



# PRICE PREDICTION

for the Stock Market



# CHOSEN STOCKS AND ETFs

43 so far

- STOCKS FROM FINANCIAL STATEMENTS DATASET
- DIVIDEND STOCKS
- DECLINING STOCKS
- MAIN MARKETS ETFs

STATUS UPDATE

# RNN

PRICES ONLY



# RNN

PRICES + FINANCIAL STATEMENTS



# LSTM

PRICES ONLY



# LSTM

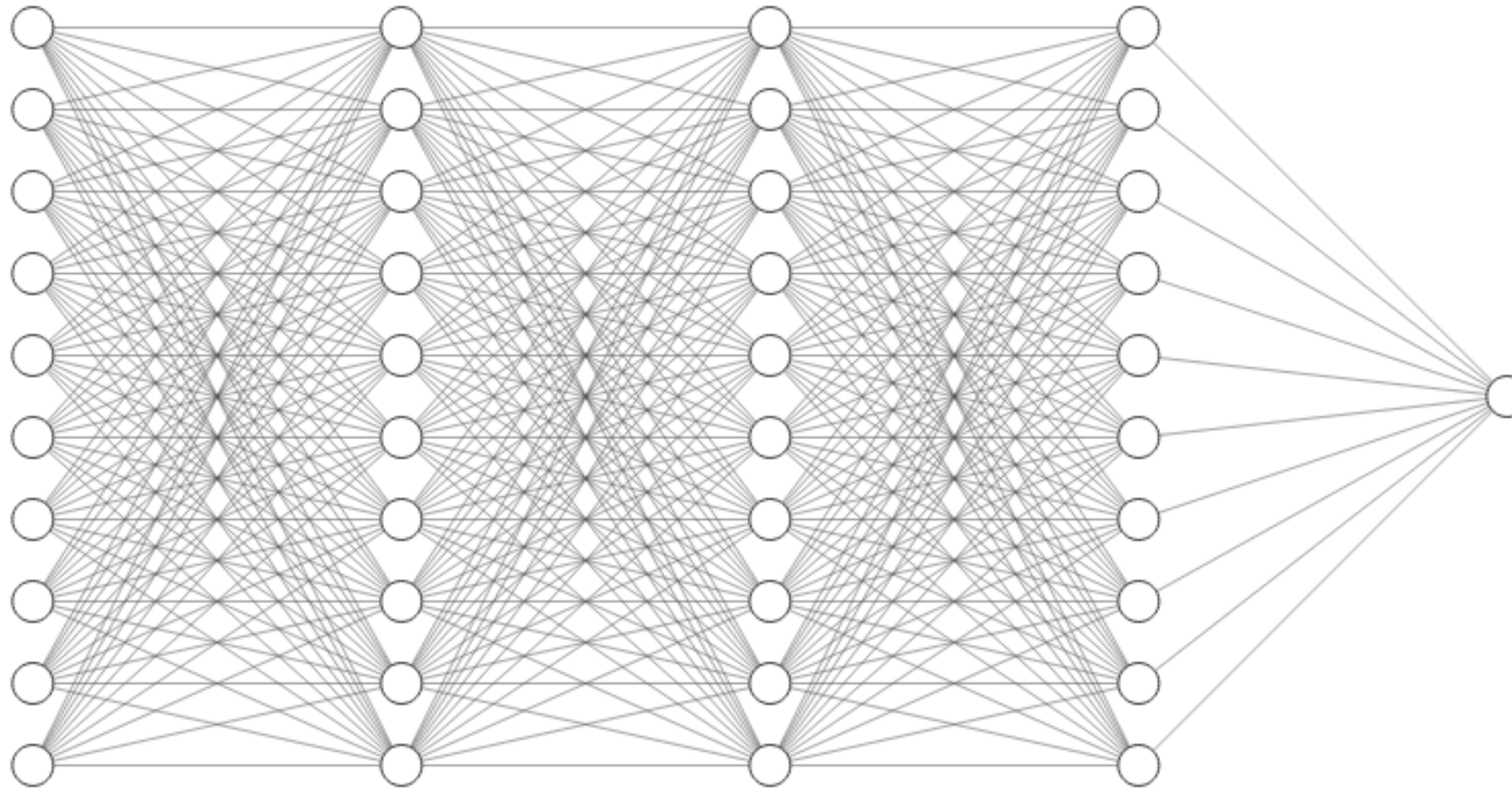
