Stock Market Returns and Partisan Political Business Cycles

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Abstract

Excess returns in the stock market are significantly higher during Democratic presidential administrations. Previous research concludes that partisan return differentials are anomalous since they are not due to differences in required returns. We find that partisan return differentials are, instead, likely due to differences in cash flows - capital income growth - during the first years of presidential administrations as predicted by the rational partisan model of the business cycle. The first major finding of this paper is that there is a statistically and economically significant partisan difference in capital income growth in the first year of presidential terms. The second finding of the paper is that significant partisan differences in excess returns are also found only in the first year of presidential terms. Further, it is differences in unexpected returns during that first year that is the source of partisan return differentials. We find no statistically significant partisan differences in unexpected returns during the rest of the term. This result holds across market capitalization deciles and book-to-market value deciles. The third finding is that there is a positive and statistically significant relationship between unexpected returns and capital income growth and real GDP growth one and two quarters ahead. Lastly, we find that the unexpected returns are related to the degree of electoral surprise as predicted by the rational partisan model. We conclude that that there is strong evidence in favor of the rational partisan model as an explanation for partisan return differences in the stock and bond markets.

JEL: G12, G19, E39, E44

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1 Introduction

One of the most striking and persistent anomalies observed in U.S. financial markets is the apparent linkage between stock market returns and the four year cycles associated with the presidential election political process. In particular, stock market returns are much higher on average during Democratic presidencies than during Republican administrations. Figure 1 illustrates that, over the 1927 - 2002 time period examined in this study, the average of annual excess returns for large company stocks is 9.83% during Democratic administrations compared to only 1.70% during Republican administrations - a difference of over 8%! For small company stocks the difference in average excess returns is even more pronounced, averaging 16.30% and -1.46% during Democratic and Republican administrations, respectively. The persistence of this "partisan effect" is quite remarkable given the depth, liquidity, and presumed efficiency of the U.S. equity markets.

The existing literature in both political science and economics regarding the effects of the election cycle and political competition on the economy dates back to Kramer (1971). Alesina, Roubini, and Cohen (1997) and Drazen (2000) provide thorough surveys of this research and provide empirical evidence in support of political impacts on macroeconomic variables such as GDP growth and employment. Academic research interest in the potential links between the election process and the stock market has been more recent. Allvine and O'Neill (1980) investigate a year-of-term effect by testing a trading strategy that involves being long stocks in the two years before an election and either being long T-Bills or short stocks in the two years after the election. Riley and Luksetich (1980) test "the conventional wisdom of Wall Street" regarding price movement during election years. Herbst and Slinkman (1984) find evidence of a four-year stock market cycle that is closely associated with Presidential elections. Huang (1985) documents the existence of both partisan and year-of-term effects in large company stock market returns. Hensel and Ziemba (1995) report a partisan effect and year-of-term effect for large and small company stocks. In addition, they are the first to document a partisan effect in which bond and cash returns are higher in Republican administrations. Johnson, Chittenden, and Jensen (1999) consider large and small company stocks as well as cash and bond returns. They consider both nominal and real returns. They find no partisan effect for large company stocks, a significant partisan effect for small company stocks, confirm the Republican partisan effect in bond returns, and document a year-of-term effect in stock market returns. Siegel (1998) also confirms the existence of both partisan effects on returns and Presidential election cycle seasonal effects. These studies have in common the fact that none offer any theoretically compelling explanations for their findings.

Santa-Clara and Valkanov (2003) provide the most thorough treatment to date regarding evidence of partisan impacts on U.S. equity returns. Using monthly returns data from 1927 – 1998, they find that partisan differences in excess returns are statistically significant and robust to choice of sample period. Additionally, they decompose excess returns into expected and unexpected components and find that it is the unexpected component that accounts for most of the variation in partisan differences. In particular, they find that unexpected returns are 10.8% higher during Democratic administrations. They conclude that "the difference in realized returns can be attributed to the market being systematically positively surprised by Democratic policies." This is a difficult result. How can systematically higher returns be reconciled with a liquid and efficient market populated with rational, forward-looking agents?

One possible answer is suggested by a partisan model of the business cycle proposed by Alesina (1987) that he

calls the rational partisan model. Partisan models of the business cycle are based on the idea that the preferences of political parties regarding nominal versus real economic performance are different based on the constituencies they represent. In these models, left-of-center parties are assumed to represent constituencies that hold little or no financial capital and disproportionately bear the consequences of higher unemployment. Right-of-center parties are assumed to represent constituencies which hold financial capital and disproportionately bear the consequences of high inflation. When in power, parties follow macroeconomic policies that match the priorities of their constituencies. Under certain conditions, these policy differences can generate business cycle fluctuations.

The rational partisan model's foundation rests on wage rigidities, rational expectations, and political parties with opposite priorities regarding short-term trade-offs between inflation and unemployment. It is a two-party model, in which the left-of-center (Democratic) party is more concerned with reducing the unemployment rate and increasing real growth as opposed to lowering inflation, while the right-of-center (Republican) party is concerned more with controlling inflation than with reducing the unemployment rate and increasing growth.[1] The model predicts a temporary increase in growth above the natural rate following an election victory by a Democrat. It predicts that the opposite occurs after a Republican victory. Real growth returns to the natural rate in the second half of both Republican and Democratic administrations. In the rational partisan model, fluctuations in growth around the natural rate are temporary and caused by systematic differences in actual versus expected inflation that are associated with Presidential election uncertainty. This difference between actual and expected inflation directly impacts real wage growth because nominal wage growth is contractually fixed in the short run. Declines in real wage growth induce firms to increase labor inputs and higher labor inputs lead to higher real output.

The focus of the rational partisan model is the macroeconomy and not asset returns. However, the model can certainly be interpreted as having implications for the financial markets. Because capital is fixed in the short run, higher labor inputs increase the marginal product of capital, which, in turn, raises capital income - the link to equity prices. Increases in real wage growth have the opposite effect. This paper examines whether the rational partisan model can provide a theoretical basis for partisan differences in excess returns by examining variation in the growth rate of capital income, variation in excess returns, and the relationship between the two.

We start by examining selected predictions of the model regarding the real economy over the 1948 - 2002 period. Consistent with the model's predictions and previous research, we find that the unemployment rate declines on average during the first half of Democratic administrations and increases on average during the first half of Republican administrations. There are no significant partisan differences during the second halves of administrations. We find, too, that real per capita GDP growth is, on average, higher during the first half of Democratic administrations than it is during Republican administrations. Again, there is no significant partisan difference between the last halves of administrations. We then document that growth in capital income, defined as growth in non-labor payments in the nonfarm business sector, is higher on average in the first year of a Democratic term (2.22% per quarter) as compared to a Republican first year of term (0.08% per quarter) with no significant differences across the remainder of the term. This difference is statistically and economically significant and is a major finding of this paper. To our knowledge,

[1] This paper presumes that the Democratic party is the left-of-center party while the Republican party is the right-of-center party. Alesina (1987) does not assign roles to specifically named political parties in his formal model.

this is the first time that a partisan effect in capital income has been documented.

Another key result of this paper is that partisan differences in excess returns are also found only in the first year-of-term, consistent with the partisan differential in capital income growth. Over the 1948 - 2002 period, for example, value weighted excess returns averaged 2.92% per quarter during Democrats' first year in office and -1.80% per quarter during Republicans' first year.[2] These first year-of-term differences are robust to firm size and book-to-market value. Furthermore, we find that it is differences in unexpected returns during the first-year only that account for the bulk of the partisan differences. We believe that this is the first paper to highlight and test the fact that partisan return differences depend primarily on the unexpected return differences only in the first year of presidential terms. All of these results apply to after-tax returns as well.

We then relate these unexpected returns to both capital income growth and real GDP growth one and two quarters ahead and find a positive and statistically significant relationship. Thus, it appears that the stock market is incorporating into prices revisions to anticipated changes in capital income or production. We also document a partisan effect in bond returns as well. Short to intermediate maturity Treasury notes' excess returns are higher during Republican presidencies but only in the second year of the term. We then relate two different measures of electoral surprise to capital income growth, unexpected returns, and real growth and find that there is a positive and statistically significant relationship between each measure of electoral surprise and the outcome of interest. We conclude that the evidence in support of the rational partisan model of the business cycle as an explanation for partisan excess return differences is very strong.

The paper is organized as follows. Section 2 provides an outline of the rational partisan model. Section 3 describes the empirical strategy. Section 4 describes the data and notation used in the paper. Section 5 presents and discusses the results and section 6 concludes.

2 The Rational Partisan Model

We follow Alesina et al. (1997) in sketching the outlines of the rational partisan model. The economy is modeled as follows:

$$y_t = \overline{y} + \gamma(p_t - w_t) \tag{1}$$

where y_t is the rate of real output growth in time t, p_t is the rate of inflation in time t, w_t is the growth rate of nominal wages in t, $\overline{y}$ is the "natural" rate of growth of real output, and γ is a positive parameter that, for simplicity, is assumed to be one. The expression $p_t - w_t$ is the negative of real wage growth making real output growth equal to the natural rate of growth less the growth in real wages.

Nominal wages are set in wage contracts that last one period, which in this model is two calendar years. The contracts are not indexed to the inflation rate. Contracts are signed at the end of period $t-1$ for period t. The labor market is assumed to be competitive and wages are set at the level that clears the market, i.e., constant real wages. This means that nominal wage growth is set to equal the expected inflation rate:

[2] For the 1927 - 2002 period, the corresponding figures are 2.36% per quarter for Democrats and -2.16% for Republicans. See Table 2.

$$w_t = p_t^e = E\left[p_t | I_{t-1}\right] \tag{2}$$

where p_t^e is the rational expectation of the inflation rate based on the information available at the end of time $t-1$ when contracts have to be signed.

From (1) and (2), it follows that:

$$y_t = \overline{y} + p_t - p_t^e. \tag{3}$$

Thus, real output growth is equal to the natural rate of growth unless inflation is greater or less than anticipated. The policymaker is assumed to have direct control over the rate of inflation.

There are two political parties with different preferences, D and R. Party D favors growth and high employment over low inflation. Party R favors low inflation more than party D. They have the following objective functions:

$$u^D = \sum_{t=0}^{\infty} \beta^t \left[-\left(p_t - \overline{p}^D\right)^2 + b^D y_t \right] \text{ and} \tag{4}$$

$$u^R = \sum_{t=0}^{\infty} \beta^t \left[-\left(p_t - \overline{p}^R\right)^2 + b^R y_t \right] \tag{5}$$

where

$$\overline{p}^D \geq \overline{p}^R \geq 0 \text{ and} \tag{6}$$

$$b^D \geq b^R \geq 0. \tag{7}$$

Partisan differences in preferences are embodied in (6) and (7).

