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Project Summary

We set out to observe correlations between presidential elections and the stock market over the past 20 years.

We began with one question in mind: **do presidential election outcomes correlate with stock market performance?**

The stock market is affected by so many factors, and we wanted to see if perhaps presidential election outcomes are a factor in market performance.

As we analyzed our data, discovered another perspective and another question: **does market performance correlate with presidential election outcomes?**

We did not find a correlation between presidential election outcomes and market performance following elections, but we did find a possible correlation between market performance prior to elections and election outcome.

Questions & Data

- We used a financial data library to pull data for the stock market as a whole, measured by the S&P 500 Index, and four S&P 500 sectors.
- We analyzed stock market performance during the three months leading up to presidential elections in the 21st century.
- We analyzed stock market performance during the three months after 21st century presidential elections.
- We asked our data:
 - Are there any correlations between market performance, both as a whole and within the four sectors, and presidential election outcomes?
 - What sectors gain and lose the most influence/focus after presidential elections?
 - Does market performance prior to an election affect the election outcome?

Data Cleanup & Exploration

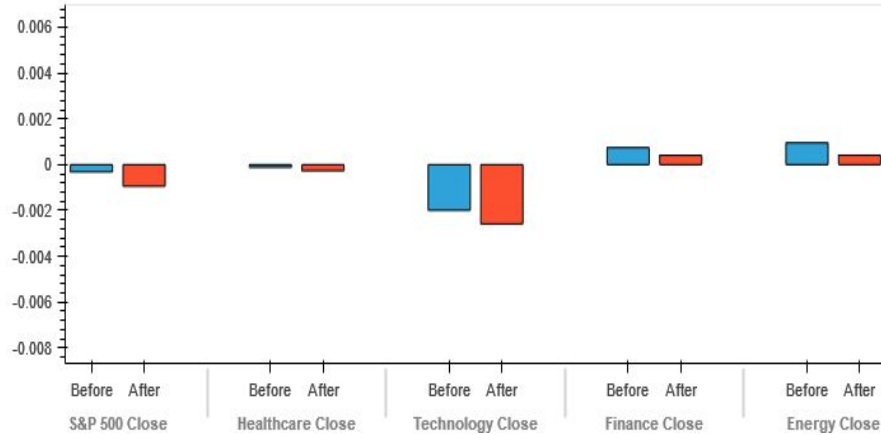
- We pulled stock market closing data from the Yahoo_fin Library
 - Energy Sector (XLE)
 - Finance Sector (XLF)
 - Technology Sector (XLK)
 - Healthcare Sector (XLV)
 - S&P 500 Index (SPY)
- We sliced the data and created sets for several time frames.
- We initially looked at the time period after the election and after inauguration. We could not see any meaningful relationships, so we kept slicing.
- We had planned on only looking at post-election market performance but became interested in pre-election market performance.
- We settled on data sets of closing figures for three months before each Presidential election and three months after each Presidential election.
- We initially did not have enough data points but found that three months gave us enough data to tell a story.

Data Analysis

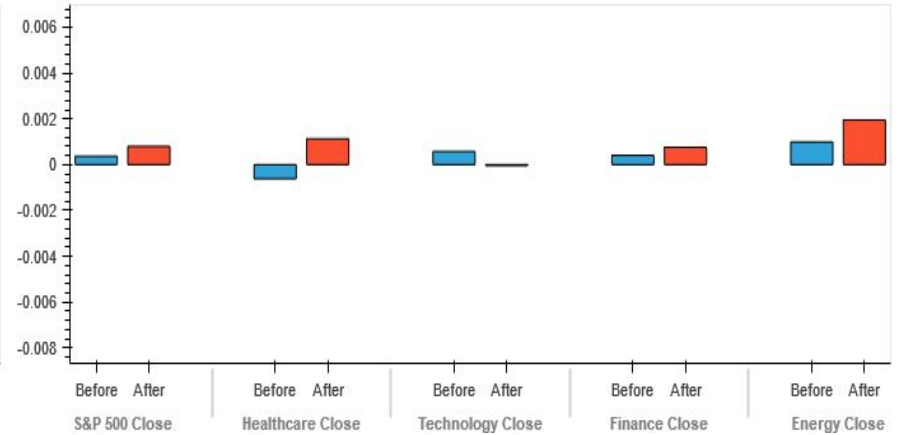
- We calculated daily returns based on closing prices of each S&P 500 sector in our list and the S&P 500 index.
- We calculated the mean daily returns.
- We calculated the standard deviation of the returns to see how volatile the market was during the time frames.
- We tested several visualization tools to get a feel for the story the data would tell.
- We settled on a bar chart showing the mean daily returns before and after each election.

