

The U.S. Presidency and the Stock Market: A political relationship study of the market performance

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ABSTRACT

With the presidential election taking shape this year in the United States and articles appearing in financial and economic publications regarding the influence of the party in power, several questions have been raised on the so-called Presidential Cycle relationship with the stock market. This paper addresses five research questions and uses the S&P 500 performance for comparisons. Both descriptive and inferential statistics were used to determine the extent of these relationships. Data going back 16 presidential terms (1948 to 2012) was retrieved, analyzed, and statistically tested. A distinction was made between nominal and adjusted of the S&P 500 composite price levels in order to correct for inflation.

While the descriptive statistics suggested some difference between the political parties holding the presidency and the performance of the S&P 500, inferential statistics revealed that there was no significant difference between the S&P 500 performance and the political party holding the presidency. However, there was a significant difference between the S&P performance and the political party in the first year of the presidential term; in the rest of the term years (years 2-4), there was no significant difference between the S&P performance and the political party of the presidency. There appear to be some significant differences among the presidents in the second year of the Presidential cycle. There were no significant differences between the term-years of the Presidential cycle. Additionally and at first glance, the descriptive statistics seemed to show that the second half of a presidential term provides a better setting for the performance of the S&P 500. However further study reveals otherwise.

INTRODUCTION

A recent review of internet articles on the economy and the financial world has reignited the so-called Presidential Cycle behavior of the stock markets because the United States will be electing or re-electing a president this year. During the last election in September 2008 an article appeared in an investment internet site by stifel.com declared “since the end of World War II, the S&P 500 has never suffered a loss in the full calendar year before a Presidential election” (Stifel, Nicolaus & Company, 2008). Recent statements such as: during the “last 21 election years there have been only 3 years where the S&P 500 index had a negative return during an election year” (Anspach, 2012) suggests that the wave trend calls for action to get into stocks.

Alan Roth (2012) of CBSnews.com asks the question in his article, “Do stocks always rise in a presidential election year” (Roth, 2012)? He continues by suggesting, “A lesser known January barometer for the S&P 500 just gave a screaming buy signal. As I discussed in a recent article, never before has the S&P 500 failed to end the year in positive territory when certain conditions were met during the first five trading days of the year” inviting people to get into stocks in 2012. Well, one could say this may be true of the S&P 500, but what about the Dow Jones Industries?

Then you have others saying, “Historically, the Dow Jones Industrial Average has recorded significant gains during the fourth year of a Presidential cycle, also known as the Presidential election year. The average Dow Jones performance during Presidential election years, since 1960, is a gain of 7.7%, with nine up years compared to three down years” (Stifel, Nicolaus & Company, 2008). However, some of these claims need to be statistically proven.

In an article, Marshall Nickles and Ray Valadez (2009) provided statistical evidence that if one uses a limited timely approach by investing only in the third year of a presidential year, they would benefit three times as much than if they used a buy and hold strategy. According to Nickles and Valadez, “The Political Year Cycle Strategy (PYCS) is designed to minimize time exposure in the stock market. It assumes investing in the DJIA 1 year out of 4 and remaining in prevailing commercial paper rates or a money market fund for the other 3 years. An investment in the DJIA is assumed only during the year before the U.S. Presidential election”. However, the caveat here is that one must remain out of the stock market in the rest of the years.

Additional observations on the Presidential Cycle theory are the first two years of a Presidential term are typically the worst-performing market years. The third and fourth years are being touted as the best-performing years of the Presidential cycle. A review of the literature will provide a better understanding of the definitions being used in financial circles.

LITERATURE REVIEW

The Presidential Election Cycle theory attempts to forecast the performance of the stock market. It was originally hypothesized by market historian Yale Hirsch, “Presidential elections every four years have a profound impact on the economy and stock market” (Hirsch, Y, 2010, p. 130). Hirsch reasoned that incumbent administrations during election years try to stimulate the economy. During election years, the incumbents typically take actions to boost the economy through higher spending and tax cuts. One could ask: Can a President have an effect on stock markets?

Up until the 1940s, most industrialized nations’ governments typically allowed the classical approach in allowing economies to self correct. However, with Keynesian economics becoming popular after the great world depression, governments began to stimulate the economy using both fiscal and monetary policies giving rise to the Public sector’s influence in the economy. For example, since 1940, the U.S. Federal and State government expenditures estimated to be “6.3 trillion” (Anonymous, 2012) as a percentage of GDP has grown from approximately 20 percent to almost 40 percent, doubling in size. In other countries such as Sweden, France, Italy, and the United Kingdom the government expenditures exceed 50 percent of their GDP (Tucker, 2011). This is just the fiscal component of the economic stimulus.