Voters are rational, heterogeneous in their preferences regarding the trade-off between optimal inflation and growth, and have a utility function similar to that of the political parties:

$$u^i = \sum_{t=0}^{\infty} \beta^t \left[-\left(p_t - \overline{p}^i\right)^2 + b^i y_t \right]. \tag{8}$$

The distribution of voter preferences is $\overline{p}^i$ and b^i is unknown.

Elections occur every four years which is every other period in this construct. For example, an election occurs at the beginning of period t, after wage contracts have been signed at the end of $t-1$, and then again at $t+2$. Substituting (3) into (4) and (5) yields the policymaker's optimization problem. Optimizing with respect to p_t gives the optimal level of inflation chosen by each party if elected:

$$p_t = p_{t+1} = \overline{p}^D + \frac{1}{2} b^D \equiv \widetilde{p}^D \tag{9}$$

$$p_t = p_{t+1} = \overline{p}^R + \frac{1}{2} b^R \equiv \widetilde{p}^R. \tag{10}$$

From (6) and (7), it follows that $\widetilde{p}^D > \widetilde{p}^R$.

Now let θ be the probability that party R wins the election and $(1-\theta)$ be the probability that party D wins the election. Voters are assumed to know θ and, since they form expectations rationally,

$$p_t^e = \theta\widetilde{p}^R + (1-\theta)\widetilde{p}^D \tag{11}$$

$$p_{t+1}^e = \widetilde{p}^R \text{ if R is in office and} \tag{12}$$

$$p_{t+1}^e = \widetilde{p}^D \text{ if D is in office.} \tag{13}$$

Note that (11), (12), and (13) are the critical equations in the model and guarantee that inflation in period t will differ from expected as long as there is any uncertainty regarding the election outcome ($\theta \neq 0$ or $\theta \neq 1$). The sign of the difference is dependent on which party wins the election and the magnitude of the difference is dependent on the degree of surprise in the election result and the difference between the two parties' target rates of inflation.

Combining (9) and (10) - the optimal inflation choices for each party, with (11), (12), and (13) – the rational inflation expectations, and (3) gives the growth rate equations:

$$y_t^D = \overline{y} + \theta(\widetilde{p}^D - \widetilde{p}^R) \tag{14}$$

$$y_t^R = \overline{y} - (1-\theta)(\widetilde{p}^D - \widetilde{p}^R) \tag{15}$$

$$y_{t+1}^D = y_{t+1}^R = \overline{y}. \tag{16}$$

Thus, the model predicts that growth will be above the natural rate in t, the period immediately following the election, if D wins. It predicts that growth will be below the natural rate in that period if R wins. In the second half of the term, period $t+1$, growth returns to the natural rate regardless of which party is in office. This pattern in growth over the term occurs because: 1) inflation expectations are formed rationally and are written into nominal wage contracts, 2) the political parties have different (opposite) preferences, and 3) election outcomes are uncertain.

Changes in real wage growth drive deviations from the natural rate of growth in this model. Decreases (increases) in real wages induce firms to increase (decrease) labor inputs which increases (decreases) real output and the marginal product of capital. Increases (decreases) in the marginal product of capital increase (decrease) income to capital. This paper asks whether the partisan differences in income to capital implied by the model exist and, if so, whether they are correlated in some way with observed partisan return differentials.

3 Empirical Strategy

Empirically testing the implications of the rational partisan model is complicated by the differences between the simple world of the model and that inhabited by the political parties, voters, and market participants in actual

practice. First, unlike in the model, the President doesn't control inflation directly. A President has influence with, but not direct control over, an independent central bank and two houses of Congress (either of which his party may or may not control). Second, the policy tools available to the Federal Reserve and Congress to impact inflation are imprecise in both the timing and magnitude of their effects. Third, the parties' inflation targets are not known with certainty by market participants. Fourth, wage contracts are not all two years in duration nor are they all renegotiated at the same time. Lastly, if labor markets are not perfectly competitive, nominal wage increases may be negotiated that are different from expected inflation. All of these factors create uncertainty as to the timing and magnitude of any post-election change in the inflation rate and imply that any changes in employment, real growth, and income to capital may take time to manifest themselves as well. The empirical strategy of this paper is forced to confront this reality. Following Alesina et al. (1997), it is assumed to take one full quarter for a policymaker's action to begin to be reflected in real variables. This means that a new President is not "credited" with any impact on the unemployment rate, real output growth, or growth in income to capital in the first quarter of his term. No such accounting for time lags between policy implementation and effect are made in the returns data.

This paper focuses on the timing implications of the rational partisan model by comparing averages by parties in total, for each half of term, and for each year of term. The methodology employed involves running regressions using appropriate dummy variables and no constant term. The coefficients from such a regression are simply the averages for the party and time period covered by the dummy variable. Heteroscedasticity and autocorrelation consistent (HAC) standard errors are obtained via the method of Newey and West (1987). For example, to test for partisan return differences in the first and second halves of terms, the following regressions are run:

$$r_t = \beta_1 DH1_t + \beta_2 RH1_t + \beta_3 DH2_t + \beta_4 RH2_t + u_t \tag{17}$$

where r_t is the log excess return being examined, and $DH1_t$ and $DH2_t$ are Democratic presidential dummies for the first and second halves of terms, and $RH1_t$ and $RH2_t$ are Republican presidential dummies for the first and second halves of terms. A test of the null hypothesis $\beta_1 = \beta_2$ using the HAC covariance matrix provides a robust test of whether the average return during the first half of Democratic administrations is significantly different from the average return in the first half of Republican administrations. The same procedure is used to examine the real variables except that, for the reasons mentioned above, the dependent variable is from time $t + 1$.

Partisan differences in the unemployment rate changes, real GDP growth, and growth in income to capital are examined first. Then tests are run for partisan differences in stock market excess returns over both the 1927 - 2002 period and the 1948 - 2002 ("postwar") period for which the data on the real economy variables exists. We then decompose excess returns into expected and unexpected components and probe for evidence of partisan differences. Then growth in income to capital is compared with unexpected returns to test the hypothesis that it is a potential source of partisan variation in returns. Bond returns are examined to determine if partisan impacts are present there as well. Lastly, unexpected returns, capital income growth ane real GDP growth are compared with two different measures of electoral surprise.

4 Data

The primary sample period of interest is the 1948 - 2002 period as data exists for returns, real economy variables, and dividend tax rates in this period. Over that time span there were 14 presidential elections, of which Democrats won six. There were seven "regime" changes, i.e., a change in the party controlling the White House. So, while a 55-year period is being examined, the number of outcome generating events that facilitate testing hypotheses regarding partisan business cycle models is, regrettably, small.

The data consist of real variables, financial variables, and return forecast variables. A brief description of each class of data and the notation used follows.

4.1 Real Variables

Quarterly data on real per capita GDP is from the Bureau of Economic Analysis' national income and product accounts. Real growth (*gdp*) is defined as the non-annualized percentage growth rate in seasonally adjusted per capita real GDP less its mean growth rate over the 1948:1 - 2002:4 sample period. The rational partisan model predicts deviations from the unobserved natural rate of growth. Considering deviations from the mean assumes that the mean of real per capita real GDP growth is a reasonable proxy for the natural rate. Quarterly data on the civilian unemployment rate is constructed using monthly data from the Bureau of Labor Statistics (BLS) by using last month of the quarter values. Quarterly changes in the seasonally adjusted unemployment rate are first differences of these quarterly observations. One observation is lost due to differencing leaving a sample period of 1948:2 - 2002:4. Quarterly data on non-labor payments for the nonfarm business sector also comes from the BLS. Non-labor payments are the difference between nominal output and labor compensation and, as such, reasonably represents the income to capital. Capital income growth (*capinc*) is defined as the non-annualized percentage growth rate in seasonally adjusted non-labor payments over the 1948:1 - 2002:4 sample period.

4.2 Financial Variables

Monthly and quarterly data on stock market total returns, various maturities of Treasury note and bond total returns, and 30-day T-Bill total returns is obtained from the Center for Research in Securities Prices (CRSP). The stock market data consists of returns on the NYSE/AMEX/NASDAQ value weighted and equal weighted index as well as ten portfolios of market capitalization deciles to examine company size effects. To examine valuation or "style" effects, ten portfolios formed on the basis of book value of equity-to-market value of equity are also examined and, to investigate combined size and style effects, six Fama-French benchmark portfolios formed on the basis of both size (big or small) and book-to-market value (low, median, high) are utilized as well. The book value-to-market value data and the Fama-French benchmark portfolio data is courtesy of Kenneth R. French. Quarterly 30-day T-bill total returns ($tb30_t$) are used in the calculation of excess returns. Excess returns are calculated as $\ln(\frac{1+r_t}{1+tb30_t}) \cdot 100$ where r_t is the return series in question. The large and small company excess returns used in Figure 1 were calculated using data from the *Stocks, Bonds, Bills, and Inflation 2007 Yearbook* (SBBI).

The value weighted index excess returns are denoted vw_t and the equal weighted index excess excess returns are

denoted as ew_t. Since stocks whose book-to-market value ratio is low are often referred to as "growth" stocks while stocks with a high book-to-market value ratio are often referred to as "value" stocks, this convention is adopted in labelling the six Fama-French benchmark portfolios, with the median book-to-market value ratio stocks referred to as "neutral." The six Fama-French benchmark portfolios' excess returns, then, are large growth, large neutral, large value, small growth, small neutral, and small value. The nominal corporate bond total returns used to construct the excess returns series is from the SBBI.

4.3 Return Forecast Variables

Return forecast variables are used to derive the conditional expected excess return components of the value and equal weighted portfolios. Keim and Stambaugh (1986), Campbell and Shiller (1988), Fama and French (1988, 1989), Campbell (1991) and Fama (1991) provide substantial evidence that variables related to the business cycle can forecast stock market returns. The variables chosen for this study are the dividends to price ratio, the four quarter change in the yield spread between Moody's Baa and Aaa rated corporate bonds, and the ratio of the 3-month T-bill rate to its one year moving average. The dividend to price ratios are calculated from the CRSP data. The 3-month T-bill series is from the Board of Governors of the Federal Reserve System. The intermediate Treasury yield series is from the SBBI. The Moody's corporate bond yield series are both from the Board of Governors of the Federal Reserve System. Quarterly observations on the variables that incorporate interest rates are constructed from monthly data using last month of the quarter values.

5 Results

5.1 Partisan Differences in the Real Economy

Since the Democratic party is willing to accept higher inflation in exchange for higher growth, the model predicts that there should be employment increases in the period immediately following Democratic Presidential election victories as firms increase labor inputs in response to lower real wages. The opposite should occur after Republican victories. The behavior of the unemployment rate in the postwar period is consistent with the predicted pattern, as shown in Table 1. On average, the unemployment rate declines during the first two years of Democratic administrations while it rises in the first two years of Republican administrations. The partisan differences in these first years are statistically and economically significant: an average decrease in the unemployment rate of 0.17% per quarter over the first two years for Democrats versus an average increase of 0.25% per quarter over Republican's first two years in office. There is no significant partisan difference in years three and four of presidential terms.

