

Divided Government and the Stock Market*

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Abstract

We show that during United governments, where the same political party controls the White House, the Senate, and the House of Representatives, the U.S. stock market earns substantially higher average excess returns and the U.S. economy experiences higher economic growth than during Divided governments. Consistent with a political gridlock mechanism, the government cycle has a more pronounced impact on small firms, accounting for the recent vanishing of the firm size effect. We examine causal mechanisms through closely contested elections, and show that the government cycle is consistent with theoretical models that link under-performance during Divided-Republican governments to increasing political uncertainty.

Keywords: Divided Government, Government Puzzle, Presidential Puzzle, Stock Returns, Economic Growth, Firm Size Effect, September Effect

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1 Introduction

The *Presidential Puzzle*, named and first described in the academic literature by [Santa-Clara and Valkanov \(2003\)](#), is the phenomenon that U.S. stock market excess returns are on average higher during Democrat presidencies than Republican ones. Together with stock market excess returns, the literature indicates that the U.S. economy performs much better when the president is from the Democratic party (see, among others, [Alesina et al. 1997](#); [Faust and Irons 1999](#); [Comiskey and Marsh 2012](#); and [Blinder and Watson 2016](#)).

In this paper, we document a related but separate phenomenon, the *Government Puzzle*. We define a U.S. government as *United* if the same party controls the White House and holds a majority in both houses of Congress: the Senate and the House of Representatives. A non-united government is *Divided*.^{1 2} The central result of this paper is that, in our sample of 94 years, we find a significant difference in stock market performance between United and Divided governments. The value-weighted excess monthly stock market return under United governments is 10.3% per annum versus 1.6% under Divided governments (8.7% per annum difference with statistical significance). We obtain more striking results for equal-weighted returns: under United (Divided) governments the average equal-weighted annual excess return over the same period is 16.8% (0.0%). These key findings from the stock market are resilient against outliers and remain valid even

¹In our definition, denoting D as Democrats and R as Republicans for brevity, {Incumbent President's party, Majority of the Senate, Majority of the House} $\in$ {R, R, R} or {D, D, D} are United governments, and the remaining 6 combinations ({R, D, R}; {R, R, D}; {R, D, D}; {D, D, R}; {D, R, D}; and {D, R, R}) are Divided governments. The United government is also called 'unified government' or 'government trifecta.' In a similar vein, Divided government is often called 'hung government' in a Westminster system. In this paper, we use these terms interchangeably.

²The concept of United and Divided government is rooted in the separation of powers model in the U.S. political system. In the United States, there are three branches of government. The executive branch, which includes the White House and the president, enforces laws. The legislative branch, made up of the Senate and the House of Representatives, creates laws. The judicial branch interprets laws.

after accounting for the persistence issues caused by the sporadic changes in government ([Stambaugh 1999](#)). We also demonstrate that the government cycle exists not only at the state level but also internationally, as seen in the United Kingdom, suggesting that it is a widespread phenomenon.

We argue that the government cycle is driven by political gridlock, which is inherent in Divided governments and largely absent under United governments. Divided governments are more prone to legislative stalemates, increased veto activity, and heightened partisan conflict—all of which contribute to elevated policy uncertainty and institutional inertia. Political gridlock has a greater impact on small firms compared to large firms, consequently leading to a more pronounced influence on the stock returns of small firms during the government cycle. We show this through the lens of size risk factor (SMB or Small Minus Big, [Fama and French 1993](#)): across the government cycle, a surprising 7% per annum difference in the SMB strategy return arises. The resurgence of SMB under United Governments is robust, evident from its outstanding performance even without accounting for the quality factor QMJ ([Asness et al. 2018](#)). The government cycle also helps to explain the recent decline of the size effect post-1980s, as during this period, the U.S. government was characterized by a prevalence of Divided rather than United governments. The well-established evidence of the size effect in financial markets naturally connects to the similar size effect observed in the macroeconomics literature (see [Gertler and Gilchrist 1994](#); [Crouzet and Mehrotra 2020](#)). Our findings suggest a political explanation, where the greater cyclicity of small firms is driven largely by political gridlock, which disproportionately hampers their growth during economic cycles.

The government cycle we identify is new, and it stands out as distinct from other related

political cycles that have been studied in the economics and finance literature. The first one is the presidential cycle ([Pastor and Veronesi 2020](#), henceforth PV), where Democratic presidents tend to earn higher equity premia than Republican presidents. The presidential and government cycles are closely connected since the government status depends on the political affiliation of the sitting presidents. In what follows, we show that the government layer uncovers many new empirical findings that the presidential cycle alone does not explain, thereby emphasizing the distinct influence of government status. First, we show that subpar performance during Republican presidents is specific to Divided governments. Indeed, equity returns under unified Republican presidencies are comparable to those observed under Democratic presidents, regardless of the broader government composition. In this vein, the government cycle allows us to refine the widely known presidential puzzle into a *Divided-Republican government puzzle*. When we examine the interaction of political variables within the regression framework, we demonstrate that the impact of the government cycle on explaining stock market movements outweighs that of the presidential cycle, often completely subsuming it. We next show that the U.S. economy experiences recessionary periods during Divided governments, leading to a noticeable increase in the treasury premium³ in comparison to united governments. Meanwhile, we do not find a difference in treasury premium across the presidential cycle. Specifically, our analysis reveals that Divided-Republican governments coincide with the majority of NBER recessionary periods, which also happen to be the periods when September crashes occur.

Another related political cycle is the post-midterm election premium documented in [Chan](#)

³The treasury premium is a long term government bond return less a three month T-bill return. See Table [12](#).

and Marsh (2021) (CM), where strikingly high returns are documented after each midterm election, irrespective of who runs the White House. Both midterm and presidential elections result in a change in government status, making it essential to draw a clear distinction between these two political cycles (PV and CM). Our analysis reveals that the election premium documented in CM does not account for the government cycle. Excluding the post-election months does not impact the government gap; in fact, it strengthens it. When we put it all together, we can observe that after an election resulting in divided governments, the stock market typically experiences an initial uptick (as found by CM), followed by a subsequent downturn (the main point of this paper). These two distinct patterns help to address the long-standing debate on whether ‘gridlock is good or not’.⁴

As we detail in the paper, real economic growth also varies significantly across government regimes. Throughout 121 years of U.S. history, the average GDP growth gap is more salient under the government cycle (4.51% for United vs. 2.01% for Divided; 2.5% government gap) than under the presidential cycle (4.49% for Democratic presidents vs. 2.54% for Republican presidents; 1.95% presidential gap).

Finally, we attempt to infer the causality of our observed government premium. In our sample of 47 midterm and presidential elections, we identify several instances where voters were nearly evenly split in their decision. These cases serve as a quasi-natural experiment, allowing us to observe significant disparities in stock returns. We find significant differences in stock market reactions immediately following election results and in the longer-term performance of the market under ‘barely unified’ versus ‘barely divided’

⁴On Wall Street, there is a famous saying that “gridlock is good,” because a divided government with checks and balances makes it unlikely for politicians to enact drastic legislative changes (Persson et al. 1997). However, dissenters argue that a lack of control over Congress could lead to political conflicts that may have repercussions in the financial market.

governments, suggesting that government composition has a direct impact on market outcomes. We also rule out alternative explanations that could undermine our causal interpretation.

Related Literature The current paper contributes to a growing literature that describes the political cycle of asset prices. Along with two seminal papers discussing the presidential puzzle ([Santa-Clara and Valkanov 2003](#) and [Pastor and Veronesi 2020](#)), the president's political affiliation predicts a number of patterns such as stock market performance of politically sensitive industries ([Addoum and Kumar 2016](#)) and cash flow of firms with government exposures ([Belo et al. 2013](#)). Political relationships of key individuals as well as investors are of importance, as CEO political access to key government officials is associated with positive abnormal stock returns ([Brown and Huang 2020](#)), and senior leaderships' political affiliation affects Corporate Social Responsibility (CSR) ratings as well as the profits of the firm they manage ([Di Giuli and Kostovetsky 2014](#)). [Kim et al. \(2012\)](#) shows that local firms' proximity to political power, measured by Political Alignment Index (PAI), predicts stock returns. The present paper is unique in that it does not focus on the bipartisan implications, as the status of the government can come from either political party in the United States.

There is also a dense empirical and theoretical research literature on the effects of political cycles on the macroeconomy. For surveys in this area, see [Alesina et al. \(1997\)](#) and [Harms \(2001\)](#). These books offer convincing evidence that political variables have an impact on the state of the macroeconomy. The political angle has received fair attention from the economic growth literature. [Hibbs \(1987\)](#), [Alesina and Sachs \(1986\)](#), and [Blinder and Watson \(2016\)](#) constitute the core papers that discuss the partisan growth gap. Finally,

both [Poterba \(1994\)](#) and [Alt and Lowry \(1994\)](#) show, at the state level, that unified control of state government assigns flexibility to adjust to unexpected revenue shocks.

Outline The rest of this paper is organized as follows. Section [2](#) establishes a government premium where there is a substantial gap in stock market performance and economic growth between United and Divided governments. Section [3](#) presents our novel findings and highlights how the government cycle stands out as distinct from other related political cycles. Section [4](#) explores possible mechanisms that generate our results. Finally, Section [5](#) concludes.

2 The Government premium

2.1 Data

The main sample we consider uses monthly stock returns provided by the Center for Research in Security Prices (CRSP) spanning 1927:01 - 2020:12. This entire sample period contains 1128 monthly observations during which 47 different Congresses were in place. We refer to each two-year combined regime of a Congress and President as a Government. Of these 47 Governments, 23 were united (556 monthly observations) and 24 divided (572 observations). There were 16 presidents in total, nine of them Republicans and seven Democrats. The Democratic Party (Republican Party) obtained the majority of the Senate 30 (17) times. At the same time, the House of Representatives was dominated 33 (14) times by Democrats (Republicans). For the stock market data, we consider the

logarithm of monthly returns of the value-weighted as well as equal-weighted portfolios. From these log returns we subtract the log monthly return on a three-month Treasury bill to obtain excess returns. Real U.S. GDP growth data since 1900⁵ is used to examine the difference in economic growth conditional on the government cycle.

We construct two main political dummy variables: the first is a government dummy, **GOV**, defined as **GOV** = 1 when a unified government is in place and **GOV** = 0 otherwise (Divided). We follow United States House of Representatives Archives⁶ in defining which months belong to the United or Divided governments. Following past literature, we also construct a president dummy **PRESID** assigning unity when a Democratic president is controlling the White House.⁷ While a detailed overview of U.S. political regimes is available in the Online Appendix,⁸ a brief summary is insightful. During the first two years of Donald Trump’s first presidency (115th Congress), he worked with a unified Republican government, followed by a divided government in his final two years (116th Congress). Similarly, Joe Biden’s first two years as president (117th Congress) were marked by a unified Democratic government, transitioning to a divided government in the subsequent two years (118th Congress). This pattern suggests that political control of the government is not a bipartisan issue. In our main CRSP sample, we find Democratic presidents (**PRESID** = 1) 50.9% of the time, while United governments were in place (**GOV** = 1)

⁵We thank Professor Valerie A. Ramey for sharing her real GDP data from 1900 to 2016, used in her paper [Owyang et al. \(2013\)](#). We extend up to 2020 using BEA economic growth whose correlation with Ramey’s data during 1947 - 2016 is above 99%.

⁶See <https://history.house.gov/Institution/Presidents-Coinciding/Party-Government>.

⁷In doing so, we assume that each month belongs to the latest scheme assuming office on that particular month. For instance, if a Congress assumes office on January 3 and the president assumes office on January 20 (which is the case for all presidents since 1950 unless in special circumstances), we then assign the month of January to the new president and to the new combination of the legislative and executive branch. Assigning the latest scheme to the next month does not change our results.

⁸Table A.1 in the Online Appendix provides a comprehensive list of U.S. presidents, their affiliated political parties, and the party control of the Senate and the House of Representatives during their terms.

49.3% of the time.

2.2 Stock market performance over types of government

[INSERT Table 1 HERE]

The descriptive statistics in Panel A of Table 1 show that the market portfolio earned significantly higher returns under United regimes than under Divided ones. The average monthly excess stock return of 0.86% under United regimes is equivalent to an annual excess return of 10.3%. Under Divided government, on the other hand, the stock market averaged a meager 0.13% per month (1.6% per annum). The difference in average realized excess returns was 0.73% (8.7% annualized) with a t-statistic of 2.3.

United government does not appear to be associated with riskier stock return distributions: The percentile distribution is not materially different and somewhat more benign under United governments, notably with a much higher median as well as mean return of 1.3% versus 0.7%. The standard deviation of monthly stock returns is slightly lower under United governments, and stock returns are less negatively skewed. We also check whether this difference is driven by either extremely good (bad) returns in the United (Divided) government. In Panel B of the table, we present the descriptive statistics trimming the top and bottom 1% of the sample. The average monthly stock return of the Divided regime increases to 0.25% per month. This shrinks the monthly difference from 0.73% to 0.59% (7.1% annualized) with a t-statistic of 2.2. Finally, Panel C reports in-sample Sharpe Ratios for the full, untrimmed sample: 0.57 under United governments, 0.08 under Divided. Overall, although average excess returns were significantly higher under United

regimes, and in particular returns under Divided regimes not significantly different from zero, United regime returns do not appear to be drawn from an obvious riskier distribution. If anything the opposite is true, and the distribution of United government returns appears slightly less risky.

