

# Political Cycles in US Industry Returns

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## Abstract

After correcting industry returns for general market movements, using either the Single-Index or the Fama-French three factor models, we find no evidence of two well known political effects documented for general stock market returns in the United States. Contrary to general market indices, adjusted industry returns do not exhibit significant or a consistent presidential election cycle effect. Contrary to the general market, adjusted industry returns do not show a significant or consistent underperformance under Republican presidents. Our results defy popular beliefs some industries perform consistently better under either Democrats or Republicans, and suggest these two political effects are market wide phenomena whose explanation should be sought at a macro economic level.

**Keywords:** market efficiency, industry returns, political cycles, political partisanship

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## **Introduction**

Conventional Wall-Street lore holds financial markets prefer Republican control of the White House. “The Right is known to sympathise more with the business community and encourage stock market-friendly policies, while the Left has a greater tendency to regulate and intervene in financial markets.”<sup>1</sup> However, historical equity returns from 1926 through 2006 suggest otherwise. Republican presidents were in control of the White House during the stock market crashes of 1929 and 1987. Another Republican, Richard Nixon, was president during the 1969-1974 bear market. The bull markets of the 1960s and the 1990s occurred under Democratic stewardship (Gross 2004). Yet, despite evidence to the contrary, it’s counterintuitive for most investors to associate Democrats administrations with strong stock markets.

### **Insert Chart I**

Studies on the relationship between politics and the stock markets have documented two important stylized facts. The US stock market tends to perform better under Democrats than under Republicans. The US stock market tends to perform better in the last two years of a presidency. For instance Niederhoffer, Gibbs and Bullock (1970) find returns for the Dow Jones Industrial Average are systematically higher with a Democrat in office and more pronounced during the third year of a presidential administration for both Democrats and Republicans. Santa-Clara and Valkanov (2003) similarly show relative out-performance for the major stock market indexes and size-decile portfolios under Democrats.

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<sup>1</sup> “US presidential election focus”, [www.mellonglobalinvestments.com](http://www.mellonglobalinvestments.com), 04/10/04

In general, there are two political effects or cycles documented in US general stock market returns. The presidential cycle is based on political affiliation or whether an incumbent president is a Democrat or Republican. The major stock indexes are typically higher under a Democrat president and lower under a Republican president. The Quadrennial cycle is based on the year of a four-year presidential term in office independent of political affiliation. The major stock indexes are typically lower during the first two years or first-half of an administration and higher during last two years or second-half of an administration. Both presidential cycle and quadrennial cycle are observed to influence the major U.S. stock indexes.

While political cycles in equity markets are well documented, no acceptable explanation of the systematic relationship between asset returns and politics has been provided. Riley Jr. and Luksetich (1980) find while the market responds favorably in the short-run to a Republican victory there is no long-term response to political outcomes. Santa-Clara and Valkanov (2003) consider the possibility election cycles serve as a proxy for normal business cycles but conclude the two are unrelated. Equally they find any differences in variance or expected returns fail to explain presidential election cycles. McConnell, Ovtchinnkov and Cooper (2005) show political cycles and election cycles are also independent of other observed market anomalies. The question of how election cycles persist in asset returns remains unanswered and a puzzle.

This seeming contradiction of a basic efficient market tenet, the random-walk model, provides a curious puzzle. In efficient markets we expect excess returns to dissipate once documented by investors. Yet, presidential election cycles have been observed in the general market for years. One explanation might be in the aggregate market indexes are distorted by returns to a

few dominant industries. This possibility is recognized in a study by Herron, Lavin, Cram and Silver (1999) who find presidential politics impact industry returns unevenly.

We extend the previous literature and investigate whether presidential election cycles observed in the broader market are also present in industry returns. After correcting for general market movements we find no evidence of election cycle effect. Unadjusted industry returns do exhibit the same phenomenon of higher relative returns under Democrats and higher returns during the last two years of an administration similar to that found in the general market indexes. However, after we correct industry returns using either the Single-Index or Fama-French three factor model, the effect of both presidential and quadrennial cycle dissipates.

We conclude there is no evidence of significant or persistent political cycles in industry returns. Our result contradicts conventional market wisdom that certain industries provide relative outperformance under either Democrats or Republicans. For example, during the 2004 election, a Republican victory was considered positive for energy, utility, and pharmaceutical stocks while a Democrat victory beneficial for alternative energy, mortgages, and retail stocks, (Kim (2004)<sup>2</sup>). We find however an industry allocation strategy based on political cycles provides investors with no excess return. The relative outperformance of the stock market under Democrat administrations and higher returns during the second half of any administration appears to be a market wide phenomenon that is not evident in industry returns.

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<sup>2</sup> A further illustration of this belief is one of the largest Swiss Banks, Banque Vontobel. In 2000 Banque Vontobel introduced two mutual funds. The first mutual fund held stocks that were considered good if Bush would win the elections: Philip Morris, Pfizer, Microsoft, General dynamics, Lockheed Martin and International Paper. The Gore fund contained stocks of Merck, Fannie Mae, Freddie Mac, Devry Inc, Ballard and United Technologies.

Our result suggests an explanation of political cycles should be sought at the macro-economic level. Systematic differences in monetary and fiscal policies between Democrats and Republicans might provide an answer to the puzzle of political cycles. Bolten and Weigand (1998) and others show a clear interaction between corporate earnings and changes in interest rates. It is also possible, as Santa-Clara and Valkanov (2003) suggest, equity returns themselves could determine political outcomes rather than the converse. Does politics drive stock returns or do stock returns drive politics? These questions remain unanswered and as possible extensions for further research.

The remainder of this paper is organized as follows. In section 1 we discuss the presence of presidential cycle and quadrennial cycle in general market indexes. In section 2 we discuss the results for presidential cycle in industry returns. In section 3 we discuss the results for quadrennial cycle in industry returns. Finally, in section 4 we conclude.

## **1. Results for the general market**

If stock markets follow a random-walk then information on whether a president is a Democrat or Republican or which year of a President's term should have no effect on expected returns. However, a number of empirical studies document political variables or election cycles determine general stock market returns in seeming contradiction of financial theory. Consider for instance the regression equation:

$$r_t - rf_t = \alpha_0 + \alpha_1 RP_t + \varepsilon_t \tag{1}$$

where excess market returns are regressed on the political variable ( $RP$ ) with the usual white-noise error term ( $\varepsilon_i$ ) with heteroskedasticity and autocorrelation controlled following the procedure of Newey and West (1987). Our presidential cycle dummy variable ( $RP$ ) takes the value one under a Republican president and zero otherwise. Coefficient  $\alpha_0$  can be interpreted as returns under Democrats and  $\alpha_1$  the marginal difference in returns between Republicans and Democrats. One would not expect information on whether a president is Republican or Democrat to have a predictable effect on stock returns. In efficient markets we expect returns to follow a random-walk and consequently our variables should contain no explanatory power.

Similarly, consider the regression equation :

$$r_t - rf_t = \alpha_0 + \alpha_1 HLF2_t + \varepsilon_t \quad (2)$$

where excess market returns are regressed on the timing variable ( $HLF2$ ) with the same HAC adjusted error terms as above. This time our quadrennial cycle dummy variable ( $HLF2$ ) takes the value one during the second half of any administration and zero otherwise. Coefficient  $\alpha_0$  can be interpreted as first half returns and  $\alpha_1$  the marginal difference in returns between the first and second half of a four year presidential administration under either a Democrat or Republican. One would also not expect that in efficient markets information on the year of a presidential term to have a predictable effect on stock returns.

Assuming a simple random-walk model there should be no relation between either presidential cycles or quadrennial cycles in stock returns. Nevertheless, both effects have been well documented in the literature.

Initially we observe if there is presidential cycle in the general stock market as previous studies document. Panel A in Table I reports our results from equation 1 for the value weighted general market index, Fama-French factors, and interest rates over the period from 1926 through 2006. The one-month Treasury-bill from Ibbotson Associates serves as a proxy for the risk-free rate. The size factor *SMB* (small minus big) and valuation factor *HML* (high minus low) are well known risk factors as described by Fama and French (1993). Value weighted market and industry returns, one-month Treasury-bill rates, and factors are obtained from Kenneth French's website.<sup>3</sup>

### **Insert Table I**

For the general market index we observe excess returns over the one month Treasury-bill rate of 10.6% under Democrats and 1.9% under Republicans for an economically and statistically 8.6% difference. Similarly, Santa-Clara and Valkanov (2003) document a 9% difference in returns between Democrats and Republicans in monthly returns for the AMEX, NYSE, and NASDAQ indexes from 1926 through 1998. Swensen and Patel (2004) observe annual returns from 1969-2000 for the NYSE composite in addition to the industrial, transportation, utility, and financial sub-indexes. They find returns to the NYSE composite are 5% greater under Democrat administrations. Likewise they show returns for industry (5.3%), financials (7.0%), transportation (7.2%), and utilities (10.3%) sub-indexes are all higher for Democrats.

Similar to previous studies that observe small-capitalized firms have higher returns under Democrats, we also find a statistically significant size-effect in the general market. As indicated by our size factor, excess returns to small-cap firms earn a 5% premium under

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<sup>3</sup> [http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html)

Democrats as compares with a 1% discount under Republicans. Likewise, Hensel and Ziemba (1995) find returns are higher for small-cap stocks with a Democrat president from 1928-1993 for the NYSE composite index. Additionally, Santa-Clara and Valkanov (2003) observe returns to size-decile portfolios between Republican and Democrat administrations. Santa-Clara and Valkanov (2003) show that while all deciles portfolios have higher returns under Democrats, the relative outperformance increases monotonically from large to small capitalization. While small-cap firms are typically more risky than large-cap, one would expect any risk-premium based on capitalization to be stable across political parties. However, research indicates presidential cycle is more pronounced in small-capitalized firms. This result seems to support conventional wisdom that small companies perform better under Democrats.

