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The Presidential Puzzle

Abstract

Investors often question the stock market's excess return depending on the presidential political party in office. Many biases and assumptions feed into individual investor's financial decision choices. In order to determine the accuracy of investor beliefs on the subject, stock market data and industry performance was analyzed over ninety-one years. Measures of risk were gathered for all data through the Sharpe ratio to determine an industry long and short portfolio position. The empirical calculations displayed that returns are not persuaded by a political office. Most of the major stock market fluctuations focus around environmental situations often influencing investor bias. Even though investors continue to invest based on political biases, the market's relationship with politics has the potential to remain a mystery.

The Presidential Puzzle

As an election year approaches, many individuals wonder what this means for the market. It is often argued which political party, Republican or Democrat, will provide the best outcome for the stock market. Even with academic research, the riskiness of the market within political cycles remains unclear. All calculations for the analysis can be found in "WK4AsgnAslanianM" with a few exhibits highlighted in the "Analysis" section. By calculating an empirical analysis, an accurate relationship between the market and politics can be observed.

Before understanding the difference between the market and each political office, data from S&P 500 as well as Fama French three factors and momentum was gathered. The data begins in April 1929 and continues to April 2020. This allows for a sample size of ninety-one years to provide a basis for accurate calculations. The following step consisted of dividing the market based on the serving presidents political party. A list of US Presidents, beginning with Herbert Hoover and ending with Donald Trump was added and organized accordingly. To measure risk the average arithmetic monthly return, standard deviation, and Sharpe ratio was calculated for each president and each general political party.

The graphs displayed in the "Cum Ret (Rep Dem)" sheet show the overall market's performance compared to the market returns during the desired political party term. Similar comparisons have been made during each presidential term. In general, the stock market followed each political party's return for both Democrat and Republican. It was noticed that greater risk and lower returns occurred after President Richard Nixon and during President Gerald Ford. The change in risk at this time can be explained by the political situation at hand. Even though Nixon and Ford were part of the Republican party, Nixon received little public and political support influencing his resignation from office in 1974. It is important to mention that the stock market, in this situation, displayed a delayed reaction.

When analyzing political data through the years, common themes exist. Overall, nominal, short-term interest rates tend to rise under a Democratic president and fall under a Republican president. Because of recent inflation, the short-term interest rates have been lower under Democratic rule. Looking outside of the data, the article, "Presidents and the U.S. Economy" stated that both the Treasury Bond rate and the corporate-bond risk had a higher spread during a Republican presidency. The significant different was at a 10% level (Blinder & Watson, 2015)

In order to observe the level of risk, the Sharpe ratio for each political party and presidential term was compared. The Republican presidencies overtime resulted in a .0545 Sharpe ratio, whereas the Democratic presidencies resulted in a .1566. The higher the Sharpe ratio results, the better the returns compared to the risk. The Democratic political party are known for pursuing economic policies that sometimes influence higher risk, however, the numerical value supports the market being more favorable during a Democratic rule.

There have been many fluctuations in the stock market throughout the data set. Two historical events, the Great Depression and the Global Recession, were likely to have a great financial impact. When observing the data, the standard deviation must be examined in addition to the Sharpe ratio. The standard deviation allows for a more accurate comparison of data analysis across different historical events. During the Great Depression, Republican Herbert Hoover and Democrat Franklin Roosevelt were in office. The Sharpe ratio for Hoover's term was -0.1718 while the standard deviation was 0.1291. The following president Roosevelt had a Sharpe ratio of 0.1232 with a standard deviation of 0.0741. Not only do these values emphasize a greater return compared to risk, the change in standard deviation shows that there was less variability of data during Roosevelt's term. This is important since it shows that the economic

times were transitioning throughout each presidency causing the values and the market to change.