On the monetary side, the Federal Reserve Board, which tries to remain neutral to politics, avoids raising or lowering rates during a Presidential election year. Rebecca Hellerstein (2007) discovered a “dead spot” which defines as “an act of omission, a lack of action where one would normally expect some” (Hellerstein, p. 1412) while reviewing the Fed’s internal forecasts from 1973 to 1998 and the committee’s voting behavior. In her paper, she shared an extensive literature review on the matter. However, further studies will have to be undertaken testing for significant confidence levels before one can rely more heavily on this trend as well as others. Marshall Nickles (2004) said it so well when he said, “However, just when you think that you have figured it all out, you find another pattern that can suggest different possibilities” (¶ Final thoughts).

The excitement over trends and patterns continues. However, most of them promote strategies that attempt to limit volatility exposure in the stock market. These strategies have come to be known as Seasonal Timing Strategies (STS) promoted by Sy Harding starting in 1998 by taking advantage of “changes in the amount of money flowing in or out of the market” (Harding, 2012, p.7). Applying this approach by timing investments in the stock using seasonal patterns such as those found by Nickles & Valadez (2009) in the United States and Ben Jacobsen (2002) of the Netherlands provides investors some advantage. Jacobsen concluded “surprisingly we found this inherited wisdom of Sell in May to be true in 36 of 37 developed and emerging markets” (Jacobsen as cited by Harding, 2012, p. 4).

Expanding the STS to the Presidential cycle calls for simply applying the strategy by timing when to get into the market and when to get out. For example, investing only at the beginning on the third year of a Presidential cycle or at the beginning of the second half of a Presidential cycle (years three and four) might provide one a competitive edge. These combined with other seasonal trends such as the January Effect may add to one’s stock market returns. The January Effect is a phenomenon whereby January traditionally has been a positive month for investors because of the sell off that takes place in December for purposes such as tax losses and taking advantage of the capital gain tax as well a planning for the New Year. This tax planning has diminished over time because individuals may use retirement plans to reduce their taxes. However, most of these individual retirement plan investments are now going into securities such as stock.

Beyond the patterns and trends involving the Presidential cycle are the questions of differences that may be found between political parties, the presidents themselves, between term-years within the four years of the presidency. Pedro Santa-Clara and Rossen Valkanov (2003) discovered that there was a “higher” excess return in the stock market (using an index compared to a three-month Treasury bill) under a Democratic presidency. According to their research which does not include the last two Presidential terms, the excess returns were “9 percent for the value-weighted and 16 percent for the equal-weighted portfolio” (abstract). The value-weighted Center for Research in Security Prices (CRSP) index over the three-month Treasury bill rate was used in their calculations. They used the log monthly returns of the value-weighted and equal-weighted portfolios from CRSP.

METHODOLOGY

Research Questions:

- 1) Is there a difference between the political party that holds the presidency and the S&P 500 performance?
 - a) Null Hypothesis (H0): There is no significant difference between the political party that holds the presidency and the S&P500 performance.
 - b) Alternative Hypothesis (H1): There is a significant difference between the political party that holds the presidency and the S&P 500 performance.
- 2) Is there a difference between the term-years by political party and the S&P 500 performance?
 - a) Null Hypothesis (H0): There is no significant difference between the term-years by political party and the S&P 500 performance.

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- b) Alternative Hypothesis (H1): There is a significant difference between the term-years by political party and the S&P 500 performance.
- 3) Is there a difference between the term-years by a president and the S&P 500 performance?
- a) Null Hypothesis (H0): There is no significant difference between the term-years by a president and the S&P 500 performance.
- b) Alternative Hypothesis (H1): There is a significant difference between the term-years by a president and the S&P 500 performance.
- 4) Is there a difference between term-years of the presidential cycle and the S&P 500 performance?
- a) Null Hypothesis (H0): There is no significant difference between the term-years of the presidential cycle and the S&P 500 performance.
- b) Alternative Hypothesis (H1): There is a significant difference between the term-years of the presidential cycle and the S&P 500 performance.
- 5) Is there a difference between the first half and the second half of a presidential term and the S&P performance?
- a) Null Hypothesis (H0): There is no significant difference between the first half and the second half of a presidential term and the S&P performance.
- b) Alternative Hypothesis (H1): There is a significant difference between the first half and the second half of a presidential term and the S&P performance.