There is no indication of a glamour stock-effect between Republicans and Democrats in the broader stock market observable in our results. This would be evident if high growth firms with large market valuation to book value ratios performed better under a given political party. However, a look at the valuation factor HML shows returns are basically the same across administrations at 4.5% and 4.1% for Republicans and Democrats respectively.

A look at Treasury bill rates reveals interest rates are slightly higher under Republican administrations. Over the last eighty years short-term rates average 4.7% under Republicans and 2.7% under Democrats for an approximate 2% difference. A study by Johnson and Chittenden (1999) for the 1929-1996 period likewise documents a 2.7% difference that favors Republicans. Considering average market volatility has been approximately 19% over the last eight decades, it seems unlikely the relatively small difference in interest rates across political parties would influence stock returns. A recent study by Durham (2005) also concludes the

impact of “surprises” in monetary policy on stock returns minimal compared with the overall equity volatility. Regardless of any marginal difference in interest rate levels, investors have been better off investing in the general market than short-term treasuries under both Democrats and Republicans.

In addition to presidential cycles, we observe the general stock market index for quadrennial cycle. A systematic difference in returns during the second half or last two years of a presidential term might indicate incumbent politicians, irrespective of political party, intentionally attempt to stimulate economic returns prior to elections to improve their chance of reelection. In Panel B of Table 1 we report our results from equation 2 for the general market index, the Fama-French factors, and interest rates. While excess market returns average 6.2% over the entire 1926-2006 period most of this appreciation occurs during the last two years of a four year presidential term in office. We find an economically and statistically significant 10.0% difference in excess returns between the first half (1.3%) and second half (11.3%) of an administration.

Our result confirms the work of previous studies that document quadrennial cycles in stock returns. Research by Allvine and O'Neill (1980), Huang (1985), and Johnson and Chittenden (1999) among others find four year cycles coinciding with presidential administrations in the general market indices. Swensen and Patel (2004) observe quadrennial cycle in the NYSE composite as does Hensel and Ziemba (1995) in both large and small-cap stocks.

While most studies in general show evidence of quadrennial cycle, there are exceptions. Banning (2002) for example finds no statistically significant difference in first and second half returns with daily data for the Dow Jones Industrial Average from 1897 to 2000. The

choice of short-frequency data perhaps offers an explanation to the inconsistency with other studies that typically use less noisy longer horizon monthly data. Interestingly, the Banning (2002) study does find a statistically significant difference in returns during a President's first complete term in office compared with subsequent terms.

We also consider if quadrennial cycle is correlated with market capitalization, valuation, or Treasury-bill rates. Our SMB size-factor does confirm a statistically significant 4.7% higher second half return to small stocks. However, as with presidential cycle, there appears no value-effect in quadrennial cycles. Treasury-bill rates appear basically constant across the four years of a presidential term at 3.9% and 3.5% for the first and second halves respectively.

To summarize, what has been established in the general market is a persistent and systematic relationship between political control of the presidency and the point in a four year term of office. Contrary to conventional wisdom, general stock market indices perform best under a Democrat President. This political effect is even more pronounced with small-cap stocks than large-cap stocks. As perhaps might be expected by conventional wisdom, interest rates are higher with a Republican in the White House. Additionally, stock market returns are higher during the second half of a four year presidential term regardless of political affiliation.

While the presidential and quadrennial cycles are well documented in the literature, there has been no satisfactory explanation within the constructs of financial theory. There are a number of different theories that have been put forth to explain political cycles.

One possible explanation is political cycles might simply serve as a proxy for business cycles. To correct for this possibility Santa-Clara and Valkanov (2003) include well known business

cycle variables in their model. Surprisingly, with the addition of dividend/price ratio, term-spread, default-spread, and relative interest rate variables Santa-Clara and Valkanov (2003) find results for presidential cycle are even more robust. They conclude political cycles are unrelated to reoccurring business cycles.

Another argument is that in a risk and return paradigm higher returns under Democrat administrations are only compensation for additional risk as measured by increased stock volatility. In contrast to the expected higher volatility under Democrats required to substantiate this argument, Santa-Clara and Valkanov (2003) actually observe higher variance in stock returns under Republicans. They argue higher volatility might result from increased market liquidity under Republicans given investor expectations of higher returns. In the study of the 2000 presidential election, Leblang (2001) conclude markets are less volatile when it appears a Democrat will become president.

Campbell and Li (2004) also look at differences in volatility as an explanation for the presidential premium in their Federal Reserve Bank working paper. Most recent cycle studies employ OLS regression techniques that adjust for well known problems of heteroskedasticity and autocorrelation in return data with methods outlined by either Newey and West (1987, White (1980). Their study questions the validity and efficiency of OLS estimations in calculating presidential cycle premiums. Alternatively, they use a variety of methods such as weighted least squares (WLS) and GARCH to account for time variant market volatility. Generally they find the difference in returns to large stocks between Republicans and Democrats, although still persistent, is smaller than OLS estimates and lack statistical significance. However, even with different methodology, a small-cap stock premium of 6.1% to 11.9%, depending respectively on GARCH or WLS estimates, remains relatively large and

statistically significant under Democrats. Interestingly, this study finds greater evidence of preferential market performance, especially in small-cap stocks, under Democrats in the years since 1962.

Other studies consider if differences in excess returns across political parties represent conditional differences in expectations or expected and unexpected returns. Riley Jr. and Luksetich (1980) use S&P 500 data from 1900-1976 to conduct an event study surrounding key election events. They observe that, although the market responds favorably in the short-run to a Republican victory, investors show no long-term political preference except possibly for the incumbent. Similarly, Santa-Clara and Valkanov (2003) look at market reaction in the days following an election from 1926-1998 and conclude the market doesn't price election outcomes. Differences in expected returns conditional on political control which previous studies observe fail to adequately explain the systematically large and seemingly unexpected general stock market returns that favor Democrat administrations.

The literature also provides few alternative explanations of quadrennial cycles. Allvine and O'Neill (1980) argue the persistence of four-year cycles in the data can be explained within an efficient market framework. They suggest restrictions on short-sales by institutional investors limit their ability to exploit downside opportunities observed during the first half of an administration. Moreover, limits by investors in processing copious amounts of political information are seen to distort otherwise efficient markets. Swensen and Patel (2004) look at inflation rates and required real rates of returns. While inflation rates are higher in the last two years of a presidency, particularly during republican administrations, they find real returns remain larger and statistically significant. Lastly, Swensen and Patel (2004) suggest

quadrennial cycles might partially be explained by control of the Congress. However, the presence of quadrennial cycle, like presidential cycle, in the data remains largely unexplained.

In the following sections we observe industry returns as a possible way to solve the puzzle of election cycles found in general stock market returns. If political effects are exceptionally strong in dominant industries, it might be what is observed as a market-wide phenomenon is actually only industry specific. If political effects are industry specific we expect industry returns should remain significant after correcting for general market movements and persistent across sub-periods. Otherwise, general macro-economic determinants might provide a more likely explanation. Therefore, we first test whether political and quadrennial cycles are present in industry returns after adjusting for general market movements. We do this using the Single-Index model. Moreover, as other studies observe differences in returns under Democrats and Republicans are particularly large for smaller firms we also consider the Fama-French three factor model.

## **2. Results for Presidential Cycle**

Our industry data covers the same 1926-2006 period as the general market index. The 48 industry portfolios represent *all stocks* included in the NYSE, AMEX, and NASDAQ indices and grouped by SIC classification as described in detail on Kenneth French's website.<sup>4</sup>

Table II contains the basic characteristics for all industries. The highest unconditional excess return is banking (9.3%) followed by aircraft (8.8%), beer & liquor (8.3%) and tobacco (8.3%). It is of interest to note within a risk/return paradigm that while tobacco has the third

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<sup>4</sup> [http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data\\_Library/det\\_48\\_ind\\_port.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_48_ind_port.html)

highest return of all industries it has the eighth smallest return variance and the smallest beta risk. Conversely, the second lowest return for all industries over the last eight decades, real estate (0.6%), has one of the highest variations of return.

We include in Table II results from our basic model for presidential cycle estimated with equation 1.

$$r_t - rf_t = \alpha_0 + \alpha_1 RP_t + \varepsilon_t \quad (1)$$

Where excess log returns for the 48 industry portfolios are regressed on our political dummy variable ( $RP$ ).

### **Insert Table II**

Looking at those excess industry returns in Table II we find – not surprisingly – a strong out-performance of most industries under Democrats. There are some notable exceptions. The largest relative difference in returns between administrations is tobacco (4.7%) and food products (1.1%) under Republicans. In comparison, industries with the largest relative out-performance under Democrats are healthcare (35.0%) and aircrafts (24.0%). This cursory observation lends some support to conventional market wisdom that Republican policies support tobacco interests and big industry while Democrat policies support advances in healthcare and technology.<sup>5</sup>

### **Insert Chart II**

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<sup>5</sup> “Words from the Trading Floor,” CNN financial, Christine Romans, 01 September, 2004

However, these industry effects might just be induced by a market wide effect. To correct for this possibility we adjust industry returns with the inclusion of a term for relative market movements. We do so using a modified Single-Index model. Our model now becomes a market model with the inclusion of political variable that effectively divides Jensen's alpha between additional returns to Democrat and Republican administrations.

$$r_t - rf_t = \alpha_0 + \alpha_1 RP_t + \beta_1 (r_{mt} - rf_t) + \varepsilon_t \quad (3)$$

In this equation we test for the outperformance of conditional excess industry returns relative to the market index with our results shown in Table III.