Moving forward in history, the market took a toll during the Global Recession in 2009. When observing the values, the Sharpe ratio was -0.0872 during Republican George W. Bush's presidency and increased to 0.2563 during Democrat Barack Obama's presidency. The data spread appeared to be similar amongst the two presidents. George W. Bush's term had a 0.0439 standard deviation and Obama had a 0.0405. These values can compare the transition of return verse reward during two different presidential terms. It is important to note that financial procedures followed in each situation could have contradicted each other because of the conflicting parties. Historical events, policy changes, and monthly adaptations in inauguration dates can impact the stock market fluctuation. These values can be seen in "Exhibit 1". The changes can be associated with a political party instead of the environment itself. This assumption can cause a misinterpretation of the stock market.

It is important to mentioned that political parties have differing views on financial politics. Even though these views counteract, the changes even out overtime. Within a four-year presidential term, there is very little time for a president to create a drastic financial change. This can be seen throughout the data. In some cases, two consecutive eight-year terms of two presidents in the same political party has potential to make a financial difference in the market. Of course, this has not occurred in more recent years.

Even though environmental events have shown greater market changes than political parties, certain businesses are more sensitive the political cycle. Many investors avoid or postpone financial decisions until after an election year. Some individuals blame the political party in office for the financial success of their business or investment. Other investors refuse to

make major financial decisions when a certain political party is in office. These feelings often stem from political biases which result in behavioral decision-making. In order to gain evidence on the relationship between businesses and political cycles, three industries were analyzed by political party and presidential term.

When comparing industry returns to political parties, industries favored by the Republican party, the Democrat party, and neutral party were selected. The Republican industry chosen was non-durables which consisted of tobacco, fuel, and textiles. The Democratic industry chosen was healthcare and the neutral industry chosen was utilities. When observing the beta relative to the market of each industry, the non-durable industry and the utility industry had a beta greater than one. This shows that both industries are more prone to change, or volatility. After calculating the Sharpe ratio, non-durables had a greater Sharpe ratio while the utilities industry had the lowest. The values located in "Exhibit 3" influenced the portfolio decision.

It is important to mention many investors still believe that Democratic parties influence market volatility even though this assumption contradicts statistical evidence. The non-durable industry returns were affected by a Democratic presidency depending on the historical context. For example, non-durables had a large mean monthly return during Democratic President Jimmy Carter. Even though Carter supported farming and sustainable energy sources, there were fuel shortages, the Iran hostage crisis, and invasion of the Soviet Union to Afghanistan (Presidency of Jimmy Carter, 2020). This situation supports the fact that a higher return in an industry is usually affected by a historical event and consumer demand.

When analyzing a long and short position, portfolio weights were determined with most of the weight in non-durable industry, followed by healthcare and utilities. When creating a portfolio, each industry was compared via the Sharpe ratio. The Sharpe ratio was gathered by the

mean monthly arithmetic return divided by the standard deviation. The industry of non-durables had the largest Sharpe Ratio out of the three industries of -0.0133. The smallest Sharpe ratio was the utilities industry at -0.0758. In this situation, the non-durable industry will be a long position while the utility industry will be a short position.

The returns calculated contained many variables, data sets, overlapping dates, and standard error possibly causing abnormal values. The Sharpe ratio and Jensen's alpha for all three industries resulted in negative variables. Even though a negative Sharpe ratio means the risk-free rate will be greater than the portfolio's return, this value alone does not warrant alarming information. A negative Jensen's alpha often shows that the portfolio has not met its required return. The cumulative returns for the two positions also resulted in large percentages. These abnormal results could be due to the large data set or the varying status of the market. The industries observed are very broad which could have caused a larger span of results. It is also important to mention that presidential terms overlap. The fluctuation of data sets and the difference in dates could also be a few of the many variables influencing these values.

It can be very challenging to estimate or overcome the market according to the political cycle. There is an unclear relationship on financial performance and presidential parties because of the various factors involved. Even though market influencers are easily explained by historical events, investors do make financial decisions based on political cycles. This can cause movement in the market as well as gains and losses in certain industries. Even though political parties differ in their own financial policies, this difference does not always affect the market. When observing the shift of Democrat to Republican presidents, many previous financial decisions cancelled one another short-term. Understanding the market's volatility allows for accurate resources when investing and managing.

