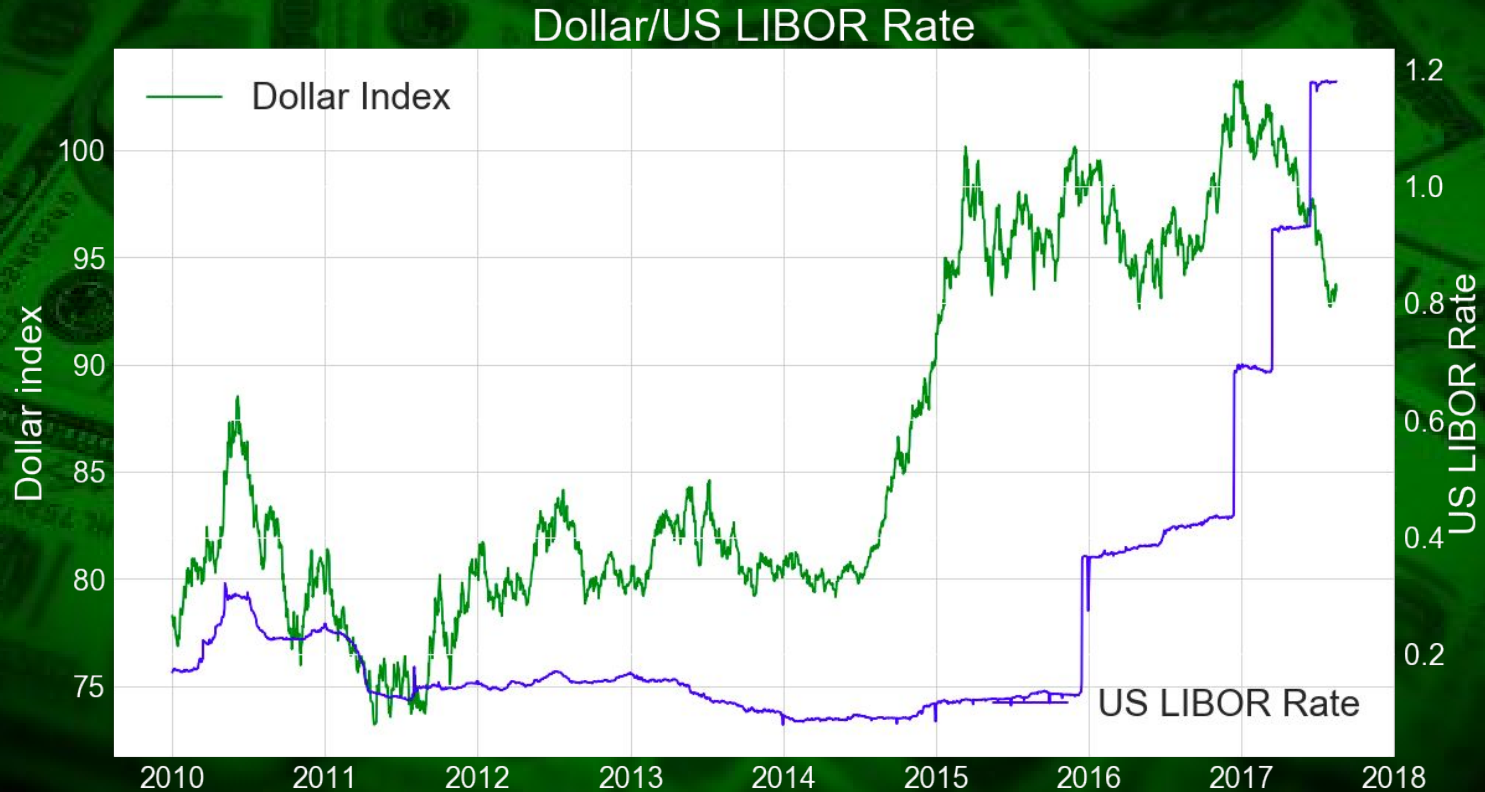


The U.S. Dollar Index (USDIX)

Dollar/10 Year US Bond Yield



The U.S. Dollar Index (USDIX)



U.S. Dollar Index correlation



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Summary:

- 10 different predicting models
- The best performing model: Decision Tree Classifier
- Strategy performance over 2 years period:
 - “Buy or sell” strategy: 8.5%
 - Only “Buy” strategy: 2.4%
 - Only “Sell” strategy: 7.2%
- The most important features:
 - 10 Year France Bond yield
 - UK effective exchange rate
 - UK FTSE index
 - 30 Years US Bond Futures
 - EONIA Rate