Journal of Business and Economics, ISSN 2155-7950, USA
April 2015, Volume 6, No. 4, pp. 625-633
DOI: 10.15341/jbe(2155-7950)/04.06.2015/002

http://www.academicstar.us

Investing in Presidential Elections: Using Poll Data to Earn Abnormal Returns

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Abstract: Using a dataset of more than 70 industries over a 40 year presidential election cycle, we find that by observing who is ahead in the Gallop poll 90 days prior to a presidential election, positive economically significant abnormal returns can be earned. While other time frames are also studied, the consistency of who wins based on Gallop leads in excess of the margin of error of the poll can return annualized returns that exceed 80%.

Key words: presidential elections; election year returns

JEL codes: G1, M2

1. Introduction

Much research effort has gone into establishing a relationship between presidential elections in the United States and stock market movements. While the research examines the relationship as far back as the 1880s, Snowberg, Wolfers and Zitzewits (2007), and others consider early 19th century relationships, Johnson, Chittenden and Jensen (1999), most are interested in the relationships between economic performance and political business cycles (Nordhaus, 1975; MacRae, 1977). Research during the 1980s and 1990 focused more on stock returns and took one of two paths; political cycles as they impact the wider financial market (Allvine & O'neil, 1988; Herbst & Slinkman, 1984), and how stockholders could profit from U.S. presidential election results (Hobbs & Riley, 1984; Mukherjec & Leibing, 2005; Homaifar, Randolph, Helms & Haddad, 1988). More recently, the emphasis centers around the volatility of returns in election year, Boutchkova, Doshi, Durnev and Mokchanov (2012), or how the government shocks caused by spending related to which party is election impacts stock prices (Heron, Lavin, Cram & Sliver, 1997; Hobs & Riley, 1984; Knight, 2006; Snowberg et al., 2007). All the previous studies indicate that elections are widely watched events by stock market participants and that election results have some relationship to the performance of various industries or wider stock market indices.

While some research has considered the impact of government spending on specific firms or industries, our study approaches the problem from a different perspective. If there is enough predictive information in stock market indices to allow an economically significant abnormal return, then can an investment in these industries based on which presidential candidate is ahead in the polls earn a consistent abnormal return? Our study compares the results to political polling data *a priori* and finds that an exploitable pattern exists prior to a presidential election.

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2. Background

U.S. stock market indices were shown by Wong and McAleer (2009) to follow a cycle of returns that is remarkably consistent over the four years between elections. Utilizing data from the more modern elections cycles, 1965 thru 2003, their research showed that in the year leading up to the election, the stock markets are up no matter which candidate wins.

Pantzalis, Stangeland, and Turtle (2000) confirm that elections impact stock markets around political election dates not just in the United States, but also across 33 countries worldwide. The plethora of analysis leading up to and around the actually election results yields numerous interesting outcomes and plenty of possible trading strategies.

Herbst and Slinkman (1984), Huang (1985), Hensel and Ziemba (1995), and Santa-Clara and Valkanov (2003) analyze the difference in stock returns under Republican and Democratic presidents of the United States while Cheng (2005) noted that politically sensitive portfolios incorporate statistically significant information from near term election cycles.

Shon (2006) attributes these differences in returns to the partisanship of industries and special interest groups leading up to the election. McGillvray (2003) supports these conclusions that policies shift under different parties to favor party supporters.

High Volume Wall Street election markets are an important means of gauging election trends according to Rohde and Strumpf (2004). Who wins has also been a point of contention based on what time frame is considered. Snowberg et al. (2007) find that the market return results are partisan, based on the expected impact on the economy, up for Republicans on the day of the election and down for democrats. Niederhoffer, Gibbs and Bullock (1970), find that on the day of the election, the stock markets are up 8 times with one down cycle with an average positive return of 1.12% for Republicans, while markets are up only 4 of 9 election cycles for Democratic winners with an average election day return of minus 0.81%. In the 1992 presidential election, Herron, Lavin, Cram and Silver (1999) note that certain sectors, specifically those related to defense policy and environment were important. Knight (2006), studied the policy platforms and equity price movements associated with the extremely close and contentious 2000 election. The seventy firms who gave the most money to the George Bush reelection campaign enjoyed an election day return of +3%, while democratic candidate Al Gore's largest supporters had a combined election day return of -6%. Certain industries within Knight's study had single Election Day returns as high and as +13% and as low as -16%.