Analysis

Exhibit 1: Summary Statistics of Presidents

Term Dates	President	Political Party	Mean Monthly Arith.Return	STD. Deviation	Sharpe Ratio
			S&P 500		
March 4th 1921-August 2nd, 1923	Warren G. Harding	Republican			
August 2nd, 1923- March 4th 1929	Calvin Coolidge	Republican			
March 4th 1929-March 4th, 1933	Herbert Hoover	Republican	-0.022201645	0.129177975	-0.171868654
March 4th, 1933-April 12, 1945	Franklin D. Roosevelt	Democratic	0.009145566	0.074197945	0.123259015
April 12, 1945-Janaury 20 1953	Harry S Truman	Democratic	0.006957521	0.038872358	0.178983776
January 20th 1953-January 20, 1961	Dwight D.Eisenhower	Republican	0.008807709	0.035549294	0.247760441
January 20th 1961-November 22, 1963	John F Kennedy	Democratic	0.007972195	0.041349283	0.192801288
November 22, 1963-January 20, 1969	Lyndon B Johnson	Democratic	0.005928204	0.030181991	0.196415287
January 20th, 1969-August 9, 1974	Richard Nixon	Republican	0.00598302	0.033040516	0.181081297
August 9m 1974- January 20th, 1977	Gerald Ford	Republican	0.004741396	0.061818377	0.076698807
January 20th, 1977-January 20th, 1981	Jimmy Carter	Democratic	0.003467175	0.040189962	0.086269672
January 20th, 1981-January 20th, 1989	Ronald Reagan	Republican	0.008651057	0.047982502	0.180296071
January 20th, 1989-January 20, 1993	George H. W. Bush	Republican	0.010167172	0.040343231	0.252016792
January 20, 1993- January 20, 2001	Bill Clinton	Democratic	0.008472706	0.048005187	0.176495645
January 20th, 2001-January 20, 2009	George W. Bush	Republican	-0.003836	0.043988592	-0.087204418
January 20, 2009- January 20, 2017	Barack Obama	Democratic	0.010400928	0.040566247	0.256393636
January 20th, 2017- present	Donald Trump	Republican	0.007661854	0.046338412	0.165345624
Republican			0.003035843	0.057059626	0.053204746
Democrat			0.008003239	0.051082517	0.15667276

Exhibit 2: Summary Statistics of Industries per Presidential Term

Exhibit 3: Summary Statistics of Industries throughout Sample Size

Industry	Mean Monthly Arith.Return	STD. Deviation	Sharpe Ratio	Beta Relative to the Market	Jensen's Alpha
Non Durables	-0.485731098	36.3831405	-0.013350444	3.470393428	-0.485649178
Healthcare	-0.614997118	26.17844369	-0.023492501	-12.25193904	-0.539818233
Utilities	-1.826379879	24.07154642	-0.075872977	2.273695012	-1.840331454
Market Ret-Rf	0.003291015	0.053922756	0.061032022	0.988373668	-0.002773726
Market-RF	0.006136081				