Given the strong partisan effect seen in the unemployment rate data, it is no surprise to find a similar pattern in real per capita GDP growth, also seen in Table 1. On average, real growth is above its mean (above the natural rate) during the first two years of Democratic presidencies and below its mean (below the natural rate) during the first two years of Republican presidencies. As was the case with unemployment rate changes, the differences are significant in both the statistical and economic sense, while there is no significant difference in average partisan outcomes in the

last two years of administrations. Thus, real growth also exhibits the partisan pattern predicted by the model.

In the short run, the capital stock is fixed so increasing labor inputs should increase the marginal product of capital. This should, in turn, result in an increase in the income to capital. The compelling evidence of partisan differences in labor inputs and real output growth suggests that a partisan pattern might manifest itself in capital income growth as well. Table 1 shows that, indeed, capital income growth is higher under Democratic presidents but that the partisan difference is found *only in the first year of the term.* There are no significant differences in the other three years.

5.2 Partisan Differences in Stock Market Excess Returns

Can the rational partisan model provide a reasonable explanation for partisan differences in returns as documented by Santa-Clara and Valkanov (2003)? The partisan differences apparent in employment, real growth and, in particular, capital income growth are strongly suggestive that there may be similar partisan patterns in equity returns. And if partisan impacts on returns are linked to capital income growth, the return differences may also be limited only to the first years of terms.

Table 2 details partisan differences in quarterly excess returns for the value weighted and equal weighted CRSP indices over the 1927 - 2002 and 1948 - 2002 time periods. In both time periods and for both indices, statistically significant partisan differences in returns are found only in the first years of presidential terms. For the value weighted index, the difference between average quarterly first year excess returns is 4.20% *per quarter* over the 1927 - 2002 period, statistically significant at the 94% level. For the postwar period, the same partisan difference is a comparable 4.71% per quarter, statistically significant at the 99% level. There are no significant partisan return differences in the other years of Presidents' terms in either time period.

For the equal weighted index the partisan differences are even more pronounced. The difference between average quarterly first year returns is a stunning 8.29% per quarter over the 1927 - 2002 period, statistically significant at the 98% level. For the postwar period, the first year partisan difference is a similar 7.73% per quarter, statistically significant at the 99% level. And, like the value weighted index, there are no significant partisan return differences in the other years of Presidents' terms in either time period. The fact that the partisan differences are greater for the equal weighted index is consistent with the findings of previous research, and suggests that smaller companies are impacted to a greater extent than large companies. Tables 3 and 4 perform, for the 1927 - 2002 and 1948 - 2002 periods, respectively, the same analysis as above on the CRSP market capitalization decile portfolios. For both samples, the partisan differences are significant only in the first term year.[3] In addition, the first year differences are monotonically increasing as market capitalization decreases. This is depicted graphically in Figure 2 for both sample periods.

There is an economic explanation for why such a phenomenon might be observed. Suppose both large and small firms have the same concave production functions but that smaller firms employ less capital and labor than larger firms. In this case, the marginal product of capital of smaller firms should be higher and more sensitive to short

[3]For the tenth (largest) capitaliztion decile only, the first year of term partisan difference is significant only at the 91% level in the 1927 - 2002 sample. All other decile differences are statistically significant at the 97% level or higher in both samples.

run changes in the amount of labor employed as compared with larger firms, since the capital stock for both is fixed in the short run. This implies that capital income growth for smaller firms should also be more sensitive to short run changes in labor inputs. So if fluctuations in capital income growth are associated with fluctuations in excess returns, then excess returns for smaller companies' stocks should also be more sensitive to changes in labor inputs. For the employment fluctuations predicted by the model - higher under Democrats and lower under Republicans - this translates into wider excess return differentials for smaller firms.

In addition to investigating potential partisan effects by size of firm, book value of equity-to-market value of equity deciles for the 1927 - 2002 and 1948 - 2002 periods are examined. The results are displayed in Tables 5 and 6, respectively. For the longer sample period, there are no significant partisan differences in any of the term years for the lowest three deciles . For the seven highest deciles, the only significant partisan differences are found in the first year of the term, though most are significant only at the 90% level. For the postwar sample, however, significant partisan differences are found in the first year of the term for every decile.[4] These differences, as depicted in Figure 3, generally increase as book value-to-market value increases, though not monotonically. This outcome would be expected if lower deciles are mainly service or other firms with lower capital/labor ratios and higher deciles are primarily manufacturing or other firms with higher capital/labor ratios.

Lastly the combined size and "style" impact is investigated via the Fama-French benchmark portfolios' performance as shown in Table 7. For both sample periods the significant partisan differences are present only in the first term year. For the 1927 - 2002 period, the small company portfolios show statistically and economically significant partisan differences in the first years of terms. The large company portfolios, however, are only significant at the 90% confidence level, with the large growth portfolio showing a difference significant only at the 87% confidence level. For the postwar period, partisan differences are significant only in the first year of terms, as well. In this case, though, all of the portfolios exhibit significant partisan differences. The partisan difference for the large value portfolio dominates that of both the large neutral and large growth portfolios in both sample periods. This is what is expected in light of Figure 3. Interestingly, however, the partisan difference for the small growth portfolio dominates that of both the small neutral and small value portfolios in both sample periods. This is mildly surprising and suggests that the larger partisan impacts associated with the higher book value-to-market value deciles may be primarily a large company phenomenon. That is, larger companies may have a disproportionate representation in the higher book-to-market deciles and smaller companies may have a disproportionate representation in the lower book-to-market deciles.

5.3 Required Returns or Cash Flows?

If an asset price is equal to the expected present value of future cash flows, then changes in asset prices may be due to changes in the required rate of return or changes in the expected cash flows being discounted at the required rate of return. Following Santa-Clara and Valkanov (2003), this paper decomposes the equal and value weighted excess return series into expected and unexpected components by regressing excess returns on lagged values of the

[4]The partisan difference for the first decile in the postwar sample is significant at the 91% level. The difference for the second decile is significant at the 94% level. All of the other deciles in the sample show differences signifcant at the 95% level or higher.

return forecast variables. The variables used are the relevant dividends to price ratio, the four quarter change in the yield spread between Moody's Baa and Aaa rated corporate bonds, and the ratio of the 3-month T-Bill rate to its one year moving average.[5] Expected returns are simply the predicted values using the regression results and unexpected returns are actual returns less predicted. If partisan differences lie in the expected component of returns, then partisan differences merely reflect a premium received by investors for assuming more risk, i.e., a change in required returns. If, however, partisan differences in returns lie primarily in the unexpected component, then partisan differences must be due to an unexpected change in cash flows. We focus on the 1948 - 2002 period because of the empirical strategy of the paper, namely, to determine whether there is a relationship between partisan variation in returns and partisan variation in real variables, particularly capital income growth.

Table 8 reports the averages of actual partisan differences in excess returns (reproduced from Table 2) along with the derived unexpected component. The data clearly show that partisan differences in returns are due to differences in unexpected returns in the first year of administrations' terms. For the value weighted index, the actual excess returns were 4.71% higher per quarter on average during the first years of Democratic administrations' terms, while unexpected returns averaged 4.24% per quarter higher. Partisan differences in actual and unexpected returns are not significantly different from zero in the remaining term years. The equal weighted index behaves similarly, with actual excess returns averaging 7.73% per quarter higher during the first term year of Democratic regimes, while unexpected returns averaged 6.72% per quarter higher. Again, actual and unexpected partisan return differences are not significantly different from zero in the other term years. This suggests that the source of partisan return differentials is due to revisions in expectations regarding future cash flows that occur in the first year of presidential administrations.

To verify that variation in unexpected returns are related to political business cycles, unexpected returns are regressed on three different sets of political dummy variables designed to capture various political dimensions in the first years of terms. The first set, $DT1$ and $RT1$, captures whether the President is a Democrat or Republican. $DT1$ equals one if a Democrat is President and the observation is from a first year and zero otherwise. $RT1$ equals one if a Republican is President and the observation is from a first year and zero otherwise. We would expect a positive coefficient on $DT1$ and a negative coefficient on $RT1$.

The second set, $DtoR1$ and $RtoD1$, captures whether there has been a partisan regime change. We would expect a negative coefficient on $DtoR1$, which equals one if a Republican President is taking over from a Democrat and the observation is from a first year, and zero otherwise. A positive coefficient is expected on $RtoD1$, which equals one if a Democratic President is taking over from a Republican and the observation is from a first year, and zero otherwise.

The last political variable, $evotes4$, is a proxy variable designed to capture both partisan effects and, to some extent, the degree of surprise in the previous election result. Let $evotes^D$ and $evotes^R$ be the number of electoral votes received by the Democratic and Republican candidates, respectively, in the most recent election. In the four quarters of term year one:

$$evotes4 = 1 - \frac{evotes^D - evotes^R}{\text{total electoral votes}} \text{ if a Democrat wins or}$$

[5] A slope of the yield curve variable - in both level and first differences - was tested but added no explanatory power.

$$evotes4 = -1 + \frac{evotes^R - evotes^D}{\text{total electoral votes}} \text{ if a Republican wins.}$$

It is set to zero for quarters in other term years. Thus the sign on $evotes4$ in the first year of terms is positive when a Democrat wins and negative when a Republican wins. In addition, the absolute value of $evotes4$ increases as the Electoral College margin of victory decreases. The assumption here is that the the closeness of the vote in the Electoral College reflects the degree of uncertainty about the election outcome. This variable takes on values between negative and positive one and we would expect the coefficient to be positive. Regression results are displayed in Table 9.

Columns (1) and (4) of Table 9 show the results for value weighted and equal weighted unexpected returns, respectively, against the first set of political variables. For the value weighted returns, the coefficients on the political variables have the expected sign but only the coefficient for $RT1$ is significant. For the equal weighted returns, both coefficients have the expected sign and are statistically significant. This suggests that, for larger companies, partisan differences in returns may be associated more with negative cash flow surprises during Republican administrations rather than positive surprises from Democrats and negative surprises from Republicans. Based on the equal weighted results, smaller companies are positively surprised during the first years of Democratic presidencies and negatively surprised during the first years of Republican presidencies. This notion is reinforced when examining the regime change variables in columns (2) and (5). For value weighted returns, only $DtoR1$ is significant. For equal weighted returns both $RtoD1$ and $DtoR1$ are significant and with the signs predicted by the rational partisan model. Columns (3) and (6) examine $evotes4$, the electoral surprise variable. It has the correct sign and is significant for both value weighted and equal weighted unexpected returns, lending support to the notion that positive surprises under Democratic presidencies may have an impact on the partisan return differentials in larger companies. In addition, it suggests that the magnitude of unexpected returns is related to the degree of electoral surprise which is a key prediction of the rational partisan model.[6] One possible concern is the low adjusted R-squareds from all of these regressions. However, inclusion of any one of the three sets of political variables in the original forecasting regressions causes the partisan differentials in unexpected returns to disappear.