[INSERT Table 2 HERE]

Table 2 shows that the government gap exists across various measures of stock performance. The first column in Panel A, which uses value-weighted excess stock returns (VWR-TBL), reaffirms that the findings of Table 1 with a Newey-West adjusted t-statistic of 2.08.⁹ Equal-weighted log excess stock returns (EWR-TBL, the second column) averaged 16.78% per annum during United governments, but exactly zero under Divided governments (t-statistic for the difference of 3.07).

The lower part of Panel A reports estimates for the Presidential puzzle of [Santa-Clara and Valkanov \(2003\)](#) for the updated sample ending in 2020. Average value-weighted excess returns were 10.72% annualized under Democrat presidents versus 0.88% under Republicans, with a t-statistic for the difference of 2.2. For equal-weighted returns, the averages were respectively 15.7% and 0.57% with a t-statistic for the difference of 2.59. We find that these outcomes closely parallel those for united versus divided governments, and we show in the next section that the two relationships are independent.

In Panel B of the same table, we report post-war results from 1947. We focus on this sample for three reasons. First, we want to make sure our results do not entirely depend on

⁹We set Newey-West lags to 24, given that the government status lasts for 2 years. Our results are robust to setting lags to 6, 12, or 48.

the Great Depression and the Second World War. Second, the 20th amendment to the Constitution of the United States was adopted on January 23, 1933 in order to decrease the so called “lame duck” period, the period served by the president and the Congress after an election but before the end of the terms of those that were not re-elected.¹⁰ Finally, Hibbs (1987) argues that the macroeconomic structure of the economy has changed substantially since World War II.

As Panel B demonstrates, average value-weighted excess returns under United versus Divided governments differ by 6.23% per annum (Newey–West adjusted t-statistic of 1.8), comparable to the presidential gap of 6.63% ($t = 1.9$). For equal-weighted excess returns, the government gap is even more pronounced at 14.84% ($t = 3.2$), whereas the presidential premium is considerably weaker, amounting to 9.69% with a t-statistic of 2.0. Taken together, the government gap is comparable to the previously documented presidential gap for value-weighted stock return results, and shows a larger difference for equal-weighted returns. We demonstrate in Section 3.1 that the slightly weaker post-war outcomes in the value-weighted excess returns are primarily caused by the election premium (CM). By eliminating these small samples of months, the magnitude of the government gap in stock returns becomes more evident.

¹⁰Under section 1 of the amendment, it reads “*The terms of the President and Vice President shall end at noon on the 20th day of January, and the terms of Senators and Representatives at noon on the 3rd day of January, of the years in which such terms would have ended if this article had not been ratified; and the terms of their successors shall then begin.*” So, since after the amendment, congressional terms start before presidential ones, it becomes clear that the new incoming Congress would hold a possible election in case that no presidential candidate gets the majority of the electoral vote. Before the amendment, new members of Congress and the new president had to wait until March 4 of the upcoming year to give them sufficient time to settle their affairs in their home states as well as to travel to Washington D.C. The problem of distance was no longer a problem by the first quarter of the 20th century. Furthermore, six months of waiting were considered a very long period. For example, examining the 72nd Congress (March 1931 - March 1933), we see that almost a quarter of its members were not re-elected due to the Great Depression. Nevertheless, both the newly elected members of Congress and President Roosevelt faced an extensive delay before they could finally commence their governance duties. See <https://constitution.congress.gov/browse/amendment-20/> for more details.

2.3 How does government cycle interact with presidential cycle?

Two political dummies we defined earlier (**GOV** and **PRESID**) coincide 72% during 1927-2020, with much higher rate of coincidence in the first half.¹¹ Since the government's status is inherently linked to the political affiliation of the presidents, it is crucial to carefully distinguish between the two. In particular, is the government premium simply a repackaging of the presidential premium? Our findings demonstrate that the government cycle is a distinct and independent phenomenon.

[INSERT Figure 1 HERE]

Figure 1 highlights one of the central findings of this paper. Panel A plots the monthly cumulative excess value-weighted returns over time across four distinct political regimes: United government (purple), Divided government (yellow), Democratic president (blue), and Republican president (red). The purpose is to illustrate long-term trends and assess which political regime best explains stock market performance. As the figure shows, both the Democratic president and United government regimes are associated with consistently strong cumulative returns. Notably, the United government regime independently delivers the high cumulative log returns, suggesting that alignment between the executive and legislative branches plays a key role in driving market performance. In contrast, Republican president and Divided government regimes exhibit much weaker results. Panel B, which presents cumulative excess returns based on equal-weighted portfolios, provides

¹¹Splitting the CRSP sample into two equal parts, we find that Democratic presidents and United governments coincide 83% (61%) of the time during the first (second) half of the sample. The high correlation in the first half is due to two Democratic presidents, Franklin D. Roosevelt and Harry S. Truman. During this time, the government was mostly unified.

further support, showing that United governments not only outperform Divided governments, but also exceed the performance of Democratic presidencies alone.

[INSERT Figure 2 HERE]

In Figure 2, we conduct two-way sorts based on the presidential and government cycles, recording the average value-weighted and equal-weighted stock returns during the post-war period (1947–2020). Each bar represents mean excess stock returns, with blue bars indicating Democratic presidents and red bars indicating Republican presidents. The first two bars correspond to United governments, while the following two represent Divided governments. The black bar labeled “Total” on the right represents the average excess stock returns for the entire sample considered.

A key observation is that Republican presidents delivered significantly higher stock market returns when they held unified control of government, with average excess returns of 10.8% for value-weighted portfolios and 14.4% for equal-weighted portfolios. This strong performance rivals that of Democratic presidents under any government configuration and often exceeds both their outcomes and the overall market average (black bar). In other words, contrary to conventional wisdom in the economics and finance literature, the so-called presidential gap in stock market performance is not driven by a general underperformance of Republican presidents. Instead, it is specifically Republican presidents governing under a divided government who are associated with weak market returns.

To further validate our findings, we implement a regression framework to examine the government cycle’s role in explaining stock returns. We run the following regression:

$$\begin{aligned}
r_{t+1}^e &= \alpha + \beta' \mathbf{X}_t^{\text{political}} + \gamma' \mathbf{X}_t^{\text{macro}} + \varepsilon_t \\
&= \alpha + \underbrace{\beta_1 \mathbf{GOV}_t + \beta_2 \mathbf{PRESID}_t + \beta_3 \mathbf{ELECTION}_t^{\text{mid}} + \beta_4 \mathbf{ELECTION}_t^{\text{pres}}}_{\mathbf{X}_t^{\text{political}}} \\
&\quad + \gamma' \mathbf{X}_t^{\text{macro}} + \varepsilon_t
\end{aligned} \tag{1}$$

where r_{t+1}^e is the monthly excess stock returns (either excess value-weighted stock returns or excess equally-weighted stock returns), **GOV** is the government dummy that equals one (zero) when the government is unified (divided), **PRESID** is the presidential dummy that equals one (zero) when the incumbent president is from the Democratic party (Republican party), **ELECTION** is the post-midterm or post-presidential election dummies, which will be further detailed in Section 3.1. We control for a comprehensive set of macroeconomic variables,¹² as stock returns are influenced by business cycles, which are in turn linked to political variables. It is crucial to determine whether the observed political effects genuinely impact stock returns or merely reflect macroeconomic fluctuations. For this reason, we include well-established financial predictors of market returns, such as the dividend-price ratio. If political variables simply act as proxies for business cycles, they should not provide additional predictive value once these financial controls are included.

[INSERT Table 3 HERE]

¹²Following earlier literature, we make use of many available macroeconomic factors: log of dividend-price ratio (dp), default yield (dfy), term spread (ts), long-term yield (lty), relative interest rate (rrel), aggregate book-to-market ratio (bm), equity issuing and repurchasing relative to the price level (ntis), inflation (infl), and stock market variance (svar). While including all available information reduces concerns related to omitted variables, our results remain unchanged when we use partial lists of these macroeconomic variables.

Table 3 presents the results. We first observe that each of **GOV**, **PRESID**, and **ELECTION**^{mid} individually explain aggregate stock market returns (columns (1), (2), and (3), respectively). Next, we examine the interplay of political variables in columns (4) through (7) and uncover two findings. Adding the post-midterm (and post-presidential) election months to either the presidential dummy or government dummy does not alter the impact of these two variables. This is expected as post-election months take up small percentages of the entire samples. Secondly, and most importantly, we find that the presidential dummy variable loses its explanatory power in explaining aggregate stock markets once we control for the status of government. In panel A, the coefficient for **PRESID** displays a striking 40% reduction, dropping from 0.898 in column (2) to 0.543 in column (6) when the government dummy **GOV** is added. It also loses its statistical significance in explaining the value-weighted stock returns. Furthermore, when we examine equal-weighted stock returns in Panel B, the presidential dummy experiences a comparable loss in explanatory power (though it still retains statistical significance at the 10% level).

Overall, our findings emphasize the importance of the government cycle in explaining stock market behavior. Once government status is accounted for, the president’s political affiliation no longer plays a significant role in value-weighted excess returns and, while it retains some explanatory power in equal-weighted returns, its statistical significance is notably reduced. This highlights that it is the alignment or division of government—rather than presidential party alone—that better captures variation in market performance.

2.4 Economic growth

The partisan theory argues that, in capitalist democracies, Republicans (or right-wing parties) are more concerned about inflation while Democrats (or left-wing parties) opt for low unemployment at the cost of inflation ([Hibbs 1977](#)). The Phillips curve argument of [Nordhaus \(1975\)](#) combined with the empirical regularity of Okun's law suggests a simple intuition on how Democratic presidents earn higher economic growth, which is supported in the U.S. data ([Blinder and Watson 2016](#)).

Economic growth depends also on the government cycle, and is in fact stronger than the presidential growth gap. The government story is markedly different from earlier work. The decision to prioritize unemployment or inflation is not determined by the government's status, as both Republican and Democratic presidents can face united or divided governments. Indeed, our estimates suggest that the inflation difference between United versus Divided governments is virtually none (about 0.05% across 121 years), while Democratic presidencies experienced 1.2% higher inflation compared to Republican presidencies during the same period. Rather, it appears that the political conflict or sabotage that comes from the absence of unified control over the government. A simple analog can be found in the division of labor between the policymakers and the professional staff à la [Romer and Romer \(2008\)](#). Just as monetary policy is influenced both by the FOMC and the supporting members (i.e. staff who prepare a comprehensive forecast ahead of each FOMC gathering), it is possible that leaders should not bear the sole responsibility for growth, as the supporting entities (Congress) must also collaborate to foster favorable economic outcomes.

[INSERT Table 4 HERE]

Table 4 categorizes real economic growth into presidential and government cycles, and shows that the government gap (2.5%) is higher than the presidential gap (2.0%) across 121 years. The economic growth advantage is salient during Democratic-United governments. The low t-statistics during Republican-United governments come mainly from the 1930s where the economy is commonly described as extremely volatile: for instance, the standard deviation of the quarterly growth rate is 12.4% pre-World War II. We see that, despite the high pre-WWII volatility, the difference of real growth rates between unified and Divided governments remains economically and statistically significant.

To partially alleviate concerns that economic growth is endogenous with respect to political variables, we conducted the same analysis without including NBER recession periods (this result is undocumented but available upon request). We observe that NBER recession months are concentrated during Republican presidencies,¹³ so that pulling these months out shrinks the presidential growth gap to 0.9%. On the other hand, NBER recessions were fairly shared between United and Divided governments, and we see that removing these months widens the government growth gap to 3.6%. Hence, the government gap in economic growth is salient regardless of the business cycles. In sum, the results presented in this section confirm that Divided government is associated with lower economic growth, and the magnitude of the government effect is stronger than the president effect on growth (Jones and Olken 2005).

¹³Throughout the CRSP sample 1927 - 2020, Republican presidents are over-represented in NBER recessions (4 years for Democratic presidents vs. 14 years for Republican presidents). See also Figure 6 and related discussion.

3 Discussion

3.1 The Divided discount

In a related work, [Chan and Marsh \(2021\)](#) (CM) document election cycles where post-midterm election months exhibit higher asset prices due to lower future discount rates as the embedded political risk decreases. There is a natural link between this paper and ours, as we examine government status that results from midterm elections.

[INSERT Table 5 HERE]

To ensure that our government premium result is not the same as the election premium, we repeat the Table 2 exercise without post-election months.¹⁴ Table 5 shows that the government gap strengthens and becomes more pronounced relative to the presidential premium. Specifically, compared to Table 2, the government premium in value-weighted excess stock returns (Panel A, column (1) VWR–TBL) increases from 8.70% to 11.64%. A similar rise is observed in the post-war sample, where the premium grows from 6.23% to 10.74%.