None of the previous studies however considered the long-term investment opportunities that might exist prior to the election. The investment conundrum has always been a timing issue. Previous data might suggest certain industries or firms have tended to do better, but the results are *ex post*. The key then to be to know what variables could be considered in real time that would have a consistent outcome relative to who gets elected.

While Smith and Aggarwal (2014) found that markets did predict election outcomes better than the polls, it was also noted that several of the 32 industries that were tested did exhibit consistent tendencies during certain periods of time prior to the election based on which candidates were ahead at a specific period in time. Specifically, 90 days prior to the election when candidates had leads exceeding the margin of error, the outcome of the last ten presidential elections and the returns of several specific industries showed a consistent and very large statistically significant return from that point to the elections.

3. Data and Methodology

Utilizing a similar time horizon to Herron et al. (1999) and Shon (2006), data was collected using the Global Financial Data Corporations pricing data on more than 80 industries over the presidential election cycle from 1976 through 2012. Data was collected focusing on three specific time periods, six months, and three months and three weeks prior to the election. Returns were calculated as:

$$R_t = (P_E - P_t)/P_t \quad (1)$$

Where P_E was the closing price of the industry or S&P 500 index on the day of the election, P_t is the closing price six months, three months or three weeks prior and R_t represents the return over the given time period. Returns then become data points to compare over the same period for all cycles. Previous research as noted above is used to narrow down the sample of industries to follow, though all 80 are observed to look for consistent patterns across the time for the data sample.[1] The industries, macroeconomic and politically sensitive issue variables considered for further analysis in the sample included 32 different industries listed in Appendix 1.

While polling data has been shown inaccurate in predicting the outcome of the election (Hobbs et al., 1984; Smith et al., 2013), several different polls are considered as benchmarks against the industry returns. The longest running poll on which information exists is the Gallop poll. Information varies from weekly to monthly depending on the year, but was consistent enough over our sample period to compare poll results +/-1 day relative to the industry and S&P 500 returns over the entire sample period. Other polls were considered, including the Rasmussen poll and the Iowa Market Electronic (IME) poll, but limited data consistently available over the sample period prevented serious consideration of either of these two.[2]

Due to the nature of the outcome of the election, a binary variable with either one party winning or not, a Republican party win was coded as a one, leaving the Democratic win being a zero. Logistic regressions are analyzed industry by industry and for both the S&P500 and the Gallop poll results. Given a sample size for the dependent variable of a total of ten elections available for this study, the multivariate regressions are passed up in favor of univariate regressions analysis calculated as:

$$E_{outcome} = Var_i + C \quad (2)$$

Where the $E_{outcome}$ is the binary dependent variable (presidential winner), each Industry, S&P 500 or Gallop variables are run separately as the i variable, along with a constant. The statistical significance of each is then compared to see if a relationship exists so we don't just rely on returns and correlations.

Factor analysis is also performed utilizing the same industry variables as well as the economic and non-economic variables use by Sinha, Thomas and Ranjan (2012) as a means for testing robustness over the sample period. The results of all were not significant leading us to conclude that macro and social issues are not consistently related to returns.

[1] Herron et al. (1999), whose research covered the 1992 presidential election, showed 15 industries of the 74 studied wound up statistically significant. Shon (2006), demonstrated that the most Bush-partisan contributing industries included Oil & Gas, Forestry & Forest Products, Tobacco, Automotive, Building Materials & Equipment, Chemical & Related Manufacturing, Mining, Finance/Credit Companies, and Trucking. The most Gore-partisan contributing industries include Environment and TV/Movies/Music. In addition, from Cheng (2005), we identified another 7 firms from oil, major drugs, and defense industries which were widely believed to benefit significantly from the Bush platform.