FINDINGS

Research Question One

Is there a difference between the political party that holds the presidency and the S&P 500 performance?

Descriptive observations

In **Table __** which is found in the Appendix, the average S&P 500 *nominal* returns shows 55.03 percent and 23.48 percent for the Democrats and Republicans presidents respectively from January 20th, 1949 to projected January 20th, 2013. However, one could argue that perhaps inflation as well as the time periods chosen may have skewed the results. Further adjustments were made using the Consumer Price Index chain with a base year of 1980 equal to 100. The results were more modest. The adjusted returns were 37.67 percent and 08.14 percent for Democrat and Republican presidents respectively.

**Table __. S&P 500 Average Return Comparisons (1949 to and including 2012 projected):
By Term and Quarter using Nominal vs. CPI Adjusted 1980=100**

Party	Unit/Count	Nominal Avg. Return	CPI Adj. Avg. Return
Using full terms			
Democrats	7	55.03%	37.67%
Republicans	9	23.48%	08.14%

	Using Quarters		
Democrats	28	11.92%	08.60%
Republicans	36	05.97%	02.35%

Source: Adapted by Valadez, R. M. (2012) from S&P 500 Composite Daily Closing Values

As shown in **Figure __** which is found in the Appendix, the *nominal* average returns show President Clinton's first term (January 20th, 1993 to January 20th, 1997) had the best S&P 500 performance (nominal average return of 79.22 percent). The S&P 500 enjoyed another banner year under President Clinton's second term. President George W. Bush had the worst S&P 500 performance (minus 31.49 percent) during his second presidential term (January 20th, 2005 to January 20th, 2009). However, George W. Bush's administration confronted the worth recession since the 1930s.

Adjusting the nominal price levels of the S&P 500 produced Figure __ which is found in the Appendix and is similar to Figure __ with the exception of the percent gained or lost of the S&P 500 during the last 16 presidential terms.

Figure __. S&P 500 Presidential Term Nominal Returns (1948-2012)