[INSERT Figure 3 HERE]

The key insight from the previous table is that the strengthened government gap is largely driven by the post-election premium when the resulting government is divided. As shown

¹⁴We drop both the post-midterm election months (December of the midterm election year up to April of the subsequent year) and the post-presidential election months (December of the presidential election year up to April of the subsequent year) as government status meets a possible change every two years. This also levels the playing field in comparing the government premium with the presidential premium as post-presidential election is an amalgam of both the change of presidents and government status.

in the right side of Panel A in Figure 3, during 1927–2020, the 1.6% annualized average excess returns under Divided governments (labeled ‘C’) can be decomposed into two distinct periods: post-election months (labeled ‘A’ or “Post-Election (PE)”), where stock returns are high due to the resolution of uncertainty, and non-post-election months (labeled ‘B’ or “Non-PE”), where returns are negative.

This decomposition yields two key findings. First, the post-election premium is especially pronounced when the election results in a Divided government. Competitive elections that lead to such outcomes heighten pre-election uncertainty and risk aversion. Once resolved, this uncertainty—especially prominent under Divided outcomes—reduces future discount rates, boosting asset prices. This is exactly what [Chan and Marsh \(2021\)](#) finds in their paper and is clearly visible when we compare ‘A’ across the upper panels. The lower panels, which focus on the 1961–2020 sample (a period marked by rising political polarization ([Baker et al. 2014](#))) further reinforce this dynamic. When the resulting government is united, the post-election premium is much smaller (Panel B, left).

Second, examining non-post-election months (‘B’) reveals a stark contrast between government types. United governments are associated with strong positive returns, while Divided governments exhibit negative returns. To contextualize these results, the average returns reported in Table 2 correspond to the comparison of the ‘C’ bars across each panel, while the adjusted results in Table 5 reflect the comparison of the ‘B’ segments. The key takeaway is that rising political polarization in recent decades has led to sharply higher stock prices in the brief window following elections that result in divided control, temporarily inflating the average performance of Divided governments. This post-election bump obscures the underlying long-term underperformance of Divided

regimes—precisely why we exclude these short-lived episodes and reexamine the government gap in Table 5. While post-election months benefit from a temporary drop in discount rates, broader Divided government periods are likely marked by persistently higher discount rates, leading to weaker market performance.¹⁵ Removing post-election months therefore reveals the true magnitude of the underperformance associated with Divided government regimes.

3.2 Only 47 Governments

Although our study covers 94 years of stock return data, government changes occurred only 46 times or fewer within this timeframe. The infrequency of these transitions raises potential concerns about statistical artifacts, including spurious correlations.

[INSERT Table 6 HERE]

To tackle this issue, we provide five additional results. First, we find that our main finding remains when we consider pre-CRSP stock return results from 1871 to 1925. As the results in Table 6 suggest, the government cycle emerges as a robust fact across 149 years of U.S. history. Second, the dominance of a political party in either the Senate or the House alone does not explain the variation in excess stock returns. This placebo test reinforces our argument that it is the government trifecta (or the lack of it) that makes a difference (result is available in the Online Appendix).

¹⁵In the Online Appendix, we show that the government premium remains robust when dividends are not reinvested.

Third, we address the persistence issue using a randomization-bootstrap procedure following Santa-Clara and Valkanov (2003) and Cheng (2022). The analysis is done in the following way. (1) First, we produce 10,000 time series of r_{t+1}^e where each time-series is drawn randomly from the 94 years of monthly stock returns ($T = 1128$) with replacement. r_{t+1}^e is the value-weighted excess stock returns (VWR.TBL) or equal-weighted excess stock returns (EWR.TBL). (2) Next, we independently and randomly select the government dummy $\mathbf{GOV}_t$, ensuring that the government structure remains consistent for two years. In other words, regardless of the randomly chosen government status, it will last for a duration of 24 months. We then do a coin toss to determine the next government, which also would last for 24 months.¹⁶ (3) For each of $j = 1, 2, \dots, 10000$ simulation, we run a predictive regression $\{r_{t+1}^e = \alpha + \beta \mathbf{GOV}_t + \varepsilon_{t+1}\}_j$ and obtain t_j , t-statistics for $\hat{\beta}$ using standard errors adjusted for heteroskedasticity. (4) Letting t_0 the t-statistics obtained using the original U.S. sample of 94 years (we find that $t_0 = 2.42$ when r_{t+1}^e is VWR.TBL, and $t_0 = 3.29$ when r_{t+1}^e is EWR.TBL), compute the bootstrapped p-value for the coefficient $\hat{\beta}$ as sum of the number of t_j s that are greater than or equal to t_0 and the number of t_j s that are less than or equal to t_0 , divided by the number of simulation. As a result, the bootstrapped p-values that we obtain are 0.016 when the dependent variable r_{t+1}^e is VWR.TBL (0.001 when EWR.TBL), corroborating the significance of the government cycle we establish in the previous section.

[INSERT Table 7 HERE]

Fourth, we increase the power of our test by examining whether countries outside the

¹⁶Given that our sample includes 47 governments, resulting in 46 changes of government, the probability of the government maintaining a unified (or divided) status throughout the entire sample is an unlikely 1.4e-12%.

U.S. demonstrate a similar governmental cycle. For this purpose, we use stock market data from the United Kingdom.¹⁷ In the United Kingdom, a ‘hung’ parliament takes place when no single party holds a majority of seats (usually 326 out of 650 seats) in the House of Commons. We make use of this fact to define a government as Unified (Divided) when a single party holds (does not hold) a majority of seats. As presented in Table 7, we observe that a large government gap (14% per annum) exists in the UK as well.

Finally, we present evidence that the government cycle also exists at the U.S. state level. We run the following monthly panel regression with state- and time-fixed effects:

$$\mathbf{r}_{i,s,t+1}^e = \alpha + \beta \text{State-GOV}_{s,t} + \gamma \text{State-PRESID}_{s,t} + \delta \text{State-EPU}_{s,t} + \theta_s + \eta_t + \varepsilon_{s,t+1} \quad (2)$$

where $\mathbf{r}_{i,s,t}^e$ is the excess return on firm i headquartered in state s at month t ; **State-GOV** _{s,t} is the state level government dummy that equals 1 when one party controls all of the governor, state Senate, and state House (i.e., the state government is united) and 0 otherwise; **State-PRESID** _{s,t} is the state level president (i.e., the governor) dummy that equals 1 when the incumbent governor is from the Democratic party (0 when the governor is from the Republican party); **State-EPU** _{s,t} is the state level Economic Policy Uncertainty measure of [Elkamhi et al. \(Forthcoming\)](#) as a control variable; θ_s and η_t are state- and time-fixed effects, respectively. The data we use for this analysis is from 1992 to 2020.

[INSERT Table 8 HERE]

¹⁷The data is obtained from Global Financial Database, where we use FTSE All-Share Index as the main stock market measure. Similar to our main empirical work, we subtract 3-month UK Treasury bills to construct excess stock returns.

Table 8 reports the panel regression results, and show that the government cycle also exists at the state-level. In column (1) of the table, we run the panel regression with all available samples (a total of 16,351 firms with 1,621,260 firm-month observations) and observe that the state-level government dummy (**State-GOV**) positively predicts the one-month ahead excess stock returns. In column (2) to (4) of the same table, we make our results more reliable by re-running the panel regression using sub-samples.¹⁸ Each of the regression in column (2) to (4) pulls out the entire sample in each state and reaffirms that the government cycle result is not dependent on a single state. For example, column (2) shows that the panel regression that excludes all firms headquartered in New York (firm-month observations headquartered in NY take up 12.5% of the total sample) still exhibits the government cycle of stock returns. Finally, in column (5), we exclude firm-month samples when stocks are part of S&P 500 because they attract national or global attention from investors, rather than the state level focus relevant to this analysis. The result is very similar to previous findings. The state level governor dummy (**State-PRESID**), on the other hand, is only weakly significant in the full-sample panel regression in column (1), and sometimes not significant.

3.3 United to Divided, Divided to United

What makes a change of government status, i.e., from united to divided and the other way around? We conclude this section by establishing a series of stylized facts on the political

¹⁸The data used in this panel regression is an unbalanced panel where firms are disproportionately headquartered in some states. Indeed, listed firms in three major states, New York (NY), Texas (TX), and California (CA), account for 38% of all firms and hold a significantly higher share of market capitalization. If the government cycle does exist at the state level, then the main specification laid out in column (1) should not be influenced by an omission of a single state.

cycle.

Stylized fact 1. (United to Divided): It's not easy to retain the control of Congress. During almost every presidential term, the party in control of the White House typically experiences a decline in congressional seats during the midterm election. It seems that voters gain a deeper understanding of the president's competence, personality, and policies in the two years following the presidential election.¹⁹ This is especially true in the post-1960s where the level of political polarization increased significantly. Prior to this period, both Republicans and Democrats were able to control Congress for quite a time. For instance, Democrats in the 1960s (both John F. Kennedy and Lyndon B. Johnson) were able to control Congress until the end of the presidency, and Republicans also survived midterm elections quite a few times. All in all, voters' expectations turn into disappointment, leading to cold showers. The sitting presidents tend to lose grip, never to regain complete control of Congress.

Stylized fact 2. (Divided to United): You (re-)gain control of Congress only through presidential elections. Throughout the 20th and 21st U.S. election history in our sample, government status changed from Divided to United only through presidential elections. We also observe a bipartisan difference on this matter. When Democrats won presidential elections, they always did so with control of Congress. Half of Republican presidents, on the other hand, won the presidential election but not control of Congress. Consistent with the first stylized fact, presidents who started their term without control of Congress never gained full control until their presidency ended.

Stylized fact 3. (Exceptions): Exceptions come from unexpected circumstances. We note two exceptions to the above rules. First, George W. Bush at the end of 2002 was able to regain

¹⁹See, for instance, [Knight \(2017\)](#) for a simple model that jointly describes midterm penalty, decreased voter turnout during midterm elections, and mean reversion to the voter partisanship.

control of Congress. As a matter of fact, George W. Bush started his first term with the support of Congress, but lost control in June 2001 as Vermont Republican senator James Jeffords unexpectedly left the Republican party (Jayachandran 2006). Also, the 9/11 attack in 2001 resulted in a ‘rally around the flag’ effect that had led to strong support toward the incumbent political party. Democratic president Harry S. Truman is another exception. He was able to revert to united status from his second to third term, but this was his de-facto first presidential election: Truman took over the presidency after the unanticipated death of the former president Roosevelt (Jones and Olken 2005). Hence, Truman’s case aligns more closely with the second stylized fact.

3.4 Causality

To examine the causal mechanism, we focus on elections decided by a narrow margin to generate quasi-natural experimental estimates of the impact of a randomized change in the government status.

[INSERT Table 9 HERE]

We start by defining a ‘close-tie’ political election. After a close election, the government’s status can be seen as randomly assigned due to the fact that the voters were almost evenly divided in their choice. The split nature of this situation serves as a platform to assess how the shift in government status will influence investors’ expectations once voting results are revealed. To determine which events fall into such category, we analyze the results of each election²⁰ and define close elections as those with vote margins less than 3%. Out

²⁰We choose to analyze every possible election in our sample, as a change in government status can arise

of 47 elections in our main sample, we found nine that fit into this category, as shown in Table 9. Each column represents the difference in electoral votes or Congress/House seats in percentage terms. For instance, the midterm election in November 1930 resulted in a difference of one Senate seat (48 seats for Republicans and 47 seats for Democrats, a difference of 1.04% out of the 96 seats) and two House seats (218 seats for Republicans and 216 seats for Democrats, 0.46% of the 435 seats). The resulting government was a barely divided one. The November 2006 midterm election resulted in a 49-49 Senate tie.²¹

Following Lee et al. (2004), our key identifying assumption is that governments that narrowly won the past election and are unified can be meaningfully compared to those that narrowly won but are divided, allowing us to establish causality. We classify governments emerging from close elections as either ‘barely unified’ or ‘barely divided’ and examine the resulting gap in stock returns between these randomly assigned regimes.

[INSERT Figure 4 HERE]

Figure 4 presents the cumulative abnormal returns (CAR), averaged across all firms available during close-tie elections where the voting margin was less than 5%.²² The results reveal a significant difference of stock market reaction up to 3–5% over the following five days, indicating that the stock market reacts positively to elections leading to a unified government and somewhat negatively to those resulting in a divided government.

from any one of the presidential, Senate, or House of Representatives elections. See Eggers et al. (2015) for a comprehensive work on this issue.

²¹The majority of seats went to Democrats as two independents caucused with the Democrats. Since we are interested in differences in votes, we also consider this election event as part of our sample.

