THE EFFECTS OF CONGRESSIONAL ELECTIONS ON FUTURE EQUITY MARKET RETURNS

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ABSTRACT

As the primary entity responsible for new legislation, Congress is capable of enacting legislation that may affect future market returns. To examine potential effects, the percentage of the House of Representatives and Senate controlled by a political party is examined. Additionally, the effect on returns in a change in the percentage of seats gained or lost in Congressional elections is analyzed. To test both theories, a modified "partisan view" model is adopted. Results point to the fact that equity markets perform better in situations in which power is distributed between political parties.

JEL: G 12, G13, G14, H00

INTRODUCTION

For many years, researchers have pondered a fundamental political question: "Do equity markets perform better during Republican or Democratic administrations?" Today, an answer to this question is as important as ever. Currently, American households are participating in the stock market at all-time highs. Household participation increased from just one or two percent at the beginning of the twentieth century to 31.6% in 1989. By 1998, household participation had expanded to 48.8% (Nofsinger 2004).

Most previous studies exploring the relationship between politics and equity returns have focused on the office of the President. A number of studies have found evidence of an electoral cycle in stock market returns. In general, these studies suggest stocks prices are, in part, affected by the four-year presidential term. Most of these studies also contend that Democratic administrations experience larger annual stock market returns. However, these findings have been challenged by other academics.

Interestingly, little attention has been focused on another vital component of the political process, Congress. This fact is puzzling because Congress plays an instrumental and necessary role in the creation of laws governing the economy. Thus, there is a possibility that Congress has a significant and measured impact on equity market returns. This study explores the possible relationship between equity market returns and the political membership of Congress.

To consider this possible relationship, two different approaches are proposed. First, the percentage of seats controlled by each political party in both the House of Representatives and Senate is examined. Also, the net gain or loss in the percentage of Congressional seats in each election is investigated. It is expected Congress will play a role in determining future equity market returns.

PREVIOUS RESEARCH, LIMITATIONS, AND THE SCOPE OF THIS STUDY

The Electoral Cycle

In analyzing the relationship between the political party in control of the White House and equity market returns, several studies find evidence of an electoral cycle. Using data from 1832 – 1979, stock market

returns are higher during the last two years of a presidential administration when compared with the first two years (Huang 1985). These findings are validated in other studies, and the phenomenon is found in both Republican and Democratic administrations (Hensel and Ziemba 1995; Stovall 1992; and Santa-Clara and Valkanov 2003). As a possible explanation of the electoral cycle, Havrilesky (1998) hypothesizes that a presidential administration can be separated into five distinct phases:

Promises, Promises – Presidential campaigns, especially over the last three decades, have made promises to redistribute income. It is important to note the burden of promised redistribution is not realized at the time the promises are made.

The Honeymoon – At the beginning of the administration's term, the redistributive campaign agenda is being initiated, and the associated costs of those programs are still unknown to the public.

Sectoral Dissonance – As redistributive programs take effect, their costs are finally realized by affected groups and sectors of the economy. If these parties hold sufficient political clout, then the administration will modify its objectives.

Monetary Ease – The impacts of redistributive programs create pressure for monetary policy changes. There is usually a push for lower interest rates, a depreciation of the dollar in the international market, or a stimulation of output. This point usually marks a departure from sound monetary policy.

The No-Win Tradeoff – In the last days of an administration, monetary expansion policy enacted during the *Monetary Ease* section leads to higher inflation. Looking at presidential administrations from 1966 to 1988, inflation rates consistently increased during the last year of the presidential term.

This analysis of an administration's metamorphosis shows pressure for an expansionary monetary policy during the later years. This leads to an expansion in the economy and higher inflation rates (Havrilesky 1998).

Riley and Lukesetich (1980) and Hobbs and Riley (1984) find stock markets respond more favorably to Republican victories than Democratic victories, in the short-term. This is consistent with the traditional idea that Republicans, in general, favor big business (Hensel and Ziemba 1995). However, many studies indicate the opposite is true when considering long-term stock market returns. These studies show Democratic administrations have higher stock returns than Republican administrations when the entire four-year presidential cycle is considered (Hensel and Ziemba 1995; Johnson, Chittenden, and Jensen 1999; Santa-Clara and Valkanov 2003; and Swensen and Patel 2004). Furthermore, Santa-Clara and Valkanov (2003) find the excess return of an equal-weighted portfolio is sixteen percent higher during Democratic presidencies from 1929 to 1998.

The theory of an electoral cycle has been further explored by comparing large-cap and small-cap stock returns. Large-cap stock returns are found to be statically indistinguishable between Republican and Democratic administrations. However, a statistically significant small-cap effect is observed during Democratic presidencies (Hensel and Ziemba 1995). This trend is also noted in other studies (Santa-Clara and Valkanov 2003; Johnson, Chittenden, and Jensen 1999).