PRICES + FINANCIAL STATEMENTS



## RNN MODEL ON PRICES ONLY

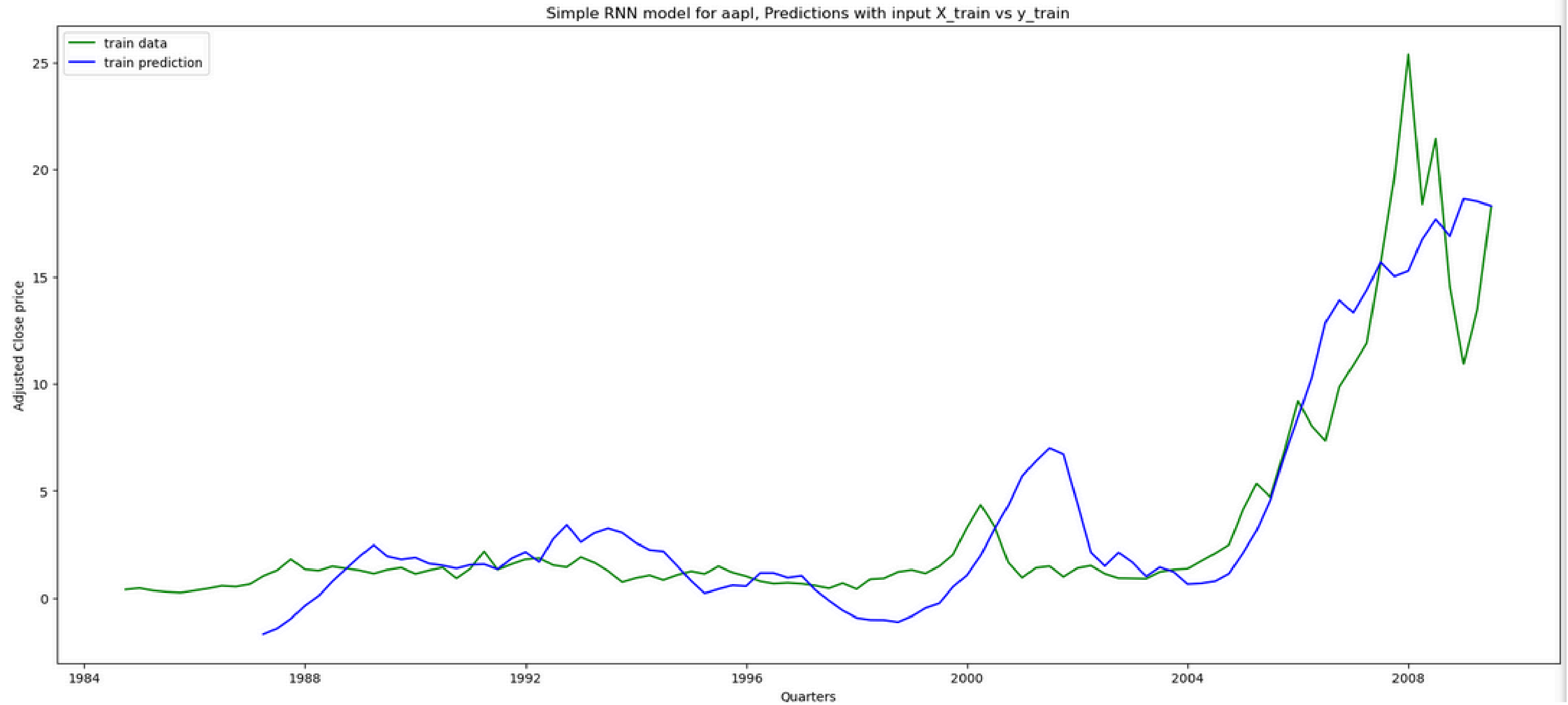
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- CONVERTED DAILY TO QUARTERLY
- 75%/25% TRAIN TEST SPLIT
- APPLIED MINMAX SCALER
- LOOKBACK OF 10
- THE MODEL ITSELF
  - 4 LAYERS OF SIMPLE RNN UNITS EQUAL IN NUMBER TO LOOKBACK
  - DROPOUT=0.2
  - 50 EPOCHS