### **Insert Table III**

Relative to the market, there are six industries with positive returns and seven industries with negative returns that are statistically significant at 10% or greater for Republicans. After market correction, industries with large capitalization such as tobacco continue to provide the best outperformance and small-scale industry such as construction the worst returns for Republicans. Relative to the market, there is a substantial change in the number of excess industry returns that remain statistically significant for Democrats. Only oil industry returns remain positive while returns to the steel industry now turn highly negative. Statistically significant relative differences increase from virtually none to five industries that are positive for Republicans and decrease from twenty to four industries that are positive for Democrats. The largest difference in returns is tobacco (10.0%) for Republicans and wholesale (8.8%) and electronic equipment (8.8%) for Democrats. Moreover, these results largely lack stationarity with a robustness check across two sub-periods. Of the forty-eight industries only

food processing for Republicans remain statistically significant in all periods. Our results to this point indicate industry returns conditional on political control provide no outperformance for investors relative after controlling for general market movements.

As a final exercise, we consider if remaining excess returns can be explained by sensitivities to average firm size and valuation. With the inclusion of size and valuation factors, our model becomes a modified Fama and French (1993) three factor model. Table IV contains our estimation results from equation 4 with factor coefficients omitted for clarity.

$$r_t - rf_t = \alpha_0 + \alpha_1 RP_t + \beta_1(r_{mt} - rf_t) + \beta_2 SMB_t + \beta_3 HML_t + \varepsilon_t \quad (4)$$

Where small firm minus big firm size factor (*SMB*) and high minus low book-value factor (*HML*) are discussed in Fama and French (1993).

After factor adjustments and across sub-periods, relative outperformance of industry returns under Republicans and Democrats entirely dissipates. The two remaining exceptions are agriculture and wholesale with a stationary and positive out-performance for Democrats across all periods. In particular, industry returns appear highly sensitive to firm size under Democrats. This result is not surprising given previous studies such as Santa-Clara and Valkanov (2003) that document a pronounced small-firm effect under Democrat administrations.

We conclude all remaining evidence of presidential cycles in industry returns disappears after correcting for industry sensitivity to firm size and valuation. Table V compares the statistical significance at 10% in returns across our three models and sub-periods. It is clear from Panel

As what appears in our basic model as excess industry returns are largely relative market movements with any remaining presidential cycle accounted for by factor sensitivity. Further, returns are not stationary across sub-periods as seen in Panel B.

**Insert Table IV**

**Insert Table V**

Our results to this point suggest the political affiliation of the president has no effect on industry returns beyond that expected by the market. Consequently we observe there is no discernable outperformance of industry portfolios or opportunity for investors to realize excess returns from a timing strategy related to presidential cycles beyond that already evident in the general market. We observe nominally industry portfolios highest under Democrats. However, when we look at industry returns relative to the market and after adjusting for additional factor sensitivities, our political dummy variables lose all explanatory power. We do confirm some evidence of a positive bias in industry returns for small-cap firms under Democrat leadership as similarly documented in previous studies of the major market indexes. It would seem conventional wisdom which holds particular industries perform better under a given political regime is not supported by the data. For both Democrats and Republicans an investor is better off holding the market portfolio than specific industries or Treasury-bills.

### **3. Results for Quadrennial Cycle**

We now observe industries for evidence of quadrennial cycle where returns are dependent on the period in a presidential term irrespective of political affiliation as our quadrennial model describes.

$$r_t - rf_t = \alpha_0 + \alpha_1 HLF2_t + \varepsilon_t \quad (2)$$

Where excess industry returns are regressed on our timing variable (*HLF2*).

Results from equation 2 are shown in Table II. We find 20 or approximately 42% of the 48 industries have statistically significant differences in returns between the first and second halves of a presidential term with higher returns during the last two years of an administration in all instances. Highest second half returns are in healthcare (35.0%) and aircraft (24.0%) with the lowest pharmaceutical (1.4%) and healthcare (1.8%). Perhaps not surprisingly the smallest difference across halves is found in health related industries. However, overall we discern no evident pattern across industries with higher second half returns observed in primary, manufacturing, and consumer staples/durables in addition to both high and low beta industries.

### **Insert Chart III**

Notably, we do find quadrennial cycle is even more evident for unadjusted returns in the sub-period 1966 through 2006 with statistically significant differences at level of 10% or greater in 43 industries. Stronger differences in second half returns during this latter period are similar to the results of Allvine and O'Neill (1980) who speculate since 1961 politicians are

apparently more adroit at economic manipulation to further their prospect of gaining reelection.

As with presidential cycle, it is possible the observed relative outperformance of second half returns represents new market equilibrium rates of return. Risk and market volatility unquestionably increase with the uncertainty of an election and potential change in political agenda. Therefore, second half returns might simply be expected compensation for extra risk during the period prior to an election. We therefore control for relative market movement in our quadrennial cycle model with the inclusion of a term for excess market returns. The model becomes the basic market model with Jensen's alpha this time split between first and second half returns.

$$r_{it} - rf_t = \alpha_0 + \alpha_1 HLF 2_t + \beta_1 (r_{mt} - rf_t) + \varepsilon_t \quad (5)$$

We report our results from equation 5 in Table VI. Relative to the market we observe the out-performance of second half industry returns largely diminishes. Differences in returns remain positive and statistically significant in only two industries and negative in four. Interestingly, with the inclusion of a term for market correction, a majority of industries actually show negative second period returns although statistically insignificant. Even in the later sub-period, differences in returns between halves remain statistically significant in only three portfolios. Our results indicate while industry returns generally appear to be higher during the last two years of a presidency this apparent out-performance is actually attenuates after correcting for general market movement and additionally non-stationary across sub-periods.

Lastly, factor variables *SMB* and *HML* are included in equation 6 to control for any possible small firm and valuation effects in quadrennial cycles as motivated by the Fama-French three factor model.

$$r_{it} - rf_t = \alpha_0 + \alpha_1 HLF2_t + \beta_1 (r_{mt} - rf_t) + \beta_2 SMB + \beta_3 HML + \varepsilon_t \quad (6)$$

Table VII contains our estimation results. While differences remain significant in eight industries for the entire period, they lack stability across sub-periods. Notably, in the most recent forty-years only three portfolios show a difference that is statistically significant with only one of these positive. We find the inclusion of size and value factors adds nothing to the story and fails to help support the finding of a quadrennial cycle in industry returns.

To summarize, we find that as with presidential cycles, after correcting for relative market movements and size and valuation factors there is no evidence of quadrennial cycle in industry returns. What appears as excess returns during the second half of a presidential administration is simply expected rather than unexpected compensation. Table VIII summarizes the statistical significance of first and second half returns across our models and different sub-periods.

**Insert Table VI**

**Insert Table VII**

**Insert Table VIII**

## 4. Conclusion

We find political effects are neither significant nor consistent in U.S. industry returns after correcting for general market movements and additional risk factors. While political effects are well documented in U.S. stock market indexes, there is no evidence of presidential cycle or quadrennial cycle in industry returns. Similar to the market indexes, unadjusted industry returns are predominantly higher under a Democrat president and during the second half of any administration. This apparent relative out-performance dissipates when returns are adjusted using either the Single-Index or Fama-French three factor model. What appears as political cycles in industry returns seems to merely reflect expected rather than unexpected investor compensation that is time variant. We conclude that, contrary to conventional market wisdom, there is no opportunity for investors to generate excess returns using an industry allocation strategy based on political cycles. Our results suggest the relative outperformance of equity returns between Democrat and Republican administrations or the year of a presidential term is only a market-wide phenomenon. The answer to this puzzling feature of the data might be found in macro-economic level determinants through differences in monetary and fiscal policies between political parties. Possibly investors formulate expectations for the general market based on their perception of how a president's political affiliation or opportunistic motivation influences such economic determinants as taxes, levels of employment, and interest rates. There is also the possibility asset returns are exogenous and actually determine political outcomes rather than the converse. Alternatively, a closer look at market volatility using ARCH/GARCH to better model return variance might help better explain the existence of a presidential premium within a risk-return paradigm. Ultimately, the puzzle of presidential cycles remains and open question for future research.

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**Table I:** Returns for general market, size factor, valuation factor, and Treasury bill

<b>Panel A: Presidential Cycle</b>					
<b>Description</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>RP</b>	<b>DP</b>	<b>Diff</b>
Excess market return	6.2%	18.9%	1.9%	10.6%	-8.6% **
SMB Factor	2.2%	11.3%	-0.8%	5.4%	-6.2% **
HML Factor	4.3%	12.1%	4.5%	4.1%	0.3%
Treasury bill	3.7%	0.9%	4.7%	2.7%	1.9% ***

<b>Panel B: Quadrennial Cycle</b>					
<b>Description</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>HLF1</b>	<b>HLF2</b>	<b>Diff</b>
Excess market return	6.2%	18.9%	1.3%	11.3%	-10.0% **
SMB Factor	2.2%	11.3%	-0.1%	4.7%	-4.8% *
HML Factor	4.3%	12.1%	4.8%	3.8%	0.9%
Treasury bill	3.7%	0.9%	3.9%	3.5%	0.3%

**Notes:**

**Panel A** reports annualized mean and standard deviations for value weighted market returns, size factor (SMB), valuation factor (HML), and the one month Treasury bill for the 1926-2006 period. Conditional returns given a Republican (RP) or Democrat (DP) president are reported from our regression  $r_t = \alpha_0 + \alpha_1 RP_t + \varepsilon_t$ . Excess market returns, factor returns, and Treasury-bill rates are regressed on the political variable (RP) with the usual white-noise error term ( $\varepsilon_t$ ). Our presidential cycle variable (RP) takes the value one under a Republican president and zero otherwise. Coefficient  $\alpha_0$  can be interpreted as returns under Democrats and  $\alpha_1$  the marginal difference in returns between Republicans and Democrats. Test statistics are based on Newey and West (1987) heteroskedasticity and autocorrelation consistent standard errors. Statistically significant differences (Diff) in returns between Republicans and Democrats are indicated at 1%\*\*\*, 5%\*\*\*, and 10%\* confidence intervals.