The small-cap advantage during Democratic administrations is seen even when January is not considered. This is important because of the widely publicized phenomenon known as the January effect (Hensel and Ziemba 1995). The January effect implies small-cap stocks tend to show positive returns during the

month of January. It has been suggested that investors, desiring the ability to write-off "losing" stocks as capital losses, sell stocks in December that provided negative returns during the year. Then, new stocks are purchased in January with the available tax-loss selling capital, increasing stock prices of low volume and low liquidity stocks. Many studies provide empirical evidence to support the claim that the January effect is a statistical reality in small-cap stocks, although recently its effect is diminishing, and when present, appears to be occurring earlier.

Various studies indicate Democratic presidents produce, on average, slightly higher inflation rates. However, the results are not statically significant (Hensel and Ziemba 1995, and Johnson, Chittenden, and Jensen 1999). Furthermore, there is an indication inflation rates are higher for Republican administrations during the first two years of the presidential term while inflation rates are higher for Democratic administrations during the last two years (Swensen and Patel 2004).

In terms of fixed securities, statistical differences exist between Republican and Democratic administrations. Republican fixed income returns exceed Democratic fixed income returns (Hensel and Ziemba 1995, and Johnson, Chittenden, and Jensen 1999). Moreover, the average real rate of return for an individual investing in fixed income securities is negative during Democratic presidencies (Johnson, Chittenden, and Jensen 1999).

When comparing rates of returns, the subject of risk premiums must be discussed. If volatility risk is higher during Democratic administrations, then investors obviously require higher rates of return to compensate for the added risk. However, differences in volatility between the two parties are statistically insignificant. Furthermore, between 1963 and 1998, volatility during Republican administrations was slightly higher. As a result, there is evidence that excess returns experienced during Democratic presidencies is partly unexpected by investors (Santa-Clara and Valkanov 2003). Similar results are observed when examining data from the United Kingdom. In comparing left-wing and right-wing administrations, left-wing administrations experienced lower market volatility (Leblang and Mukherjee 2004).

There is also evidence of the United States electoral cycle in international stock market returns. Foerster and Schmitz (1997) find the US electoral cycle is statistically and economically significant in most of the eighteen countries they studied. Furthermore, a relationship is uncovered related to foreign exchange rates. The United States dollar tends to depreciate more in the second year of a presidential term, based on data from 1957 to 1996.

Presidential Elections and Stock Returns

Several publications also suggest a connection between the result of United States presidential elections and the performance of the stock market during the election year. From 1900 to 2000, in elections when a political party retained control of the White House, the Dow Jones Industrial Average (DJIA) increased by an average of 15.8% during the preceding year. However, in elections when a political party lost control of the presidency, the Dow Jones Industrial Average decreased by an average 1.4% during the previous year (Hirsch and Hirsch 2004).

A similar relationship is noted in elections for the House of Representatives. In studying House elections from 1916 to 1996, economic conditions have had an effect. However, this effect is not felt equally by all members. In comparison to junior members, the reelection of senior members is more heavily linked to the state of the economy (Grier and McGarrity 2002).

Similarly, Nofsinger (2004) also finds some predictability in stock market performance before presidential elections. In elections from 1900 to 2000, when the incumbent party was victorious, the DJIA experienced a 36.6% mean return for the three years preceding the election. When the incumbent party was defeated, the DJIA had a mean return of 17.3% in the three years preceding the election. The social mood theory is one possible explanation of the relationship between stock performance preceding an election and the result of the election (Nofsinger 2004).

The social mood theory suggests equity markets reflect the overall mood of society. During elections, the voters may attribute their mood to the current administration. As a result, when the mood is good (the stock market is performing well), incumbents are reelected. However, when the mood is poor (the stock market is performing poorly), incumbents are voted out of office (Nofsinger 2004).

Furthermore, Nofsinger (2004) casts doubts on the notion Democratic administrations promote higher equity market returns. First, as seen above, excess returns during Democratic presidencies are sometimes statistically insignificant. Second, the returns are not related to economic variables. Third, if the entire stock market sample is taken (1828 – 2004), then the results are reversed. Stock returns are 2.1% larger during Republican administrations if the entire market sample is taken (Nofsinger 2004). This claim is also noted by Leblang and Mukherjee (2004).

Previous Modeling of Political Variables

Several studies, including Santa-Clara and Valkanov (2003), use a statistical model based on a "political variable." This model is motivated by the "partisan view" of the political cycle. The partisan view theory, discussed by Alesina (1987) and Hibbs (1977), contends that each party has different political motivations and policies. Hibbs (1977) asserts Democratic administrations have historically been more likely to pursue expansionary policies leading to lower unemployment, extra growth, and higher inflation. Conversely, Republicans have guarded inflation more closely, and, in general, have been more cautious in stimulating aggregate demand and employment. In conclusion, fundamental differences exist in policies involving economic issues such as corporate income, personal income, consumption taxes, government spending, insurance coverage, and social benefits between Republicans and Democrats (Santa-Clara and Valkanov 2003).