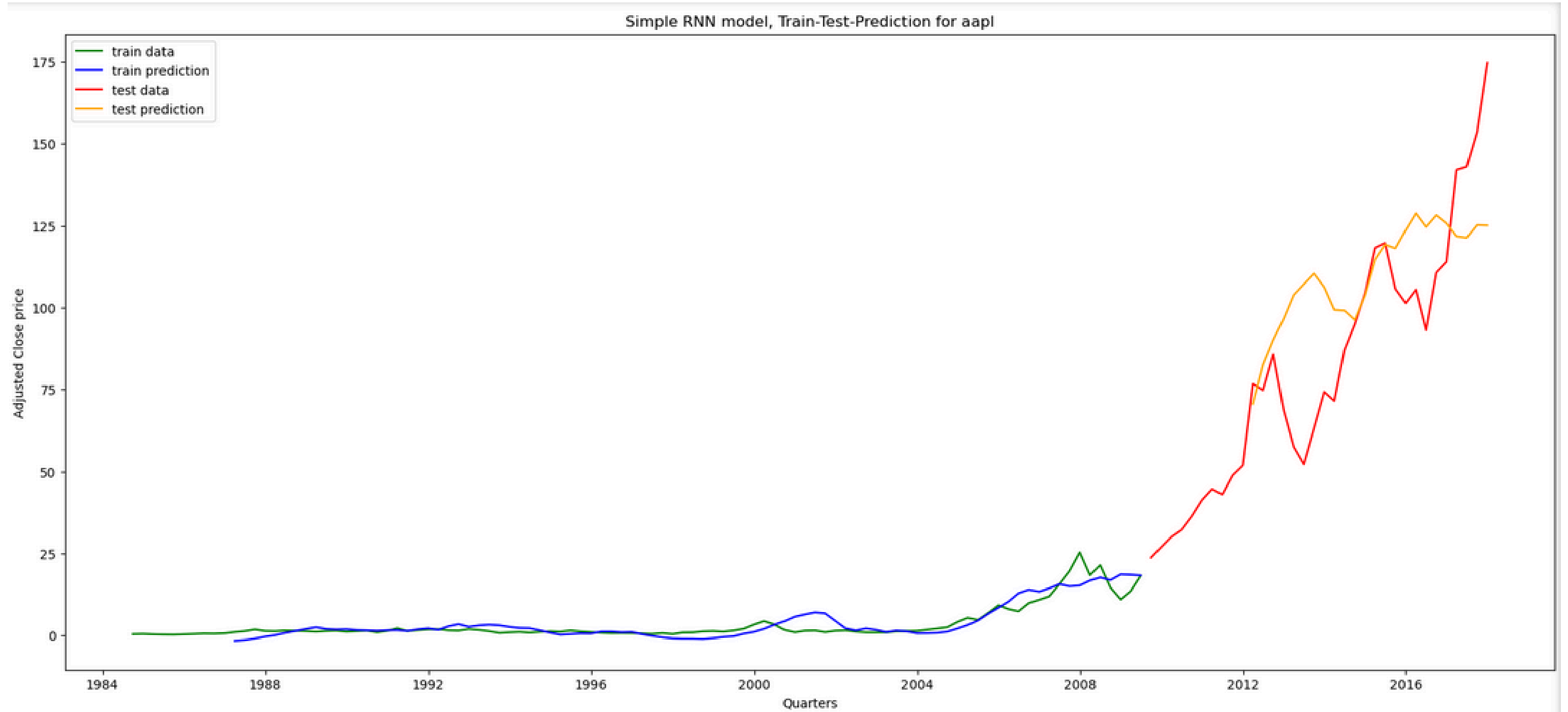
## TRAIN DATA AND PREDICTION FOR AAPL

