MODELING ON BANK STOCKS

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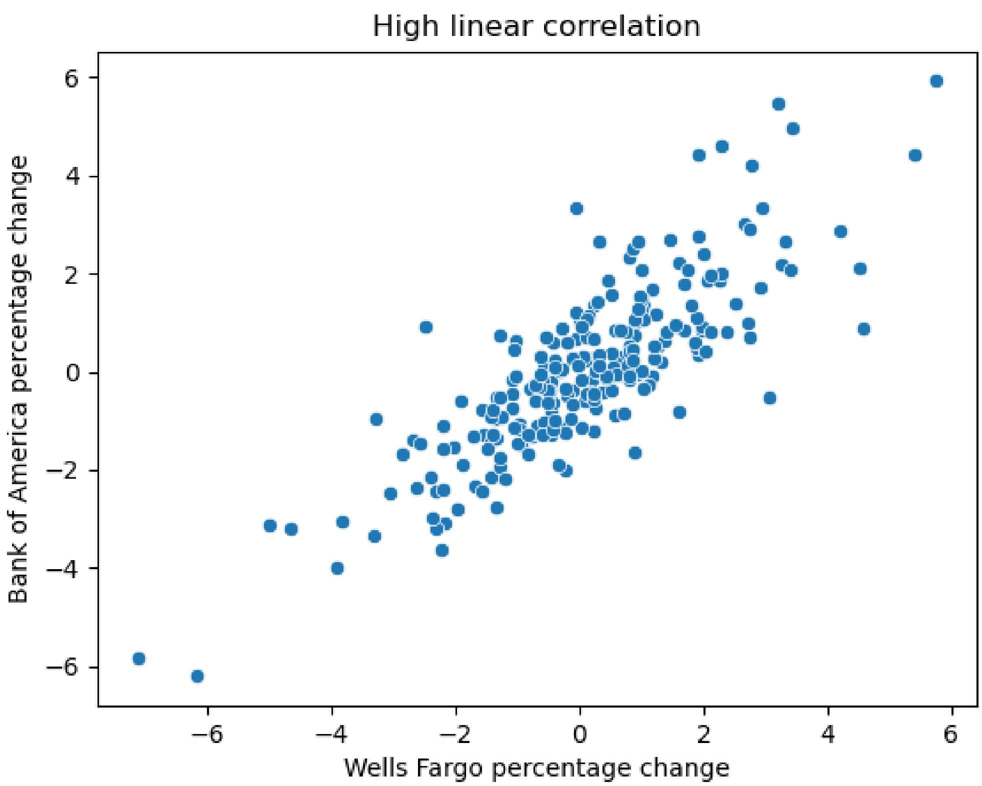
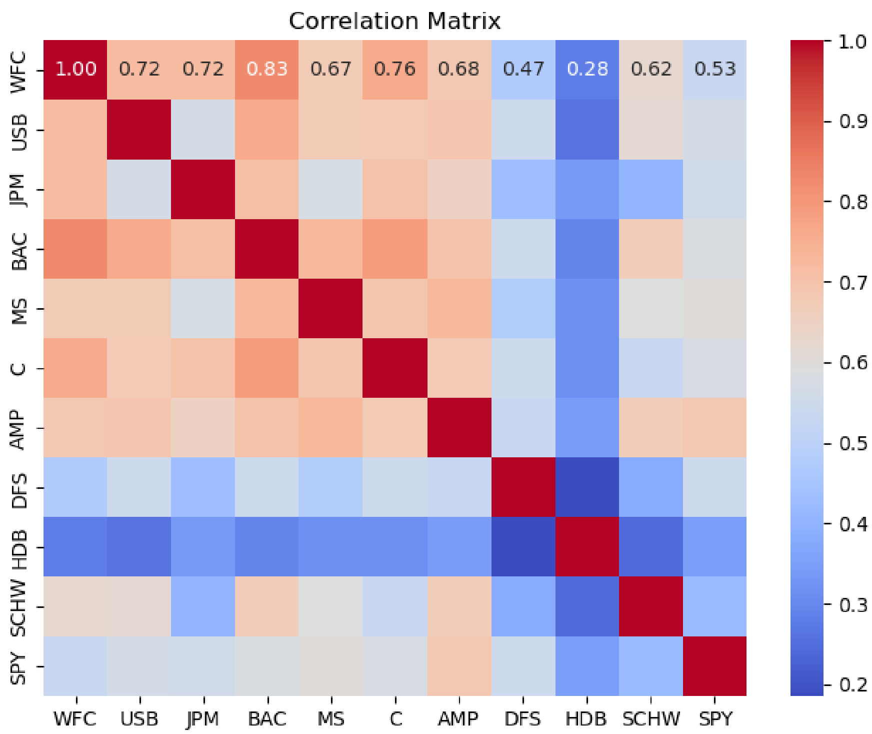
0.1. **EDA.** Finance stocks chosen: `'WFC'`, `'USB'`, `'JPM'`, `'BAC'`, `'MS'`, `'C'`, `'AMP'`, `'DFS'`, `'HDB'`, `'SCHW'`, `'SPY'`.

Linear dependence: Bank of America vs Wells Fargo daily change in stock price.