Exhibit 4: Republican Cumulative Returns of S&P 500

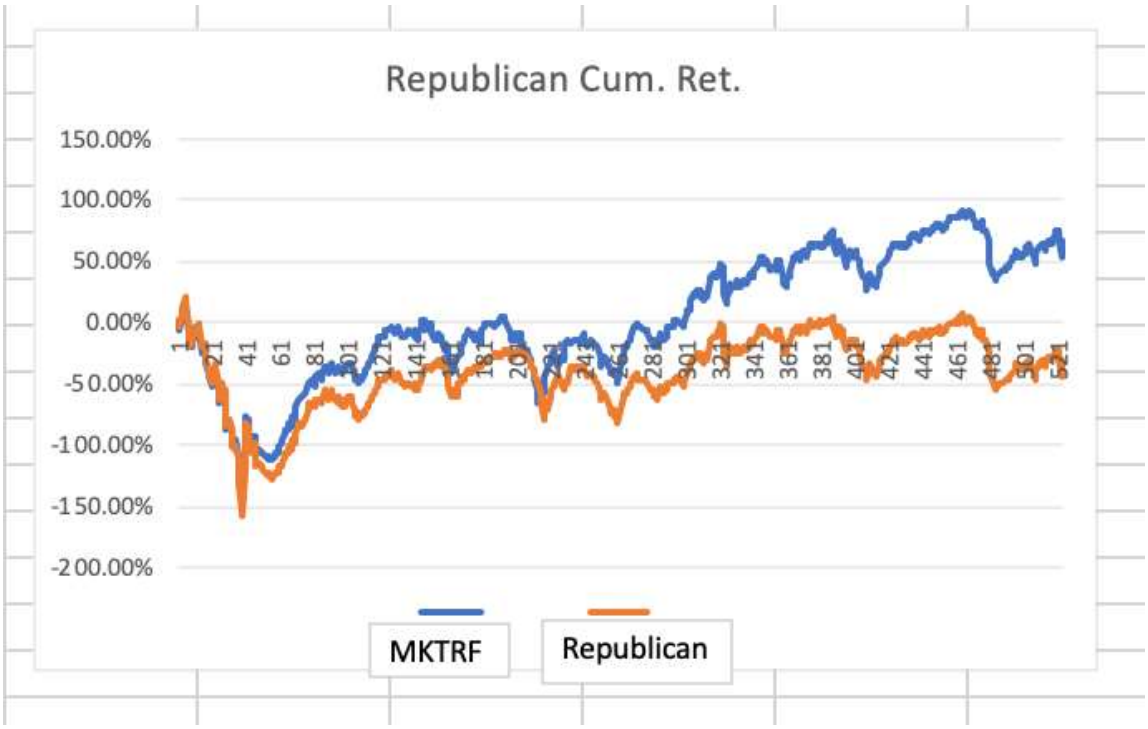


Exhibit 5: Democratic Cumulative Returns of S&P 500

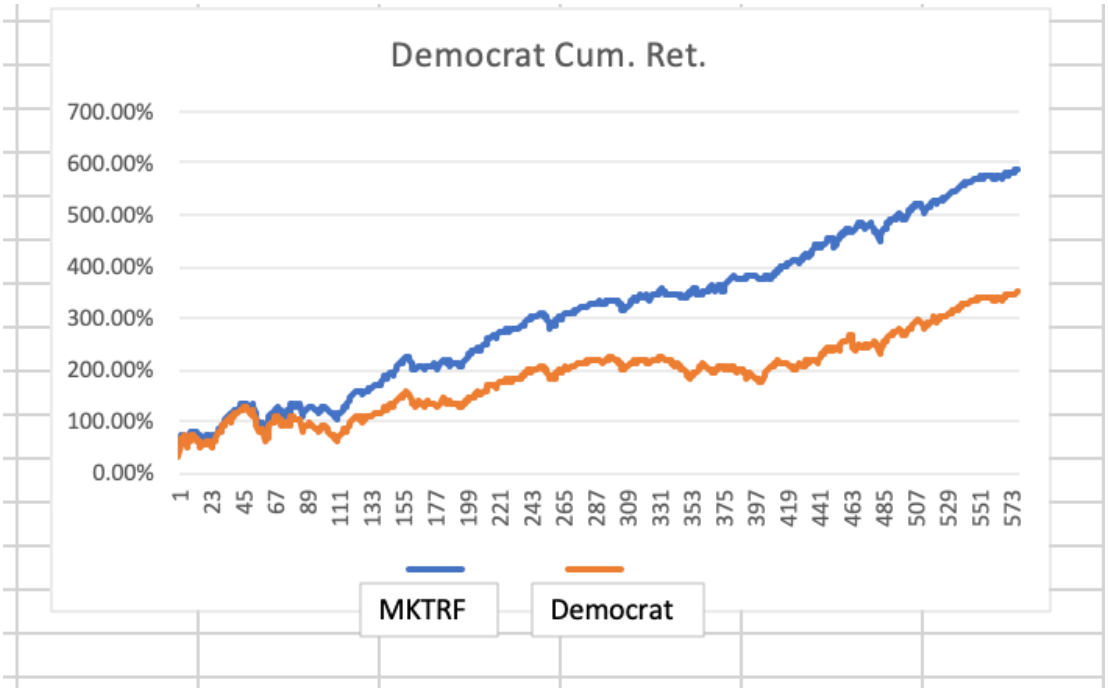
