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## **Political Shockwaves: Analyzing Market Reactions to Trump's 2024 Reelection**

### **Abstract:**

This project investigates how major political events during Donald Trump's second presidential administration, particularly the 2024 election, inauguration, and subsequent executive actions, influenced financial market trends. We analyze daily returns and volatility for major indices (S&P 500, Nasdaq 100, Dow Jones) and prominent ETFs (SPY, VTI) using data sourced through Yahoo Finance. Key political events were systematically coded and aligned with market data to assess immediate market responses. Our results show that while high-profile events such as the 2024 election triggered noticeable movements in returns and spikes in volatility, the market's day-to-day reactions to executive orders were generally muted and statistically insignificant. Linear regression analysis indicated no robust relationship between political events and S&P 500 returns, though some trends suggest that elections and inaugurations provoke heightened market sensitivity. These findings highlight the complexity of political risk in financial markets and suggest that investors differentiate between major political milestones and routine administrative actions. Future work could improve prediction by exploring sector-specific effects, lagged event responses, and sentiment analysis of political communications.

### **Introduction:**

Financial markets are highly responsive to political developments, especially during periods of leadership transition and major policy announcements. The U.S. presidency, in particular, holds significant influence over economic direction through executive orders, regulatory shifts, and public signaling. In 2024, Donald Trump won reelection, securing a second presidential term that promised sweeping changes to regulatory policy, energy strategy, international trade, and technology governance. The central objective of this project is to analyze how financial markets responded to key political events during the early phase of Trump's second term, including the 2024 election, inauguration, and a series of executive orders issued by both Trump and outgoing President Joe Biden.

Our guiding research question is: How did major political events during Donald Trump's second presidential administration, particularly the 2024 election, inauguration, and early executive orders, impact financial market trends? In pursuing this question, we hypothesized that large-scale, high-salience political events would produce more pronounced effects on market returns and volatility than routine executive actions. To test this, we focused our analysis on daily returns and volatility patterns of major U.S. indices—the S&P 500, Nasdaq 100, and Dow Jones Industrial Average—as well as two widely tracked ETFs (SPY and VTI) that reflect broad market performance.

We collected data through the Yahoo Finance Python API, spanning from late October 2024 through early February 2025, covering the election and several weeks into the new administration. This time frame was selected to capture both pre-event anticipation and post-event adjustments. We calculated daily percent returns for each index and ETF and tracked market volatility using the VIX index, a widely accepted proxy for investor fear and uncertainty.

Key political events were manually coded from news archives, government press releases, and policy tracking databases. These included Trump's election victory on November 5, 2024, his inauguration on January 20, 2025, and a cluster of executive orders issued in late January by both Trump and Biden. Each event was classified by date and political affiliation and incorporated into the dataset using dummy variables to enable formal modeling.

We began our analysis with visualizations to inspect how market returns and volatility changed around these political milestones. These plots revealed that the election produced a modest surge in returns, particularly for the Nasdaq 100 and S&P 500, while Biden's executive orders appeared to have minimal effect on market direction. Volatility, as measured by the VIX, spiked sharply around the election but displayed smaller fluctuations around executive order announcements. These early patterns suggested that markets are more reactive to macro-political shifts, like an election outcome, than to daily governance decisions, a finding consistent with existing research on political risk and investor behavior.

To quantify these effects, we conducted a linear regression using S&P 500 returns as the dependent variable and political event indicators (overall event occurrence, Trump-specific, and Biden-specific) as independent variables. The results showed no statistically significant relationship between any event type and daily returns, reinforcing the notion that markets quickly absorb and price in political developments, except in the case of major events like elections. Although the coefficients suggested some directionality (positive for general events, negative for Trump and Biden-specific events) none reached conventional thresholds for significance.

While these results may initially seem inconclusive, they provide important insight into how markets differentiate between types of political stimuli. Elections and inaugurations, with

their sweeping policy implications and media coverage, may prompt short-term revaluations of asset prices. Executive orders, by contrast, often have delayed or sector-specific effects that may not show up in aggregate indices on the day they are signed. Our findings suggest that capturing the full extent of political influence on markets may require finer-grained analysis like looking at specific sectors, longer event windows, or sentiment data from news and social media.

In the sections that follow, we present a detailed overview of our data sources and feature engineering, describe our modeling strategy, and walk through our results and their interpretations. We conclude by discussing the limitations of our approach, such as the challenges of event selection and modeling immediate vs. lagged reactions, and offer ideas for future work, including sectoral breakdowns, alternative models like ARIMA or random forests, and natural language processing techniques to incorporate qualitative dimensions of political news. Through this study, we aim to contribute to a better understanding of how political transitions shape market behavior in real time.