²²We use a market-adjusted model that subtracts market returns from firm returns. Abnormal returns for each firm are then averaged separately for elections resulting in barely unified and barely divided governments. To be included in the sample, a firm must be present for at least six months before and after the close-tie election period.

[INSERT Table 10 HERE]

Table 10 reinforces the causal interpretation by examining long-term stock market performance under barely unified versus barely divided governments. Markets under barely unified governments exhibit strong performance over time, whereas barely divided governments are associated with persistent underperformance. The resulting gap is both economically meaningful and statistically robust, suggesting that shifts in political regime can have a direct impact on equity returns.²³

We conclude this section by addressing two plausible challenges to our causal interpretations. The first is the reverse-causality argument that stock markets affect the change of government. We believe it is unlikely that stock market performance is the dominant determinant of voting decisions and hence the change in government.²⁴ Also, this concern is not supported by the data. Suppose, contrary to our argument, that divided government is the result of low asset prices. The stock market should experience a significant decrease prior to the midterm or presidential election, as this would allow investors to witness the abysmal performance of the stock market during election years and encourage them to vote in favor of divided governments. We test this hypothesis by calculating average returns on election year (from January up to October) and examine whether mean yearly

²³Using the same close-tie election sample, we also compare outcomes under “barely Democrat” versus “barely Republican” governments and find only weakly positive effects (unreported but available upon request). This classification, however, is not always meaningful. For example, the 3% Senate tie in November 2002 resulted in a unified Republican government in 2003–2004, yet would still be labeled “barely Republican,” despite the continuity of Republican control. Accordingly, we treat this comparison as a placebo test, reinforcing the notion that the effects of close-tie elections on government status are not spurious.

²⁴In a recent article by Pew Research (<https://www.pewresearch.org/short-reads/2022/11/03/key-facts-about-u-s-voter-priorities-ahead-of-the-2022-midterm-elections/>), voters answered that while economic concerns remain the top issue, other issues such as education, healthcare, and crime concerns are also very important. In other words, voters are multi-dimensional in their decision regarding election, and stock markets would play only a limited role.

returns that result in divided government is lower than the mean yearly returns where voters choose united government. We do not find results that support this claim (results are unreported). Second, given that we consider an entire set of firms traded on the major U.S. stock markets, selection issue on specific types of stocks does not apply.

4 Mechanisms

We now turn to the mechanism behind our government cycle results, focusing on the political gridlock or sabotage that tends to occur during periods of divided government. Our argument explores whether, and how, this gridlock translates into negative outcomes in financial markets.

4.1 Political gridlock channel

When political parties with divergent ideologies assume control of separate branches of government, it frequently results in a legislative stalemate, hindering the effective resolution of urgent matters (see, among others, [Coleman 1999](#)). Partisan conflict and disagreements hinder quick and effective responses to negative shocks, worsening the situation ([Alt and Lowry 1994](#)). Moreover, a filibuster is more likely to occur when the government is Divided,²⁵ and this period also coincides with fewer significant pieces of legislation being passed ([Edwards III et al. 1997](#), [Ansolabehere et al. 2018](#)).

²⁵See <https://www.senate.gov/legislative/cloture/clotureCounts.htm> for details. Cloture has become increasingly common starting in 92nd Congress (starting in 1971), and we observe that Divided government face more frequent cloture motions during 1971 - 2020.

To put this into perspective, in 2011, President Obama and Democratic lawmakers made efforts to advance a budget proposal, but negotiations with Republicans in the House of Representatives ultimately faltered. As a result of this political gridlock, Congress passed a series of short-term funding measures known as continuing resolutions to keep the government funded temporarily, rather than passing a full budget. These stopgap measures led to uncertainty and disruptions in government operations and programs. In another example, negotiations between President Obama and Republican congressional leaders over raising the debt ceiling became highly contentious, with Republicans demanding significant spending cuts in exchange for their support. The standoff led to a prolonged and acrimonious debate, with fears of a potential default looming over the economy. Eventually, a last-minute agreement was reached to raise the debt ceiling, but not without significant political uncertainty. On the opposite end, the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (commonly known as the “Bush tax cuts”) were smoothly approved with the backing of Congress members from the same party.

[INSERT Figure 5 HERE]

Indeed, divided governments, also known as gridlock periods, are associated with mounting political tensions, heightened economic policy uncertainty, increased stock market volatility, and a rise in the treasury premium.²⁶ Figure 5 presents two figures that showcase

²⁶The government spending channel is another potential avenue to explain the government gap in stock returns and economic growth. Higher government deficits, whether caused by Unified-Republicans’ tax cuts or Unified-Democrats’ spending increases, can reduce private investment by competing for funds in financial markets (Cohen et al. 2011). This can lead to lower investment levels by businesses, which can ultimately impact economic growth and corporate profitability, potentially affecting stock returns and economic growth.

how political gridlock is severe during Divided regimes. The above plots the yearly Partisan Conflict Index (PCI) of [Azzimonti \(2018\)](#) that uses a semantic search method to measure the frequency of newspaper articles recording lawmakers' disagreement about policy, and shows that political conflict is indeed higher during Divided governments (shaded areas). A notable exception is during Trump's era, where his first term (the government was unified at that time) scored the highest value of PCI. This seems to come from the U.S. - China trade dispute in 2018. Regardless, the average PCI remains statistically lower during United government: 86.8 (Divided) vs. 60.8 (United government) with a t-statistic of 4.5.²⁷

In the below panel, we use all congressional bills proposed from 80th Congress to 114th Congress from Congressional Bills Project Database. The database, at the time of writing, enumerates all congressional bills proposed from 1947 to May 2020. We are interested in how many proposed bills are eventually vetoed by the sitting president, as this indicates a form of political conflict.²⁸ It shows that Divided governments tend to meet higher ratio of vetoes. The large number of bills introduced in Congress means that even a small percentage difference makes a significant impact. In fact, a 0.04% (0.127% - 0.083%) difference translates to 2.5 more bills being vetoed during divided governments compared to united governments.

[INSERT Table 11 HERE]

²⁷The elevated measure after 2010 seems to reflect more polarized nature of U.S. politics. Excluding post-2010 yearly index does not change the significance of PCI gap across governments. Repeating the same exercise conditional on the party of the sitting president does not show significant difference in PCI index: 74 (Republican) vs. 70 (Democratic president) with a t-statistic of 0.74.

²⁸We don't consider bills that aim to help specific individuals because they're not related to the current economic situation. Quite a few bills have the title "For the relief of PERSON A". We remove those observations.

Economic policy uncertainty (EPU index, [Baker et al. 2016](#)) is influenced in a negative way by the status of United governments. In Table 11, we observe that the change of government status from Divided to United predicts, at one month horizon, negative 8% change in EPU index ($100 \times (\exp\{-0.084\} - 1) = -8.06$, equation (6)), even after controlling for the presidents' political party as well as macroeconomic indicators. Similarly, United government negatively predicts stock market volatility as measured by [French et al. \(1987\)](#). Given the extant literature that political uncertainty has a negative impact on the economy via depressing investment ([Azzimonti 2018](#) and [Jens 2017](#)), the analysis in this section gives us assurance that periods of Divided government are detrimental to the financial market and the economy. The presidential cycle, on the other hand, shows the opposite pattern in that both the EPU index and stock volatility tends to be positive when the Democratic president is occupying the White House.

[INSERT Table 12 HERE]

We also present evidence of a robust treasury premium gap across the government cycle in Table 12. The analysis of treasury premiums reveals that divided (united) governments correspond to periods of higher (lower) excess bond returns, suggesting that these are indeed unfavorable (favorable) times where investors seek assets that are deemed safe to invest.²⁹

[INSERT Figure 6 HERE]

²⁹In contrast, repeating the same analysis based on the presidential cycle yields no significant results, consistent with the findings of [Pastor and Veronesi \(2020\)](#), as reported in Tables A11–A16 of their Online Appendix.

Times when Republican presidents operate under a Divided Congress deserve special attention. To start with, we find that 70% of post-war NBER recession periods occurred under Republican presidents who failed to control the Congress. This is illustrated in Figure 6.³⁰ To the best of our knowledge, this paper is the first to identify that most of the macroeconomic downturns happened during certain political regimes.

[INSERT Figure 7 HERE]

Moving further, we observe that the “September effect”^{31 32} (Kamstra et al. 2003) is concentrated exclusively in the Divided-Republican regimes, which partially explains the low stock market performance during this period. As the upper panel in Figure 7 shows, September predicts the lowest stock market performance throughout U.S. history. What we show in the below panel is that this dismally low performance occurs exclusively under Divided-Republican administrations. The red solid line is the calendar stock returns during Divided-Republican era, and the black dotted line is all other times (i.e., United-Republican, United-Democrats, and Divided-Democrats’ calendar months all combined). As we clearly see, only Divided-Republican administrations are associated with low September returns.³³

³⁰During the pre-1947 period, the Unified-Republican times experienced frequent NBER recessions as well. Republicans held power during two-thirds or more of the NBER recessions, regardless of whether they controlled Congress.

³¹More generally, month-of-the-year effect refers to the empirical findings that aggregate stock markets perform significantly better or worse in certain calendar months. January is known to produce abnormally high small firm returns (Keim 1983; Reinganum 1983), while May (Bouman and Jacobsen 2002) and September, October (Hirshleifer et al. 2020) produce low returns.

³²Media has been reporting this effect quite often: see, among others, <https://www.bbc.co.uk/news/business-30793329>

³³Although the September return is affected by two exogenous shocks (the 9/11 attack in 2001 and the Global Financial Crisis in 2008, both occurring during the Divided-Republican era), there is evidence that even when excluding these two events and analyzing subsamples and equally-weighted returns, the same negative pattern emerges. We also individually record the results for September of other political regimes

Why is this September crash specific to Divided-Republican times? We suggest this empirical regularity can be attributed to the “August recess” and a subsequent “Back to School” Effect. Congress takes a break in July and August, known as the August recess. During this time, pro-business Republicans, including the president and Congress members, discuss their plans for the legislative agenda. After reconvening in September (back to school), they face bitter disappointment due to lack of control of Congress. Investors, absent political risk during the Summer break, build positive expectations but are dismayed by incumbent Republicans that translates into negative market reaction in September. Consistent with this hypothesis, we find that average asset prices during the Divided-Republican era rise from July to August, and then sharply drop in September.³⁴ Since the U.S. federal government’s fiscal year starts on October 1st, September is a crucial month for Congress to finalize the federal budget and appropriations for the upcoming year, as well as address other urgent fiscal issues facing the government. Under the weak leadership of the Republican president, important activities are frequently disrupted, causing negative effects on the stock market.

This political-risk-based explanation on the calendar effects is markedly different from existing hypotheses. For instance, [Hirshleifer et al. \(2020\)](#) argue that low mood around Autumn (September and October) explains low stock returns. We confirm that the September effect we document does not continue into October, providing further support that it is unrelated to weather conditions. In fact, October isn’t necessarily associated with low returns, as value-weighted excess returns are mildly positive. Moreover, negative equally-

(United-Republican regime, United-Democrats regime, and Divided-Democrats regime) in the same table. All these results are demonstrated in online Appendix.

³⁴This pattern is already shown in Figure 7 (see below panel, solid red line). We also observe similar patterns across subsamples except Eisenhower’s presidency (1955-1960). Since August recess started from late 1960s, Eisenhower’s Divided-Republican times do not count toward our hypothesis.

weighted excess returns are concentrated in two extreme Octobers.³⁵ In a similar vein, both mutual fund tax harvesting and school holidays (Fang et al. 2018) explanations do not fit into this political cycle of September returns.

4.2 Political gridlock and small firms

In Section 2.2, we showed that the stock market difference conditional on government cycle is much higher in equally-weighted stock returns, suggesting that small firms are severely affected by this cycle. This also aligns with our proposed economic mechanism of political gridlock, as these adverse effects would impact small firms more than large firms. Undoubtedly, small firms tend to struggle more during difficult times as they exhibit greater bank dependence, cannot issue debt publicly, and face greater idiosyncratic risk (Gertler and Gilchrist 1994). Large firms, on the other hand, have considerable power in influencing the rules of the game (Zingales 2017), and can borrow to smooth the impact of a downturn (Gertler and Gilchrist 1994). Small business also lack the resources to actively form political connections through political donations or lobbying efforts (Faccio 2006, Hassan et al. 2023). In a similar vein, Liu et al. (2017) use Chinese examples to show that small firms (as well as firms with high leverage and high idiosyncratic risk) earn lower returns in the face of exogenous political shocks.