**Panel B** reports annualized mean and standard deviations for value weighted market returns, size factor (SMB), valuation factor (HML), and the one month Treasury bill for the 1926-2006 period. Conditional returns given the first (HLF1) or second half (HLF2) of a presidential term are reported from our regression  $r_t = \alpha_0 + \alpha_1 RP_t + \varepsilon_t$ . Excess market returns, factor returns, and Treasury-bill rates are regressed on the political variable (RP) with the usual white-noise error term ( $\varepsilon_t$ ). Our quadrennial cycle variable (HLF2) takes the value one during the second half of any administration and zero otherwise. Coefficient  $\alpha_0$  can be interpreted as first half returns and  $\alpha_1$  the marginal difference in returns between the first and second half of a four year presidential administration under either a Democrat or Republican. Test statistics are based on Newey and West (1987) heteroskedasticity and autocorrelation consistent standard errors. Statistically significant differences (Diff) in returns between Republicans and Democrats are indicated at 1%\*\*\*, 5%\*\*\*, and 10%\* confidence intervals.

**Table II: Summary statistics for excess industry returns**

Industry	Size	Mean	Std. Dev.	Beta	RP	DP	Diff		HLF1	HLF2	DIFF	
Agriculture	219	4.3%	25.9%	0.92	-2.3%	11.3%	-13.6%		0.8%	7.9%	7.1%	
Food Products	718	7.1%	17.0%	0.74	7.7%	6.6%	1.1%		4.1%	10.2%	6.1%	
Beer & Liquor	2,388	8.3%	25.2%	0.97	4.0%	12.8%	-8.8%		7.3%	9.3%	2.0%	
Tobacco Products	3,695	8.3%	20.3%	0.63	10.7%	6.0%	4.7%		6.8%	9.9%	3.1%	
Recreation	136	3.4%	33.5%	1.21	1.2%	5.7%	-4.6%	**	-6.4%	14.2%	20.5%	**
Entertainment	347	6.6%	32.2%	1.39	0.9%	12.5%	-11.6%		3.1%	10.1%	7.0%	
Printing and Publishing	505	6.1%	26.2%	1.06	3.1%	9.1%	-6.1%		4.3%	7.9%	3.6%	
Consumer Goods	700	5.5%	19.6%	0.85	2.2%	8.9%	-6.6%		2.0%	9.1%	7.1%	
Apparel	162	6.6%	23.8%	0.99	2.1%	11.4%	-9.3%	*	0.8%	12.8%	12.0%	*
Medical Equipment	248	7.6%	22.1%	0.85	4.3%	11.0%	-6.7%		6.7%	8.5%	1.8%	
Pharmaceutical Products	879	7.9%	20.5%	0.85	5.5%	10.3%	-4.8%		7.2%	8.6%	1.4%	
Chemicals	723	6.8%	21.7%	1.02	4.1%	9.6%	-5.5%		2.7%	11.1%	8.3%	
Textiles	142	4.4%	26.1%	1.14	-0.5%	9.6%	-10.1%		0.2%	8.8%	8.6%	
Construction Materials	267	5.7%	23.3%	1.12	1.6%	10.0%	-8.4%		1.4%	10.3%	8.9%	
Construction	170	3.8%	32.8%	1.35	-5.8%	14.4%	-20.3%	*	-3.3%	11.4%	14.7%	*
Steel Works Etc	311	4.3%	28.0%	1.29	-0.6%	9.5%	-10.0%	**	-2.0%	11.1%	13.1%	**
Machinery	260	6.4%	24.9%	1.22	0.4%	12.7%	-12.3%	**	0.3%	12.9%	12.6%	**
Electrical Equipment	522	7.7%	26.5%	1.27	2.9%	12.7%	-9.8%	*	2.0%	13.8%	11.8%	*
Automobiles and Trucks	682	6.4%	26.7%	1.19	1.5%	11.5%	-10.0%	*	0.0%	13.1%	13.2%	*
Aircraft	1,121	8.8%	32.6%	1.32	3.2%	14.7%	-11.5%	***	-2.6%	21.4%	24.0%	***
Shipbuilding, Railroad Equipment	357	4.5%	27.2%	1.12	-2.2%	11.5%	-13.6%		-0.9%	10.0%	10.9%	
Non-Metallic & Industrial Metal Mining	298	5.8%	23.4%	0.95	1.6%	10.2%	-8.7%	***	-1.5%	13.6%	15.2%	***
Coal	371	7.3%	29.4%	0.78	0.8%	14.1%	-13.3%	**	-0.3%	15.4%	15.6%	**
Petroleum and Natural Gas	1,008	7.5%	21.0%	0.86	1.4%	13.8%	-12.4%	**	1.7%	13.6%	11.9%	**
Utilities	761	5.2%	19.8%	0.80	4.9%	5.6%	-0.7%	**	-0.1%	10.8%	10.9%	**
Communication	1,772	5.4%	15.9%	0.64	5.3%	5.6%	-0.3%		2.9%	8.0%	5.2%	
Business Services	265	5.9%	26.5%	0.96	-1.2%	13.5%	-14.7%		2.3%	9.6%	7.4%	
Computers	769	8.1%	25.7%	1.10	2.3%	14.2%	-11.8%		3.3%	13.1%	9.7%	
Electronic Equipment	376	6.0%	30.8%	1.37	-4.2%	17.2%	-21.4%		0.2%	12.1%	11.9%	
Measuring and Control Equipment	334	6.6%	24.6%	1.01	0.9%	12.7%	-11.8%		2.2%	11.3%	9.1%	
Shipping Containers	410	6.9%	21.3%	0.94	7.1%	6.7%	0.4%		5.1%	8.7%	3.6%	
Transportation	380	4.6%	24.6%	1.12	-0.1%	9.5%	-9.6%		0.4%	9.0%	8.6%	
Wholesale	157	2.7%	26.4%	1.10	-6.2%	12.5%	-18.7%		-1.1%	6.7%	7.7%	
Retail	550	6.6%	21.1%	0.96	4.1%	9.2%	-5.1%	*	1.5%	11.9%	10.4%	*
Restaurants, Hotels, Motels	221	6.8%	24.5%	1.00	3.3%	10.4%	-7.2%	**	0.2%	13.8%	13.6%	**
Banking	356	9.3%	24.6%	1.03	4.5%	14.4%	-9.8%		4.6%	14.3%	9.6%	
Insurance	691	6.3%	25.9%	1.10	1.1%	11.8%	-10.8%		2.9%	9.9%	7.0%	
Real Estate	78	0.6%	33.2%	1.25	-7.5%	9.4%	-16.8%	*	-7.0%	8.9%	15.9%	*
Trading	479	6.6%	26.3%	1.26	1.2%	12.1%	-10.9%	***	-2.3%	16.2%	18.5%	***
Almost Nothing	797	1.7%	25.9%	1.06	-6.8%	11.0%	-17.7%	*	-4.2%	8.0%	12.2%	*
Personal Services	147	3.2%	32.3%	1.12	-3.4%	10.2%	-13.6%	*	-3.8%	10.7%	14.5%	*
Rubber and Plastic Products	108	6.9%	27.0%	1.14	0.9%	12.6%	-11.7%		3.2%	10.8%	7.6%	
Candy & Soda	692	7.6%	23.7%	0.88	7.2%	8.0%	-0.9%		5.0%	10.4%	5.4%	
Business Supplies	631	3.6%	43.0%	1.47	-5.5%	12.9%	-18.4%		0.9%	6.6%	5.7%	
Healthcare	314	0.8%	36.1%	1.25	-8.2%	15.6%	-23.8%	***	-15.3%	19.8%	35.0%	***
Fabricated Products	110	-1.0%	24.2%	1.10	-5.4%	5.7%	-11.1%	***	-11.9%	11.2%	23.0%	***
Defense	1,121	5.4%	23.6%	0.83	3.6%	8.2%	-4.6%		0.1%	11.0%	10.9%	
Precious Metals	435	2.9%	35.3%	0.68	0.6%	6.4%	-5.9%		-0.1%	6.0%	6.1%	
<b>Significant at &gt;10%</b>					5	42	20		5	44	20	

**Notes:** Reports summary statistics for industry portfolio returns to include average firm size in USD millions, excess returns, standard deviation, and beta for the period 1926-2006. Conditional excess industry returns given a Republican (RP) or Democrat (DP) president are reported from the regression  $r_t - rf_t = \alpha_0 + \alpha_1 RP_t + \varepsilon_t$ . Conditional excess returns given the first (HLF1) or second half (HLF2) of a presidential term are reported from the regression  $r_t - rf_t = \alpha_0 + \alpha_1 HLF_{2t} + \varepsilon_t$ . Test statistics are based on Newey and West (1987) heteroskedasticity and autocorrelation consistent standard errors. Statistically significant differences (Diff) are indicated at 1% \*\*\*, 5% \*\*, and 10% \* confidence intervals.