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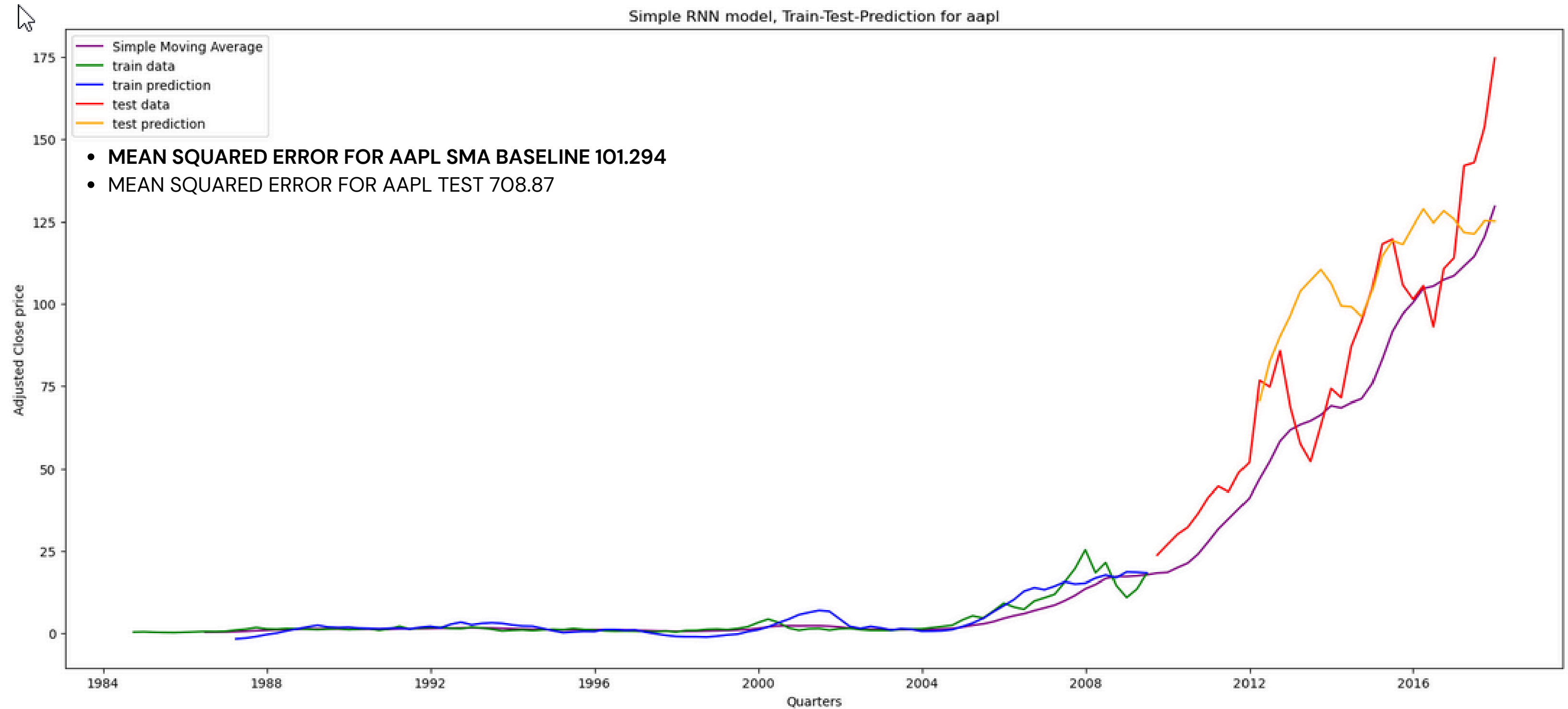