Table 10 presents results of regressions which add capital income growth to the specifications found in Table 9. If unexpected returns are due to updating expectations of cash flows, then forward period observations of capital income growth should be positively and significantly related to unexpected returns. Since there is a partisan difference in capital income growth implicitly predicted by the model and evident in the data, the coefficients on the political variables should not be significantly different from zero in regressions which include future capital income growth. For value weighted unexpected returns, the inclusion of capital income growth one and two quarters ahead results in insignificant coefficients on the political variables in equations (1) and (3). The coefficient on $DtoR1$ in (2), however, is lower in magnitude but negative and still significant indicating the presence of residual partisan effects - in this case a negative surprise associated with transitions from Democratic to Republican administrations - not captured completely by a change in anticipated capital income growth. The coefficient on capital income growth one quarter ahead is positive in all three specifications but insignificant. In (1), (2), and (3), the coefficients on capital income growth two quarters ahead are positive and significant.

[6] Electoral surprise will be addressed more extensively below.

For the equal weighted index, the coefficients on capital income growth both one quarter ahead and two quarters ahead are positive and significant in all three regressions. However, residual partisan effects remain in the first two specifications. In equation (4), the coefficient on $DT1$ is positive and significant at the 90% level indicating potential evidence of residual positive Democratic surprises. In equation (5), the coefficient on $RtoD1$ is lower in magnitude but positive and still significant indicating the presence of residual partisan effects - in this case a positive surprise associated with transitions from Republican to Democratic administrations.

Perhaps financial markets focus instead on anticipating changes to real growth. This might be the case for two reasons. First, it is real growth that is actually in the policymaker's objective function. Second, real growth is positively correlated with capital income growth.[7] Thus, the financial market may look to real growth as a proxy for capital income growth. Table 11 presents the same analysis as in Table 10 but with forward observations of capital income growth replaced by forward observations of real per capita GDP growth relative to its mean. In all six specifications, the coefficient on real GDP growth two quarters ahead is positive and significant at the 99% level. The one quarter ahead coefficients are also all positive and significant at the 95% level in all but one of the value weighted returns specifications and at the 95% level for all of the equal weighted returns regressions.[8] In all six specifications the inclusion of forward real GDP growth renders the coefficients on the political variables insignificant.

Clearly, it appears that unexpected returns are correlated with forward observations of real variables that exhibit the differences predicted by the rational partisan model. The adjusted R-squared statistics from all of the regressions in Table 10 are, while low, generally multiples higher than those of the corresponding specification in Table 9. This indicates a significant increase in explanatory power over political dummy variables alone. Likewise, the adjusted R-squareds in Table 11 are substantially higher than those in Table 10, indicating that variation in unexpected returns is more highly correlated with future real output growth than future growth in income to capital. In addition the lack of significance of the political dummy variables in Table 11 indicates that it is partisan effects evident in the real economy that are the source of the partisan differences in unexpected returns.

5.4 Dividend Taxes

Partisan differences in tax rates could be a potential driver of partisan differences in pre-tax excess returns. To investigate this, we computed after-tax excess returns using a weighted average marginal tax rate on dividend income from McGrattan and Prescott (2003). We then repeated the analyses on the value weighted and equal weighted returns depicted in Tables 2, 8, 10, and 11 using after-tax excess returns.[9] The results are unchanged from those reported above. Again in both sample periods and for both value and equal weighted after-tax excess returns, we find that statistically significant partisan differences are found only in the first years of presidential terms. Similarly, we find that partisan differences in after-tax excess returns are due to differences in unexpected returns in the first year of administrations' terms. And we find that unexpected after-tax excess returns are related to capital

[7] The correlation coefficient between quarterly capital income growth and quarterly real per capita GDP growth was 0.79 over the 1948 - 2002 period.

[8] In equation (2) of Table 11, the coefficient on real GDP growth one quarter ahead is positive and significant at the 93% confidence level.

[9] The details are not reported here for the sake of brevity but are available upon request.

income growth and real GDP growth one and two quarters ahead. We conclude that it is not partisan differences in dividend tax policy that is responsible for partisan return differentials.

5.5 Bond Market Excess Returns

The rational partisan model also has implications for the bond market since a significant component of bond yields is inflation expectations. If expected future inflation increases, bond yields should rise (bond prices should fall) and, all else equal, total returns should be lower during periods of increasing inflation expectations and higher during periods of decreasing inflation expectations. Since the model assumes that Democrats are presumed to prefer higher inflation relative to Republicans, bond market total returns should be higher under Republicans. Thus, evidence of partisan return differentials in the bond market is, in a sense, another test of the model as an explanation for partisan differences in equity returns.

Table 12 details excess returns for various maturity Treasury notes and bonds as well as for a long maturity corporate bond portfolio. The first feature to notice is that in the "All Periods" column, excess returns are uniformly lower on average under Democratic administrations versus Republican administrations. The differences range from a low of 33 basis points per quarter for 1-year T-notes to a high of 106 basis points per quarter for long corporate bonds. For 20-year and 30-year T-bonds, however, the overall partisan difference is not significant at a 90% confidence level. For maturities of seven years or less and for the long corporate portfolio, the differences are significant at the 95% level. This data implies that, on average Democrats have occupied the White House during periods of increasing inflation expectations while Republicans have presided over periods of decreasing inflation expectations.

Looking at the data by years of term is also instructive. For maturities of 20 years or less, the partisan difference in returns is significant at better than the 90% level only in the *second* year of the term. For long corporate bonds, the partisan difference is significant at the 90% level and is also confined to the second term year. The 30-year bond return differences are insignificant for all term years. So, like equities, most bond maturities exhibit partisan differences in excess returns driven largely by differences in only one of the four years of a President's term. This suggests that the bond market, too, is systematically surprised by inflation different from expectations and related to partisan political business cycles.

Note, however, the difference in the timing of the manifestation of partisan return differentials between the stock market (term year one) and the bond market (term year two). We show above that statistically significant partisan differences in unexpected equity returns are found only in the first term year and seem to be explained by fluctuations in real output and capital income growth one and two quarters ahead. This is consistent with the premise that partisan related policy changes occurring in the first year of the term generate real effects and that equity market participants attempt to anticipate the impact of these effects. The bond market's behavior, however, is consistent with partisan related policy changes having an impact on inflation expectations only until much later. Why does the bond market react so slowly? Figure 4 shows average quarterly CPI inflation rates by party and year of term. The average quarterly inflation rate in Democrats' term year two is roughly double that of term year one and equal that of term year three. For Republicans, the average inflation rate declines from term year one to term year two, and then again from year two to year three. For both parties, there is a time lag between assuming power

and realizing partisan objectives vis a vis inflation. Given the fact that parties' inflation targets are unobserved and that policy tools are imprecise and impact with an uncertain lag, the bond market may not be reacting late at all - particularly for the shorter maturities. But then, why does the stock market react differently? Since the stock market looks to real output or capital income growth two quarters ahead, stock market observations in the third and fourth quarters of term year one may match with bond market observations in quarters one and two of term year two. If this is the case, then adding forward observations of bond market excess returns to the regressions in Tables 10 and 11 should result in negative and statistically significant coefficients on the bond returns. In results not reported here, that is exactly what happened using 1-year T-note excess returns one and two quarters ahead. An alternative influence may be that firms may find it advantageous to hire labor early in a Democratic administration, produce for inventory, and sell at the expected higher prices in term years two and three. Investigating that avenue, however, is beyond the scope of this paper.

5.6 Electoral Surprise

In the rational partisan model, the magnitude of the growth deviation from the natural rate in the first half of an administration is a function of the difference between the two parties' optimal inflation rates and the degree of electoral surprise. The parties' optimal inflation rates are unobserved (and in reality may be time varying), so a test of this aspect of the rational partisan model is not feasible. On the surface, though, determining the degree of electoral surprise seems straightforward. One could just compare actual election outcomes with the results of final pre-election polls, for example. Indeed, this is an oft-used approach. However, estimating the electoral expectations that are relevant to the model's framework is subject to a significant complicating factor. Unlike in the stylized world of the model, wage contracts are not all two years in duration, nor are they all signed immediately prior to an election. Consider, for example, a situation in which wage contracts are three years in duration and a third of all outstanding contracts are renegotiated every year. To properly measure the degree of electoral surprise immediately after an election result is known requires knowledge of expectations regarding the election outcome that were formed and embedded in wage contracts over the previous two years. Unfortunately, polls and the results of election primaries are almost exclusively election year phenomena only. In addition, nominal wage increases may be negotiated into contracts that are different from expected inflation if labor markets cannot be characterized as perfectly competitive. This may introduce additional "noise" into the relationship, if any, between macroeconomic outcomes of interest and the degree of electoral surprise. Thus, estimating the relevant degree of electoral surprise requires a more sophisticated approach.

Berlemann and Markwardt (2007) summarize 15 years of empirical studies analyzing the rational partisan model and find that the evidence regarding electoral surprise is inconclusive, largely due to the substantial heterogeneity of existing studies. Of 11 studies done since 1997, for example, six found evidence of a link between the degree of electoral surprise and the magnitude of subsequent macroeconomic outcomes while five did not. They proceed to study a panel of eight OECD democracies using monthly data and explicitly test post-election fluctuations in the unemployment rate and inflation. Theirs is a two-step process in which a binary logistic panel regression on average poll results from the 12 months prior to the election is used to estimate the probability of an incumbent victory. An

electoral surprise variable that utilizes these probabilities is then employed to test the extent to which the degree of electoral surprise impacts the unemployment rate and inflation in post-election periods. They conclude that the predictions of the rational partisan model find strong support in the data.

We follow the general methodology in Berlemann and Markwardt (2007) in constructing the electoral surprise variable *surprise*4. We first construct an estimate of the incumbent party's normalized share of the two-party vote using the average of Gallup polls taken during the entire election year. We then apply the coefficient estimates from the binary logistic panel regression in Berlemann and Markwardt (2007) to the vote share estimate to project the probability of the reelection of the incumbent party. Let $\widehat{\pi}^D$and $\widehat{\pi}^R$ be the estimated probabilities that the Democratic and Republican parties, respectively, win the most recently contested election. Then, for observations in the first years of terms,

$$surprise4 = 1 - \frac{\widehat{\pi}^D}{\widehat{\pi}^D + \widehat{\pi}^R} \text{ if a Democrat wins or}$$

$$surprise4 = -1 + \frac{\widehat{\pi}^R}{\widehat{\pi}^D + \widehat{\pi}^R} \text{ if a Republican wins.}$$

It is set to zero for all quarters in other term years. This measure of electoral surprise, along with *evotes*4, will be used to determine whether the response of both unexpected returns and macroeconomic outcomes are related to the magnitude of electoral surprise. Both measures of electoral surprise are depicted graphically by election years in Figure 5.