[INSERT Figure 8 HERE]

Inspired by this, we investigate the small firm issues through the lens of well-known size

³⁵Stock markets crashed heavily in October 1987 and October 2008. Without them, October EW returns are only mildly negative or sometimes positive across subsamples.

anomalies (Small Minus Big or SMB; [Fama and French 1993](#)). We start by documenting that the size premium is concentrated almost entirely during unified governments, shown by the surprising SMB gap of 7% per annum (6% during United vs. -0.9% during Divided). Excluding January from the sample diminishes the SMB premium in both types of governments, but the SMB gap remains essentially the same at 6.6%. This outperformance of SMB under United governments come mostly from the long-side of the portfolio returns (small firms or ‘S’), which we further show in Figure 8. In this figure, the decile portfolio returns formed on firm size are plotted to show that a monotonic decrease in the stock returns across firm size takes place only under United governments, consistent with our political gridlock explanation that small firms perform well when there is no or less political sabotage.³⁶ This result aligns with the earlier findings of [Chan and Chen \(1991\)](#), which suggest that small firms tend to be “marginal” in the sense that their prices are more sensitive to changes in the economy and they are less likely to withstand adverse economic conditions.

[INSERT Table 13 HERE]

We also run a monthly Fama-MacBeth regression that starts from 1927, and from 1983. The latter sample is to examine a recent debate on the disappearance of the size premium (see, among others, [Hou and van Dijk 2019](#)). In Panel A of Table 13, the coefficients as well as strong t-statistics say that a reliable negative relation between firm size and stock returns is established only when the United government is in place (columns (2) and (5)).

³⁶We provide two additional checks on this result. First, we check that the business cycle explanation of [Ahn et al. \(2019\)](#) does not fit into our framework since about half of the ‘troughs’ as defined in that paper falls into the Divided governments. Next, while the Figure 8 result holds when we restrict our sample to post-1980s, the same exercise under the Presidential cycle does not work (see Online Appendix Figure ??).

Divided government regimes fail to show this pattern.³⁷ The SMB descriptive statistics shown in panel B indicate that the outperformance of SMB during United governments are not specific to sample periods.³⁸ By combining the results presented here with the fact that the United States has experienced more divided governments than united governments since the 1980s, we can conclude that the recent disappearance of size effect is entirely attributable to the government cycle.

In Panel C, we run the factor redundancy test in the spirit of [Asness et al. \(2018\)](#) to assess whether SMB adds explanatory power to the asset pricing model. The regression model is specified as

$$SMB_t = \alpha + \beta RMRF_t + \beta_{-1} RMRF_{t-1} + h \times HML_t + m \times MOM_t + q \times QMJ_t + \varepsilon_t \quad (3)$$

where *RMRF* is the market, *HML* the value factor, *MOM* the momentum factor, and *QMJ* the quality-minus-junk factor proposed in [Asness et al. \(2019\)](#). Aligning the sample period to match the QMJ sample, we see that the alpha is already 38 bps per month (t-statistics: 2.63) absent quality control. With a helping hand from QMJ, the size premium strengthens to 45 bps with a stronger t-statistics. All the other political regimes (Divided government and two presidential dummies), on the other hand, show poor SMB alpha but revives after QMJ enters the regression. This result is presented in online Appendix.

³⁷We observe a robust pattern when running FMB regressions on earlier samples (1927:01 - 1982:12), or excluding B/M as a covariate.

³⁸The subsample period definitions come from [Asness et al. \(2018\)](#). The Golden age period has diminished slots as the United (Divided) governments perfectly coincide with the time when Democratic (Republican) presidents were ruling the White House. Quite interestingly, 85% of the ‘embarrassment period’ (1980:01 - 1999:12) met Divided governments, whereas half of ‘golden age’ (1957:07 - 1979:12) is dominated by United governments.

5 Conclusion

This paper introduces the concept of a government cycle—the impact of unified versus divided political control—on stock market performance and economic growth. We find that unified governments are associated with significantly higher excess stock returns and stronger economic outcomes, particularly for small firms. These effects are economically substantial, statistically robust, and analytically distinct from the well-documented presidential cycle. Once government status is accounted for, the explanatory power of presidential party affiliation largely disappears.

To support a causal interpretation, we leverage close-tie elections as quasi-natural experiments. The patterns we uncover persist across time periods, asset classes, and geographies—including U.S. states and the United Kingdom. The government cycle also provides a novel explanation for the post-1980s disappearance of the size premium, which we find persists only under unified governments.

A central mechanism driving these results is political gridlock. Divided governments are more prone to legislative stalemates, heightened veto activity, and intensified partisan conflict—all of which contribute to greater policy uncertainty and institutional inertia. These effects are particularly pronounced for small firms, which are more reliant on external financing and less able to navigate complex political environments. In contrast, unified governments reduce uncertainty and enable more coordinated policy action, fostering conditions that support both economic growth and market performance. Together, these findings establish the government cycle as a new stylized fact in political economy.

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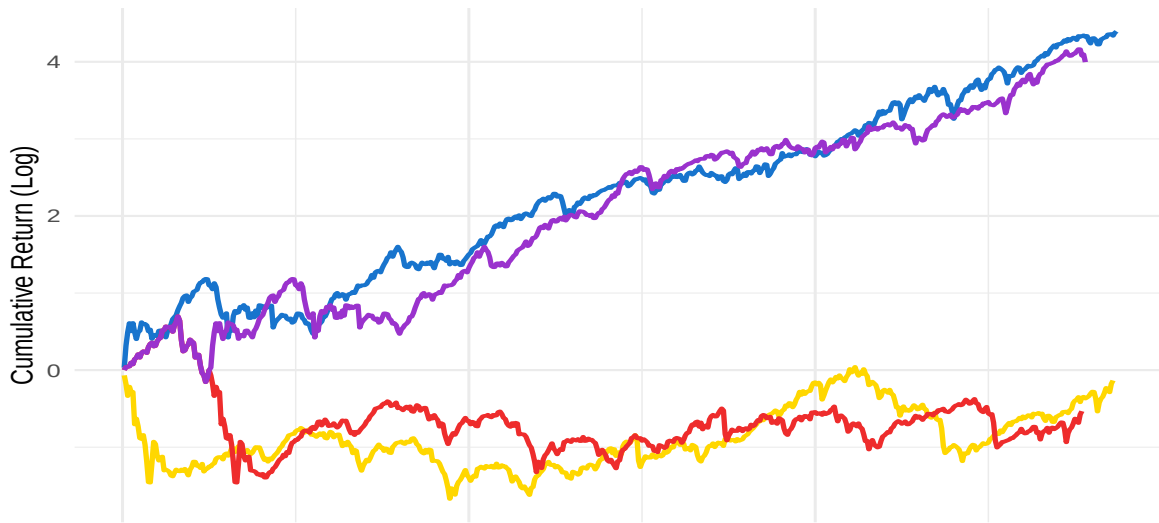
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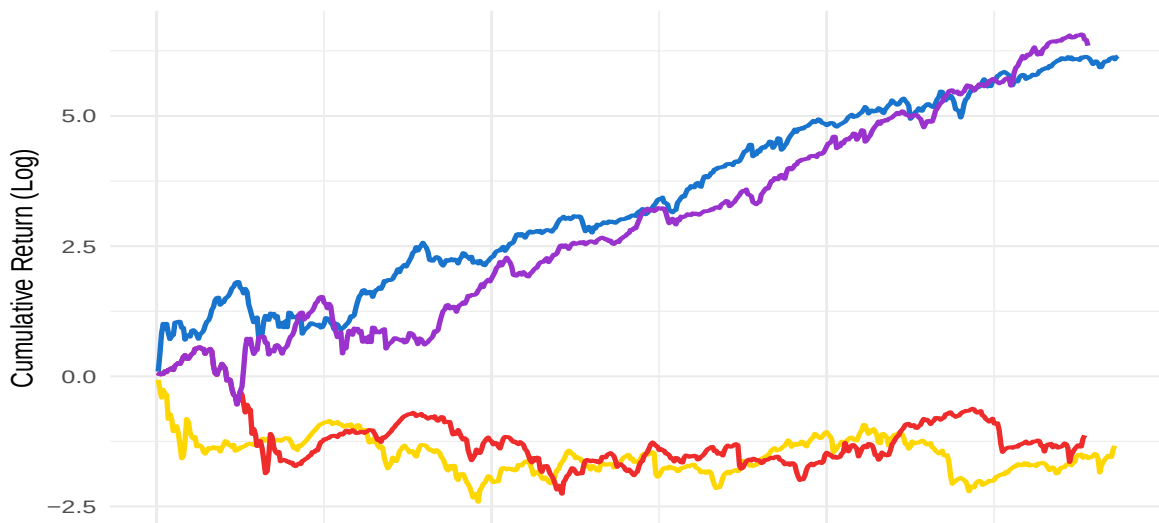
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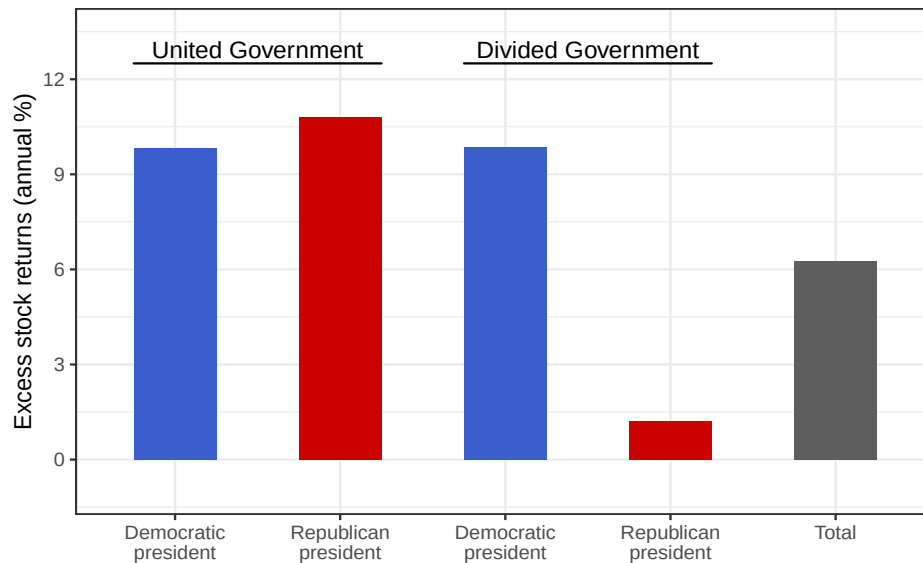
(a) Value-weighted excess returns (VWR-TBL)



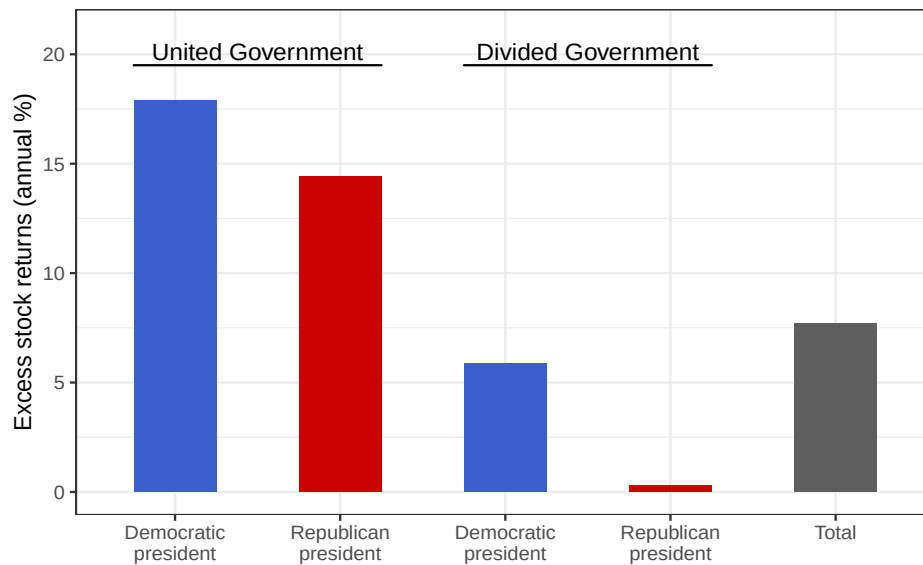
(b) Equal-weighted excess returns (EWR-TBL)

Figure 1: Cumulative Stock Market Returns Across Political Regimes (1927–2020)

Note: These figures illustrate the cumulative return performance of value-weighted average excess returns (Panel A) and equal-weighted average excess returns (Panel B) across four distinct political regimes over time. The political regimes considered are: United Governments (purple), Divided Governments (yellow), Democratic Presidents (blue), and Republican Presidents (red). The cumulative return is calculated using monthly stock return samples from 1927 to 2020. Returns are tracked separately for each political regime, pausing at the end of a regime and resuming at the start of the next.



(a) Value-weighted excess returns (VWR-TBL)



(b) Equal-weighted excess returns (EWR-TBL)

Figure 2: President-Government Two-way Sorts

Note: These figures show average excess stock returns (per annum) using two-way sorts: presidents' political party and the government status. Panel A (B) uses value-weighted (equal-weighted) excess returns VWR-TBL (EWR-TBL) during the post-war periods 1947:01 - 2020:12. The labels on X-axis are the political party of the presidents. The last column (Total) shows the average excess stock returns during the relevant periods.