[2] The poll only had information since 1992 while the Rassmusen poll lacked date consistency with our return data series.

4. Results

As can be seen from Table 1, on average at the six month point prior to the elections, the S&P500, Gallop polls and individual industry averages are very similar, averaging around a 2% gain for the entire six months period while the democrat party averaged a 2% lead in the polls. Individual industry returns, however, are much more volatile with the worst industry losing over 7.65% in the six months leading up to the election and the best one improving by 14.9% in value.

Table 1 Summary Statistics

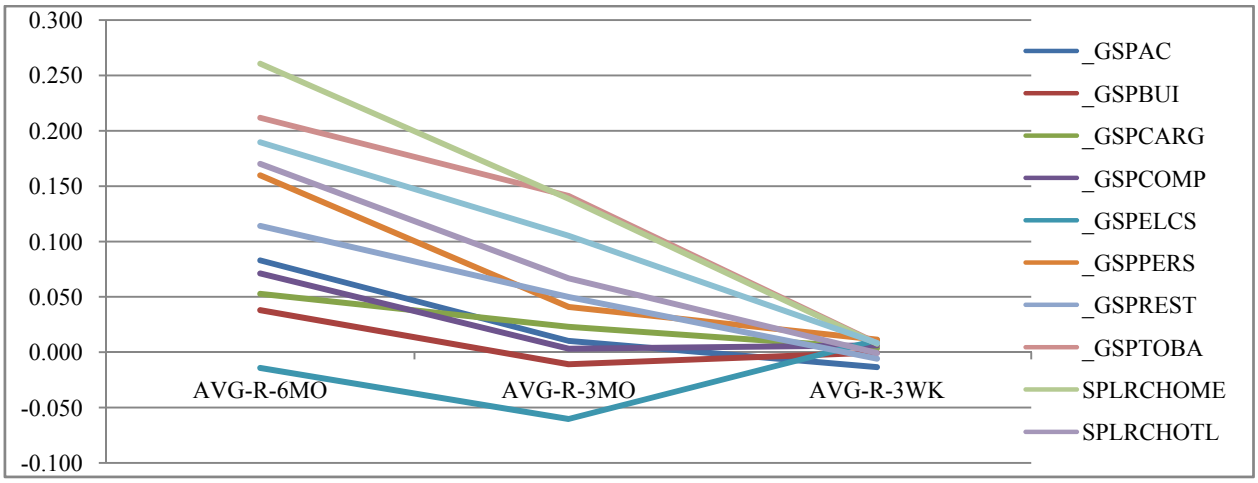
	6 month	3 month	3 week
_GSPAC	-0.00437	-0.02281	0.036823
_GSPAED	0.085491	0.032835	0.026868
_GSPAUTM	-0.05573	-0.03722	0.020521
_GSPBK	0.023516	0.015237	0.030316
_GSPBUI	-0.01074	-0.00307	0.01807
_GSPCARG	0.036254	0.001642	0.009414
_GSPCOMP	-0.00938	-0.04784	0.006873
_GSPD	0.011321	0.00435	0.026924
_GSPELCS	-0.01833	-0.03122	0.025041
_GSPELUT	0.040513	0.012539	0.006191
_GSPGAUT	0.048849	0.024505	0.026774
_GSPI	0.0298	0.003253	0.021688
_GSPIC	0.028822	0.000395	0.019072
_GSPINPC	0.081214	0.037505	0.021909
_GSPMETL	-0.02337	-0.01896	0.006311
_GSPMS	0.019928	0.011518	0.027753
_GSPOIG	0.035399	0.02433	0.00084
_GSPOILW	-1.5E-07	-0.03339	-0.02273
_GSPPERS	0.089232	0.021711	0.032264
_GSPPM	-0.0369	-0.02106	0.023731
_GSPREST	0.022102	0.017046	0.033668
_GSPRETD	-0.00405	-0.00222	0.032605
_GSPS	0.061139	0.01908	0.015551
_GSPSTEEL	-0.07657	-0.08278	0.041101
_GSPTEXT	-0.02512	0.027616	0.037897
_GSPTOBA	0.10045	0.043757	0.003277
SPLRCELUT	0.040513	0.012539	0.006191
SPLRCF	0.047294	0.013585	0.024478
SPLRCHOME	0.14939	0.101917	0.060214
SPLRCHOTL	0.040205	-0.00475	0.007909
TRGSPE	0.043612	0.024466	0.001952
s&p	0.020559	-0.00109	0.014491
gallop Dem	2.2	4.8	1.8