5.6.1 Capital income growth

We estimate the following linear model for capital income growth:

$$capinc_t = \alpha + \beta_1 capinc_{t-1} + \beta_2 S_{t-i} \tag{18}$$

where S is either *surprise*4 or *evotes*4 and $i = 0, 1, ..., 6$. The regression results are reported in column (3) of Table 13.[10] For both measures of electoral surprise, positive and significant relationships are found in lags 1 - 4 indicating that the election's impact on capital income growth begins to manifest itself in the second quarter of the first year of the term and lasts into the second. The coefficients on *surprise*4 are all significant at the 99% level and similar in magnitude. Thus we conclude that fluctuations in capital income growth in the first half of terms are indeed related to the degree of electoral surprise.

5.6.2 Unexpected excess returns

For unexpected excess returns we estimate the following simple linear model:

$$r_t = \alpha + \beta_1 S_{t-i} \tag{19}$$

where r_t is the unexpected return component of either the value or equal weighted index, S is either *surprise*4 or *evotes*4 and $i = 0, 1, ..., 6$. The regression results are reported in columns (1) and (2) of Table 13. For *surprise*4,

[10] Heteroscedasticity and autocorrelation consistent (HAC) standard errors are obtained via the method of Newey and West (1987) in this and all subsequent regressions used to test the degree of electoral surprise.

positive and significant coefficients are found in lags 0-3 for value weighted unexpected returns and lags 0-4 for equal weighted unexpected returns. For *evotes*4, this is true only for lags 0-2 and 0-3 for the value and equal weighted returns, respectively. The election's impact on unexpected returns begins to manifest itself in the first quarter of the first year of the term and effects last into the second year of the term. Thus we conclude that fluctuations in unexpected returns are also related to the degree of electoral surprise. This is as expected given the relationship previously established between forward capital income growth and unexpected returns.

5.6.3 Real growth

Lastly, for real growth we estimate the following model:

$$gdp_t = \alpha + \beta_1 gdp_{t-1} + \beta_2 S_{t-i} \tag{20}$$

where where gdp_t is real per capita GDP growth relative to its mean, S is either $surprise4$ or $evotes4$ and $i = 0, 1, ..., 6$. These regression results are reported in column (4) of Table 13. Positive and significant coefficients on the electoral surprise variables are found on lags 1 - 4, indicating that election results impact real growth beginning in the second quarter of the first term year and persist through the second year of the term. We conclude that fluctuations in real growth are also related to the degree of electoral surprise.

6 Conclusion

The main contributions of this paper lie in introducing the rational partisan model of the business cycle as a possible explanation for observed partisan differences in excess returns, placing the occurrence of these excess returns within specific time periods within presidential terms, and linking these partisan return differentials to partisan differences in capital income growth within those same time periods. Based on the rational partisan model, we posit that increasing employment in the first half of Democratic administrations should lead to increases in capital income, while decreasing employment in the first half of Republican administrations should lead to the opposite result. We find significant partisan differences in capital income growth only in the first year of presidential terms. Having established this potential link with the stock market, we examine the evidence on partisan return differences and find that partisan differences in returns are due mainly to differences in unexpected returns during the first years of Presidents' terms. This result is economically and statistically significant and robust to firm size and book value-to-market value. We then ask whether unexpected returns are related to the real economic variables examined earlier and, if so, whether that relationship accounts for the partisan return differential. We find a statistically significant relationship between unexpected returns and capital income growth one and two quarters ahead, though evidence of residual partisan impacts remain, in particular with the equal weighted index. There is a stronger relationship between unexpected returns and real growth one and two quarters ahead which accounts for all of the partisan impacts in both the value weighted and equal weighted indices. As the model presumes that policymakers optimize an objective function that includes real output growth and not capital income growth, this is not surprising and provides additional support for the rational partisan model as an explanation for unexpected returns behavior. Lastly, we find evidence that capital

income growth and unexpected returns are related to the degree of electoral surprise, consistent with the predictions of the model. Previous research concluded that partisan return differentials are anomalous since they are not due to differences in required returns. We find, however, that partisan return differentials are not anomalous and likely due to differences in cash flows (capital income growth) during the first years of presidential administrations as predicted by the rational partisan model.

An interesting question for further research is whether elections are endogenous. Balke (1991) proposes just such a model. Voters rationally choose which party they want in power based on the current economic situation. The higher inflation party is more likely to win the election when output is low and vice versa. In this framework, elections perform a function similar to that of a state contingent rule. The results in this paper suggest that voters in such a model are, in effect, choosing a temporary decrease in real wages, a temporary increase in equity returns and a temporary decrese in bond returns if the high inflation party is elected. The conditions under which this decision are optimal require a more complex model.

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Figure 1
Stock Market Excess Returns by Party of the President
1927 -2002
Averages of annual observations

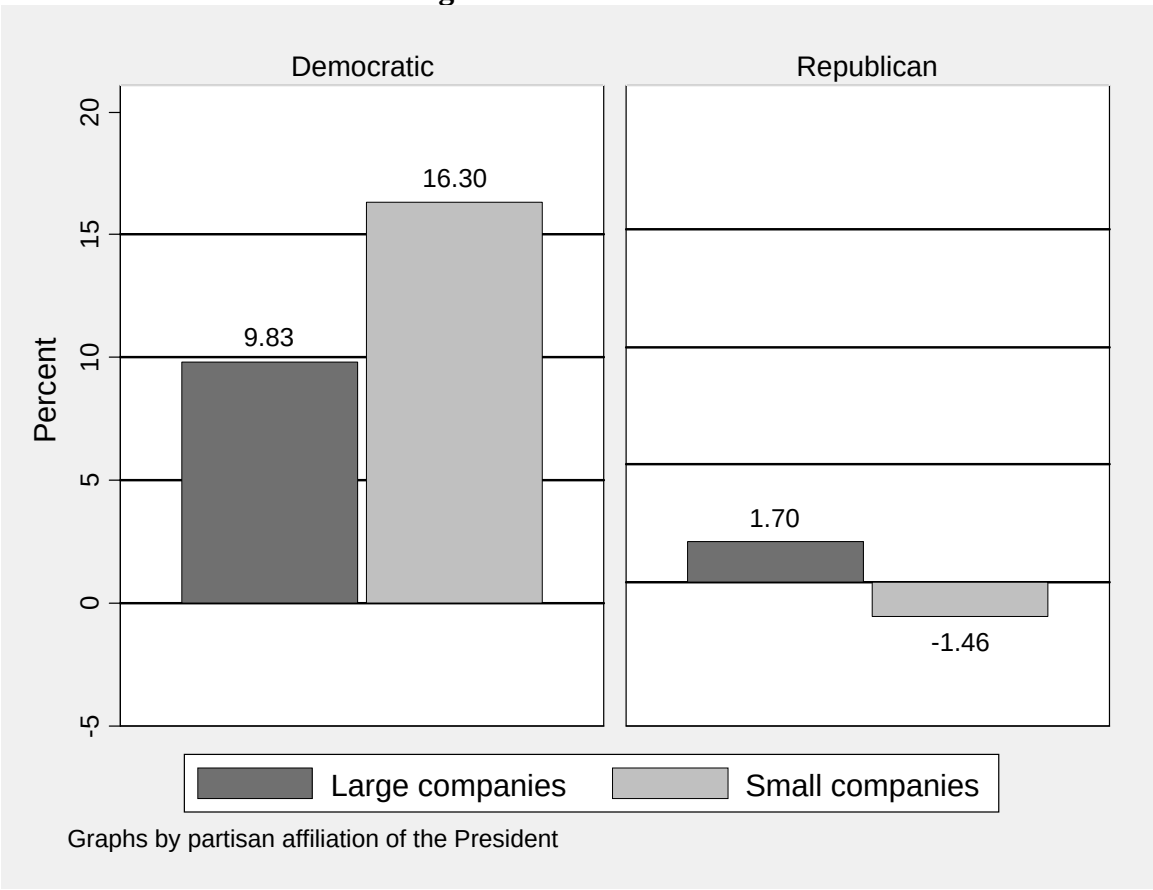

Figure 2
First Year of Term Partisan Excess Return Differentials
Market Capitalization Deciles
Averages of quarterly observations

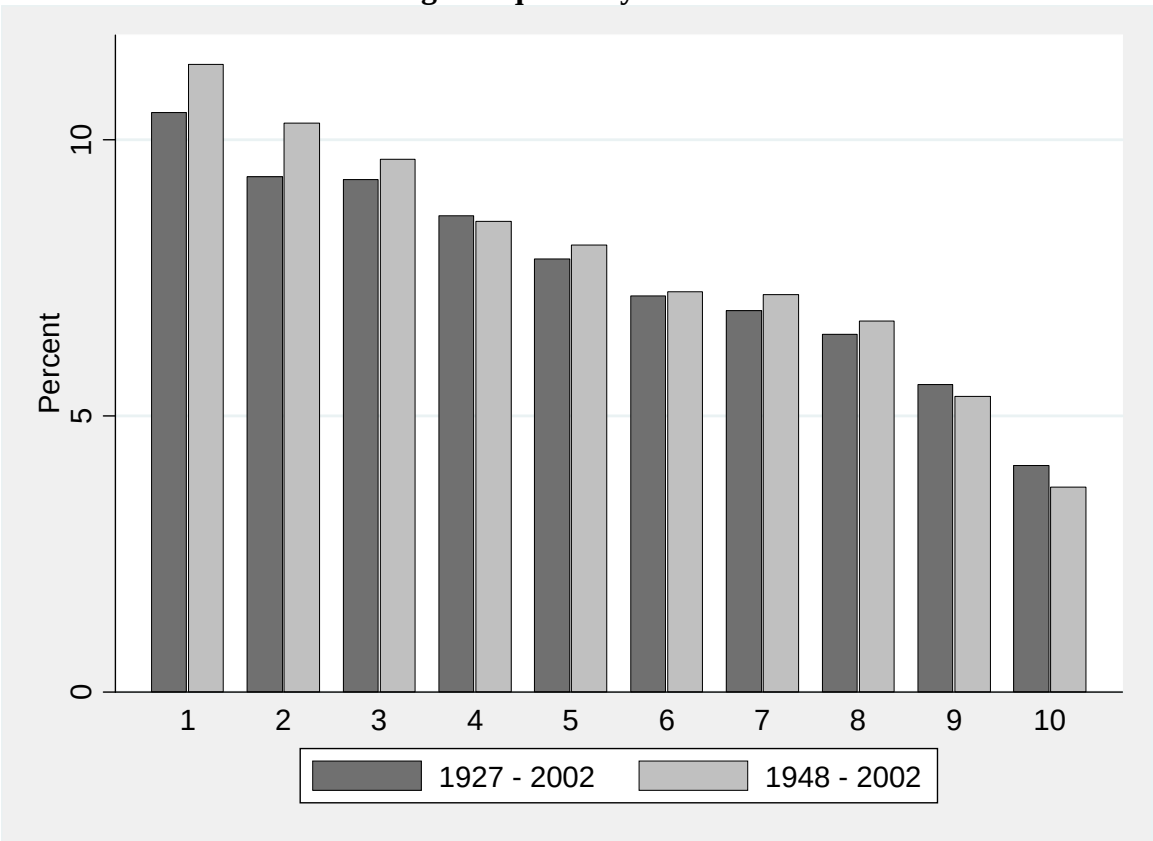

Figure 3
First Year of Term Partisan Excess Return Differentials
Book Value-to-Market Value Deciles
Averages of quarterly observations

