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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?**

Insert one-sentence summary of findings...

# 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?

# 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 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.

# Discussion

S&P 500 Performance three months prior to and three months after each presidential election:

- Bush's first win (2000) - before and after the election, the market was down. Energy and Finance were both up; Technology and Healthcare were both down.
- Bush's second win (2004) - before and after the election, the market was up. All sectors were up as well, except for Healthcare, which was down before the election.
- Obama's first win (2008) - before and after the election, the market and all sectors were down.
- Obama's second win (2012) - before and after the election, the market and all sectors were up, except for Technology, which was down before the election.
- Trump's win (2016) - before the election, the market was down; after the election, the market was up. All sectors were up, except for Healthcare, which was down before the election.
- Biden's win (2020) - before and after the election, the market was up. All sectors were up, except for Energy, which was down before the 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 ...

# Questions