At three months prior the election the industries and markets are giving back most of their return advantage from six months out, running essentially flat leading up to election day while the democrats have increased their advantage in the Gallop poll to 4.8%. This would be above the margin of error for most of the polls which means

if the polls were accurate, democrats would have been elected ten times instead of the five that they were. While the industry spread in returns over this time period has dropped to a range from -8.28% to a +10.2%, this is still quite substantial given the now shorter three month time frame until the election.

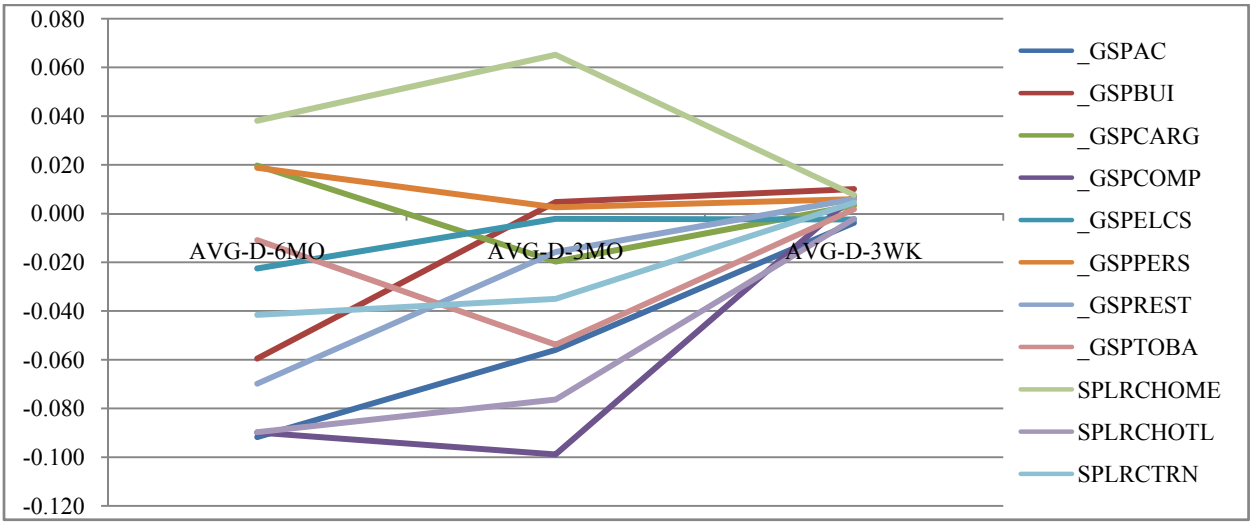
In the last few weeks leading up to the election the industries and market tend to gain ground, +2.06% and +1.44% respectively, while the democrat lead in the polls as shrunk to +1.79%. The range of industry returns has decreased as well, running from -2.27% to +6.02%. The most interesting data point among the industry returns is that only one industry, the Utility industry, has a negative return in the final three weeks.