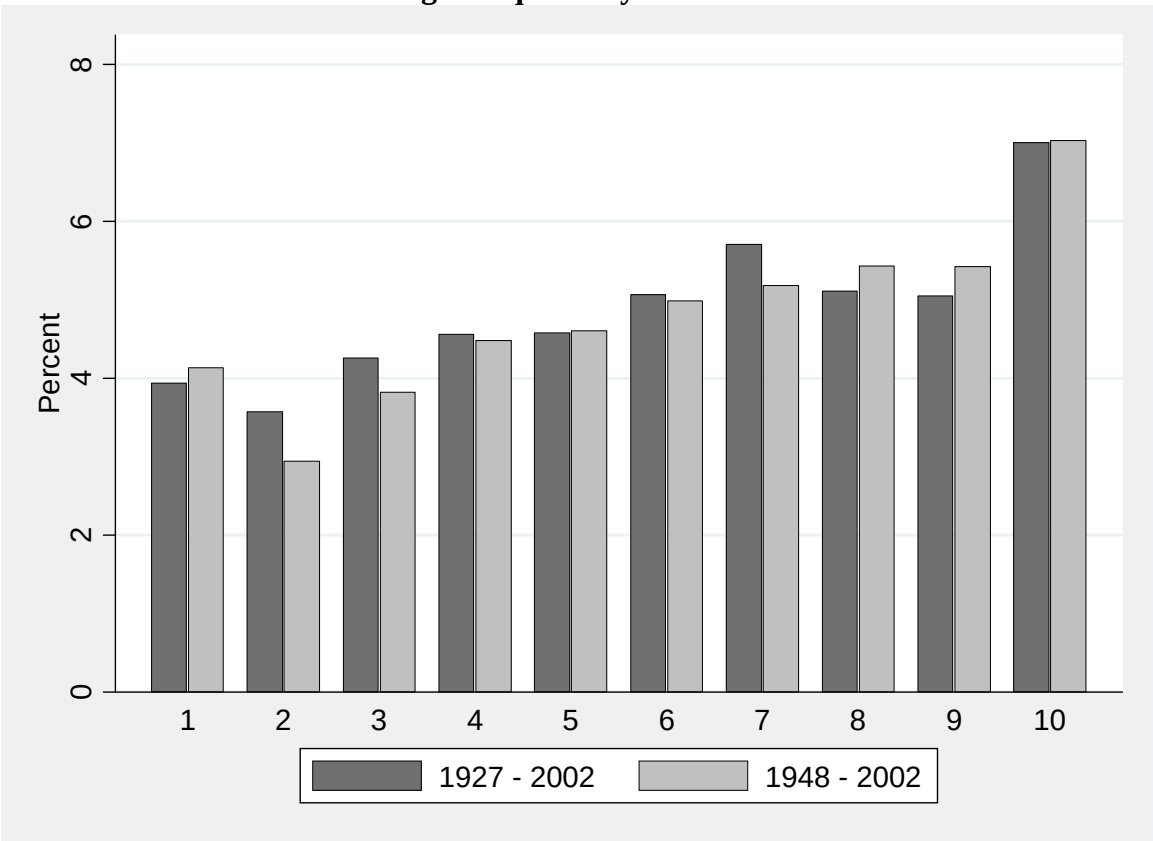

Figure 4
Partisan CPI Inflation Rates By Year of Term, 1948 - 2002
Averages of quarterly observations, one period ahead

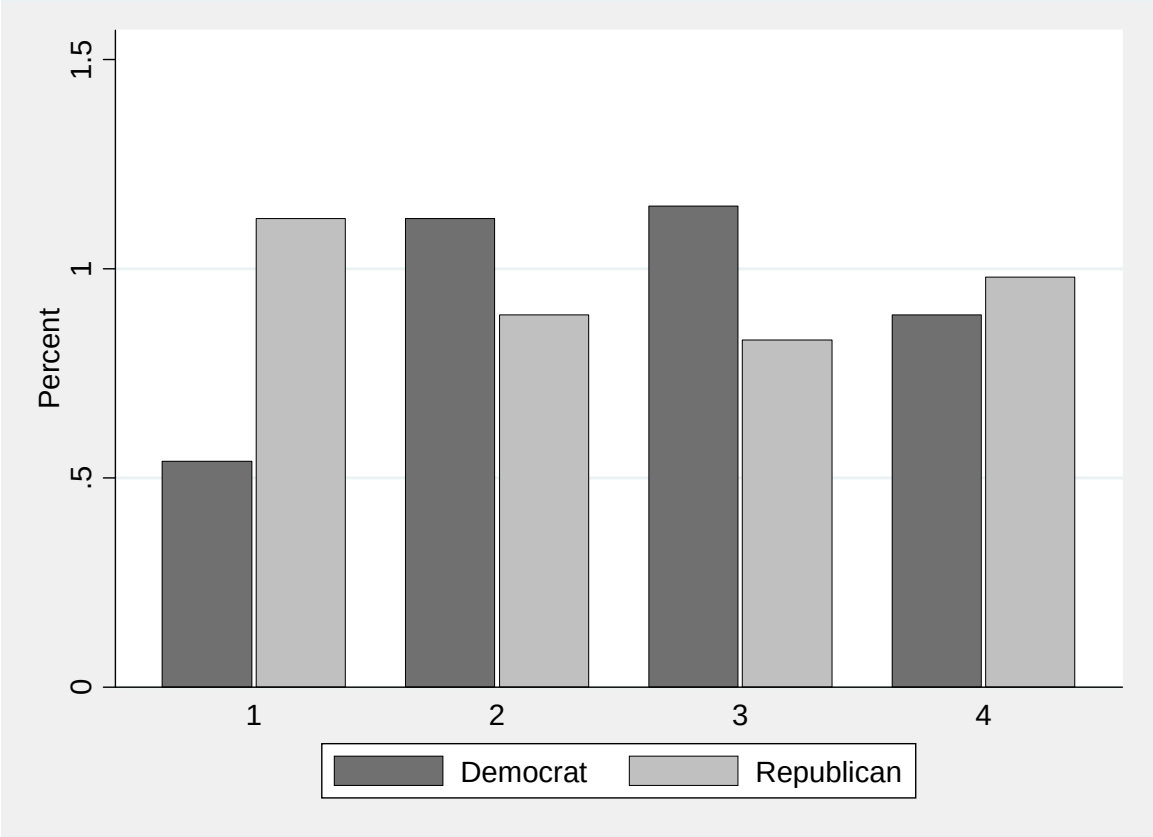

Figure 5
Two Measures of Electoral Surprise by Election Year, 1948 – 2000

Table 1
Partisan Effects: Real Economy, 1948 – 2002
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Real Variable	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
Δ***Unemployment Rate***$_{t+1}$							
Democrat	-0.08	-0.17	0.01	-0.13	-0.20	-0.02	0.03
	(0.09)	(0.01)	(0.89)	(0.16)	(0.03)	(0.51)	(0.67)
Republican	0.08	0.25	-0.11	0.33	0.17	-0.16	-0.06
	(0.19)	(0.00)	(0.05)	(0.00)	(0.19)	(0.05)	(0.36)
Difference	-0.16	-0.41	0.12	-0.45	-0.37	0.14	0.09
	(0.04)	(0.00)	(0.10)	(0.00)	(0.02)	(0.10)	(0.34)
Real GDP Growth$_{t+1}$ ***(relative to sample mean)***							
Democrat	0.23	0.42	0.06	0.45	0.40	0.09	0.03
	(0.05)	(0.00)	(0.72)	(0.03)	(0.09)	(0.51)	(0.90)
Republican	-0.20	-0.52	0.17	-0.77	-0.27	0.31	0.03
	(0.13)	(0.00)	(0.22)	(0.00)	(0.24)	(0.09)	(0.88)
Difference	0.43	0.95	-0.12	1.22	0.67	-0.22	-0.01
	(0.02)	(0.00)	(0.57)	(0.00)	(0.04)	(0.35)	(0.98)
Capital Income Growth$_{t+1}$							
Democrat	1.93	2.21	1.67	2.22	2.20	1.62	1.72
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Republican	1.53	1.19	1.92	0.08	2.30	2.19	1.66
	(0.00)	(0.00)	(0.00)	(0.87)	(0.00)	(0.00)	(0.00)
Difference	0.40	1.02	-0.25	2.13	-0.10	-0.57	0.06
	(0.29)	(0.05)	(0.61)	(0.00)	(0.91)	(0.38)	(0.93)
Dem. Observations	100	48	52	24	24	24	28
Rep. Observations	120	64	56	32	32	28	28
Total Observations	220	112	108	56	56	52	56

Table 2
Partisan Effects: Excess Returns, CRSP Broad Equity Market Indices
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Portfolio	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
1927 - 2002							
Value weighted							
Democrat	2.51	1.77	3.26	2.36	1.17	4.39	2.14
	(0.00)	(0.13)	(0.00)	(0.21)	(0.37)	(0.00)	(0.03)
Republican	0.15	-1.49	1.79	-2.16	-0.81	1.81	1.77
	(0.89)	(0.30)	(0.21)	(0.12)	(0.73)	(0.41)	(0.16)
Difference	2.36	3.25	1.47	4.52	1.98	2.58	0.37
	(0.06)	(0.08)	(0.35)	(0.06)	(0.45)	(0.28)	(0.82)
Equal Weighted							
Democrat	3.94	3.11	4.77	4.59	1.63	6.18	3.35
	(0.00)	(0.08)	(0.00)	(0.12)	(0.35)	(0.00)	(0.03)
Republican	0.03	-2.49	2.55	-3.70	-1.28	2.65	2.46
	(0.98)	(0.15)	(0.13)	(0.05)	(0.64)	(0.34)	(0.15)
Difference	3.91	5.60	2.21	8.29	2.91	3.54	0.89
	(0.02)	(0.02)	(0.28)	(0.02)	(0.37)	(0.28)	(0.69)
1948 - 2002							
Value weighted							
Democrat	2.36	1.66	3.00	2.92	0.41	4.55	1.66
	(0.00)	(0.10)	(0.00)	(0.01)	(0.80)	(0.00)	(0.13)
Republican	0.78	-0.78	2.56	-1.80	0.23	3.54	1.58
	(0.38)	(0.59)	(0.00)	(0.20)	(0.92)	(0.01)	(0.05)
Difference	1.58	2.45	0.44	4.71	0.18	1.01	0.09
	(0.13)	(0.16)	(0.68)	(0.01)	(0.95)	(0.50)	(0.95)
Equal Weighted							
Democrat	3.32	2.44	4.13	4.96	-0.08	6.19	2.37
	(0.00)	(0.05)	(0.00)	(0.00)	(0.97)	(0.00)	(0.15)
Republican	0.77	-1.34	3.19	-2.78	0.09	4.72	1.66
	(0.48)	(0.42)	(0.03)	(0.13)	(0.97)	(0.04)	(0.29)
Difference	2.55	3.78	0.94	7.73	-0.17	1.47	0.71
	(0.07)	(0.07)	(0.61)	(0.00)	(0.96)	(0.58)	(0.75)