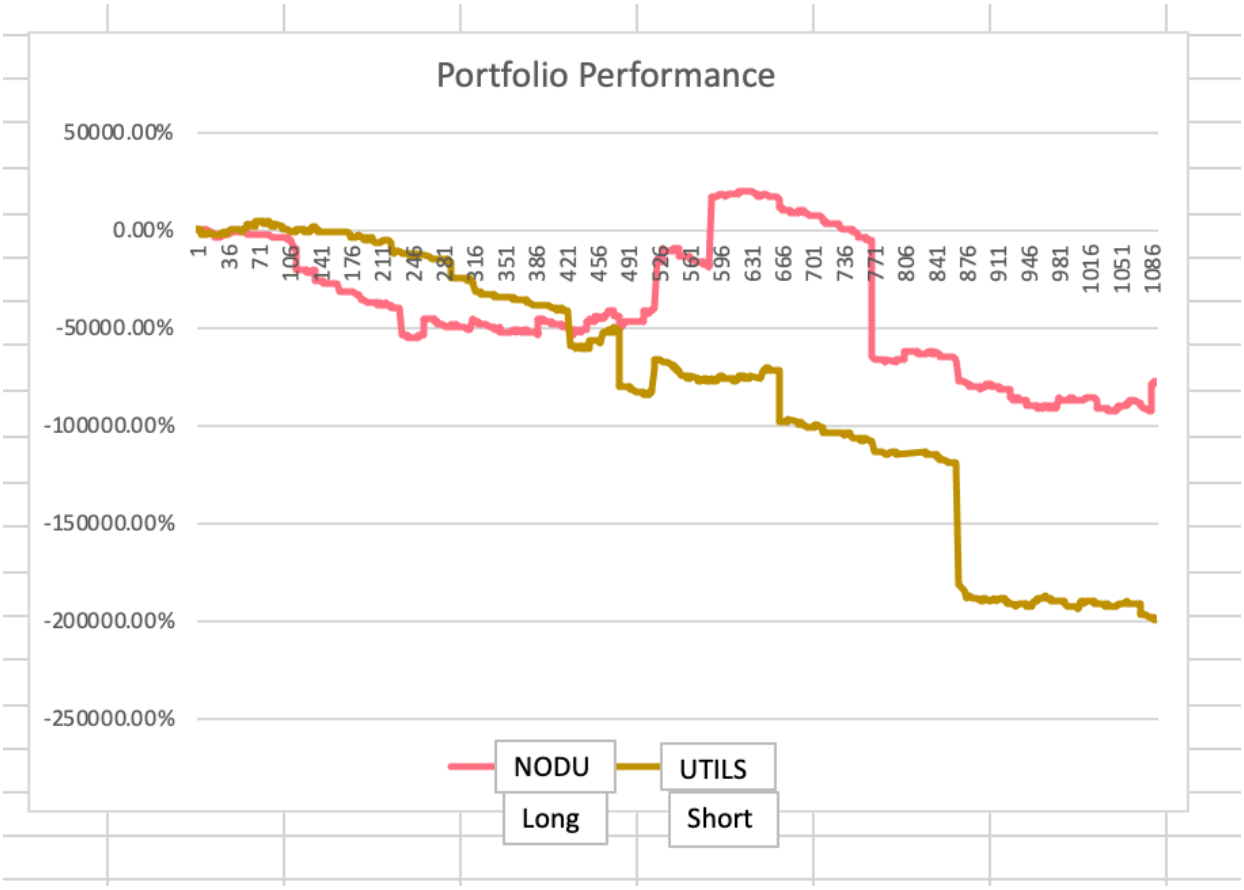


Exhibit 6: Long Position, Non-Durable and Short Position, Utilities- Portfolio Performance



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