Santa-Clara and Valkanov (2003) measure the correlation between returns and political variables with the following regression:

$$r_{t+1} = \alpha + \beta DD_t + \vec{\gamma}'\vec{X}_t + u_{t+1} \tag{1}$$

where DD_t is the dummy variables indicating a Democratic President, with a 1 for a Democratic president and 0 otherwise. The vector $\vec{X}_t$ represents the control variables, and the disturbance (error) term is represented by u_{t+1}.

In the model, four control variables are incorporated: Annualized log of the dividend to price ratio (DP_t) Term spread between the yield to maturity of the ten-year Treasury note and the three-month Treasury bill (TSP_t), Default spread between the yields of BAA and AAA-rated bonds (DSP_t),, and the relative interest rate computed as the deviation of the three-month Treasury bill from its one-year moving average (RR_t)

The use of the dividend to price ratio, term spreads, default spreads, and the relative interest rate as predictors of market return is incorporated in several studies, including Campbell and Shiller (1998) and Santa-Clara and Valkanov (2003). Furthermore, Campbell and Shiller (1998) find an improvement in the predictability of stock returns when the dividend to price ratio is annualized and stated in logarithmic

form. In the study, the annualized divided to price ratio at the beginning of year *t* is described by the following equation:

$$\delta_t = \ln\left(\frac{D_{t-1}}{P_t}\right) = \ln(D_{t-1}) - \ln(P_t) \tag{2}$$

where, P_t is the real price of the index at the beginning of year *t*, while D_{t-1} is the real dividend paid on the index during year *t-1*.

Another interesting result found by Michelson (1993) and Lamb et al. (1997)) is that stock market returns tend to be higher when Congress is in recess. Lamb et al. attribute the result to greater uncertainty in terms of the regulatory environment when Congress is in session than when in recess.

Goals of this Study

Most of the previous research considering equity market returns and political party affiliation is limited in scope. By only considering the White House, these previous studies overlook a very vital component in the creation of economic policy in the United States: Congress. Swensen and Patel (2004) provide evidence that stock market returns are affected by the party in control of Congress. Though not statistically significant, their research indicates a Republican Congress tends to provide greater large-cap stock returns. As in other studies, they find Democratic presidents produce higher returns. They find the largest historical returns occur when there is a Democratic President and a Republican controlled Congress. The study also indicated that further research is necessary to uncover a deeper relationship between Congress and stock market returns. One limitation of their study is that they only look at the mean return under various conditions. In this study, a regression analysis is conducted which allows for the use of control variables for factors, other than Congressional control, that would have an effect on returns.

Michelson (1993) finds that a more Democratic Congress leads to higher stock market returns. However, that study is limited by a data set that only consists of the years 1967 to 1991. Our study will examine a much longer series of data, which is particularly important given the infrequency with which the membership of Congress changes. Also, we include the four control variables listed above, which Michelson (1993) does not.

The goal of this study is to consider the role of Congress on equity market returns. Previous research is expanded by assessing the significance in the proportion of Republican and Democratic members in the House of Representative and Senate. Furthermore, previous studies have neglected the gains or losses of Congressional seats experienced in elections, including interim elections. From the social mood theory, a party gaining seats in Congress is perceived as doing a "good" job. With popular support behind them, a party that gains seats in Congress may be able to influence policies, which could then affect equity market returns. The role of Congress in explaining future equity market returns is expected to be significant.

DATA AND MODELS

Time Frame of this Study

Some of the controversy surrounding electoral cycle research centers on the time frame of the study. As noted in Section II, different observations occur based on this factor. In this study, the decision is made to focus on the post-World War II era.

There are several reasons for this choice. First, questions exist concerning the beginning of "modern" political parties in the United States. Although Republicans and Democrats existed well before World War II, there is some controversy over whether the economic policies of both parties have changed over time. Furthermore, The Great Depression and World War II could skew the data. These events represent times of "abnormal" equity market activity. Since then, equity markets have been much more regulated with the addition of the Securities and Exchange Acts of 1933 and 1934.

This study spans from the beginning of Dwight Eisenhower's presidency in January of 1953 to the end of Bill Clinton's second term in 2000. Since the presidential term of Harry Truman started during World War II, his presidency is excluded. Over the selected time period, nine different administrations were in the White House: five Republican and four Democrat. In terms of years in office, Republicans held power for twenty-eight of the forty-eight years considered in this study.