Table 3
Partisan Excess Returns Differential – Market Capitalization Deciles, 1927 - 2002
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Decile	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
1	5.33	7.00	3.66	11.37	2.62	5.25	2.07
	(0.02)	(0.03)	(0.23)	(0.01)	(0.53)	(0.27)	(0.55)
2	5.31	7.18	3.44	10.31	4.05	4.94	1.94
	(0.01)	(0.02)	(0.19)	(0.02)	(0.30)	(0.22)	(0.51)
3	5.21	6.60	3.83	9.65	3.54	5.12	2.53
	(0.01)	(0.02)	(0.11)	(0.01)	(0.33)	(0.17)	(0.33)
4	4.59	5.63	3.55	8.53	2.73	4.54	2.56
	(0.01)	(0.03)	(0.12)	(0.02)	(0.43)	(0.19)	(0.29)
5	4.19	5.61	2.77	8.10	3.12	3.68	1.87
	(0.01)	(0.02)	(0.18)	(0.02)	(0.34)	(0.26)	(0.40)
6	3.84	4.94	2.75	7.25	2.64	3.90	1.60
	(0.02)	(0.04)	(0.20)	(0.03)	(0.42)	(0.23)	(0.49)
7	3.46	4.88	2.03	7.20	2.56	2.84	1.23
	(0.02)	(0.04)	(0.26)	(0.02)	(0.42)	(0.32)	(0.54)
8	3.00	4.40	1.59	6.72	2.08	2.97	0.22
	(0.03)	(0.04)	(0.35)	(0.02)	(0.50)	(0.30)	(0.90)
9	2.53	3.86	1.21	5.35	2.36	2.75	-0.33
	(0.06)	(0.05)	(0.49)	(0.03)	(0.41)	(0.33)	(0.85)
10	2.03	2.75	1.31	3.72	1.78	2.33	0.30
	(0.09)	(0.12)	(0.39)	(0.09)	(0.48)	(0.31)	(0.85)
Dem. Obs.	160	80	80	40	40	40	40
Rep. Obs.	144	72	72	36	36	36	36
Total Obs.	304	152	152	76	76	76	76

Table 4
Partisan Excess Return Differentials – Market Capitalization Deciles, 1948 - 2002
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Decile	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
1	3.53	4.50	2.11	10.50	-1.49	2.25	2.34
	(0.08)	(0.10)	(0.49)	(0.00)	(0.73)	(0.60)	(0.52)
2	3.65	4.77	2.10	9.34	0.19	3.41	1.22
	(0.04)	(0.05)	(0.41)	(0.00)	(0.96)	(0.35)	(0.69)
3	3.73	4.67	2.41	9.28	0.07	3.75	1.47
	(0.02)	(0.05)	(0.28)	(0.00)	(0.99)	(0.26)	(0.59)
4	3.21	4.25	1.83	8.63	-0.14	2.75	1.30
	(0.03)	(0.06)	(0.38)	(0.00)	(0.97)	(0.37)	(0.60)
5	2.94	3.97	1.52	7.84	0.09	2.32	1.06
	(0.05)	(0.07)	(0.43)	(0.00)	(0.98)	(0.43)	(0.63)
6	2.56	3.52	1.22	7.18	-0.14	2.16	0.63
	(0.07)	(0.11)	(0.49)	(0.00)	(0.97)	(0.41)	(0.77)
7	2.38	3.30	1.11	6.91	-0.31	1.90	0.60
	(0.06)	(0.11)	(0.46)	(0.00)	(0.93)	(0.41)	(0.76)
8	1.97	2.91	0.69	6.48	-0.67	1.63	0.03
	(0.10)	(0.13)	(0.62)	(0.00)	(0.83)	(0.45)	(0.99)
9	1.57	2.67	0.16	5.57	-0.23	1.14	-0.55
	(0.16)	(0.14)	(0.90)	(0.00)	(0.94)	(0.55)	(0.74)
10	1.39	2.20	0.31	4.10	0.30	0.75	0.08
	(0.18)	(0.21)	(0.76)	(0.03)	(0.92)	(0.61)	(0.95)
Dem. obs.	100	48	52	24	24	24	28
Rep. obs.	120	64	56	32	32	28	28
Total obs.	220	112	108	56	56	52	56

Table 5
Partisan Excess Return Differentials – Book Value-to-Market Value Deciles, 1927 - 2002
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Decile	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
1	2.33	3.65	1.01	4.13	3.16	0.90	1.12
	(0.09)	(0.08)	(0.57)	(0.11)	(0.28)	(0.72)	(0.58)
2	1.84	2.70	0.97	2.94	2.47	1.97	-0.03
	(0.12)	(0.14)	(0.50)	(0.20)	(0.36)	(0.35)	(0.99)
3	1.61	2.41	0.81	3.82	0.99	2.12	-0.51
	(0.18)	(0.18)	(0.58)	(0.12)	(0.68)	(0.34)	(0.74)
4	2.63	2.94	2.31	4.48	1.41	3.09	1.52
	(0.06)	(0.13)	(0.22)	(0.09)	(0.58)	(0.27)	(0.38)
5	2.53	2.61	2.45	4.60	0.62	4.20	0.70
	(0.07)	(0.17)	(0.19)	(0.07)	(0.81)	(0.17)	(0.67)
6	3.15	3.18	3.13	4.99	1.36	4.20	2.05
	(0.03)	(0.09)	(0.16)	(0.03)	(0.60)	(0.22)	(0.31)
7	2.95	3.57	2.32	5.18	1.97	3.23	1.41
	(0.05)	(0.08)	(0.25)	(0.07)	(0.49)	(0.33)	(0.46)
8	2.62	3.09	2.16	5.43	0.76	2.53	1.79
	(0.08)	(0.16)	(0.28)	(0.06)	(0.81)	(0.44)	(0.35)
9	2.77	3.37	2.18	5.42	1.32	3.54	0.81
	(0.10)	(0.17)	(0.30)	(0.07)	(0.72)	(0.32)	(0.68)
10	3.14	5.15	1.14	7.03	3.26	1.87	0.41
	(0.11)	(0.09)	(0.61)	(0.08)	(0.44)	(0.60)	(0.88)
Dem. obs.	160	80	80	40	40	40	40
Rep. obs.	144	72	72	36	36	36	36
Total obs.	304	152	152	76	76	76	76

Table 6
Partisan Excess Return Differentials – Book Value-to-Market Value Deciles, 1948 - 2002
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Decile	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
1	1.70	2.58	0.55	3.94	1.23	0.22	1.15
	(0.19)	(0.22)	(0.71)	(0.09)	(0.71)	(0.91)	(0.55)
2	1.47	2.09	0.57	3.57	0.60	0.55	0.76
	(0.17)	(0.25)	(0.59)	(0.06)	(0.84)	(0.72)	(0.50)
3	1.21	1.73	0.43	4.26	-0.79	1.14	-0.09
	(0.26)	(0.31)	(0.72)	(0.03)	(0.76)	(0.49)	(0.95)
4	1.53	1.83	0.91	4.56	-0.89	0.66	1.23
	(0.16)	(0.29)	(0.44)	(0.01)	(0.73)	(0.72)	(0.34)
5	1.51	1.86	0.91	4.58	-0.86	1.23	0.65
	(0.16)	(0.29)	(0.36)	(0.01)	(0.75)	(0.41)	(0.63)
6	1.53	2.53	0.35	5.07	-0.02	0.34	0.42
	(0.14)	(0.13)	(0.75)	(0.00)	(0.99)	(0.83)	(0.77)
7	1.74	2.60	0.62	5.71	-0.51	0.49	0.86
	(0.11)	(0.13)	(0.62)	(0.00)	(0.85)	(0.80)	(0.57)
8	1.14	1.83	0.20	5.11	-1.46	-0.16	0.63
	(0.32)	(0.31)	(0.88)	(0.00)	(0.64)	(0.94)	(0.67)
9	1.21	2.07	0.11	5.05	-0.91	0.48	-0.13
	(0.29)	(0.27)	(0.93)	(0.00)	(0.78)	(0.80)	(0.94)
10	2.03	3.92	-0.13	7.00	0.84	0.16	-0.30
	(0.12)	(0.07)	(0.93)	(0.00)	(0.83)	(0.94)	(0.89)
Dem. obs.	100	48	52	24	24	24	28
Rep. obs.	120	64	56	32	32	28	28
Total obs.	220	112	108	56	56	52	56

Table 7
Partisan Excess Return Differentials – Fama-French Benchmark Portfolios
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Portfolio	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
1927 - 2002							
Large Growth	1.91	2.95	0.87	3.67	2.22	1.56	0.18
	(0.13)	(0.12)	(0.58)	(0.13)	(0.41)	(0.49)	(0.92)
Large Neutral	2.61	2.80	2.41	4.50	1.11	3.67	1.15
	(0.06)	(0.12)	(0.21)	(0.06)	(0.65)	(0.22)	(0.50)
Large Value	2.56	3.25	1.88	5.20	1.29	2.80	0.96
	(0.11)	(0.17)	(0.36)	(0.08)	(0.71)	(0.41)	(0.62)
Small Growth	4.60	6.57	2.63	9.15	3.99	3.75	1.51
	(0.01)	(0.02)	(0.20)	(0.02)	(0.25)	(0.24)	(0.52)
Small Neutral	3.29	4.44	2.14	6.75	2.14	3.01	1.28
	(0.04)	(0.07)	(0.27)	(0.06)	(0.49)	(0.34)	(0.51)
Small Value	3.43	4.78	2.08	7.50	2.06	3.50	0.65
	(0.05)	(0.07)	(0.34)	(0.05)	(0.56)	(0.32)	(0.78)
1948 - 2002							
Large Growth	1.35	2.12	0.32	3.78	0.45	0.49	0.41
	(0.23)	(0.26)	(0.79)	(0.07)	(0.88)	(0.76)	(0.78)
Large Neutral	1.30	1.88	0.48	4.39	-0.63	0.64	0.38
	(0.19)	(0.24)	(0.64)	(0.01)	(0.80)	(0.68)	(0.75)
Large Value	1.08	2.20	-0.30	5.03	-0.63	-0.12	-0.35
	(0.37)	(0.26)	(0.81)	(0.00)	(0.86)	(0.95)	(0.82)
Small Growth	3.19	4.47	1.49	8.02	0.92	2.82	0.63
	(0.05)	(0.06)	(0.47)	(0.00)	(0.80)	(0.34)	(0.80)
Small Neutral	1.67	2.85	0.15	6.50	-0.80	0.24	0.25
	(0.19)	(0.16)	(0.92)	(0.00)	(0.80)	(0.92)	(0.89)
Small Value	1.63	3.11	-0.11	7.24	-1.01	0.50	-0.52
	(0.21)	(0.15)	(0.95)	(0.00)	(0.77)	(0.84)	(0.80)

Table 8
Partisan Excess Return Differentials: Actual and Unexpected, 1948 - 2002
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Portfolio	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
vw_t							
Actual	1.58	2.45	0.44	4.71	0.18	1.01	0.09
	(0.13)	(0.16)	(0.68)	(0.01)	(0.95)	(0.50)	(0.95)
Unexpected	2.08	3.06	0.81	4.24	1.89	1.71	1.29
	(0.04)	(0.05)	(0.41)	(0.02)	(0.45)	(0.25)	(0.92)
ew_t							
Actual	2.55	3.78	0.94	7.73	-0.17	1.47	0.71
	(0.07)	(0.07)	(0.61)	(0.00)	(0.96)	(0.58)	(0.75)
Unexpected	3.05	4.68	1.03	6.72	2.63	2.27	0.11
	(0.02)	(0.01)	(0.54)	(0.00)	(0.37)	(0.33)	(0.96)

vw_t is the excess total return on the CRSP NYSE/Amex/NASDAQ value weighted stock index.

ew_t is the excess total return on the CRSP NYSE/Amex/NASDAQ equal weighted stock index.