### **Data:**

Our data contains a simple blend of daily stock returns and manual imputed list of political events. With the `yfinance` package in python, we were able to easily extract the dates and daily close prices of our aforementioned ticker's from October 10, 2024 to February 5, 2025. Once stock data was wrangled, we used a simple function to calculate the daily returns of each stock ticker which we used to create our linear regression analysis. To capture political events that were hypothesized to have some reaction from the financial market, we manually created a dictionary in python of 20 critical political events. We were able to find solid sources of political

action from Brookings and Ballotpedia. Each event was dummy encoded by whether the event was related to Trump or Biden and then merged together with the financial data by the date.

The 2024 change of presidential administrations has indicated that a lot of financial and regulatory changes will be forthcoming. We'd like to truly analyze the levels of change and where this change is being felt in order to better understand the overall political landscape of our country. From our data, we want to analyze the market reaction as a whole (index funds), how certain sectors like healthcare, energy, technology react (sector ETFs)), and how volatile the shareholders feel the market is (market volatility index). The primary challenge we're up against is being able to display the political events as data that can be related to the financial data efficiently. The temporal systems for the 2 types of data we want to work with vary a bit, and so a major part of the challenge will be formatting our tables and models to appropriately accommodate everything. There will be a lot of judgement and grey area into defining which political events are most important, being able to scrape that data, and analyzing it against the market trends.

### **Methods:**

In our study, each observation is a stock ticker across major indices (S&P 500, QQQ, Dow Jones, SPY, VTI, and the volatility index), date, daily close price, daily return, and a dummy encoded variable signifying whether there was a major event and whether it was related to Trump or Biden. In our analysis, we decided on undertaking a supervised method via OLS regression to evaluate how our tabbed political events influenced stock market returns. We created multiple exploratory analysis graphs to visually inspect how each event affected the stock returns of each of our tickers. An additional and similar plot was made to inspect the volatility index. Our OLS regression model quantified the effects of each of our dummy variables

(Event\_Occured, Trump\_Event, Biden\_Event). To analyze the success of our model, we looked at the significance of the p-values from the coefficients of each of the event variables. Model performance was assessed through R-Squared, p-values, and coherence with the graphical representations. Significant p-values indicate that the political events were meaningful to the change of the financial market.

We prepared our data through multiple methods to ensure that the data was seamlessly used throughout the analysis. Both the financial and political data was manipulated in order that we could perform the OLS regression. Stock close prices were transformed into daily returns in order to find the magnitude of the effect the events had. Each event was one-hot dummy encoded to signify it happened on that date. Each event was also separated into a different encoding representing which president the event was related to. Once both spheres were cleaned we merged the datasets and ensured that accurate information was aligned. Our results were presented through description of our regression summary table and explanation of the annotated EDA plots.

### **Results:**

Running our statistical analysis on the cleaned and modified dataset, we found that as a whole, the events selected did have a relationship with market performance and volatility. The equation used to evaluate market performance and volatility uses dummy variables to mark when a Trump or Biden executive action, or major election cycle milestone takes place. Based on the ticker price of these major ETFs and our volatility index using VIX, we get the equation shown

below.

```
Index(['Date', 'QQQ', 'SPY', 'VTI', '^DJI', '^GSPC'], dtype='object', name='Ticker')
Ticker      Date  Event_Occurred  Trump_Event  Biden_Event
0      2024-10-28              0              0              0
1      2024-10-29              0              0              0
2      2024-10-30              0              0              0
3      2024-10-31              0              0              0
4      2024-11-01              0              0              0
(67, 3) (67,)
```

```

=====
                        OLS Regression Results
=====
Dep. Variable:          ^GSPC      R-squared:                0.038
Model:                  OLS        Adj. R-squared:           -0.008
Method:                 Least Squares    F-statistic:         0.8358
Date:                  Mon, 28 Apr 2025    Prob (F-statistic):    0.479
Time:                  23:11:51          Log-Likelihood:       -83.170
No. Observations:      67              AIC:                 174.3
Df Residuals:          63              BIC:                 183.2
Df Model:               3
Covariance Type:       nonrobust
=====
```

	coef	std err	t	P> t	[0.025	0.975]
const	0.0324	0.109	0.298	0.767	-0.185	0.250
Event_Occurred	1.7047	1.370	1.245	0.218	-1.032	4.442
Trump_Event	-0.8169	1.221	-0.669	0.506	-3.257	1.623
Biden_Event	-1.2057	1.058	-1.140	0.259	-3.319	0.908