**Table III: Mean excess industry returns under Republican and Democrat presidents with correction for general market movement**

Industry	1926:07 to 2006:06			1926:07 to 1966:06			1966:07 to 2006:06		
	RP	DP	Diff	RP	DP	Diff	RP	DP	Diff
Agriculture	-3.9%	1.5%	-5.4%	-6.7%	1.0%	-7.6%	-2.3%	2.5%	-4.8%
Food Products	6.2% ***	-1.2%	7.4% ***	4.3% *	-0.8%	5.1% *	7.4% ***	-1.9%	9.3% **
Beer & Liquor	2.2%	2.4%	-0.2%	-0.6%	3.2%	-3.8%	4.0%	0.7%	3.3%
Tobacco Products	9.5% ***	-0.6%	10.0% **	7.7%	* -0.7%	8.4%	10.5% ***	-0.3%	10.8%
Recreation	-1.0%	-6.4%	5.4%	-2.8%	-2.8%	0.0%	0.1%	-12.5% ***	12.6% **
Entertainment	-1.6%	-2.1%	0.5%	-8.6%	* -4.7%	-3.9%	2.7%	2.5%	0.3%
Printing and Publishing	1.1%	-1.9%	3.0%	4.8%	-3.8%	8.5%	-0.8%	1.4%	-2.2%
Consumer Goods	0.7%	0.0%	0.7%	-1.0%	1.7%	-2.7%	1.7%	-3.1%	4.7%
Apparel	0.3%	0.8%	-0.5%	-0.8%	2.8%	-3.6%	0.7%	-2.5%	3.2%
Medical Equipment	2.8%	1.9%	0.8%	4.0%	2.0%	2.0%	2.0%	1.9%	0.1%
Pharmaceutical Products	3.9% *	1.3%	2.6%	8.8% **	-0.4%	9.1% **	1.2%	4.2%	-3.0%
Chemicals	2.2%	-1.1%	3.3%	2.9%	1.2%	1.8%	1.9%	-4.9%	6.8% *
Textiles	-2.5%	-2.2%	-0.3%	-11.5% **	2.4%	-13.9% ***	3.1%	-10.1% **	13.2% ***
Construction Materials	-0.4%	-1.7%	1.3%	-4.1%	* -2.1%	-2.0%	1.8%	-1.1%	2.9%
Construction	-8.1% ***	0.0%	-8.1% *	-12.8% **	-3.7%	-9.1%	-5.3% *	6.7%	-12.0% **
Steel Works Etc	-2.8%	-3.8% *	1.0%	-4.2%	-2.0%	-2.2%	-2.0%	-7.0% *	5.0%
Machinery	-1.7%	-0.2%	-1.5%	-1.8%	0.1%	-1.9%	-1.7%	-0.8%	-0.8%
Electrical Equipment	0.6%	-0.8%	1.4%	0.5%	-3.4%	3.9%	0.8%	3.8%	-3.0%
Automobiles and Trucks	-0.7%	-1.1%	0.4%	-2.1%	2.1%	-4.2%	0.3%	-6.8% **	7.1%
Aircraft	0.8%	0.5%	0.3%	7.1%	-1.6%	8.7%	-2.5%	4.0%	-6.5%
Shipbuilding, Railroad Equipment	-4.1%	-0.4%	-3.7%	-5.2%	-3.0%	-2.2%	-3.4%	4.1%	-7.5%
Non-Metallic and Industrial Metal Mining	-0.2%	0.2%	-0.4%	-2.3%	2.5%	-4.9%	1.0%	-3.8%	4.8%
Coal	-0.6%	5.6%	-6.1%	-5.6%	5.8%	-11.4% *	2.1%	5.6%	-3.5%
Petroleum and Natural Gas	-0.1%	4.4% **	-4.5%	-2.7%	3.3%	-5.9%	1.5%	6.3% *	-4.8%
Utilities	3.4% *	-2.6%	6.0% *	4.8%	-4.4%	9.1% **	2.9%	0.1%	2.9%
Communication	4.1% **	-1.1%	5.1% **	6.2% ***	0.2%	6.0% **	2.8%	-3.1%	5.9%
Business Services	-2.9%	3.1%	-6.0%	-2.7%	2.7%	-5.4%	-3.4% *	4.5%	-7.9% **
Computers	0.3%	2.3%	-1.9%	14.7% ***	0.9%	13.8% ***	-7.2% **	4.9%	-12.1% **
Electronic Equipment	-6.5% ***	2.3%	-8.8% **	-6.9%	2.6%	-9.6% *	-6.4% ***	1.9%	-8.3%
Measuring and Control Equipment	-0.9%	1.8%	-2.8%	7.7%	2.1%	5.6%	-5.9% **	1.9%	-7.9% *
Shipping Containers	5.3% ***	-3.0%	8.3% ***	5.1% *	0.9%	4.3%	5.4% **	-9.5% **	14.9% ***
Transportation	-2.1%	-2.2%	0.1%	-6.6% **	-0.8%	-5.8%	0.6%	-4.7%	5.3%
Wholesale	-8.1% ***	0.7%	-8.8% **	-19.6% ***	0.3%	-19.9% ***	-0.8%	1.5%	-2.3%
Retail	2.3%	-0.9%	3.2%	-1.6%	1.2%	-2.8%	4.5% **	-4.4%	8.9% **
Restaurants, Hotels, Motels	1.4%	-0.1%	1.5%	1.8%	-1.1%	3.0%	1.1%	2.0%	-0.9%
Banking	2.6%	3.1%	-0.5%	2.7%	2.7%	0.0%	2.6%	3.8%	-1.2%
Insurance	-0.9%	0.2%	-1.1%	-4.5%	-2.5%	-1.9%	1.4%	4.8%	-3.4%
Real Estate	-9.5% ***	-3.5%	-6.0%	-13.2% **	-6.6%	-6.6%	-7.2% **	1.9%	-9.1%
Trading	-1.0%	-1.2%	0.2%	-4.7%	-4.6% **	0.0%	1.3%	4.9%	-3.6%
Almost Nothing	-8.6% ***	-0.2%	-8.3% **	-8.1%	2.6%	-10.8% *	-8.9% ***	-4.8%	-4.1%
Personal Services	-5.0%	-1.6%	-3.4%	-3.0%	-1.8%	-1.2%	-6.1%	-1.1%	-5.0%
Rubber and Plastic Products	-0.2%	0.4%	-0.7%	-1.4%	1.3%	-2.7%	0.4%	-1.2%	1.6%
Candy & Soda	3.4%	0.3%	3.1%	4.1%	-0.7%	4.7%	3.0%	1.3%	1.7%
Business Supplies	-5.6%	-1.9%	-3.7%	-21.6% **	-1.9%	-19.7% *	4.0% *	-2.2%	6.3%
Healthcare	-10.1% *	4.3%	-14.4%				-10.1% *	4.9%	-15.0%
Fabricated Products	-7.1% **	-3.5%	-3.5%				-7.1% **	-4.5%	-2.6%
Defense	2.2%	0.9%	1.2%				2.2%	2.7%	-0.6%
Precious Metals	-0.6%	0.6%	-1.1%				-0.6%	-1.5%	0.9%
<b>Fabricated Products</b>	<b>13</b>	<b>2</b>	<b>9</b>	<b>14</b>	<b>1</b>	<b>11</b>	<b>14</b>	<b>6</b>	<b>10</b>

**Notes:** Reports excess industry returns after correcting for general market movements given a Republican (RP) or Democrat (DP) president from our regression  $r_t - rf_t = \alpha_0 + \alpha_1 RP_t + \beta_1 (r_{mt} - rf_t) + \varepsilon_t$  for period indicated. This model equates to a Single-Index model with the inclusion of a political variable. Political dummy variable (RP) takes the value one if a Republican is president and zero otherwise. Coefficient  $\alpha_0$  is interpreted as returns under Democrats,  $\alpha_1$  the marginal difference in returns between Republicans and Democrats, and  $(\alpha_0 + \alpha_1)$  returns under Republicans. Test statistics are based on Newey and West (1987) heteroskedasticity and autocorrelation consistent standard errors. Statistically significant differences (Diff) are indicated at 1% \*\*\*, 5% \*\*, and 10% \* confidence intervals.

**Table IV:** Mean excess industry returns under Republican and Democrat presidents with correction for general market movement, firm size (SMB), and valuation (HML)

