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Comparative Analysis of Stock Prices Using Python

Publicly Traded Financial Company: Apple Inc. (AAPL)

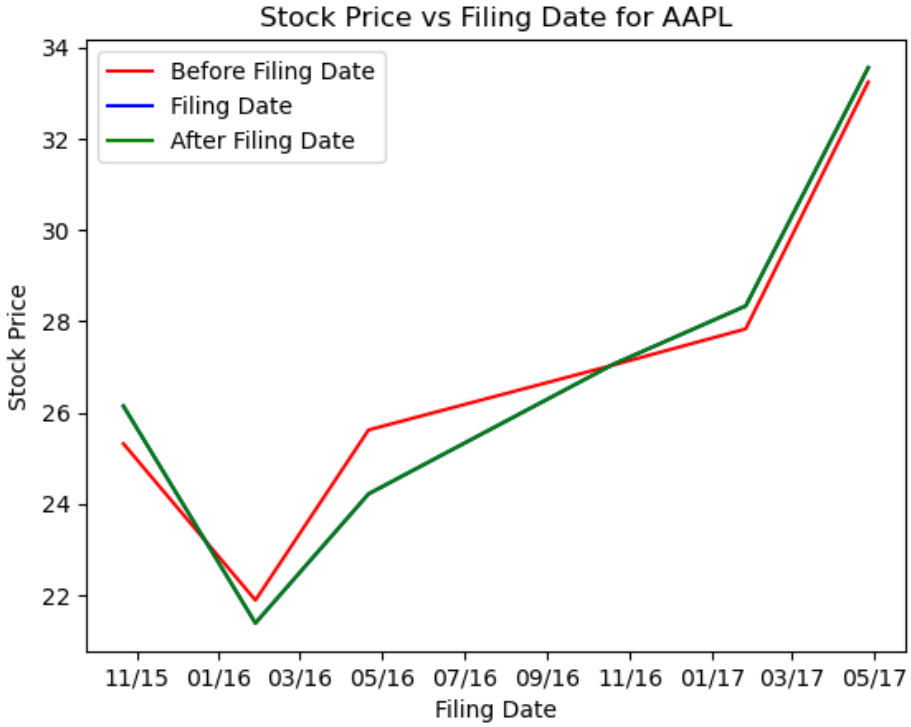
Filing Type: I chose to use Form 10-Q filings because I wanted more data points (four quarterly vs. one annually) since the time frame of the filing dates is only two years.

Data Collection:

Filings were pulled from the U.S. Securities and Exchange Commission EDGAR database using an API call in Python. A data frame was created by using the yfinance library to pull historical data from Yahoo Finance and matching stock prices on the date of filing and one week before and after the date of filing.

index	filingDate	stock_price_before	stock_price	stock_price_after
50	2017-04-27	33.241669	33.556705	33.556709
90	2017-01-26	27.832750	28.334661	28.334660
120	2016-10-20	27.043283	27.061773	27.061773
217	2016-04-21	25.619513	24.218555	24.218555
247	2016-01-28	21.889788	21.387430	21.387430
281	2015-10-22	25.318325	26.142195	26.142193

Graphical Analysis:



Analysis and Interpretation:

Two observations from the graphical analysis are that stock prices typically change (either increase or decrease) after the filing date and stock prices one week after the filing date don't change much. It looks like the year of the filing also affects the stock price, in this case. In 2016, the stock price before the filing date was more than the stock price after the filing date. In 2015 and 2017, the stock price before the filing date was less than the stock price after the filing date. One external factor could be market expectations. In 2015 and 2017, the stock price could have increased after the filings because Apple's performance beat expectations and, in 2016, the stock price could have decreased after the filings because it performed lower than expectations.