Graphs plotting return leading up to the election for some of the most volatile industries, shown in Figures 1 and 2, would suggest some industries perform better or worse based on who leads the election. The first graph shows the returns during elections in which Republican candidates prevailed while the second shows returns leading up to Democrat victories. Positive returns are overall much larger leading up to election years that Republicans win, supporting the Election Day findings by Niederhoffer et al. (1970), just over a longer period of time. During cycles in which Democrat candidates win, many of the most volatile industries experience negative returns. The negative returns for Democrat election years would suggest that the results for Wong et al. (2009) might have been either a function of positive returns occurring more than six months out, or due to the larger positive returns turned in during Republican victory cycles.



	AVG-R-6MO	AVG-R-3MO	AVG-R-3WK
_GSPAC	0.083	0.010	-0.013
_GSPBUI	0.038	-0.011	0.000
_GSPCARG	0.053	0.023	0.004
_GSPCOMP	0.071	0.003	0.006
_GSPELCS	-0.014	-0.060	0.011
_GSPPERS	0.160	0.041	0.011
_GSPREST	0.114	0.050	-0.006
_GSPTOBA	0.212	0.141	0.008
SPLRCHOME	0.261	0.139	0.008
SPLRCHOTL	0.170	0.067	-0.001
SPLRCTRN	0.190	0.105	0.008

Figure 1 Republican Win



	AVG-D-6MO	AVG-D-3MO	AVG-D-3WK
_GSPAC	-0.092	-0.056	-0.004
_GSPBUI	-0.060	0.005	0.010
_GSPCARG	0.020	-0.020	0.003
_GSPCOMP	-0.090	-0.099	0.007
_GSPELCS	-0.023	-0.002	-0.002
_GSPPERS	0.019	0.003	0.006
_GSPREST	-0.070	-0.016	0.006
_GSPTOBA	-0.011	-0.054	0.002
SPLRCHOME	0.038	0.065	0.008
SPLRCHOTL	-0.090	-0.076	-0.002
SPLRCTRN	-0.042	-0.035	0.004

Figure 2 Democrats Win

Attempts to put these results within a statistical context using a logistic regression model shows the logistic regression results six months prior to the elections. Among the 34 different industries, only the restaurant index was shown to be a statistically significant while neither the entire market variable for the S&P 500, nor the Gallop poll were shown statistically significant in predicting the outcome of the election (see Table 2).

Table 2 Log Results Six Months to 3 Weeks Out

Time before Elections	Variable	Coefficient	Std Error	Z-Statistic	Prob.	Akaike info criterion	Schwartz criterion
6 Months	_GSPREST	18.6229	10.2844	1.8108	0.0702	0.9344	0.9646
3 Months	_GSPTOBA	10.5496	6.1034	1.7285	0.0839	0.9840	1.0142
	_GSPTRN	12.0289	7.1789	1.6756	0.0938	1.0672	1.0975
	GALLOP_DEM	-0.1110	0.0671	-1.6541	0.0981	1.1132	1.1434
3 Weeks	_GSPCOMP	41.26888	23.99839	1.719652	0.0855	1.107866	1.138124
	_GSPTOBA	20.31422	7.297774	2.783618	0.0054	1.307549	1.333284
	GALLOP_DEM	-0.255181	0.05638	-4.52609	0.0000	0.924408	0.950143

	Time Period Before Elections		
	6 Months	3 Months	3 Weeks
Building Products	●	●	
Computer Hardware	●	●	
Semiconductors	●	●	
Homebuilding			●
Relevance of Industries in Factor Analysis in Period Before Elections			

Three months prior, two industries are statistically significant, the tobacco industry and the transportation industry as is the Gallop poll in forecasting the election outcome. As compared to the six month and three week time periods, the average for the Gallop poll at this point in time is the only period where the size of the lead on average exceeds the statistical testing error for the poll. Additionally for the three months prior data, excluding the two elections where the poll data lead was not in excess of the polling error, 2008 and 2012, seven of the other eight data points do have the winning candidate ahead at the three month point.