From 1953 to 2000, both houses of Congress favored Democrats. Over this time period, there were twenty-four sessions of Congress (83rd to 106th). In these forty-eight years, Democrats held a majority in the Senate for thirty-four years. In the House of Representatives, Democrats held a majority for forty years.

We determine the change in Congressional and Presidential allotment to take place at the beginning of the year. The new Congress is usually seated on or around January 3rd, so the new Congress is in power for almost the entire year. The new President is inaugurated on or around January 20th, which means it does not line up with the dates we use quite as well. Both the Congressional and Presidential elections take place the preceding November. Therefore, there might be an announcement effect immediately following the election in November. If investors have perfect foresight about the implications of political change, that might mean that all of the effect of political changes show up in November of the preceding year. However, we suspect that the impact of the announcement is different from the actual actions over the term and that investors will not be able to perfectly predict the impacts of elections.

First Congressional Model

Initially, a modified version of the "partisan" view regression model, based on the work of Santa-Clara and Valkanov (2003), is considered. In this model, dummy variables denoting the political party in control of the House of Representatives and Senate are added. However, since Democrats have a majority in both the House of Representatives and Senate for a large portion of the study, this regression was not explored.

Instead, it is hypothesized that the amount of control enjoyed by a political party in Congress can affect future equity market returns. By examining the level of control, the performance of equity markets during moments of large and small Congressional majorities can be observed. A political party with a large majority should be able to pass more of its agendas into laws. Therefore, one of the questions this study attempts to answer is, "Does an increased amount of Congressional control by a political party affect future equity market returns?"

In order to investigate the possible relation between a political party's level of control in Congress and equity market returns, the following regression is considered:

$$r_{t+1} = \alpha + \beta_1 DD_t + \beta_2 PH_t + \beta_3 PS_t + \vec{\gamma}'\vec{X}_t + u_{t+1} \qquad (3)$$

In this model, DD_t is again the presidential variable. PH_t represents the percentage control of the House of Representatives by the Democrats, while PS_t represents the percentage control of the Senate by the

Democrats. The vector X_t represents the control variables. Initially, as in the model developed by Santa-Clara and Valkanov (2003), the following control variables are used in this study:

- Dividend to price ratio (DP_t)
- Term spread (TSP_t)
- Default spread (DSP_t)
- Relative interest rate (RR_t)

The first three control variables, DP_t, TSP_t, and DSP_t, utilize the same data as Santa-Clara and Valkanov (2003) (See Section II). However, in this study, the Bank Prime Rate is selected as a measure of RR_t. It is assumed this is a more direct measure of the relative interest rate. Below, Table 1 summarizes the control variables used in this study.

Table 1: Control Variables

Control Variable	Description
DP_t	The annualized log of the dividend to price ratio of the S&P Composite Index
TSP_t	The difference between the yields of a three-month Treasury bill and ten-year Treasury bond
DSP_t	The difference between the yields of BAA and AAA-rated bonds
RR_t	The Bank Prime Rate

Second Congressional Model

Next, the relationship between the gain (loss) in Congressional seats by a political party and equity market returns is considered. As explained in Section II, the social mood theory states that the public's mood regarding certain factors, including the economy and stock market returns, dictates their voting patterns. Typically, incumbents are voted back into office when the public's mood is "good," but incumbents are voted out of office when the public's mood is "poor." As a second area of research, this study will also attempt to quantify the effect of a gain or loss in Congressional seats.

In order to explore the relationship between the number of seats gained or lost by a political party and equity market returns, equation (3) is modified:

$$r_{t+1} = \alpha + \beta_1 DD_t + \beta_2 M_t + \beta_3 N_t + \vec{\gamma}'\vec{X}_t + u_{t+1} \tag{4}$$

For this regression, M_t represents the net percentage gain or loss by the Democratic Party from the preceding Senate election. Moreover, N_t represents the percentage gain or loss by the Democratic Party from the preceding House of Representatives election. The same methodology and control variables are used in this model as are used in the previous section.

Data

For this study, future stock returns are measured using the S&P Composite Index. This index is widely respected as an accurate measure of the total US equity market and is used in numerous studies. To explore the future returns of selected sectors, four subgroup indices of the New York Stock Exchange (NYSE) Composite Index are evaluated. The four selected sectors include the Industrial, Transportation, Utility, and Financial sectors.

The data in this study comes from multiple sources. S&P Composite Index data, including prices and dividends, is obtained from the homepage of Dr. Robert Shiller of Yale University (Shiller, 2007). Furthermore, data for the Industrial, Transportation, Utility, and Financial subgroup indices of the NYSE

Composite Index are provided by the official site of the NYSE (NYSE Euronext, 2007). However, it should be noted these subgroup indices were established in 1966, and thus the time scope of the analysis of these sectors is limited to the years 1966 to 2000. Historical yields of the three-month T-bill, ten-year T-bond, the corporate BAA and AAA-rated bonds, and the Bank Prime Rate are found online at the Federal Reserve Bank of St. Louis (St. Louis Fed, 2007). Moreover, all Congressional data comes from *Vital Statistics on Congress (2001-2002)*. Finally, all presidential data is taken from Dave's Leip's "Atlas of U.S. Presidential Elections" (Leip, 2007).