2000 and 2004 Elections

Bush Mean Returns - Election 1

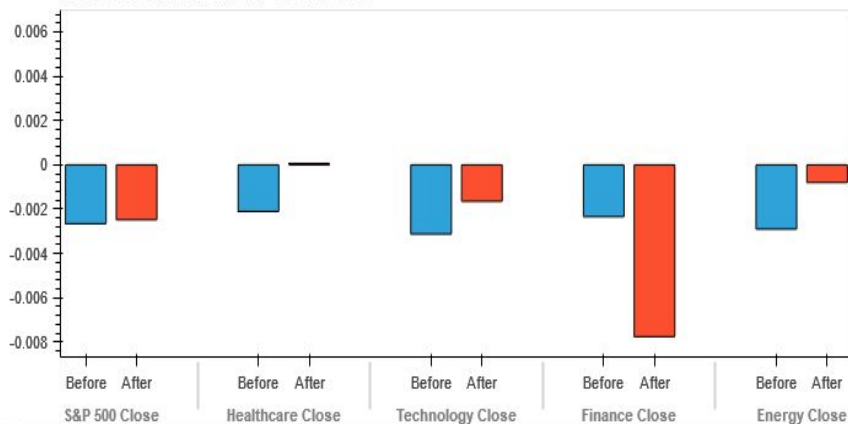


Bush Mean Returns - Election 2

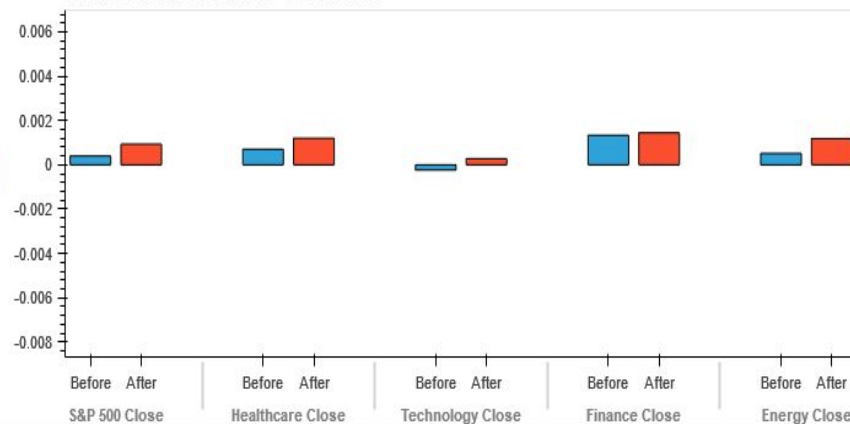


2008 and 2012 Elections

Obama Mean Returns - Election 1

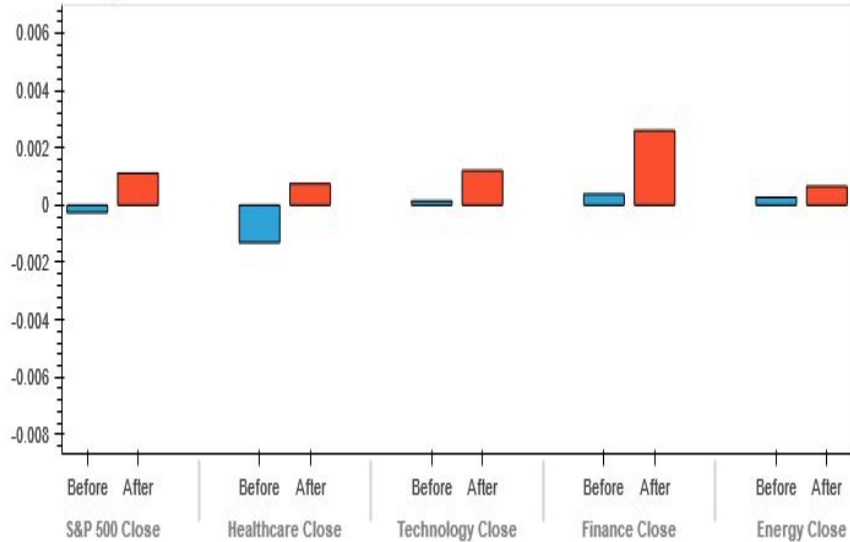


Obama Mean Returns - Election 2

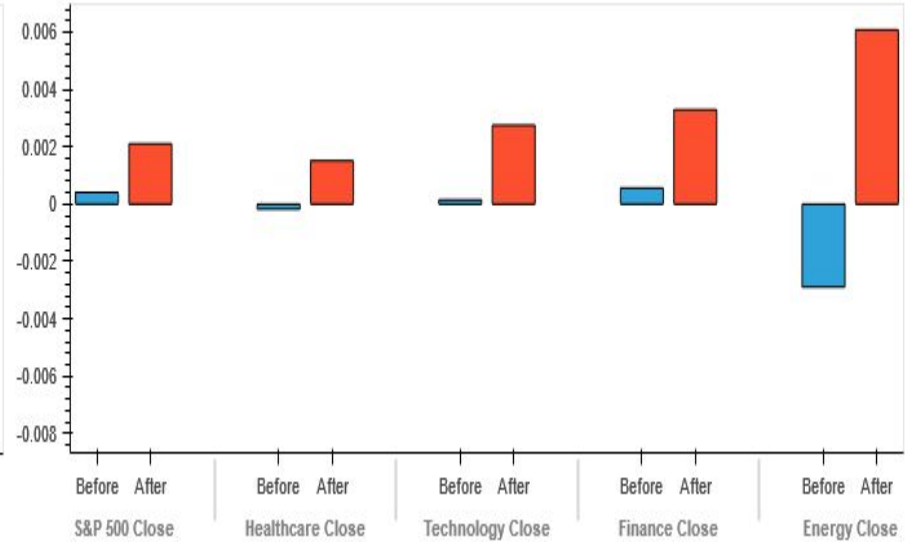


2016 and 2020 Elections

Trump Mean Returns - Election



Biden Mean Returns - Election



Postmortem

- Finding market data
 - We needed a way to pull market data for the past 20 years, and Alpaca did not let us go back that far, so we found the Yahoo_fin Library, which goes back very far and is easy to use in Python.
 - We needed a way to look at different market segments, and found that the S&P 500 sectors worked perfectly.
- Narrowing and widening the scope
 - We started off wanting to analyze both presidential and midterm elections but decided to narrow our scope to presidential elections only.
 - We started off looking at a two-week time frame around the elections, but this did not give us enough data to tell a good story.
- If we had two more weeks, we'd expand our dataset and capture at least the last 20 years of the 20th century to see if we could spot additional correlations.

Questions