Industry	1926:07 to 2006:06			1926:07 to 1966:06			1966:07 to 2006:06		
	RP	DP	Diff	RP	DP	Diff	RP	DP	Diff
Agriculture	-4.0%	* 0.6%	-4.5%	* -6.8%	1.1%	-7.8%	-4.2%	-0.5%	-3.8%
Food Products	5.8%	*** -1.0%	6.8%	4.2%	* -0.6%	4.7%	5.2%	** -2.1%	7.4%
Beer & Liquor	1.8%	1.3%	0.5%	0.8%	1.8%	-1.0%	2.2%	0.4%	1.8%
Tobacco Products	8.9%	*** -0.3%	9.2%	7.5%	* -0.5%	8.0%	8.1%	** -0.4%	8.5%
Recreation	-0.5%	-8.8%	** 8.3%	-0.3%	-5.5%	5.2%	-1.2%	-14.6%	*** 13.4%
Entertainment	-1.8%	-3.6%	1.9%	-7.8%	* -5.8%	-2.0%	1.9%	0.5%	1.5%
Printing and Publishing	0.9%	-3.4%	4.3%	6.3%	-5.5%	11.8%	-2.3%	0.1%	-2.4%
Consumer Goods	1.2%	0.3%	0.9%	-0.7%	1.7%	-2.4%	1.7%	-2.5%	4.1%
Apparel	0.2%	-1.2%	1.4%	0.9%	0.8%	0.1%	-2.7%	-5.4%	2.7%
Medical Equipment	3.4%	1.7%	1.7%	4.7%	1.2%	3.6%	4.7%	* 3.0%	1.7%
Pharmaceutical Products	4.5%	** 2.4%	2.1%	8.6%	** 0.1%	8.6%	3.9%	* 6.9%	** -3.0%
Chemicals	2.0%	-0.5%	2.5%	2.2%	2.3%	* -0.1%	-1.0%	-5.8%	** 4.7%
Textiles	-3.4%	-5.0%	*** 1.6%	-9.8%	*** 0.1%	-9.9%	-1.7%	-13.8%	*** 12.1%
Construction Materials	-0.6%	-2.6%	* 2.0%	-3.5%	-2.7%	* -0.9%	-1.3%	-3.1%	1.8%
Construction	-8.9%	*** -2.9%	-6.0%	* -10.7%	* -6.7%	-4.0%	-7.7%	*** 3.9%	-11.6%
Steel Works Etc	-3.9%	* -5.5%	*** 1.6%	-3.6%	-3.2%	-0.3%	-4.3%	-9.3%	*** 5.0%
Machinery	-1.9%	-1.4%	0.5%	-1.2%	-0.8%	-0.4%	-2.4%	-2.3%	-0.1%
Electrical Equipment	0.5%	-0.5%	1.0%	0.1%	-2.8%	2.9%	0.9%	4.0%	-3.1%
Automobiles and Trucks	-1.7%	-1.9%	0.2%	-2.0%	2.1%	-4.1%	-4.6%	-9.1%	*** 4.5%
Aircraft	-0.1%	-1.1%	1.0%	8.3%	-3.0%	11.3%	-5.6%	* 1.8%	-7.5%
Shipbuilding, Railroad Equipment	-5.7%	** -2.3%	-3.4%	* -3.9%	-4.9%	* 0.9%	-6.7%	* 2.2%	-8.9%
Non-Metallic and Industrial Metal Mining	-0.5%	-1.1%	0.6%	-1.7%	1.7%	-3.4%	-2.3%	-6.5%	* 4.1%
Coal	-0.9%	4.1%	-5.0%	-4.7%	4.1%	-8.8%	-0.5%	3.2%	-3.7%
Petroleum and Natural Gas	-1.4%	4.4%	** -5.8%	** -2.9%	3.4%	-6.3%	-1.2%	6.1%	* -7.3%
Utilities	1.8%	-3.0%	4.9%	4.7%	-4.2%	8.9%	-1.6%	-1.1%	-0.5%
Communication	4.3%	** -0.4%	4.6%	6.0%	** 0.6%	5.4%	2.1%	-2.6%	4.7%
Business Services	-1.2%	2.8%	-4.0%	-2.0%	1.8%	-3.7%	-0.1%	4.4%	* -4.5%
Computers	2.4%	3.3%	-0.9%	14.3%	*** 1.6%	12.7%	-1.8%	6.8%	-8.5%
Electronic Equipment	-5.3%	** 1.5%	-6.8%	** -6.0%	1.5%	-7.5%	-2.8%	2.0%	-4.8%
Measuring and Control Equipment	1.5%	2.7%	-1.2%	7.1%	3.2%	3.9%	-3.0%	1.4%	-4.4%
Shipping Containers	5.4%	*** -2.8%	8.1%	5.1%	* 1.1%	4.0%	4.5%	** -9.4%	** 13.9%
Transportation	-3.9%	** -4.0%	** 0.1%	-5.7%	* -2.5%	-3.2%	-2.3%	-6.4%	** 4.1%
Wholesale	-8.0%	*** -1.0%	-6.9%	*** -18.3%	*** -1.5%	-16.9%	-2.6%	-0.6%	-2.0%
Retail	2.9%	-0.7%	3.6%	-1.7%	1.6%	-3.3%	3.7%	* -5.1%	* 8.8%
Restaurants, Hotels, Motels	1.7%	-1.1%	2.8%	2.7%	-2.1%	4.8%	-1.2%	-0.1%	-1.1%
Banking	2.2%	3.1%	-1.0%	2.9%	2.8%	0.0%	-1.4%	2.8%	-4.2%
Insurance	-1.9%	0.3%	-2.2%	-4.9%	-1.9%	-3.0%	-1.8%	4.1%	-5.9%
Real Estate	-10.3%	*** -6.8%	** -3.5%	-11.6%	* -8.7%	** -2.9%	-12.0%	*** -3.7%	-8.3%
Trading	-2.2%	-2.1%	0.0%	-4.2%	-5.3%	** 1.1%	-1.4%	3.7%	-5.1%
Almost Nothing	-7.7%	*** -1.1%	-6.6%	** -7.1%	1.6%	-8.8%	-9.9%	*** -6.4%	-3.5%
Personal Services	-4.7%	-4.1%	-0.6%	-0.8%	-4.7%	3.9%	-7.8%	** -3.6%	-4.2%
Rubber and Plastic Products	-1.4%	-1.9%	0.5%	-1.7%	-0.4%	-1.2%	-1.8%	-4.4%	2.7%
Candy & Soda	2.1%	-0.8%	2.9%	5.5%	-0.9%	6.3%	0.9%	0.9%	-0.1%
Business Supplies	-8.1%	* -5.6%	-2.5%	-21.1%	* -6.7%	-14.3%	1.3%	-3.4%	4.7%
Healthcare	-12.1%	** -0.4%	-11.7%				-11.8%	** 0.7%	-12.5%
Fabricated Products	-8.7%	** -6.5%	-2.3%				-8.7%	** -7.1%	-1.5%
Defense	-2.6%	-2.6%	0.0%				-2.5%	-0.2%	-2.3%
Precious Metals	-2.8%	-2.6%	-0.1%				-3.0%	-4.5%	1.5%
Significant at >10%	17	7	7	13	5	7	14	12	10

**Notes:** Reports excess industry returns after correcting for general market movement, size, and valuation given a Republican (RP) or Democrat (DP) president from our regression  $r_i - rf_i = \alpha_0 + \alpha_1 RP_i + \beta_1(r_{mt} - rf_i) + \beta_2 SMB_i + \beta_3 HML_i + \varepsilon_i$  for the indicated periods. This model equates to the Fama-French three factor model with inclusion of a political variable. Political dummy variable (RP) takes the value one if a Republican is president and zero otherwise. Coefficient  $\alpha_0$  is interpreted as returns under Democrats,  $\alpha_1$  the marginal difference in returns between Republicans and Democrats, and  $(\alpha_0 + \alpha_1)$  returns under Republicans. Test statistics are based on Newey and West (1987) heteroskedasticity and autocorrelation consistent standard errors. Statistically significant differences (Diff) are indicated at 1% \*\*\*, 5% \*\*, and 10% \* confidence intervals.



**Table VI:** Mean excess industry returns for the first half and second half of a four year presidential term with correction for general market movement

Industry	1926:07 to 2006:06			1926:07 to 1966:06			1966:07 to 2006:06			
	HLF1	HLF2	Diff	HLF1	HLF2	Diff	HLF1	HLF2	Diff	
Agriculture	-0.3%	-2.2%	-1.9%	1.7%	-5.3%	-7.0%	-2.1%	1.0%	3.1%	
Food Products	3.2%	** 1.7%	-1.5%	1.6%	0.5%	-1.2%	4.5%	* 3.4%	-1.2%	
Beer & Liquor	6.1%	* -1.5%	-7.6%	* 7.9%	-4.0%	-11.9%	* 3.2%	2.4%	-0.8%	
Tobacco Products	6.0%	** 2.7%	-3.3%	3.1%	1.5%	-1.6%	9.3%	** 3.6%	-5.8%	
Recreation	-7.6%	* 0.4%	8.0%	-7.1%	1.7%	8.8%	-8.5%	** -0.5%	8.0%	
Entertainment	1.5%	-5.2%	* -6.7%	0.8%	-12.8%	*** -13.6%	** 1.5%	3.9%	2.4%	
Printing and Publishing	3.0%	-3.7%	-6.7%	4.8%	-6.0%	-10.9%	1.0%	-1.0%	-2.0%	
Consumer Goods	1.0%	-0.4%	-1.4%	0.4%	1.1%	0.8%	1.7%	-1.8%	-3.5%	
Apparel	-0.4%	1.4%	1.8%	4.5%	-1.4%	-5.9%	-4.2%	3.5%	7.6%	
Medical Equipment	5.7%	** -0.9%	-6.6%	* 8.4%	** -2.7%	-11.1%	** 3.4%	0.6%	-2.8%	
Pharmaceutical Products	6.1%	*** -0.9%	-7.0%	** 6.1%	* -0.3%	-6.4%	5.9%	** -1.3%	-7.2%	*
Chemicals	1.5%	-0.4%	-1.9%	4.0%	** -0.4%	-4.3%	-1.2%	-0.1%	1.1%	
Textiles	-1.1%	-3.7%	-2.5%	0.0%	-5.7%	* -5.6%	-3.3%	-0.4%	2.9%	
Construction Materials	0.1%	-2.2%	-2.3%	-0.7%	-5.0%	*** -4.3%	* 0.6%	0.9%	0.3%	
Construction	-4.8%	-3.5%	1.3%	-6.3%	-7.9%	-1.5%	-3.6%	1.5%	5.1%	
Steel Works Etc	-3.5%	-3.2%	0.3%	-1.5%	-4.1%	-2.5%	-5.9%	-1.7%	4.1%	
Machinery	-1.1%	-0.9%	0.3%	-0.2%	-1.1%	-0.9%	-2.3%	-0.3%	2.0%	
Electrical Equipment	0.5%	-0.7%	-1.2%	-2.5%	-1.5%	1.0%	2.9%	0.8%	-2.1%	
Automobiles and Trucks	-1.4%	-0.4%	1.0%	-1.0%	2.1%	3.0%	-3.1%	-1.4%	1.7%	
Aircraft	-4.0%	5.6%	9.6%	* -4.9%	8.4%	13.3%	-4.4%	4.2%	8.7%	
Shipbuilding, Railroad Equipment	-2.1%	-2.4%	-0.3%	-1.5%	-6.0%	* -4.4%	-3.6%	2.3%	5.8%	
Non-Metallic and Industrial Metal Mining	-2.6%	2.7%	5.3%	0.3%	1.2%	1.0%	-5.1%	3.9%	9.0%	
Coal	-1.2%	6.2%	7.4%	-3.2%	6.5%	9.7%	3.1%	3.6%	0.6%	
Petroleum and Natural Gas	0.7%	3.6%	* 3.0%	1.0%	1.1%	0.1%	-0.5%	7.0%	** 7.5%	*
Utilities	-1.0%	1.7%	2.7%	-4.5%	2.5%	7.0%	0.6%	3.2%	2.7%	
Communication	2.1%	0.9%	-1.3%	0.1%	4.7%	** 4.6%	* 5.0%	* -3.8%	-8.8%	**
Business Services	1.2%	-1.0%	-2.2%	4.3%	-2.7%	-7.0%	1.1%	-2.4%	-3.5%	
Computers	2.0%	0.5%	-1.5%	7.6%	** 3.9%	-3.8%	-2.4%	-3.6%	-1.3%	
Electronic Equipment	-1.3%	-3.1%	-1.8%	2.3%	-4.1%	-6.4%	-4.1%	-2.9%	1.3%	
Measuring and Control Equipment	1.0%	-0.1%	-1.1%	11.2%	*** -2.6%	-13.8%	*** -5.9%	* -0.3%	5.6%	
Shipping Containers	3.9%	* -1.7%	-5.7%	** 5.8%	** -0.9%	-6.7%	** 2.1%	-2.6%	-4.7%	
Transportation	-0.9%	-3.4%	* -2.5%	-0.4%	-5.4%	** -5.0%	-1.8%	-0.9%	0.9%	
Wholesale	-2.3%	-5.2%	* -2.9%	-3.0%	-11.8%	** -8.8%	-1.8%	1.9%	3.6%	
Retail	0.4%	1.0%	0.6%	-1.5%	2.0%	3.5%	2.9%	-0.6%	-3.5%	
Restaurants, Hotels, Motels	-0.9%	2.3%	3.2%	2.2%	-2.3%	-4.5%	-3.1%	6.2%	9.3%	*
Banking	3.4%	2.3%	-1.1%	4.3%	1.1%	-3.2%	2.2%	3.9%	1.7%	
Insurance	1.6%	-2.3%	-3.9%	-0.9%	-5.6%	-4.7%	2.5%	2.8%	0.4%	
Real Estate	-8.3%	** -4.8%	3.6%	-8.9%	* -9.3%	-0.4%	-9.0%	** 1.3%	10.3%	*
Trading	-3.7%	* 1.6%	5.3%	** -8.6%	*** -0.5%	8.0%	** 0.2%	5.0%	** 4.8%	
Almost Nothing	-5.3%	* -3.6%	1.7%	1.1%	-3.9%	-5.0%	-10.5%	*** -4.2%	6.4%	
Personal Services	-4.8%	-1.7%	3.1%	-4.9%	0.5%	5.4%	-4.5%	-4.1%	0.4%	
Rubber and Plastic Products	1.1%	-0.9%	-2.1%	1.8%	-1.0%	-2.9%	-0.3%	0.0%	0.3%	
Candy & Soda	3.8%	-0.3%	-4.1%	-0.9%	2.2%	3.1%	6.9%	* -2.0%	-8.9%	
Business Supplies	-0.3%	-7.1%	* -6.8%	-5.6%	-12.0%	* -6.4%	1.2%	2.3%	1.1%	
Healthcare	-11.5%	3.1%	14.6%	-18.9%	4.2%	23.1%	-11.1%	1.8%	13.0%	
Fabricated Products	-8.4%	** -2.8%	5.6%	0.7%	-2.8%	-3.5%	-9.1%	** -3.1%	6.0%	
Defense	3.1%	0.2%	-2.9%	15.3%	* -31.3%	*** -46.5%	*** 2.2%	2.6%	0.4%	
Precious Metals	2.3%	-2.5%	-4.9%	7.2%	27.3%	20.1%	2.1%	-3.9%	-6.0%	
Significant at >10%	11	5	6	9	9	9	10	2	5	