All data in this study are monthly data. Excluding the historical prices of the S&P Composite Index and the NYSE Composite Index subgroup indices, all other data, when relevant, is reported as its value at the end of the month. The price of monthly future returns is calculated as a simple average of daily closing prices. To indicate when the change in administration or Congress takes place, we mark it from the beginning of the year. The new Congress is sworn in at the beginning of the year, so this represents the best date for a change for our study.

RESULTS

Initial Observations

Before the proposed regression models can be evaluated, the data must be assessed. First, correlations between the variables must be calculated. Two of the control variables, DSP_t and RR_t, have a correlation of 0.7036. Moreover, the Congressional variables have notable correlations. PH_t and PS_t have a correlation of 0.7051, and M_t and N_t have a correlation of 0.6907. The correlations between all the other variables in this study are significantly lower, less than 0.4. Next, the data must be tested for stationarity. Below, Table 2 lists the initial results of the test for each variable.

Table 2: Results of the Phillips-Perron Test for Each Variable at the 5% and the 10% Significance Levels

Variable	Reject H_0 at 5% Significance	Reject H_0 at 10% Significance
r_{t+1}	Yes	Yes
DP_t	No	No
TSP_t	Yes	Yes
DSP_t	Yes	Yes
RR_t	No	No
DD_t	No	Yes
PS_t	No	Yes
PH_t	No	Yes
M_t	Yes	Yes
N_t	Yes	Yes
E_t	Yes	Yes

This table shows the results of the Phillips-Perron Stationarity Test Yes indicates that the variables are stationary and No indicates that the variables are not stationary.

From Table 2 above, it can be seen only two variables, DP_t and RR_t, fail to reject the null hypothesis of the Phillips-Perron test at either the 5% or the 10% significance level. Thus, these two variables must be modified into a stationary form. As a result, two new variables, ΔDP_t and ΔRR_t, are introduced:

$$\Delta DP_t = DP_t - DP_{t-1} \tag{5}$$
$$\Delta RR_t = RR_t - RR_{t-1} \tag{6}$$

The two new variables are then subjected to the Phillips-Perron test in order to assure ΔDP_t and ΔRR_t are stationary. For both, the null hypothesis is rejected at the 5% significance level. Since the new variables are stationary, they will replace DP_t and RR_t as control variables in the regression models.

Results of the First Congressional Model

As stated in Section III, this model attempts to find a relationship between future stock market returns and the proportion of the House of Representatives and Senate controlled by the Democratic Party. The presidential variable, from the model developed by Santa-Clara and Valkanov (2003), is also included because it is expected to explain a portion of future stock returns. The model, defined by equation (3) in Section III, is restated below:

$$r_{t+1} = \alpha + \beta_1 \pi_t + \beta_2 PH_t + \beta_3 PS_t + \vec{\gamma}\vec{X}_t + u_{t+1} \tag{7}$$

The results of the regression are first assessed using the Breusch-Pagan and Durbin-Watson tests. The Durbin-Watson test returned a value of 1.6313. Since this value is "close" to 2.0, the null hypothesis of no serial correlation is not rejected. As a result, it can be assumed that the error (disturbance) terms are uncorrelated for the entire time series. On the other hand, the null hypothesis of the Breusch-Pagan test is rejected at both the 5% and 10% significance levels. The test results indicate that the errors are not homoskedastic, and thus, the HC t-values and p-values developed by White (1980) are reported. Table 3 provided below lists the results of the First Congressional Model linear regression. Table 3 shows that ΔDP_t has a relatively large p-value compared to the other parameters. As a result, the model is estimated without this parameter. The results of this regression are listed in Table 4 below.

Table 3: Results of the First Congressional Model

Parameter	Estimate	HC t-value	HC Standard Error	HC p-value
Intercept	2.233	1.613	1.384	0.1067
ΔDP_t	-3.978	-0.303	13.141	0.7621
TSP_t	0.380**	2.537	0.150	0.0112
DSP_t	1.316***	2.875	0.458	0.0040
ΔRR_t	-0.827***	-2.932	0.282	0.0034
DD_t	0.690**	2.229	0.309	0.0258
PS_t	4.135	1.119	3.695	0.2631
PH_t	-9.986**	-2.363	4.226	0.0181

This table shows the results of the first congressional model. Statistical significance are represented by *at the 10% level, ** at the 5% level and *** at the 1% level. $R^2 = 0.062$ Adjusted $R^2 = 0.051$, F-statistic=5.363