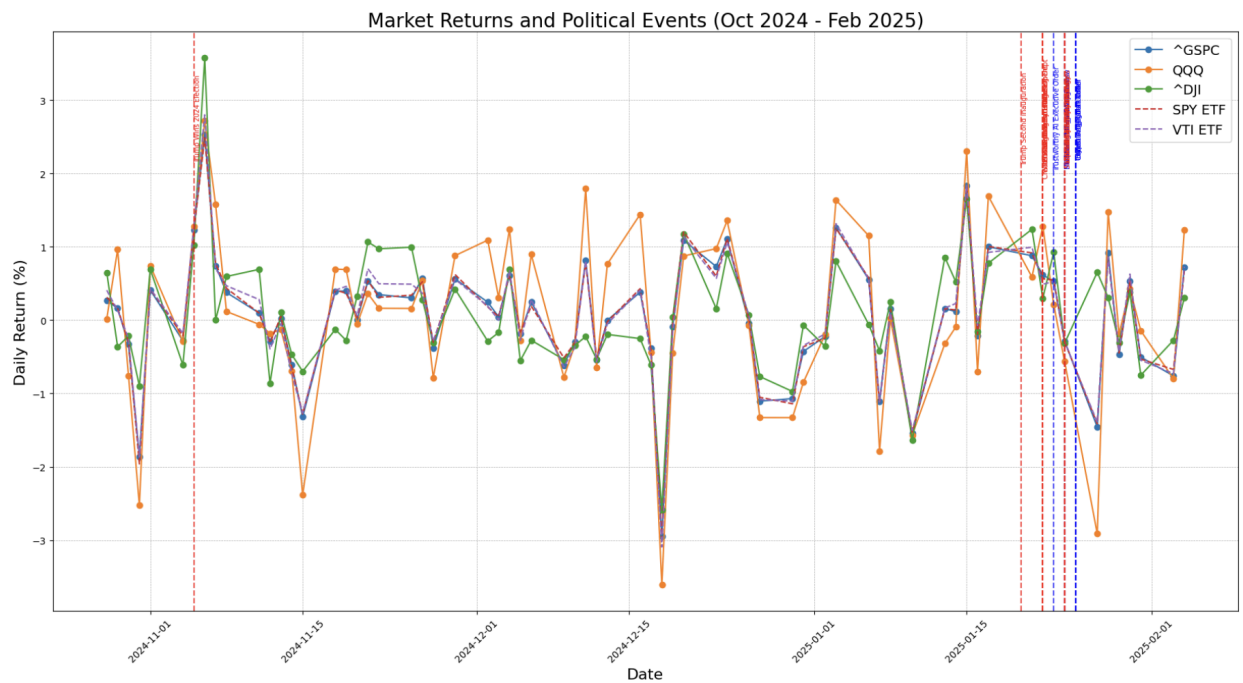
```

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Omnibus:                9.878    Durbin-Watson:           1.826
Prob(Omnibus):           0.007    Jarque-Bera (JB):         15.649
Skew:                   -0.474    Prob(JB):                 0.000400
Kurtosis:                5.169    Cond. No.                 18.6
=====
```

This equation suggests that market returns were, on average, 1.70 percentage points higher on political event days compared to non-event days, though this effect is not statistically significant ( $p = 0.218$ ). The Trump\_Event and Biden\_Event coefficients are both negative, indicating slightly lower returns on their respective event days ( $-0.82$  for Trump,  $-1.21$  for Biden), but neither is statistically significant ( $p = 0.506$  and  $0.259$ , respectively). Overall, none of the variables show strong evidence of a statistically significant effect on the market, as all p-values exceed 0.05 and the confidence intervals for each coefficient contain zero. With a larger sample size, it is entirely possible that we see these effects become statistically significant.

However with the limited number of significant events under the Trump presidency up to this point, we cannot draw any strong conclusions.