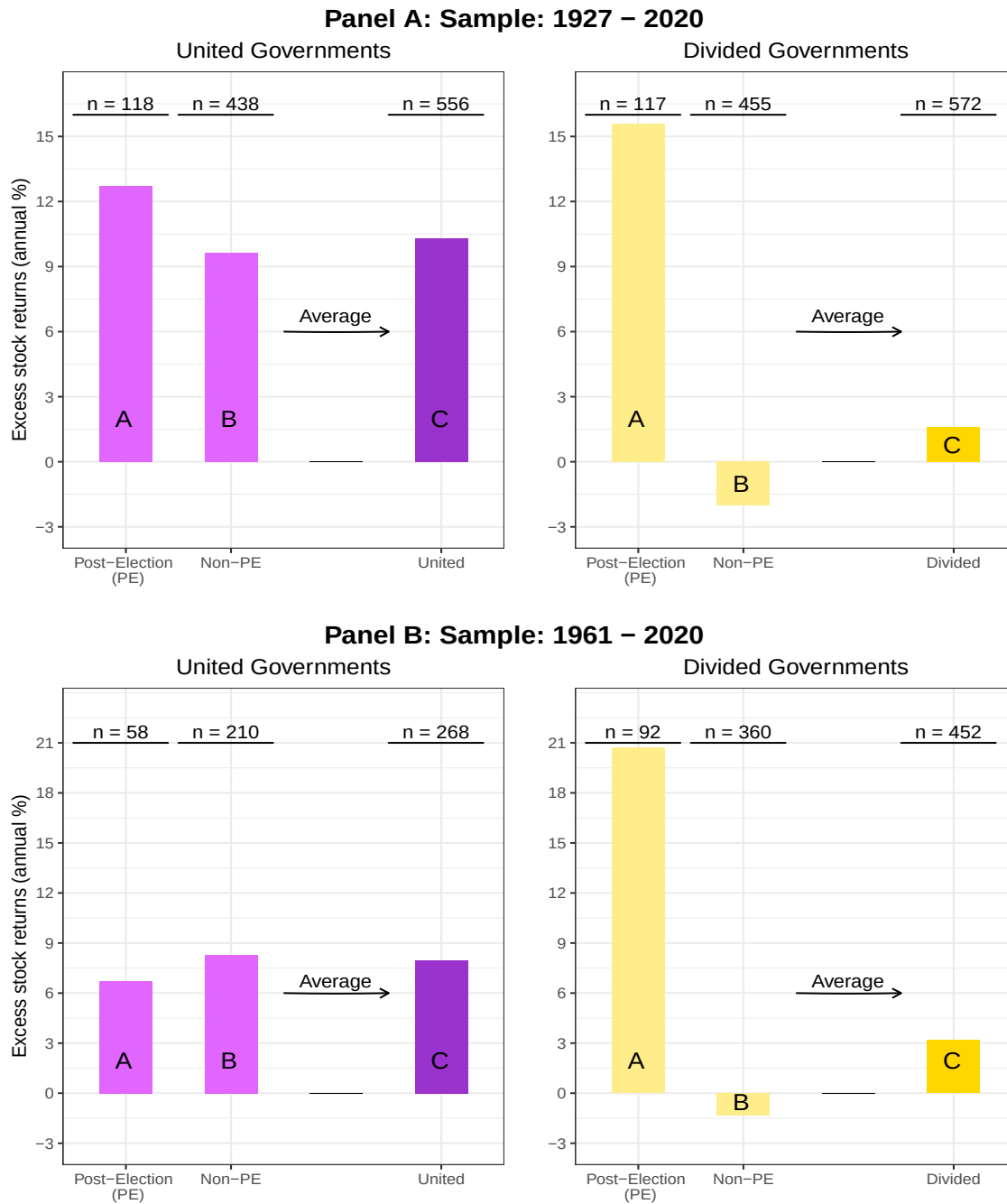


Figure 3: Government Cycle: Post-Election vs. Non Post-Election months

Note: These figures show average excess stock returns (per annum) during two groups of periods: 'Post-Election (PE)' indicates five months after midterm election and presidential election periods. Non-PE are all other months. The above panel uses the full sample (1927:01 - 2020:12), and the below panel uses the latter half sample (1961:01 - 2020:12) during when political polarization has been known to rise. n is the number of months that fall into each category.

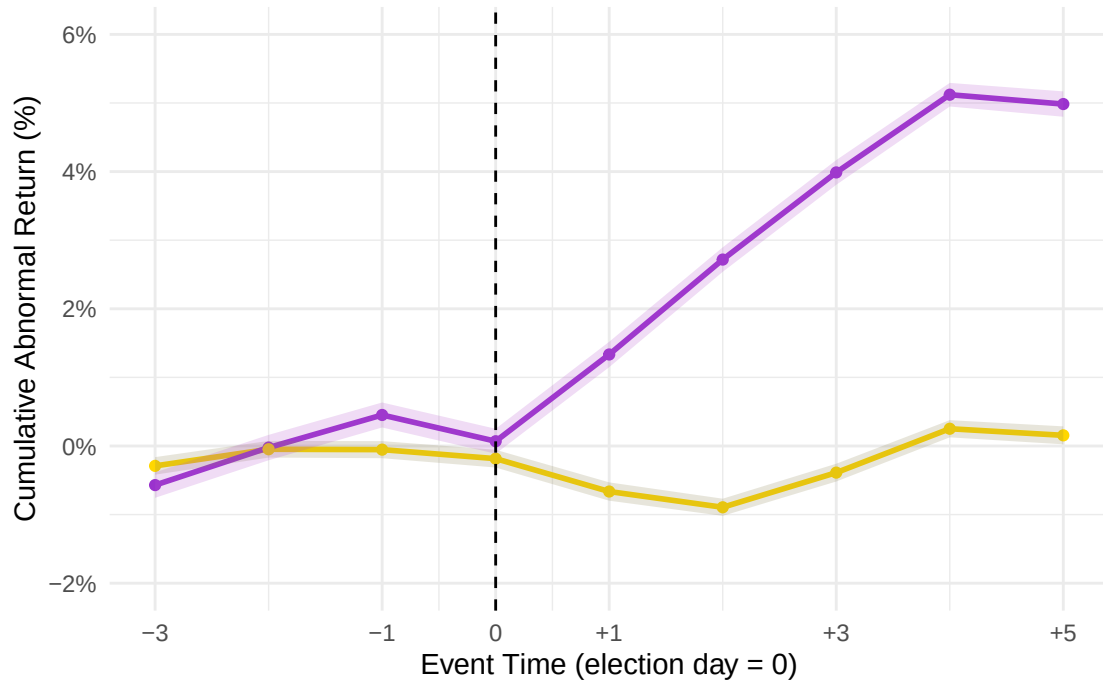


Figure 4: Event Study: Cumulative Abnormal Return around Close-Tie Elections

Note: This figure presents the cumulative abnormal return (CAR) following close-tie election results that resulted in either a barely unified (purple line) or barely divided government (yellow line). Abnormal returns are computed using the market-adjusted model, where each stock's return is adjusted for the CRSP value-weighted market return, assuming a market beta of 1. The election day for these close-tie elections (defined in Table 9 as those with a voting margin of less than 5%) is set to event time = 0. The shaded areas indicate bootstrapped 95% confidence intervals.

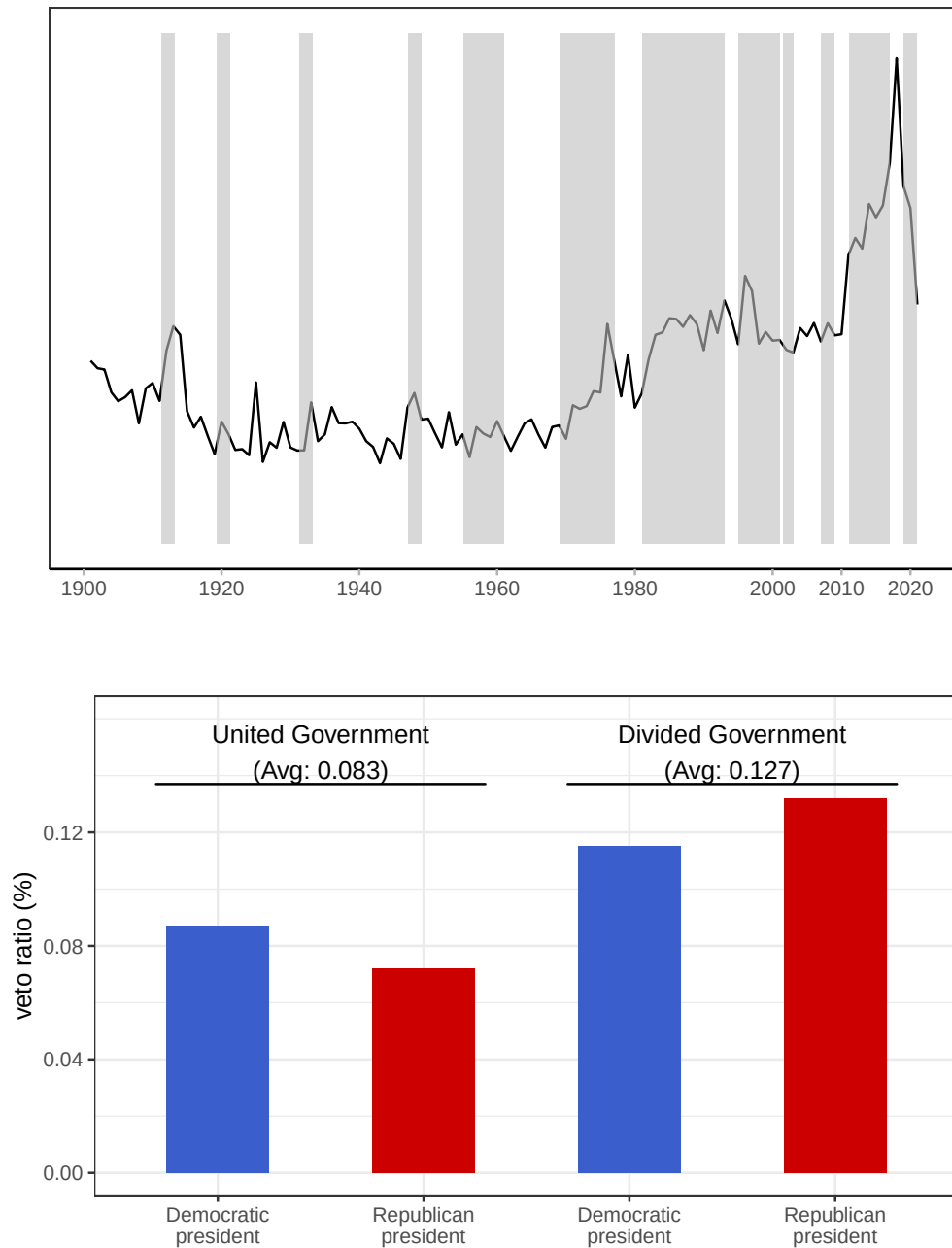


Figure 5: Political Gridlock

Note: The above figure plots Political Conflict Index (PCI, [Azzimonti 2018](#)) at a yearly frequency, where higher value indicates higher level of lawmakers' disagreement about policy captured in a semantic search method (the measure is set to have a value of 100 in 1990 by [Azzimonti 2018](#)). The shaded areas are times when the government is divided. The below figure shows veto ratio of the incumbent president using bills data from 1947 (80th) to May 2020 (114th) Congress. The labels on X-axis are the political party of the presidents. The first two bar plots correspond to United governments, and the last two correspond to Divided governments.

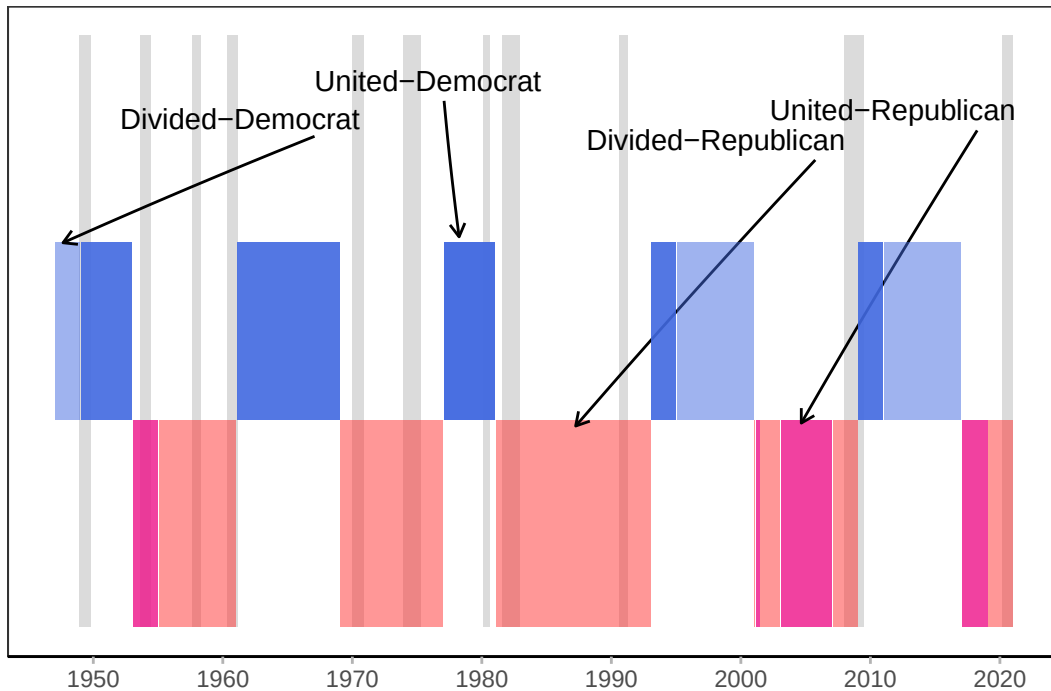


Figure 6: NBER recessions and Political Regimes

Note: This figure plots NBER recession periods and the political regimes. Grey shaded areas are NBER recession months. The red-colored areas in the bottom are times when Republican presidents rule the White House. Darker red indicates United governments and shallow red indicates Divided governments. Similarly, the blue-coloured areas in the middle are times when the sitting president is from the Democratic Party. Darker blue indicates United governments and shallow blue indicates Divided governments.