Table 4: Results of the First Congressional Model Excluding ΔDP_t

Parameter	Estimate	HC *t*-value	HC Standard Error	HC *p*-value
Intercept	2.382*	1.824	1.306	0.0682
TSP_t	0.387**	2.505	0.154	0.0122
DSP_t	1.276***	2.770	0.461	0.0056
ΔRR_t	-0.814***	-2.793	0.291	0.0052
DD_t	0.694**	2.237	0.310	0.0253
PS_t	3.828	1.054	3.632	0.2920
PH_t	-9.885**	-2.343	4.219	0.0191

This table shows the results of the first congressional model excluding ΔDP_t. Statistical significance are represented by *at the 10% level, ** at the 5% level and *** at the 1% level. $R^2 = 0.062$, Adjusted $R^2 = 0.052$, F-statistic=6.247

Table 4 provides some interesting information. First, it can be seen that ΔDP_t has a minimal contribution to the model. The R^2 measures for the regression model with and without this parameter are approximately equal. As expected, the presidential variable suggests higher returns for Democratic administrations. The coefficient is 0.694, and it has significance at the 5% level. This translates into an 8.33% increase in annual return when controlling for term spread, default spread, and change in relative interest rate. This advantage also exists in the actual returns. During the time frame of this study, Democratic presidencies returned 10.11% annually, while Republican presidencies returned 8.03%, based on the S&P Composite Index.

Interestingly, PS_t and PH_t indicate opposite relationships. PH_t suggests a negative correlation between the proportion of the House of Representatives under Democratic control and future returns. PS_t indicates that there is a positive, though insignificant, correlation between future returns and the proportion of the Senate controlled by the Democrats. However, the significance of PH_t is much higher than PS_t. PH_t has a *p*-value of 0.01913, while PS_t has a *p*-value of 0.29201. When controlling for term spreads, default spreads, and the change in relative interest rates, each one percent gain of control in the House of Representatives by the Democratic Party results in a 0.0989% monthly decline in returns. This represents a 1.19% annualized decline. There is an indication that equity markets respond much better to Democratic presidencies than to a Democratically-controlled Congress.

Next, this model is evaluated for the four subgroup indices of the NYSE Composite Index. As mentioned in a previous section, since these indices were created in 1966, the time scope for this part of the study is limited to between 1966 and 2000. Tables 5, 6, 7, and 8 are listed below and report the results for all four NYSE subgroup indices: the Industrial, Transportation, Utility, and Financial subgroups, respectively.

Table 5: Results of the First Congressional Model for the Industrial Subgroup

Parameter	Estimate	HC *t*-value	HC Standard Error	HC *p*-value
Intercept	-0.700	-0.395	1.773	0.6929
TSP_t	0.371**	2.088	0.178	0.0368
DSP_t	2.227***	3.935	0.566	0.0001
ΔRR_t	-1.113***	-3.524	0.316	0.0004
DD_t	1.439***	3.462	0.416	0.0005
PS_t	4.739	1.018	4.657	0.3089
PH_t	-7.931	-1.468	5.404	0.1422

This table shows the results of the first congressional model for the Industrial Group. Statistical significance are represented by *at the 10% level, ** at the 5% level and *** at the 1% level. $R^2= 0.0997$, Adjusted $R^2 = 0.087$, F-statistic=7.604

Table 6: Results of the First Congressional Model for the Transportation Subgroup

Parameter	Estimate	HC *t*-value	HC Standard Error	HC *p*-value
Intercept	-3.851	-1.560	2.468	0.1186
TSP_t	0.347	1.496	0.232	0.1347
DSP_t	2.668***	3.675	0.726	0.0002
ΔRR_t	-1.564***	-3.618	0.432	0.0003
DD_t	1.883***	3.270	0.576	0.0011
PS_t	3.934	0.592	6.646	0.5539
PH_t	-2.970	-0.388	7.647	0.6978

This table shows the results of the first congressional model for the transportation subgroup. Statistical significance are represented by *at the 10% level, ** at the 5% level and *** at the 1% level. $R^2= 0.0843$ Adjusted $R^2 = 0.071$, F-statistic=6.322

Table 7: Results of the First Congressional Model for the Utility Subgroup

Parameter	Estimate	HC *t*-value	HC Standard Error	HC *p*-value
Intercept	1.221	0.720	1.696	0.4714
TSP_t	0.645**	2.292	0.281	0.0219
DSP_t	1.692***	3.261	0.519	0.0011
ΔRR_t	0.229	0.816	0.280	0.4145
DD_t	1.228**	2.063	0.595	0.0391
PS_t	3.215	0.666	4.825	0.5052
PH_t	-9.586*	-1.958	4.897	0.0503