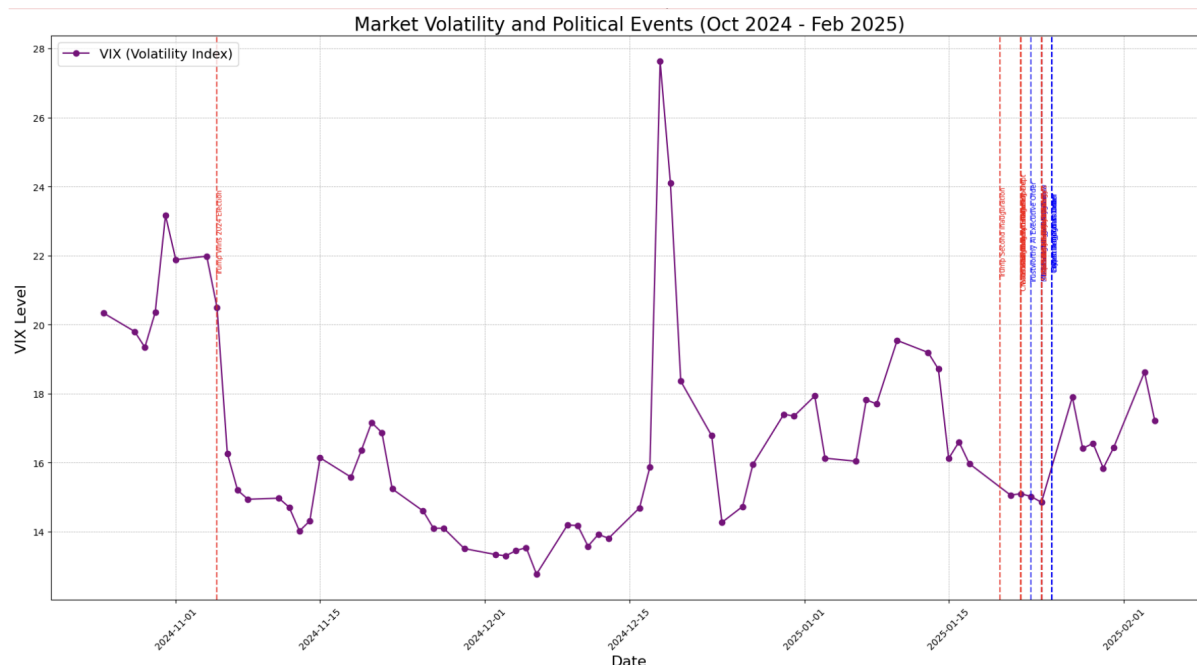
Another important statistic to note is that the  $R^2$  is only .038. This means that only 3.8% of the variation we see in our data is explained by our regression model. This suggests that even if we gather a larger sample size of important events and find that these variables are statistically significant, other factors play a much larger role in the volatility and performance of the market, and very little movement is directly caused by these events as a whole.



Looking at the timeline of market returns and major political events that we tracked, you can see that there is no clear visual relationship either. While there is a slight downturn in the market around Trump's inauguration and during his first few weeks in office, these effects are mostly played out over time, not being directly caused by a single event but rather overall market sentiment and changing economic conditions. The obvious event to consider is the



announcement of massive tariffs by President Trump, which is a likely reason for the negative coefficient on the Trump\_Event variable.



Similarly on the market volatility and political event graph, we see no clear visual relationship between volatility and these events. The exception to this around the election, as this was a very volatile time where the future of the presidency and the accompanying economic policy were very uncertain. Interestingly, after Trump won the election, volatility dropped. This suggests that the volatility was more related to the uncertainty of who the next president would be as opposed to being due to Trump's presence in the election and the uncertainty that naturally follows him. The market during Trump's presidency was significantly less volatile than it was during the leadup to the election, which supports that the low  $R^2$  score holds true and that these events have a minimal impact on market volatility, if any at all.

### **Conclusion:**

In conclusion, the lack of a relationship between events taking place in Trump's second administration and market trends proves to be starkly nonexistent. Though our analysis was very concise in its results, limitations can still arise. A limitation that must be recognized include the assumption we made in determining the breadth of independent variables, acting as though causality of market behavior is solely dependent on political events related to the president. Including legislative and judicial events might have allowed for a closer and more comprehensive view of politics as a truly significant precursor. The decision to not take into account lagged reactions also would be a limitation in this case, as our analysis thus failed to truly finetune the weight of certain types of political events within the model in order to guarantee the most realistic and accurate predictions. Looking ahead, we believe it would potentially be fruitful to the case study to break the model down into small pieces and analyze the data sectorally. It could also prove beneficial to use other types of predictive models such as the specifically seasonally-based ARIMA. In other cases, it might even be more prudent for us to incorporate natural language processing techniques in order to even more accurately delineate the scaling and/or weighting for the independent variable inputs.

### **References:**

[1] Brookings Institution, "Tracking regulatory changes in the second Trump administration,"

[Online]. Available:

<https://www.brookings.edu/articles/tracking-regulatory-changes-in-the-second-trump-administration/>.

[2] Ballotpedia, "Important dates in the 2024 presidential race," [Online]. Available:

[https://ballotpedia.org/Important\\_dates\\_in\\_the\\_2024\\_presidential\\_race](https://ballotpedia.org/Important_dates_in_the_2024_presidential_race).