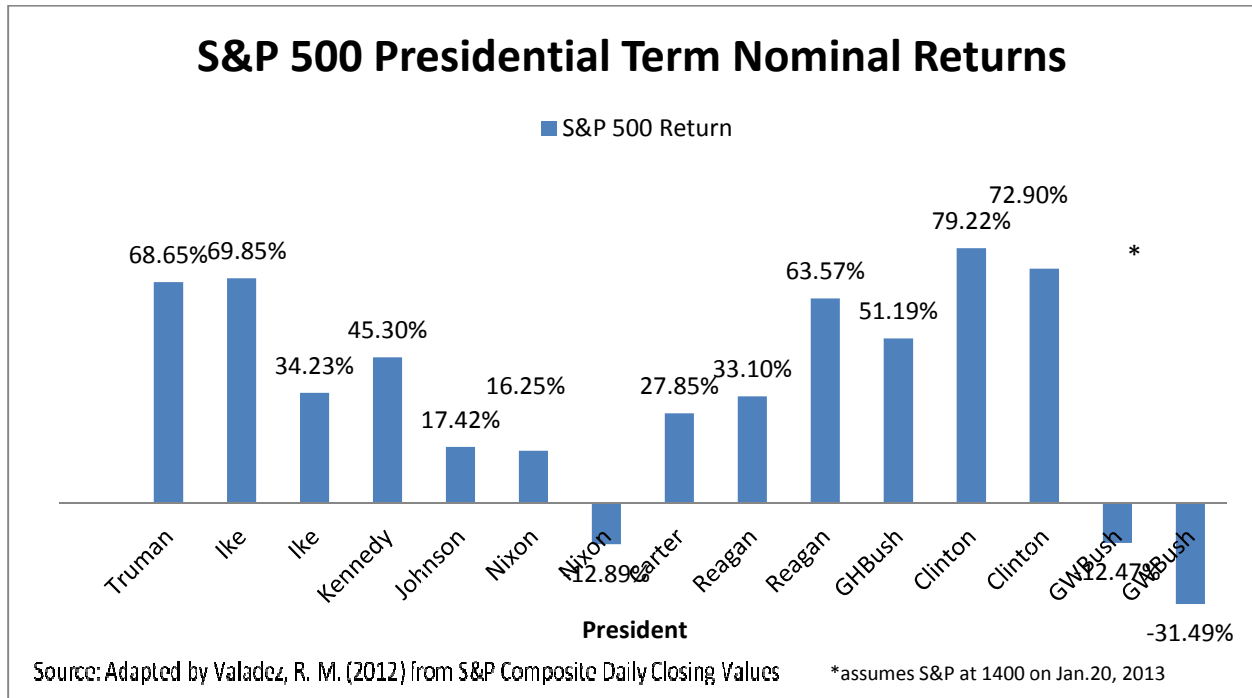
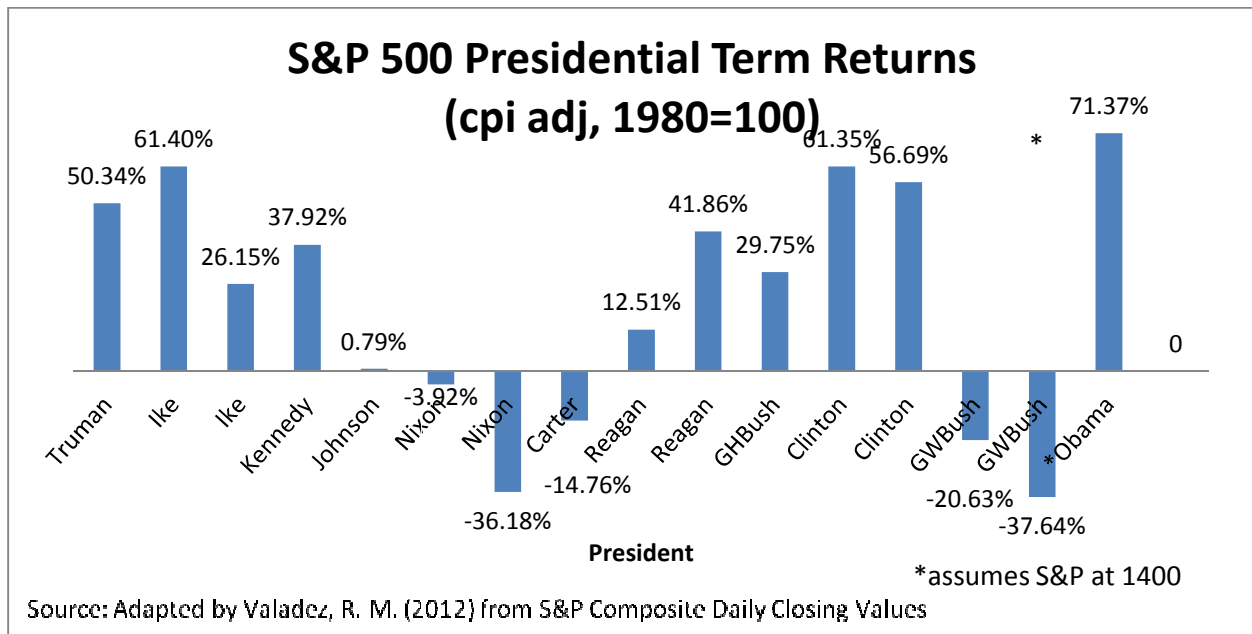


Figure __. S&P 500 Presidential Term Returns (1948-2012) CPI Adjusted 1980=100



Looking at the *adjusted* returns in **Figure __** in the Appendix reveals that President Eisenhower’s first term enjoyed the best S&P performance (61.40 percent gain) followed closely by President Clinton’s first term results of 61.35 percent. Even with the adjustments, President George W. Bush’s second term had the worst S&P performance (minus 37.64 percent) followed by Nixon’s second term performance of a negative 36.18 percent. If President Obama’s first term