## TRAIN AND TEST DATA AND PREDICTION FOR AAPL

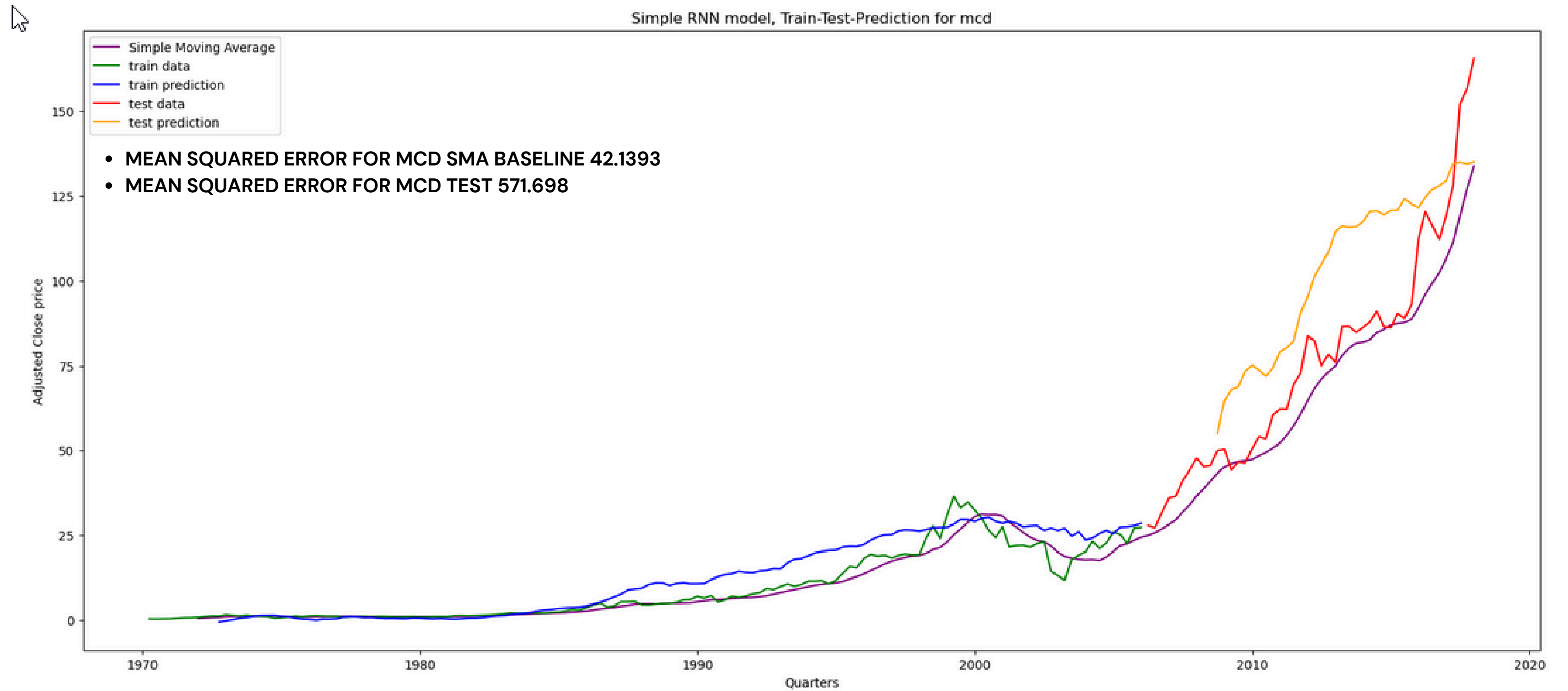
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## TRAIN AND TEST DATA AND PREDICTION FOR AAPL WITH SMA