Table 9
Regression Results: Unexpected Excess Returns and Political Variables, 1948 – 2002
Quarterly observations, HAC standard errors, p values in parentheses

	(1)	(2)	(3)	(4)	(5)	(6)
	vw_t	vw_t	vw_t	ew_t	ew_t	ew_t
constant	0.31	0.31	-0.05	0.27	0.06	-0.06
	(0.60)	(0.58)	(0.93)	(0.71)	(0.93)	(0.93)
$DT1_t$	1.22			2.77		
	(0.37)			(0.03)		
$RT1_t$	-3.02			-3.96		
	(0.02)			(0.02)		
$RtoD1_t$		0.39			3.74	
		(0.83)			(0.00)	
$DtoR1_t$		-4.49			-3.66	
		(0.00)			(0.07)	
$evotes4_t$			3.01			4.16
			(0.01)			(0.01)
$\overline{R}^2$	0.0129	0.0127	0.081	0.0179	0.0063	0.0091
F	3.63	9.59	3.66	6.29	10.82	6.16
Observations	220	220	220	220	220	220

In columns 1 – 3, the dependent variable is the unexpected return component of vw_t, the excess total return on the value weighted stock index. In columns 4 – 6, the dependent variable is the unexpected return component of ew_t, the excess total return on the CRSP equal weighted stock index. $DT1_t$ is a dummy variable that takes on a value of 1 if a Democrat is President and the observation is from the first year of the term and 0 otherwise. $RT1_t$ is a dummy variable that takes on a value of 1 if a Republican is President and the observation is from the first year of the term and 0 otherwise. $RtoD1_t$ is a dummy variable that takes on a value of 1 if a Democrat is taking over from a Republican President and the observation is from the first year of the term and 0 otherwise. $DtoR1_t$ is a dummy variable that takes on a value of 1 if a Republican is taking over from a Democratic President and the observation is from the first year of the term and 0 otherwise. For first year of term observations, $evotes4_t$ is degree of electoral surprise based on the Electoral College margin of victory and 0 otherwise.

Table 10
Regression Results: Unexpected Excess Returns and Capital Income Growth, 1948 – 2002
Quarterly observations, HAC standard errors, p values in parentheses

	(1)	(2)	(3)	(4)	(5)	(6)
	vw_t	vw_t	vw_t	ew_t	ew_t	ew_t
constant	-0.96	-0.92	-1.29	-2.19	-2.41	-2.36
	(0.26)	(0.26)	(0.07)	(0.04)	(0.02)	(0.01)
$DT1_t$	0.99			2.35		
	(0.49)			(0.08)		
$RT1_t$	-1.97			-1.82		
	(0.15)			(0.29)		
$RtoD1_t$		-0.12			2.79	
		(0.94)			(0.01)	
$DtoR1_t$		-3.24			-1.04	
		(0.01)			(0.59)	
$evotes4_t$			2.06			2.42
			(0.21)			(0.12)
$capinc_{t+1}$	0.24	0.24	0.28	0.67	0.72	0.71
	(0.24)	(0.23)	(0.14)	(0.01)	(0.01)	(0.01)
$capinc_{t+2}$	0.43	0.44	0.45	0.61	0.65	0.64
	(0.05)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)
$\overline{R}^2$	0.0266	0.0279	0.0278	0.0529	0.0481	0.0527
F	4.41	6.80	4.20	11.26	10.52	11.51
Observations	220	220	220	220	220	220

In columns 1 – 3, the dependent variable is the unexpected return component of vw_t, the excess total return on the CRSP value weighted stock index. In columns 4 – 6, the dependent variable is the unexpected return component of ew_t, the excess total return on the CRSP equal weighted stock index. The political variables $DT1_t$, $RT1_t$, $RtoD1_t$, $DtoR1_t$, $evotes4_t$ are as defined in Table 9. *capinc* is the non-annualized growth rate in capital income defined as nonlabor payments in the nonfarm business sector.

Table 11
Regression Results: Unexpected Excess Returns and Real Growth, 1948 – 2002
Quarterly observations, HAC standard errors, p values in parentheses

	(1)	(2)	(3)	(4)	(5)	(6)
	vw_t	vw_t	vw_t	ew_t	ew_t	ew_t
constant	0.10	0.16	0.01	0.00	-0.14	0.01
	(0.82)	(0.75)	(0.98)	(0.99)	(0.82)	(0.99)
$DT1_t$	-0.32			0.88		
	(0.85)			(0.51)		
$RT1_t$	-0.35			-0.53		
	(0.79)			(0.77)		
$RtoD1_t$		-1.01			1.93	
		(0.55)			(0.15)	
$DtoR1_t$		-1.27			0.73	
		(0.39)			(0.74)	
$evotes4_t$			0.16			0.53
			(0.92)			(0.75)
gdp_{t+1}	0.90	0.86	0.91	1.58	1.67	1.63
	(0.05)	(0.07)	(0.04)	(0.03)	(0.03)	(0.03)
gdp_{t+2}	2.28	2.25	2.28	2.48	2.55	2.53
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)
$\overline{R}^2$	0.1048	0.1068	0.1087	0.0950	0.0960	0.0984
F	8.29	10.02	8.64	10.77	11.14	12.70
Observations	220	220	220	220	220	220

In columns 1 – 3, the dependent variable is the unexpected return component of vw_t, the excess total return on the CRSP value weighted stock index. In columns 4 – 6, the dependent variable is the unexpected return component of ew_t, the excess total return on the CRSP equal weighted stock index. The political variables $DT1_t$, $RT1_t$, $RtoD1_t$, $DtoR1_t$, $evotes4_t$ are as defined in Table 9. *gdp* is the non-annualized growth rate in real per capita GDP relative to its mean growth rate.

Table 12
Partisan Excess Return Differentials – Bond Market, 1948 - 2002
Averages of quarterly observations, percent, HAC std. errors, p-values in parentheses

Bond	All Periods	Term Half 1	Term Half 2	Term Year 1	Term Year 2	Term Year 3	Term Year 4
1-year	-0.39	-0.45	-0.33	-0.21	-0.69	-0.32	-0.34
	(0.00)	(0.00)	(0.02)	(0.23)	(0.00)	(0.11)	(0.06)
2-year	-0.58	-0.67	-0.48	-0.28	-1.06	-0.41	-0.56
	(0.00)	(0.02)	(0.05)	(0.41)	(0.01)	(0.25)	(0.09)
5-year	-0.76	-0.84	-0.66	-0.14	-1.54	-0.52	-0.81
	(0.02)	(0.10)	(0.13)	(0.83)	(0.03)	(0.44)	(0.16)
7-year	-0.81	-0.91	-0.68	-0.16	-1.65	-0.28	-1.07
	(0.04)	(0.15)	(0.18)	(0.84)	(0.06)	(0.73)	(0.12)
10-year	-0.83	-0.84	-0.75	0.20	-1.88	-0.59	-0.97
	(0.09)	(0.27)	(0.25)	(0.84)	(0.08)	(0.60)	(0.23)
20-year	-0.96	-0.74	-1.12	0.66	-2.14	-1.00	-1.29
	(0.12)	(0.42)	(0.17)	(0.58)	(0.07)	(0.45)	(0.21)
30-year	-0.92	-0.60	-1.17	0.58	-1.78	-1.02	-1.36
	(0.16)	(0.55)	(0.17)	(0.65)	(0.19)	(0.50)	(0.20)
Long Corp.	-1.06	-0.77	-1.32	0.46	-2.00	-1.44	-1.25
	(0.06)	(0.36)	(0.09)	(0.67)	(0.08)	(0.24)	(0.17)
Dem. obs.	100	48	52	24	24	24	28
Rep. obs.	120	64	56	32	32	28	28
Total obs.	220	112	108	56	56	52	56

Table 13
Regression Coefficients on Electoral Surprise Variables
1948 – 2002, quarterly observations, HAC std. errors

	(1)	(2)	(3)	(4)
	vw_t	ew_t	$capinc_t$	gdp_t
$surprise4_t$	4.03**	4.31*	0.31	0.35
t-1	4.17*	5.95**	2.03***	1.03***
t-2	5.58*	8.17**	1.98***	0.98***
t-3	4.17	6.32*	2.26***	1.11***
t-4	3.18	4.61	2.18***	1.09***
t-5	1.96	1.48	0.60	0.39
t-6	1.17	0.06	-0.21	0.08
$evotes4_t$	3.01*	4.16***	0.73	0.32
t-1	2.28*	4.18***	1.24**	0.66***
t-2	3.18	5.56**	1.29***	0.72***
t-3	2.22	3.80	1.07*	0.63***
t-4	1.67	2.49	1.20*	0.70***
t-5	1.80	1.58	0.27	0.26
t-6	1.53	1.56	-0.14	0.01

In column 1, the dependent variable is the unexpected return component of vw_t, the excess total return on the CRSP value weighted stock index. In column 2, the dependent variable is the unexpected return component of ew_t, the excess total return on the CRSP equal weighted stock index. In column 3, the dependent variable is capital income growth. In column 4, the dependent variable is real per capita GDP growth relative to its mean. In all of the regressions, the constants and coefficient estimates on lagged dependent variables and any other control variables have been omitted for brevity. A * indicates significance at the 90% level, ** indicates significance at the 95% level, and *** indicates significance at the 99% level or higher.