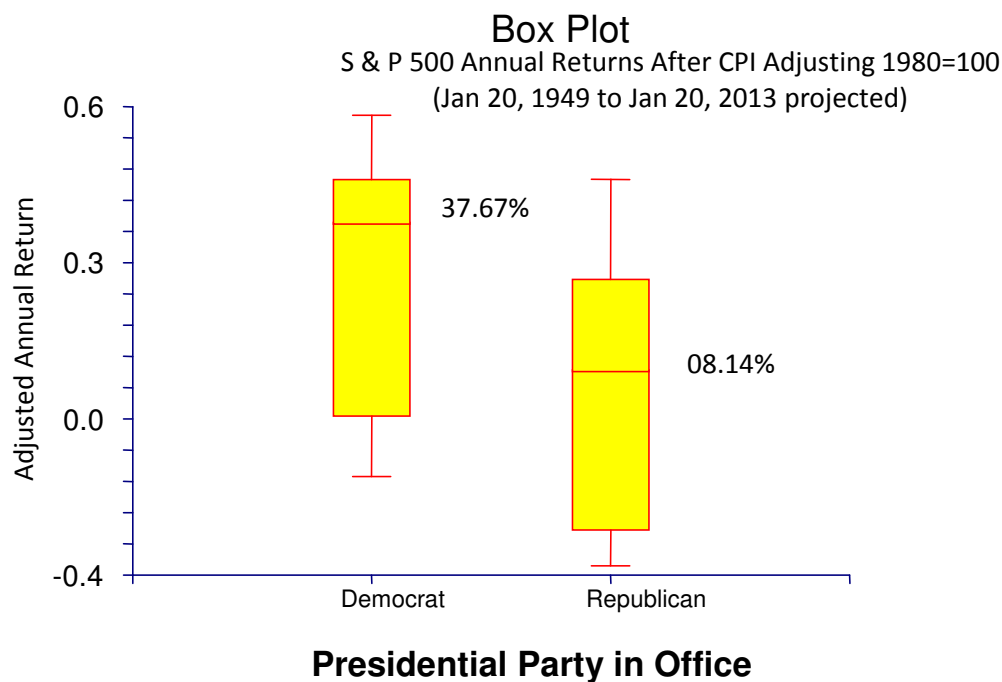
continues along its current path, it is anticipated the S&P 500 performance (projected to be a gain of 71.37 percent) may well be the best in the last 64 years.

Statistical Analysis

While the descriptive observations would suggest some difference between the political parties holding the presidency and the performance of the S&P 500, there was no significant statistical difference between the political party and S&P 500 performance at the 95 percent level of confidence both in the nominal as well as in the adjusted composite price levels! Because there were 16 terms to observe, the Mann-Whitney and Wilcoxon Rank-Sum Test were used that tested for difference in medians instead of means. The Kolmogorov-Smirnov Test also didn't reject the Null hypothesis.

The statistical performance mean for seven Democratic presidential terms was 37.67 percent compared to 08.14 percent for the Republican terms as displayed in Figure __ which can be found in the Appendix. A review of the 64 years covering the 16 presidential terms also revealed no significant statistical difference between the party holding the presidency and the S&P 500 performance. However, there was a significant difference between the political party and the S&P 500 performance during the first year of the presidential term; more on this observation when research question two is explored.

Figure __. S&P 500 Performance Statistical Box Plot (16 presidential terms)



Source: Adapted by Valadez, R. M. (2012) from S&P 500 Composite Daily Closing Values using Number Crunching Statistical System released September 10, 2004.

Research Question Two

Is there a difference between the term-years by political party and the S&P 500 performance?

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Descriptive observations

The average S&P 500 returns in the 3rd and 4th years appear to be greater than those of the 1st and 2nd year of a U. S. presidential term. Year-three appears to have the greatest gains in the S&P 500 during a presidential term, while year-one appears to have the lowest gains.

Statistical Analysis

There was no significant difference between the S&P 500 growth rates of the term years of the Presidential cycle. However, there was a significant difference between the S&P performance and the political party in the first year of the presidential term; in the rest of the term years (years 2-4), there was no significant difference between the S&P performance and the political party of the presidency.

Research Question Three

Is there a difference between the term-years by a president and the S&P 500 performance?

Descriptive observations

In **Figures _____** in the Appendix,

Table _ . S&P 500 Comparison Returns (1949-2012): Nominal vs. CPI Adjusted 1980=100