**Notes:** Reports excess industry returns after correcting for general market movements for the first half (HLF1) and second half (HLF2) of a presidential term from our regression  $r_t - rf_t = \alpha_0 + \alpha_1 HLF2_t + \beta_1(r_{mt} - rf_t) + \varepsilon_t$  for indicated periods. This model equates to a Single-Index model with the inclusion of timing variable. Dummy variable HLF2 takes the value one if the second half of a four year presidential term and zero otherwise. Coefficient  $\alpha_0$  is interpreted as first half returns,  $\alpha_1$  the marginal difference between second and first half returns, and  $(\alpha_0 + \alpha_1)$  second half returns. Test statistics are based on Newey and West (1987) heteroskedasticity and autocorrelation consistent standard errors. Statistically significant differences (Diff) are indicated at 1% \*\*\*, 5% \*\*, and 10% \* confidence intervals.

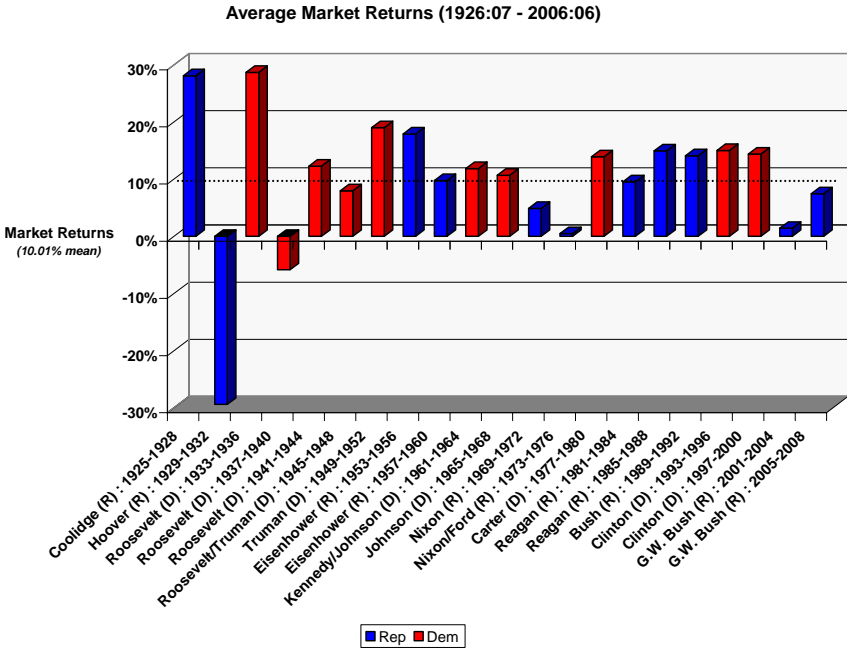
**Table VII:** Excess industry returns for the first and second half of a four year presidential term with correction for general market movement, firm size (SMB), and market/book value (HML)