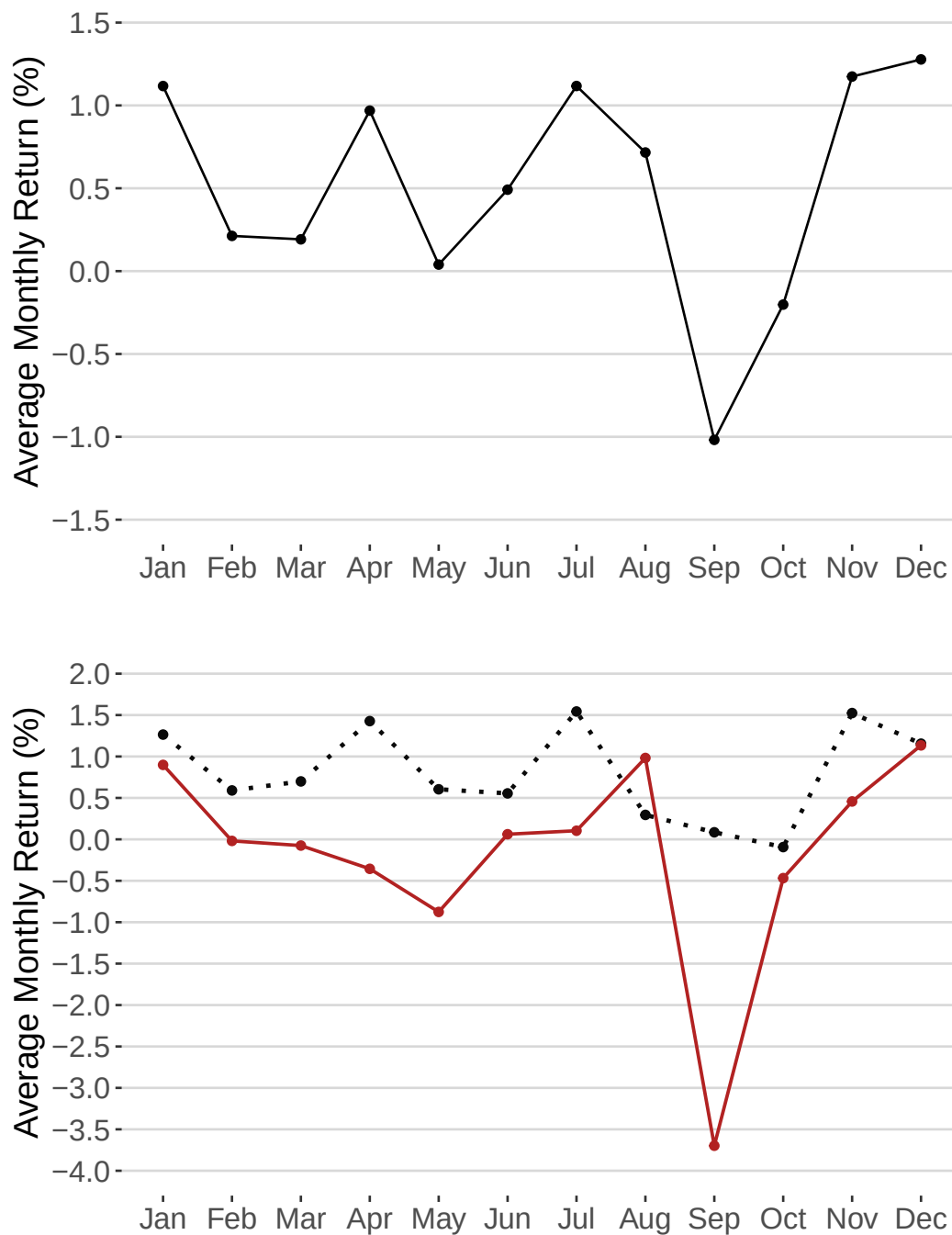


Figure 7: September Effect and Divided-Republican Regimes

Note: This figure plots value-weighted excess stock returns by each month. The upper panel shows average of 94 calendar returns by month (1927 - 2020). The lower panel shows calendar month returns specific to Divided-Republican times (solid red line) and all other regimes (United-Republican, United-Democrats, and Divided-Democrats all combined; dotted black line).

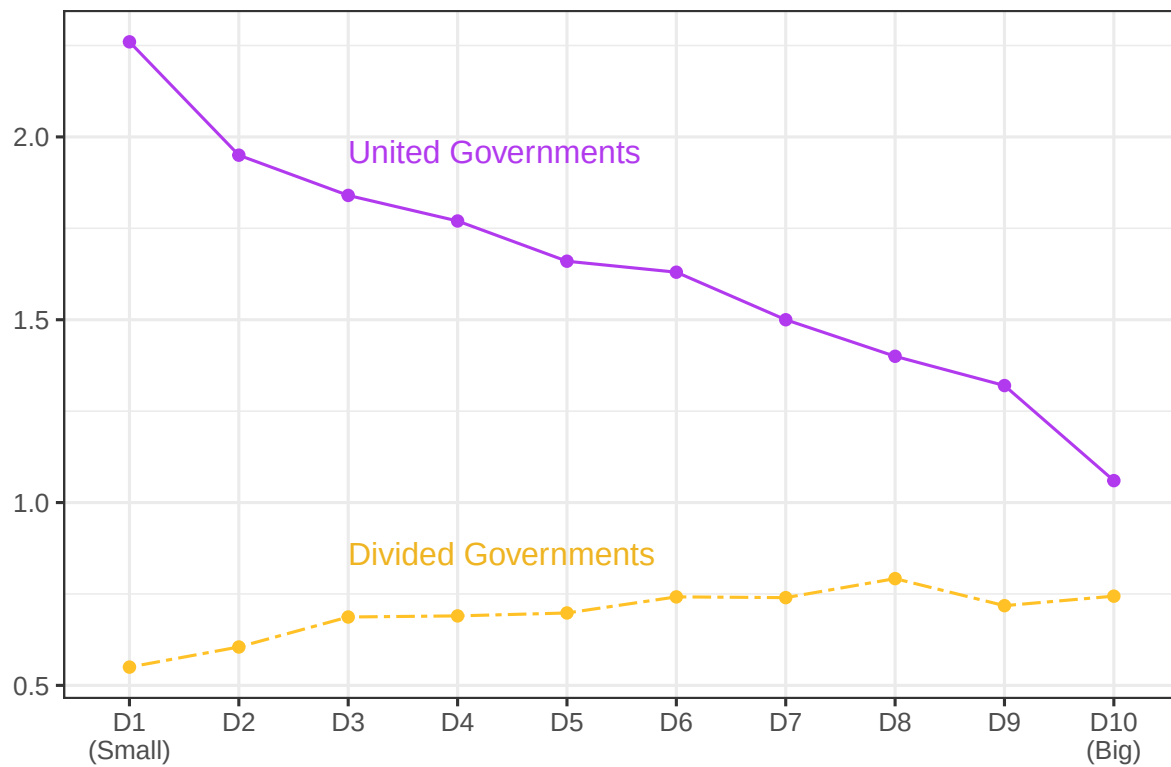


Figure 8: Decile portfolio returns formed on firm size

Note: This figure plots decile portfolio returns formed on firm size, obtained from Professor French's website. The data spans 1927 - 2020 monthly. Purple line is the average decile returns formed on firm size under the United governments, and yellow line is the average decile size returns under the Divided governments.

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Panel A: Entire sample			
	United	Divided	Difference
Mean (%)	0.86*** (3.90)	0.13 (0.58)	0.73** (2.28)
1% percentile (%)	-13.8	-16.9	3.1
25% percentile (%)	-1.65	-2.40	0.75
Median (%)	1.30	0.71	0.59
75% percentile (%)	3.68	3.42	0.26
99% percentile (%)	12.1	11.8	0.3
Std. Dev (%)	5.19	5.51	
Skewness	-0.43	-0.62	
Kurtosis	9.16	10.1	
No. of Obs.	556	572	

Panel B: Excluding 1% - 99%			
	United	Divided	Difference
Mean (%)	0.83*** (4.47)	0.25 (1.33)	0.59** (2.23)
1% Percentile (%)	-12.0	-11.8	0.2
25% Percentile (%)	-1.64	-2.3	0.66
Median (%)	1.29	0.726	0.56
75% Percentile (%)	3.60	3.40	0.20
99% Percentile (%)	10.0	9.83	0.17
Std. Dev (%)	4.35	4.38	
Skewness	-0.64	-0.51	
Kurtosis	3.90	3.47	
No. of Obs.	556	572	

Panel C: Sharpe Ratios		
	United	Divided
Annual	0.57***	0.08
Sharpe Ratios	(3.90)	(0.58)

Table 1: Distributions of Monthly Excess Returns

Note: Monthly excess log returns (log value-weighted returns less log T-bill, VWR-TBL, in monthly percentage), 1927:01 - 2020:12. Panel A uses the entire sample, while Panel B uses the same dataset with the top and bottom 1% trimmed to ensure that the united versus divided results are not driven by extreme outliers. Panel C reports annual in-sample Sharpe ratios (with test statistics in parentheses assessing whether they differ from zero). In Panels A and B, the parentheses under the top row indicate OLS t-statistics, with corresponding ***/**/* denote the statistical significance at 1%/5%/10% level.

Panel A: Full sample (1927:01 - 2020:12)

		(1)	(2)
		VWR-TBL	EWB-TBL
Governments	United	10.30	16.78
	(<i>N</i> = 556)	(3.66)	(4.07)
	Divided	1.60	-0.00
	(<i>N</i> = 572)	(0.56)	(-0.01)
	Difference	8.7**	16.78***
		(2.08)	(3.07)
Presidents	Democrat	10.72	15.70
	(<i>N</i> = 574)	(4.22)	(4.11)
	Republican	0.88	0.57
	(<i>N</i> = 554)	(0.28)	(0.15)
	Difference	9.85**	15.13***
		(2.20)	(2.59)

Panel B: Post-World War II (1947:01 - 2020:12)

		(1)	(2)
		VWR-TBL	EWB-TBL
Governments	United	10.11	16.84
	(<i>N</i> = 340)	(4.20)	(5.16)
	Divided	3.87	2.00
	(<i>N</i> = 548)	(1.54)	(0.61)
	Difference	6.23*	14.84***
		(1.76)	(3.16)
Presidents	Democrat	9.84	12.92
	(<i>N</i> = 408)	(4.61)	(4.36)
	Republican	3.21	3.23
	(<i>N</i> = 480)	(1.16)	(0.88)
	Difference	6.63*	9.69**
		(1.92)	(2.00)

Table 2: Average Stock Market Returns Under Political Regimes

Note: This table reports average returns across political regimes. Panel A uses data spanning from 1927 to 2020, while Panel B restricts the analysis to the post-war period beginning in 1947. VWR-TBL represents excess stock returns, calculated as value-weighted market returns minus the three-month Treasury bill rate; EWB-TBL is computed using equal-weighted portfolio returns. Numbers in parentheses are t-statistics, adjusted using the Newey-West procedure with 24 lags. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Dependent variable is VWR_TBL (%)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GOV	1.120** (2.47)			1.145** (2.54)		0.886** (2.06)	0.918** (2.14)
PRESID		0.898** (2.29)			0.892** (2.25)	0.543 (1.55)	0.523 (1.46)
Election^{mid}			1.280*** (3.18)	1.334*** (3.32)	1.264*** (3.08)		1.313*** (3.24)
Election^{pres}			0.333 (0.67)	0.272 (0.55)	0.367 (0.74)		0.304 (0.61)
No. of Obs.	1128	1128	1128	1128	1128	1128	1128
Constant?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$\mathbf{X}_t^{macro}$	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2 (%)	2.5	2.3	2.1	3.0	2.6	2.7	3.0

Panel B: Dependent variable is EWR_TBL (%)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GOV	2.092*** (3.37)			2.115*** (3.45)		1.730*** (3.12)	1.757*** (3.21)
PRESID		1.530*** (2.71)			1.532*** (2.69)	0.837* (1.85)	0.826* (1.80)
Election^{mid}			2.193*** (3.29)	2.292*** (3.47)	2.165*** (3.20)		2.260*** (3.40)
Election^{pres}			1.319* (1.66)	1.21 (1.58)	1.376* (1.75)		1.256 (1.63)
No. of Obs.	1128	1128	1128	1128	1128	1128	1128
Constant?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$\mathbf{X}_t^{macro}$	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2 (%)	4.4	3.6	3.6	5.4	4.6	4.6	5.6

Table 3: Regressions on Political Dummies and Macroeconomic Variables

Note: This table presents regressions of monthly excess value-weighted stock returns (Panel A) and excess equal-weighted stock returns (Panel B) on political variable dummies and macroeconomic variables. The data spans from 1927 to 2020. Macroeconomic variables include log of dividend-price ratio (dp), default yield (dfy), term spread (ts), long-term yield (lty), relative interest rate (rrel), aggregate book-to-market ratio (bm), equity issuing and repurchasing relative to the price level (ntis), inflation (infl), and stock market variance (svar). They are scaled before we conduct the regression, and results are suppressed for brevity. Numbers in parenthesis are t-statistics, adjusted using 24 lags Newey-West standard errors. ***/**/* denote the statistical significance at 1%/5%/10% level.