President	January 20 th Nominal Price Levels			CPI Adjusted Levels 1980=100		
	Beg-S&P	End-S&P	Gain	Beg-S&P	End-S&P	Gain
Truman	15.50	26.14	68.65%	53.66	80.67	50.34%
Ike	26.14	44.40	69.85%	80.67	130.20	61.40%
Ike	44.40	59.60	34.23%	130.20	164.25	26.15%
Kennedy	59.60	86.60	45.30%	164.25	226.53	37.92%
Johnson	86.60	101.69	17.42%	226.53	228.32	0.79%
Nixon	101.69	118.21	16.25%	228.32	219.38	-3.92%
Nixon	118.21	102.97	-12.89%	219.38	140.01	-36.18%
Carter	102.97	131.65	27.85%	140.01	119.34	-14.76%
Reagan	131.65	175.23	33.10%	119.34	134.27	12.51%
Reagan	175.23	286.63	63.57%	134.27	190.47	41.86%
GHBush	286.63	433.37	51.19%	190.47	247.13	29.75%
Clinton	433.37	776.70	79.22%	247.13	398.75	61.35%
Clinton	776.70	1342.90	72.90%	398.75	624.82	56.69%
GWBush	1342.90	1175.41	-12.47%	624.82	495.92	-20.63%
GWBush	1175.41	805.22	-31.49%	495.92	309.27	-37.64%
*Obama	805.22	*1400.00	73.86%	309.27	*530.00	71.37%
Average						

*assumes S&P 500 ends at 1400 on Jan 20, 2013

Source: Adapted by Valadez, R. M. (2012) from S&P 500 Composite Daily Closing Values

Statistical Analysis

There appear to be some significant differences among the presidents in the second year of the Presidential cycle.

Research Question Four

Is there a difference between term-years of the presidential cycle and the S&P 500 performance?

Descriptive observations

Statistical Analysis

There were no significant differences between the term-years of the Presidential cycle.

Research Question Five

Is there a difference between the first half and the second half of a presidential term and the S&P performance?

Descriptive observations

At first the descriptive statistics in [Table __](#) in the Appendix seem to show that the second half of a presidential term provides a better setting for the performance of the S&P 500 (15.73 percent in the first half versus 21.20 percent in the second half of a presidential term) using the *nominal* composite price levels. However, as [Table __](#) shows in the Appendix, the results are less in both cases (08.45 percent for the first half versus 13.56 percent for the second half) when using *adjusted* composite price levels. However using descriptive statistics does not present the whole picture. Further study using statistical testing provides a different picture.

Table __. S&P 1st and 2nd Halves Returns by President CPI Adjusted 1980=100

President	1st Half of Term			2nd Half of Term		
	Beginning	End-	Change	Beginning	Ending	Change
Truman	53.66	67.85	26.44%	67.85	80.67	18.89%
Ike	80.67	108.01	33.89%	108.01	134.51	24.53%
Ike	130.20	157.78	21.18%	157.78	165.24	4.73%
Kennedy	164.25	175.79	7.03%	175.79	226.53	28.86%
Johnson	226.53	212.34	-6.26%	212.34	228.32	7.53%
Nixon	228.32	190.80	-16.43%	190.80	219.38	14.98%
Nixon	219.38	108.87	-50.37%	108.87	140.01	28.60%
Carter	140.01	113.39	-19.01%	113.39	119.34	5.25%
Reagan	119.34	121.03	1.42%	121.03	134.19	10.87%
Reagan	134.27	195.15	45.34%	195.15	190.47	-2.40%
GHBush	190.47	200.29	5.16%	200.29	247.13	23.39%
Clinton	247.13	251.30	1.69%	251.30	398.75	58.67%
Clinton	398.75	621.52	55.87%	621.52	624.82	0.53%
GWBush	624.82	397.50	-36.38%	397.50	495.92	24.76%
GWBush	495.92	565.50	14.03%	565.50	309.27	-45.31%
*Obama	309.27	468.99	51.64%	468.99	*530.00	13.01%
	Average		8.45%			13.56%

Source: Adapted by Valadez, R. M. (2012) from S&P 500 Composite Daily Closing Values
*assumes S&P 500 ends at 1400 on Jan 20, 2013