While three weeks prior to election, there are two variables that are statistically significant, the computer hardware and tobacco industries have significant z-scores with positive coefficient estimates. Even though the Gallop poll also shows up as a statistically significant variable in prediction the outcome of the election, the ability of the Gallop poll to provide additional information about who is likely to win is minimal. As well, the economic significance of the results for the firms in the last three weeks offers little incentive to invest.

Factor Analysis highlights this pattern of some industries being significance the price movements as far as six months out, yet inconsequential just before elections is repeated across a large variety of factors. None of the four industry return factors that are significant at six and three months is important from three weeks into the election and vice versa. The structural shift at the three week prior point suggests that something about the election environment changes such that voters might pay attention to different factors during the final presidential election stretch.

The combination of large returns and statistical validity in the Gallop poll results allows for a trading strategy three months out regardless of who is elected. Three industries have double digit positive returns during Republican wins, tobacco (+14.1%), homebuilders (+13.9%) and transportation (+10.5%), while two industries exhibit negative returns, semiconductors (-6%) and builders (-1.1%). By going long in the tobacco industry while shorting semiconductors when the Republican candidate has a lead greater than the margin of error three months out, a return of 20.1% (80%+ annualized) could be earned. As well, during a winning run three months out by the Democratic candidate with a significant lead, a return of 15.4% (over 61% annualized) could be made by going long the homebuilders and shorting the computer hardware index.

5. Conclusion

This paper shows by observing the returns of certain industries leading up to elections, the odds of making an economically significant return based on Gallop poll data does exist three months prior to the election.

The best industries to invest in vary depending on how far out you are will to take a position. While there are possibilities of investing in certain industries in the final three weeks leading up to the election, most of the statistically significant variables actually underperformed in an average return sense relative to just investing in the entire market itself. Because there has been a strong sense of who is likely to succeed in an upcoming election only for three months prior period, positions could be taken in the various industries mentioned that would likely yield positive returns. The range of volatility for the industries suggests that any returns that could be earned from investing in industries sensitive to the election outcome would be economically valuable, particularly if you combined opposing positions.

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Appendix 1 34 Industries Used

Ticker	Name-S&P 500 Index	Ticker	Name
_GSPOILW	Oil & Gas Equipment & Services	_GSPOIG	Oil, Gas & Consumable Fuels
_GSPPERS	Consumer Finance	_GSPAC	Air Freight & Logistics
_GSPPM	Chemicals	_GSPAED	Aerospace & Defense
_GSPREST	Restaurants	_GSPAUTM	Automobile Manufacturers
_GSPRETD	Department Stores	_GSPBK	Banks
_GSPS	Consumer Staples	_GSPBUI	Building Products
_GSPSTEEL	Steel	_GSPCARG	Pharmaceuticals
_GSPTEXT	Apparel, Access & Luxury Goods	_GSPCOMP	Computer Hardware
_GSPTOBA	Tobacco	_GSPD	Consumer Discretionary
_GSPTRN	Transportation	_GSPELCS	Semiconductors
_GSPU	Utilities	_GSPELUT	Electric Utilities
SPLRCELUT	Electric Utilities	_GSPGAUT	Gas Utilities
SPLRCF	Financials	_GSPI	Industrials
SPLRCHOME	Homebuilders	_GSPIC	Capital Goods
SPLRCHOTL	Hotels, Resorts & Cruise Lines	_GSPINPC	Property & Casualty Insurance
SPLRCTRN	Transportation	_GSPMETL	Diversified Metals & Mining
TRGSPE	Energy Transportation	_GSPMS	Retailing

Factor Analysis Variables

Political Factors	Econ/Poll Factors
Scandal	UnempRate
WarRating	Int-Rate
MidTermHouse	Inflation
MidTermSenate	GrowthRate
MidTermValue	Gold-ounce
HealthBudgetPct	Oil BBl
VoteIncumb	ExchDol-Pnd
BudgetSur-Def	JuneGallop
PublicDebtPct	AvgGallopRating
	GallopIndex