This table shows the results of the first congressional model for the utility subgroup. Statistical significance are represented by *at the 10% level, ** at the 5% level and *** at the 1% level. $R^2= 0.0443$, Adjusted $R^2 = 0.030$, F-statistic=3.183

Table 8: Results of the First Congressional Model for the Financial Subgroup

Parameter	Estimate	HC *t*-value	HC Standard Error	HC *p*-value
Intercept	0.737	0.319	2.308	0.7496
TSP_t	0.518**	2.455	0.211	0.0141
DSP_t	2.989***	3.902	0.766	0.0001
ΔRR_t	-0.496	-1.193	0.416	0.2331
DD_t	1.715***	3.165	0.542	0.0016
PS_t	9.166	1.538	5.959	0.1240
PH_t	16.493**	-2.425	6.801	0.0153

This table shows the results of the first congressional model for the financial subgroup. Statistical significance are represented by *at the 10% level, ** at the 5% level and *** at the 1% level. R^2= 0.073, Adjusted R^2 = 0.059, F-statistic=5.391

PH_t has a negative correlation with future returns. PS_t has a positive correlation with future returns for all four subgroups. Moreover, PH_t has a lower associated *p*-value than PS_t for three of the four subgroup indices. PH_t is significant at the 5% level for the Utility and Financial subgroup indices. However, PS_t is not significant at even the 10% level for any of the four subgroups. The presidential variable, DD_t, is positively correlated with future returns for all four sectors. Also, in each case, this variable is significant at the 5% level. In fact, DD_t is significant at the 1% level for three of the four subgroup indices. As seen in the results from the S&P Composite Index, the percentage of Democrats in the House of Representatives tends to be more statistically significant than the percentage of Democrats in the Senate.

Results of the Second Congressional Model

The Second Congressional Model attempts to find a connection between the percentage of seats gained or lost by the Democratic Party in the preceding election. The presidential variable is again included. The model, defined by equation (4) in Section III, is restated below:

$$r_{t+1} = \alpha + \beta_1 \pi_t + \beta_2 M_t + \beta_2 N_t + \vec{\gamma}' \vec{X}_t + u_{t+1} \qquad (8)$$

Due to its lack of significance, ΔDP_t is omitted as a control variable. As in the previous section, the results of the regression are assessed using the Breusch-Pagan and Durbin-Watson tests. The Durbin-Watson test returns a value of 1.6202, allowing us to assume that there is no autocorrelation. However, since the Breusch-Pagan test is again rejected at both the 5% and 10% significance levels, HC *t*-values and *p*-values are reported. Table 9 lists these results:

Table 9: Results of the Second Congressional Model

Parameter	Estimate	HC *t*-value	HC Standard Error	HC *p*-value
Intercept	-0.753	-1.523	0.495	0.1278
TSP_t	0.282**	1.996	0.142	0.0459
DSP_t	0.889**	2.215	0.401	0.0267
ΔRR_t	-0.957***	-3.288	0.291	0.0010
DD_t	0.727**	2.223	0.327	0.0262
M_t	0.933	0.241	3.871	0.8095
N_t	-0.796	-0.235	3.383	0.8139

This table shows the results of the second congressional model. Statistical significance are represented by *at the 10% level, ** at the 5% level and *** at the 1% level. R^2 = 0.0449, Adjusted R^2 = 0.035, F-statistic=4.450

From the Table 9, both M_t, the percentage of seats gained or lost by the Democrats in the Senate, and N_t, the percentage of seats gained or lost by the Democrats in the House of Representatives, are found to be statistically insignificant. Earlier in this section, it is reported M_t and N_t have relatively high correlation. Because of this, it is possible the effects of the two parameters are disrupting each other in the model. Thus, the regression is evaluated for two separate cases. The first case omits M_t, and the second case omits N_t. However, the two cases do not provide any new results.

Based on the results, there seems to be little or no relation between the number of seats gained or lost by a political party in either the Senate or the House of Representatives and future equity market return. Even when M_t and N_t are individually analyzed, the two parameters are statistically insignificant. In terms of market influence, it seems the proportion of members in Congress is more important.

DISCUSSION AND CONCLUSIONS

Summary of Findings

The study had two main goals. First, the relationship between a political party's control of Congress and future equity market returns was explored. Second, the percentage change in Congressional seats in the last election is compared against future returns. A "partisan view" regression model, adopted from Santa-Clara and Valkanov (2003), serves as the reference model in this study.

From the modeling, it is found that PH_t is negatively correlated with future equity market returns. This variable is statically significant at the 5% level. Furthermore, as seen in other studies, there is a positive correlation between equity market returns and Democratic presidents. However, unlike several other studies, the results are significant at the 5% level.