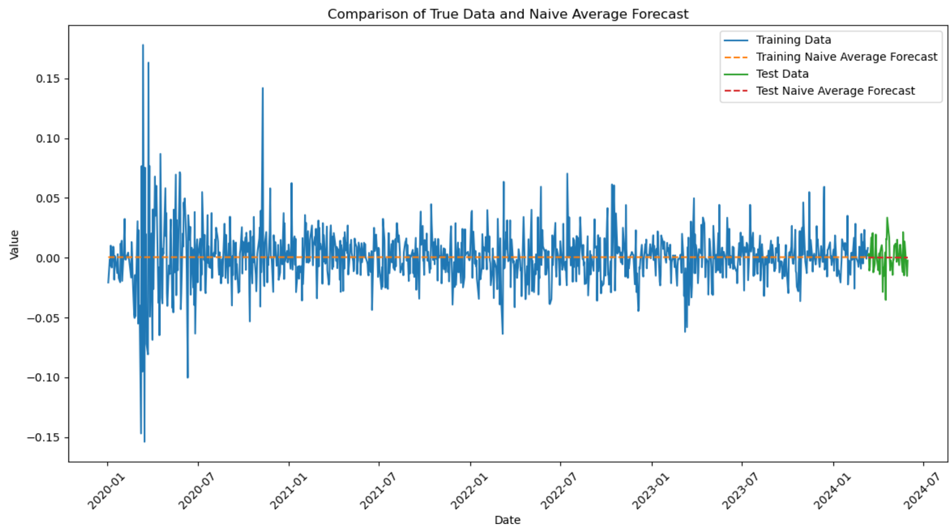


Correlation matrix:

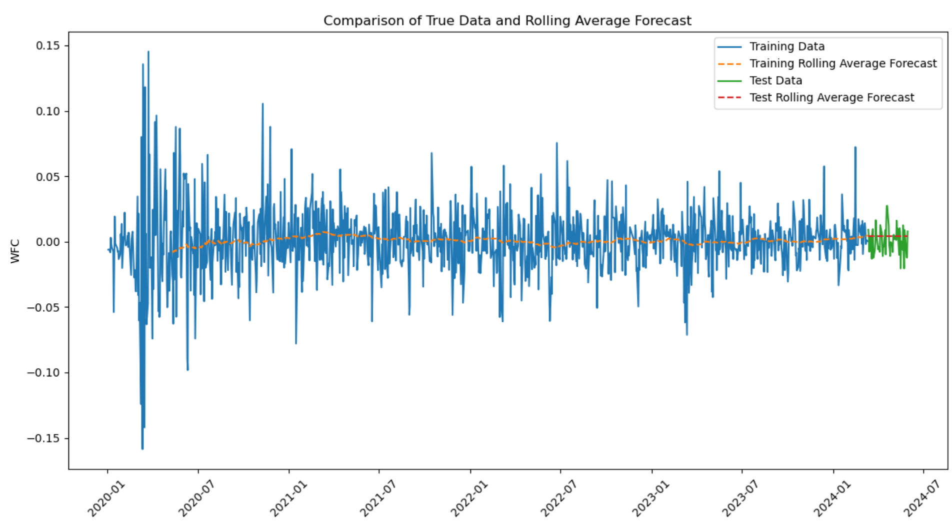


0.2. **Stocks.** The following banks were chosen based on EDA.
Banks stock tickers: 'WFC', 'USB', 'JPM', 'BAC', 'MS'.
Predict: 'WFC', Wells Fargo Company.

0.3. **Naive time series model.** Errors:
Training Mean Absolute Error (MAE): 0.016066193202622044
Training Mean Squared Error (MSE): 0.0005631037307250623
Test Mean Absolute Error (MAE): 0.010529256996680853
Test Mean Squared Error (MSE): 0.0001717079429197699

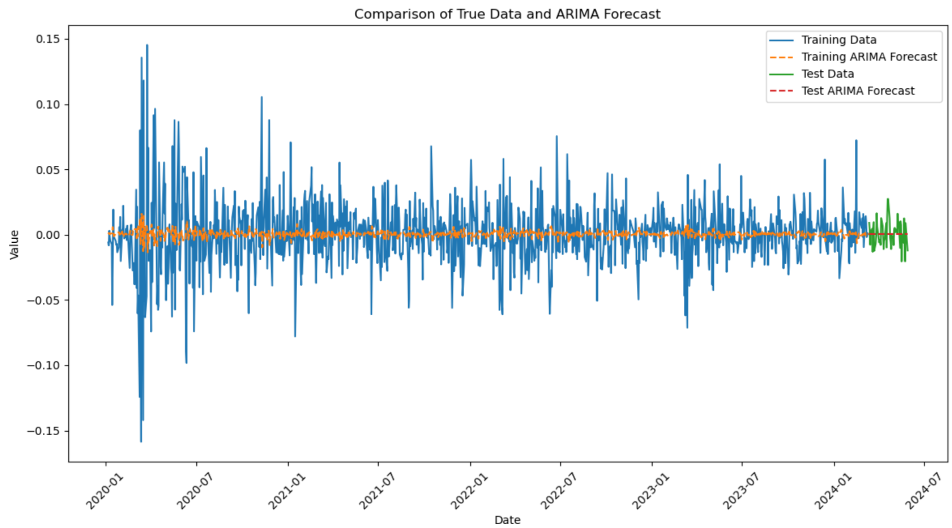


0.4. **Rolling average.** Errors.
Training Mean Absolute Error (MAE): 0.016076632987941257
Training Mean Squared Error (MSE): 0.0004872902191864747
Training Mean Absolute Percentage Error (MAPE): inf%
Test Mean Absolute Error (MAE): 0.008871912698458885
Test Mean Squared Error (MSE): 0.00011969151602763566
Test Mean Absolute Percentage Error (MAPE): 165.10187163226527%



0.5. **ARIMA.** Errors.
Training Mean Absolute Error (MAE): 0.01766751950260736

Training Mean Squared Error (MSE): 0.0006519739081003335
Test Mean Absolute Error (MAE): 0.008463607322557413
Test Mean Squared Error (MSE): 0.00010672694878422324



0.6. **Conclusion.** There does not appear to be any significant impact from changing models.