Industry	1926:07 to 2006:06			1926:07 to 1966:06			1967:06 to 2006:06		
	HLF1	HLF2	Diff	HLF1	HLF2	Diff	HLF1	HLF2	Diff
Agriculture	-0.5%	-2.9%	-2.4%	1.7%	-5.3%	-7.0%	-2.6%	-3.1%	-0.4%
Food Products	2.9% *	1.9%	-1.0%	1.8%	0.6%	-1.2%	2.9%	2.1%	-0.8%
Beer & Liquor	5.5% *	-2.3%	-7.8% *	7.4%	-4.3%	-11.7% *	1.9%	1.1%	-0.8%
Tobacco Products	5.5% *	2.9%	-2.6%	3.2%	1.6%	-1.6%	7.5% *	2.4%	-5.1%
Recreation	-7.8% **	-1.5%	6.2%	-8.0%	1.0%	9.0%	-8.7% **	-3.7%	5.1%
Entertainment	1.0%	-6.3% **	-7.3% *	0.4%	-13.1% ***	-13.5% **	1.6%	1.2%	-0.3%
Printing and Publishing	2.4%	-4.9% *	-7.3% *	4.1%	-6.5%	-10.7%	0.2%	-3.1%	-3.3%
Consumer Goods	1.5%	-0.1%	-1.6%	0.4%	1.2%	0.8%	1.4%	-1.2%	-2.6%
Apparel	-0.9%	-0.1%	0.8%	3.7%	-2.0%	-5.7%	-5.8% *	-1.4%	4.4%
Medical Equipment	6.3% ***	-1.0%	-7.3% **	8.1% **	-2.9%	-11.0% **	5.1% *	3.0%	-2.1%
Pharmaceutical Products	7.0% ***	0.0%	-7.0% **	6.4% **	-0.1%	-6.5%	7.1% ***	2.7%	-4.4%
Chemicals	1.5%	0.1%	-1.4%	4.5% **	0.1%	-4.5%	-3.2%	-2.4%	0.8%
Textiles	-2.6%	-5.9% ***	-3.3%	-0.9%	-6.3% **	-5.4%	-5.6% *	-7.0% **	-1.4%
Construction Materials	-0.3%	-2.9% *	-2.6%	-0.9%	-5.1% ***	-4.2%	-1.1%	-2.9%	-1.7%
Construction	-6.2% *	-5.8% *	0.4%	-7.5%	-8.8% **	-1.3%	-4.6%	-2.6%	1.9%
Steel Works Etc	-4.9% **	-4.5% **	0.3%	-2.1%	-4.5% *	-2.4%	-6.8% *	-5.5% *	1.3%
Machinery	-1.5%	-1.7%	-0.2%	-0.5%	-1.4%	-0.9%	-2.4%	-2.3%	0.1%
Electrical Equipment	0.5%	-0.5%	-1.0%	-2.2%	-1.3%	1.0%	2.9%	1.1%	-1.8%
Automobiles and Trucks	-2.5%	-1.1%	1.4%	-0.9%	2.1%	3.1%	-6.1% *	-6.3% **	-0.2%
Aircraft	-5.2%	4.2%	9.4%	-5.4%	7.9%	13.4%	-6.1% *	0.5%	6.6%
Shipbuilding, Railroad Equipment	-4.0%	-4.0%	0.0%	-2.4%	-6.6% **	-4.3%	-5.5%	-1.4%	4.2%
Non-Metallic and Industrial Metal Mining	-3.2%	1.6%	4.8%	-0.1%	1.0%	1.0%	-6.7%	-0.8%	5.9%
Coal	-1.7%	5.0%	6.8%	-3.9%	5.8%	9.8%	1.8%	-0.2%	-2.0%
Petroleum and Natural Gas	-0.6%	3.5% *	4.1%	1.0%	1.1%	0.0%	-2.5%	5.6% *	8.1% *
Utilities	-2.5%	1.3%	3.8%	-4.5%	2.5%	7.0%	-2.5%	-0.2%	2.3%
Communication	2.5%	1.4%	-1.1%	0.3%	4.9% ***	4.6%	4.3%	-3.5%	-7.8% *
Business Services	2.8%	-1.2%	-4.0%	3.9%	-3.0%	-6.9%	3.9% *	-0.9%	-4.8% *
Computers	4.2% *	1.4%	-2.8%	8.0% ***	4.2%	-3.8%	1.5%	1.0%	-0.6%
Electronic Equipment	-0.3%	-3.7%	-3.4%	1.8%	-4.4%	-6.3%	-1.2%	-1.0%	0.2%
Measuring and Control Equipment	3.5%	0.7%	-2.9%	11.8% ***	-2.1%	-13.9% ***	-3.4%	0.6%	4.0%
Shipping Containers	4.1% **	-1.5%	-5.6% **	6.0% ***	-0.8%	-6.7% **	1.3%	-3.0%	-4.3%
Transportation	-3.0% *	-4.9% ***	-1.9%	-1.3%	-6.1% **	-4.8%	-3.5%	-4.2% *	-0.8%
Wholesale	-2.6%	-6.6% **	-4.0%	-3.6%	-12.2% **	-8.6%	-2.5%	-1.2%	1.2%
Retail	1.0%	1.2%	0.2%	-1.3%	2.2%	3.5%	2.5%	-1.8%	-4.3%
Restaurants, Hotels, Motels	-0.9%	1.5%	2.4%	1.9%	-2.5%	-4.4%	-4.1%	2.8%	6.9%
Banking	3.0%	2.3%	-0.7%	4.4%	1.3%	-3.2%	-0.6%	0.9%	1.5%
Insurance	0.6%	-2.3%	-2.9%	-0.6%	-5.4%	-4.8%	0.1%	0.5%	0.4%
Real Estate	-9.7% ***	-7.3% **	2.4%	-9.7% **	-9.9% *	-0.2%	-10.9% ***	-7.0% **	3.9%
Trading	-5.0% ***	0.8%	5.7% **	-8.9% ***	-0.8%	8.1% **	-1.5%	2.5%	4.0%
Almost Nothing	-4.7% *	-4.2%	0.4%	0.8%	-4.1%	-4.8%	-10.8% ***	-6.4%	4.4%
Personal Services	-5.1%	-3.7%	1.4%	-6.3%	-0.4%	5.9%	-5.0%	-7.6% *	-2.6%
Rubber and Plastic Products	-0.3%	-3.1%	-2.8%	0.2%	-1.9%	-2.1%	-0.9%	-4.7% *	-3.7%
Candy & Soda	2.5%	-1.4%	-3.9%	-0.9%	2.7%	3.7%	5.2%	-3.5%	-8.7%
Business Supplies	-3.2%	-10.5% **	-7.2%	-9.4%	-13.9% *	-4.5%	-0.6%	-0.3%	0.2%
Healthcare	-12.6% *	-1.8%	10.9%	-36.9%	18.2%	55.1%	-11.1%	-3.4%	7.7%
Fabricated Products	-9.4% **	-6.1%	3.3%	-10.6%	1.3%	11.8%	-9.4% **	-6.7% *	2.7%
Defense	0.0%	-5.1%	-5.1%	-7.9%	-23.3% **	-15.4%	-0.6%	-2.8%	-2.2%
Precious Metals	0.8%	-6.3%	-7.1%	10.9%	21.6%	10.7%	1.2%	-8.4%	-9.6%
Significant at >10%	16	12	8	8	12	8	13	9	3

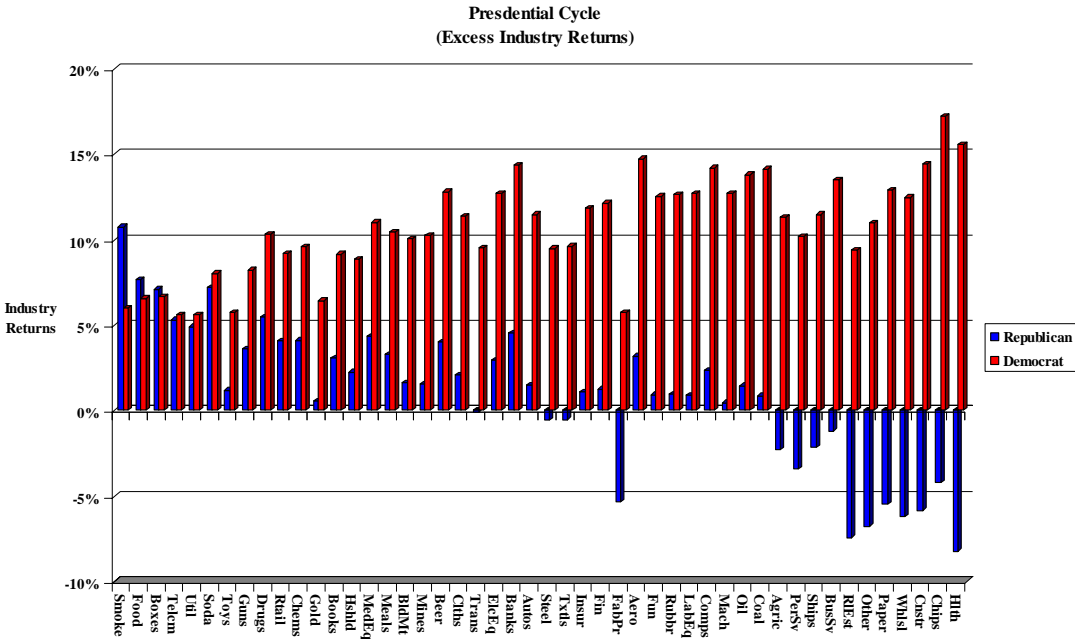
**Notes:** Reports excess industry returns after correcting for general market movement and factors for the first half (HLF1) and the second half (HLF2) of a presidential term from regression  $r_t - rf_t = \alpha_0 + \alpha_1 HLF2_t + \beta_1(r_{mt} - rf_t) + \beta_2 SMB_t + \beta_3 HML_t + \varepsilon_t$  for periods indicated. This model equates to the Fama-French three factor model with inclusion of timing variable. Dummy variable HLF2 takes the value one if the second half of a four year presidential term and zero otherwise. Coefficient  $\alpha_0$  is interpreted as first half returns,  $\alpha_1$  the marginal difference between second and first half returns, and  $(\alpha_0 + \alpha_1)$  second half returns. Test statistics are based on Newey and West (1987) heteroskedasticity and autocorrelation consistent standard errors. Statistically significant differences (Diff) are indicated at 1% \*\*\*, 5% \*\*, and 10% \* confidence intervals.



**Chart I:** Returns to value weighted index by presidential administration

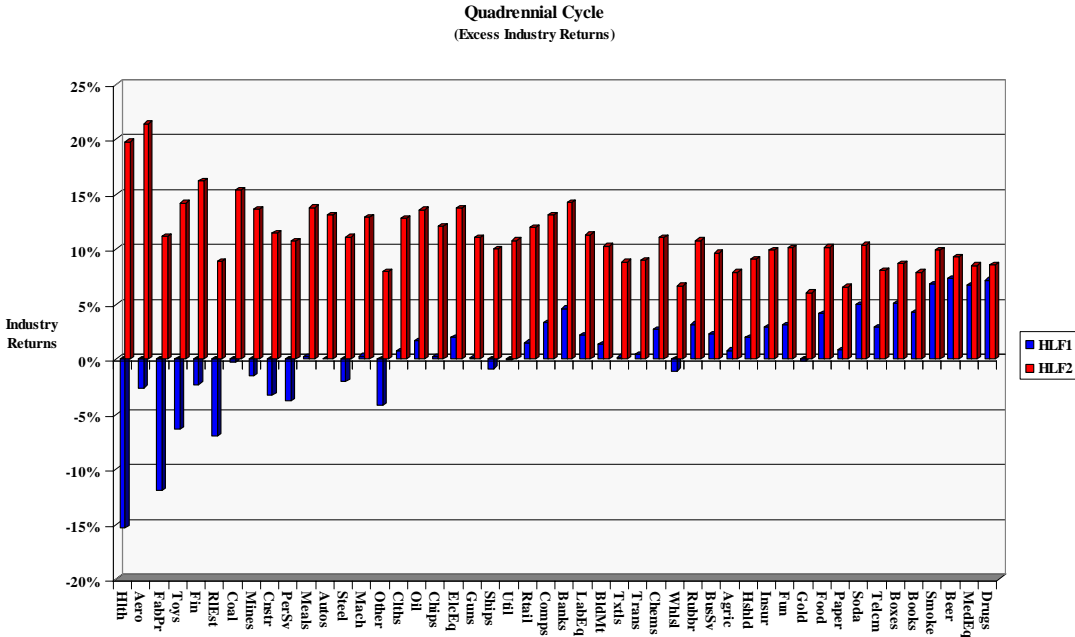


**Chart II:** Conditional industry returns given a Republican or Democrat president.



**Notes:** Illustrates industry returns from our equation  $r_i - rf = \alpha_0 + \alpha_1 RP_i + \varepsilon_i$  sorted from highest out-performance under Republican administrations to highest out-performance under Democrat administrations.

**Chart III:** Conditional excess industry returns given the first or second half of a four year presidential administration.



**Notes:** Illustrates industry returns from our equation  $r_t - rf = \alpha_0 + \alpha_1 HLF2_t + \varepsilon_t$  sorted from highest 2<sup>nd</sup> half out-performance to highest 1<sup>st</sup> half out-performance.