Table __. S&P 1st and 2nd Halves Nominal Returns by President

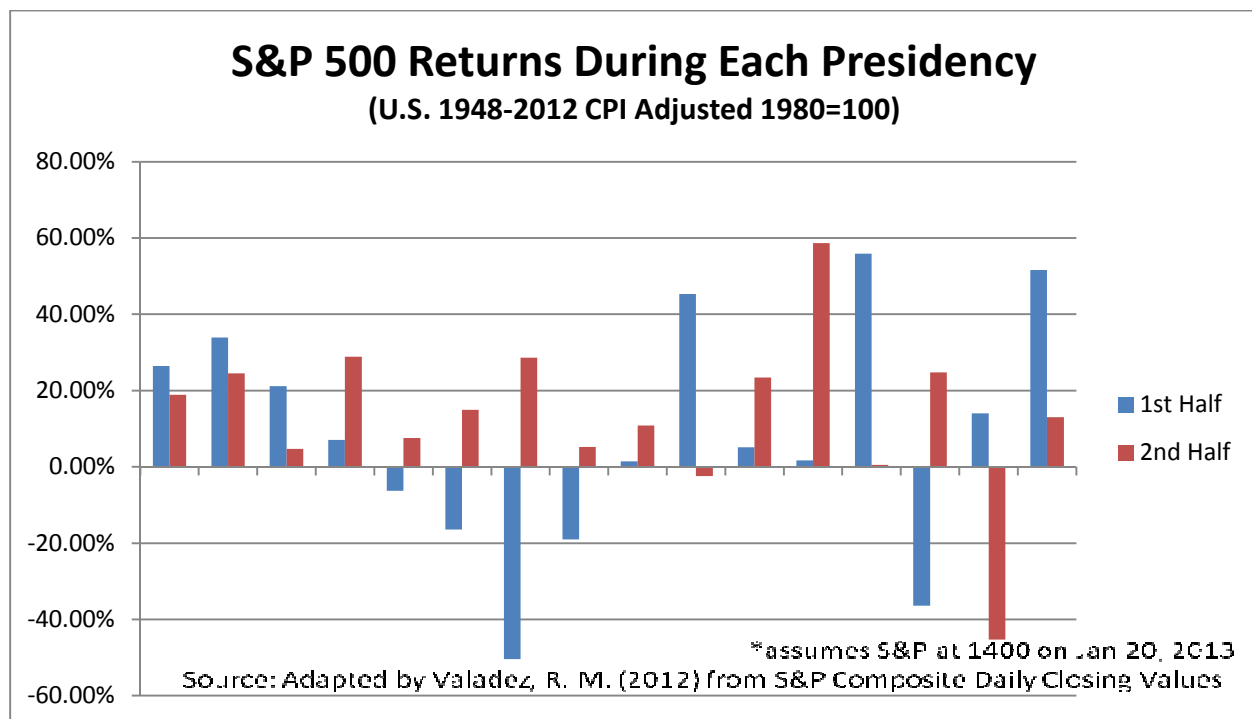
President	1st Half of Term			2nd Half of Term		
	Beg-Adj1980	End-Adj1980	dif-adj	Beg-Adj1980	End-Adj1980	dif-adj
Truman	15.50	21.41	38.13%	21.41	26.14	22.09%
Ike	26.14	35.13	34.39%	35.13	44.40	26.39%
Ike	44.40	55.72	25.50%	55.72	59.96	7.61%
Kennedy	59.60	65.28	9.53%	65.28	86.60	32.66%
Johnson	86.60	86.07	-0.61%	86.07	101.69	18.15%

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Nixon	101.69	93.78	-7.78%	93.78	118.21	26.05%
Nixon	118.21	71.08	-39.87%	71.08	102.97	44.86%
Carter	102.97	99.90	-2.98%	99.90	131.65	31.78%
Reagan	131.65	146.29	11.12%	146.29	175.23	19.78%
Reagan	175.23	269.04	53.54%	269.04	286.63	6.54%
GHBush	286.63	331.06	15.50%	331.06	433.37	30.90%
Clinton	433.37	464.78	7.25%	464.78	776.70	67.11%
Clinton	776.70	1256.62	61.79%	1256.62	1342.90	6.87%
GWBush	1342.90	887.62	-33.90%	887.62	1175.41	32.42%
GWBush	1175.41	1422.95	21.06%	1422.95	805.22	-43.41%
*Obama	805.22	1280.26	58.99%	1280.26	*1400.00	9.35%
		Average	15.73%			21.20%

Source: Adapted by Valadez, R. M. (2012) from S&P 500 Composite Daily Closing Values
 *assumes S&P 500 ends at 1400 on Jan 20, 2013

Figure . S&P 500 Returns During Each Presidency (1948-2012) CPI Adjusted 1980=100



Statistical Analysis

In both *nominal* and *adjusted* composite price levels of the S&P 500 performance, there was no significant (at the 95 percent confidence level) difference between the S&P 500 performance during first and second halves of a presidential term. It did not matter which political party was in power.

CONCLUSION

Further thoughts

One could question if we took the 2008 Black Swan, would the numbers change?

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Some preliminary analysis indicates that there would be no significant difference in all of the statistical calculations.

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