These results may point to the fact that equity markets perform better in situations in which power is distributed between political parties. As stated in Section II, Swensen and Patel (2004) find the highest historical returns in time periods where there is a Democratic President and a Republican controlled Congress. Furthermore, this could be a verification of Hibbs' (1977) claims that Democrats and Republicans have policies inherently different from one another. While Democratic presidents promote expansionary policies, the Republican Congress modifies these policies to ensure the growth of the economy is controlled, because of concerns about inflation. In turn, this could lead to conditions optimally suited for future US equity markets returns. Conversely, when Republicans control both the Office of President and Congress, expansion may be too slow; moreover, when Democrats are in control of the Office of President and Congress, the economy may expand too quickly leading to inflation. Since the distribution of power provides more viewpoints in the creation of policies, it is logical to suppose that policies promoting higher future returns are created when multiple opinions are be expressed.

However, although their opinions on policy may be similar, it seems not all party members follow and promote the exact same economic policies. It is interesting to note that Democratic presidencies are positively correlated with future equity market returns, while larger proportions of Democrats in the House of Representatives and the Senate are negatively correlated to future returns. It could be that politicians who are elected President may have different opinions on policies in comparison to their counterparts in Congress. For example, Republican Presidents might be more moderate than Republican members of Congress. Also, compared to the President, members of the Senate and the House of Representatives have a smaller and more defined set of constituents, with the House being much more defined. Since members of Congress desire to be reelected, they must fulfill the wishes of their voters. Instead of looking at all US companies equally, a Senator may focus more of his or her efforts on promoting monetary policies favoring businesses residing in his or her state.

In terms of future selected sector returns, the results are similar. PH_t is again negatively correlated to future returns for all four subgroup indices. For the Utility and Financial subgroup indices, the results are significant at the 5% level. Conversely, PS_t is positively correlated to future returns, but it is not statistically significant for all of the four subgroups. Democratic presidents are positively correlated with all four sectors. In three of the four subgroups, the statistical significance of the findings is at the 1% level. For the Utility sector, the statistical significance of the results is at the 5% level.

From these results, it is interesting to note the relationship between the Utility and Financial subgroup indices and PH_t. PH_t is negatively correlated to future returns in the Utility subgroup, while it is positively correlated with future returns in the Financial subgroup. For every one percent gain in Democrats in the House of Representatives, there is a 1.15% decrease in annual Utility subgroup returns and a 1.98% increase in annual Financial subgroup returns. It is important to note these two subgroups are both affected by interest rates, such that both are negatively affected by increasing interest rates.

As mentioned in Section II, Hibbs (1977) suggests that the expansionary policies of Democrats lead to higher interest rates. However, other studies, including Santa-Clara and Valkanov (2003), contend Democratic and Republican presidents have approximately the same effect on interest rates. Furthermore, this reinforces the idea proposed above that members of political parties who are elected President have differing opinions on policies relative to other members of their party.

Under the social mood theory, it is hypothesized a large gain or loss in Congressional power can be associated with the general mood of the population. Thus, a political party gaining a significant number of Congressional seats in an election could gain political clout because it can claim it carries the "will of the people." Under these conditions, this political party may find it easier to pass its own policies. Since the results of this portion of the study are indecisive, it is difficult to draw any conclusions from the data.

As a consequence, these results do not appear to validate this study's extension to the social mood theory. Gaining (losing) seats in Congress may reflect on the mood of the people and increase (decrease) political clout, but it could be that parties have been unable to take full advantage of these situations. Also, as stated in Section I by Nofsinger (2004), until recently, household participation in the stock market has been limited. Thus, it may be inaccurate to apply the social mood theory to previous time periods since most households were not active investors.

Future Research

Based on the findings from this study, there are several avenues of possible future research. First, it may be interesting to note the actual state-by-state breakdown of the members of Congress. For example, Republicans from the South may have a different effect on future stock returns in comparison to Republicans in the East. Although it is very common to lump the members of a political party into one group, members typically have different views towards a given policy. It could be that party members from the same geographic area have similar economic policies because these members serve the same kinds of constituents. Second, it might be informative to study the members of certain committees in the House of Representatives and the Senate. Since most bills start at the committee level, the members of committees responsible for establishing economic policies could be very important. Third, the seniority of members of Congress might reveal valuable information. As members of Congress gain experience, they may become more influential at establishing economic policies, possibly leading to noticeable changes in equity market returns. Fourth, it could be advantageous to include major tax bills in future studies. Tax law may also have a significant impact on future equity market returns. A fifth area for future research would be to examine whether a change in majority control has an impact on stock market returns, which would require going back further into the past, waiting for more observations into the future or finding some way to combine the performance of multiple countries' stock markets. In particular, examining the effect of the House, Senate and Presidency moving in one direction, while the others are moving in the opposite direction might provide more evidence for our conclusion that the markets like divided government.

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