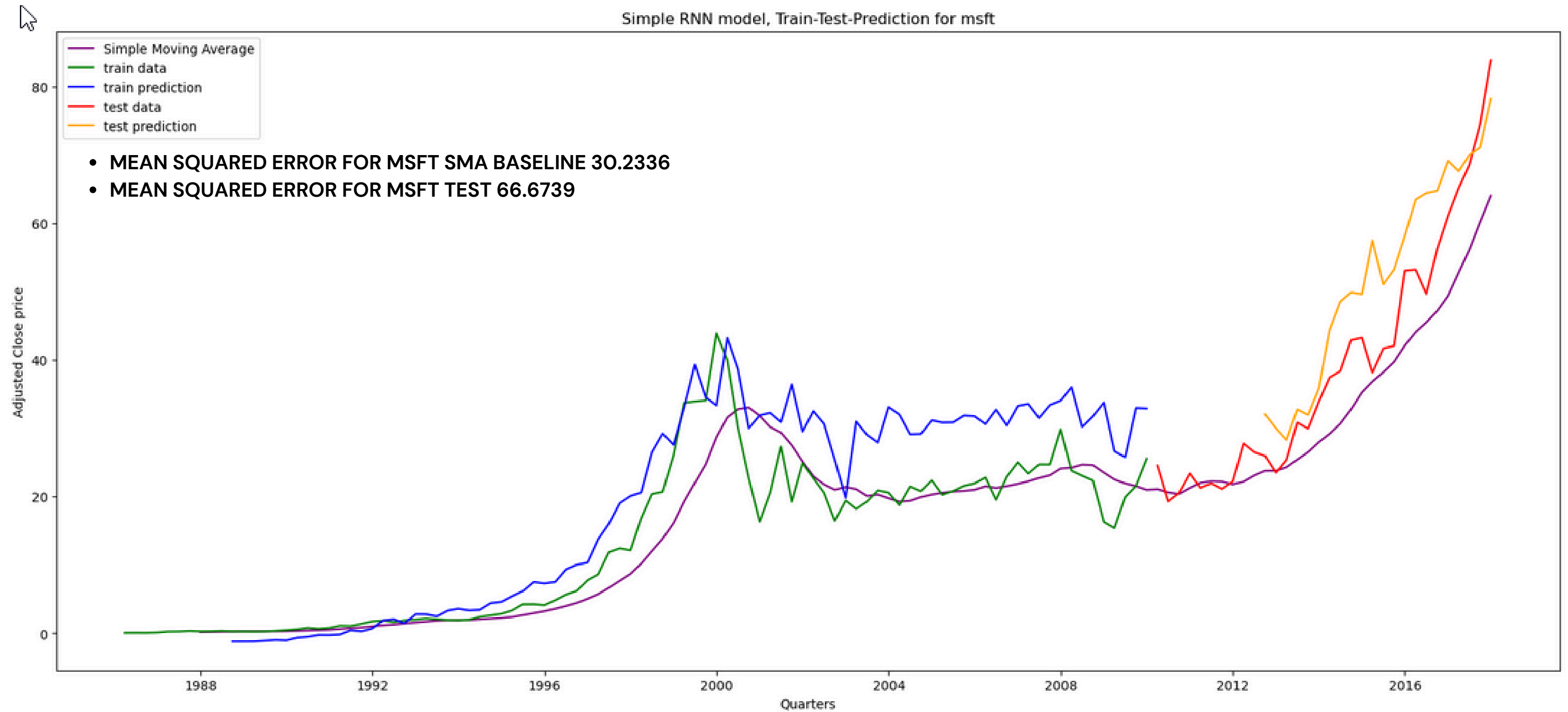


## TRAIN AND TEST DATA AND PREDICTION FOR MCD WITH SMA





## TRAIN AND TEST DATA AND PREDICTION FOR MSFT WITH SMA



# NEXT STEPS

- ~~BUILD SMA FOR ADJUSTED CLOSING PRICE~~
- ~~INTEGRATE FINANCIAL METRICS FROM THE FINANCIAL STATEMENT DATA~~
- ~~TRAIN RNN MODEL FOR TIME SERIES FORECASTING FOR PRICES ONLY~~
- TRAIN LSTM MODEL FOR TIME SERIES FORECASTING FOR PRICES ONLY
- TRAIN RNN AND LSTM MODELS FOR TIME SERIES FORECASTING FOR PRICES AND FINANCIAL STATEMENTS
- ASSESS MODEL ACCURACY USING MAE OR OTHER METHODS OR VS. BENCHMARK SMA, FOCUSING ON PREDICTION FOR 3 MONTHS OR LONGER

# EXPECTED RESULTS

- PERFORMANCE COMPARISON OF 2 DIFFERENT MODELS OVER GROUPS OF STOCKS AND ETFs
- HIGHLIGHT HOW INTEGRATING TIME SERIES AND FINANCIAL STATEMENTS CAN ENHANCE PREDICTIVE CAPABILITIES

# GET IN TOUCH

Thank You for Attention

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