Presidents Governments			Average growth
	Democratic presidents	Republican presidents	
United	5.40% (4.01) (40 years)	3.31% (2.39) (29 years)	4.51% (4.76) (69 years)
Divided	2.28% (2.91) (16 years)	1.94% (2.70) (36 years)	2.05% (3.15) (52 years)
Average growth	4.51% (4.53) (56 years)	2.56% (3.32) (65 years)	121 years

Table 4: Average Economic Growth, 1900 to 2020

Note: This table records average real GDP growth in percentage term. The sample period is between 1900 and 2020. Numbers in parentheses are t-statistics, adjusted using Newey-West procedure with 24 lags. Number of years in each category is also presented. They are calculated to the nearest integer, so sum up may not be exact.

Panel A: Full sample (1927:01 - 2020:12), Excluding Post-Election Months

		(1)	(2)
		VWR-TBL	EWL-TBL
Governments	United	9.64	14.90
	(<i>N</i> = 438)	(3.32)	(3.68)
	Divided	-2.00	-5.30
	(<i>N</i> = 455)	(-0.60)	(-1.28)
	Difference	11.64***	20.20***
		(2.73)	(3.82)
Presidents	Democrat	9.17	13.2
	(<i>N</i> = 456)	(3.42)	(3.38)
	Republican	-1.98	-4.36
	(<i>N</i> = 437)	(-0.54)	(-0.94)
	Difference	11.15**	17.56***
		(2.38)	(2.99)

Panel B: Post-World War II (1947:01–2020:12), Excluding Post-Election Months

		(1)	(2)
		VWR-TBL	EWL-TBL
Governments	United	10.63	15.81
	(<i>N</i> = 267)	(4.15)	(4.49)
	Divided	-0.10	-4.11
	(<i>N</i> = 436)	(-0.04)	(-1.15)
	Difference	10.74**	19.92***
		(2.40)	(3.94)
Presidents	Democrat	8.46	10.45
	(<i>N</i> = 323)	(3.49)	(3.16)
	Republican	0.16	-2.50
	(<i>N</i> = 380)	(0.05)	(-0.62)
	Difference	8.29**	12.95***
		(2.25)	(2.65)

Table 5: Average Stock Market Returns Under Political Regimes, Post-Election Months Removed

Note: This table reports average returns across political regimes. Unlike Table 2, we exclude post-election months defined by Chan and Marsh (2021) as these periods may distort comparisons of long-term performance between united and divided governments. Panel A uses data spanning from 1927 to 2020, while Panel B restricts the analysis to the post-war period beginning in 1947. VWR-TBL represents excess stock returns, calculated as value-weighted market returns minus the three-month Treasury bill rate; EWL-TBL is computed using equal-weighted portfolio returns. Numbers in parentheses are t-statistics, adjusted using the Newey–West procedure with 24 lags. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: 149 years of data (1871:03 - 2020:12)

Governments	United ($N = 761$)	Divided ($N = 664$)	Difference
	4.87%	-2.35%	7.21%**
	(2.48)	(-0.89)	(2.18)
Presidents	Democrats ($N = 608$)	Republicans ($N = 817$)	Difference
	5.62%	-1.56%	7.18%**
	(2.90)	(-0.64)	(2.11)

Panel B: First half (1871:03 - 1946:01)

Governments	United ($N = 484$)	Divided ($N = 228$)	Difference
	2.21%	-6.64%	8.85%*
	(0.83)	(-1.31)	(1.70)
Presidents	Democrats ($N = 275$)	Republicans ($N = 437$)	Difference
	3.25%	-3.05%	6.30%
	(0.91)	(-0.83)	(1.15)

Panel C: Second half (1946:02 - 2020:12)

Governments	United ($N = 277$)	Divided ($N = 436$)	Difference
	9.47%	-0.10%	9.57%**
	(4.30)	(-0.03)	(2.13)
Presidents	Democrats ($N = 333$)	Republicans ($N = 380$)	Difference
	7.55%	0.16%	7.39%*
	(3.99)	(0.06)	(1.78)

Table 6: 149 Years of Political Cycles

Note: This table presents average returns (% per annum) across different political regimes. We obtain pre-CRSP stock return data (1871:03 - 1925:12) from the Yale website and match it with the CRSP sample. Panel A displays the full 149 years of data, categorized by government type and presidential cycle. Panels B and C report the results for the first and second halves of the period, respectively. To analyze average stock return performance during specific stages of government or presidential regimes, we exclude post-election months defined by [Chan and Marsh \(2021\)](#) as these periods may distort comparisons of long-term performance between united and divided governments. Numbers in parenthesis are t-statistics, adjusted using Newey-West procedure with 24 lags. ***/**/* denote the statistical significance at 1%/5%/10% level.

Countries	Sample	United Government	Divided Government	Difference
United Kingdom	1922 - 2022	5.04	-9.06	14.10**
		(2.47)	(-1.08)	(2.11)

Table 7: Government Cycle exists in the United Kingdom

Note: This table reports average returns across government cycles in the United Kingdom, using monthly data from 1922 to 2022. Excess stock returns—calculated as value-weighted returns minus the three-month Treasury bill rate—are obtained from the Global Financial Database. Numbers in parentheses are t-statistics, adjusted using the Newey–West procedure with 6 lags. Although results using 24 lags also show statistical significance at the 10% level (unreported), we rely on the standard 6 lag specification since changes in government status in the UK occur at irregular intervals, unlike the fixed 24-month election cycle in the United States.

***/**/* denote the statistical significance at 1%/5%/10% level.

	(1)	(2)	(3)	(4)	(5)
	Full-sample	Sub-sample (No NY firms)	Sub-sample (No TX firms)	Sub-sample (No CA firms)	Sub-sample (No S&P 500 firms)
State-GOV_{s,t}	0.118*** (3.78)	0.122*** (3.75)	0.101*** (3.07)	0.062* (1.90)	0.120*** (3.49)
State-PRESID_{s,t}	0.060* (1.88)	0.044 (1.30)	0.067** (2.08)	-0.028 (-0.86)	0.067* (1.93)
State-EPU_{s,t}	-0.047* (-1.68)	-0.049* (-1.72)	-0.023 (-0.82)	-0.013 (-0.45)	-0.044 (-1.48)
No. of firm-month obs.	1,621,260	1,417,926	1,451,481	1,387,559	1,474,330
Adj. R squared (%)	8.7	8.7	8.9	8.5	8.5
Time FE	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes

Table 8: State Level Government Cycle of Stock Returns

Note: This table reports the monthly panel regression of the excess one-month-ahead firm stock returns that are headquartered in each U.S. state on state level government dummy (1 when the state level government is united; 0 divided), state level presidential dummy (1 when the state governor is from the Democratic party; 0 Republican party), and the state-EPU ([Elkamhi et al. Forthcoming](#)). The data spans from 1992 to 2020. Sub-sample results in columns (2) - (4) address the concern about some states having more firms than others. Sub-sample result in column (5) exclude firms when they are listed as part of S&P 500 index. They are moved back to this analysis once they disband from the index. The t-statistics are based on standard errors clustered at the firm-level. ***/**/* denote the statistical significance at 1%/5%/10% level.

Election Date	The White House	Senate	House of Rep.	Election Results (Subsequent government)
Nov 1930	N/A	R: 48 - D: 47 (1.04%)	R: 218 - D: 216 (0.46%)	Divided (1931-1932)
Nov 1942	N/A	-	R: 209 - D: 222 (2.99%)	United (1943-1944)
Nov 1950	N/A	R: 47 - D: 49 (2.08%)	-	United (1951-1952)
Nov 1952	-	R: 49 - D: 47 (2.08%)	R: 221 - D: 213 (1.84%)	United (1953-1954)
Nov 1954	N/A	R: 47 - D: 48 (1.04%)	-	Divided (1955-1956)
Nov 1956	-	R: 47 - D: 49 (2.04%)	-	Divided (1957-1958)
Nov 1994	N/A	R: 52 - D: 48 (4%)		Divided (1995-1996)
Nov 1996	N/A	-	R: 226 - D: 207 (4.37%)	Divided (1997-1998)
Nov 1998	N/A	-	R: 223 - D: 211 (2.76%)	Divided (1999-2000)
Nov 2000	R: 271 - D: 266 (0.93%)	R: 50 - D: 50 (0%)	R: 221 - D: 212 (2.07%)	Divided* (2001-2002)
Nov 2002	N/A	R: 51 - D: 48 (3%)	-	United (2003-2004)
Nov 2006	N/A	R: 49 - D: 49 (0%)	-	Divided (2007-2008)
Nov 2010	N/A	R: 47 - D: 51 (4%)	-	Divided (2007-2008)
Nov 2016	-	R: 52 - D: 48 (4%)	-	United (2017-2018)

Table 9: Close-tie Elections in the U.S., 1927 - 2020

Note: This table records the history of close-tie U.S. elections. The percentages in each of the column 2, 3, and 4 represent the following: (Column 2): percentage difference between electoral votes to Republican vs. Democratic; (Column 3): percentage difference of Senate seats; and (Column 4): percentage difference of the House of Representatives seats. N/A in the second column indicates that the presidential election was not held on that date. The control of Senate as a result of presidential election in 2000 changed hands several times. The inauguration of George W. Bush met government trifecta, blurring the interpretation. so we treat them as unified.

Panel A. Close-tie election is defined as vote margins less than 3% (9 elections)

Governments	Barely Unified	Barely Divided	Gap
VWR-TBL (per annum %)	14.10 (2.84)	-8.05 (-0.93)	22.15** (2.32)
EWR-TBL (per annum %)	22.26 (2.92)	-5.61 (-0.54)	27.87** (2.29)

Panel B. Close-tie election is defined as vote margins less than 5% (14 elections)

Governments	Barely Unified	Barely Divided	Gap
VWR-TBL (per annum %)	13.12 (3.45)	-0.78 (-0.13)	13.91** (2.04)
EWR-TBL (per annum %)	20.26 (3.38)	-1.65 (-0.24)	21.91** (2.55)

Table 10: Close-tie Election Results

Note: This table records the close-tie U.S. elections and stock market outcomes, following the close-election definition in Table 9. Both value-weighted excess returns (VWR-TBL) and equally-weighted excess returns (EWR-TBL) for the government regimes as a result of close elections. ***/**/* denote the statistical significance at 1%/5%/10% level.

Panel A: Dependent variable is log EPU index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
United	-0.036*		-0.079***	-0.036*		-0.084***	-0.055**
Government	(-1.65)		(-4.01)	(-1.70)		(-4.20)	(-2.36)
Democratic		0.145***	0.166***		0.158***	0.181***	-0.003
President		(6.88)	(8.50)		(7.33)	(8.97)	(-0.15)
NBER				0.024	0.065***	0.072***	
				(0.97)	(2.61)	(2.88)	
CFNAI							-0.049**
							(-2.51)
Observations	1451	1451	1451	1451	1451	1451	645
Constant?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2 (%)	2.0	3.2	4.1	3.0	3.6	4.6	4.0

Panel B: Dependent variable is stock market volatility (%)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
United	-0.393**		-0.309*	-0.276		-0.456***	-0.838***
Government	(-2.18)		(-1.71)	(-1.64)		(-2.64)	(-5.01)
Democratic		-0.330*	-0.201		0.246	0.444***	-0.171
President		(-1.83)	(-1.11)		(1.57)	(2.79)	(-0.99)
NBER				2.721***	2.822***	2.855***	
				(8.36)	(8.70)	(8.84)	
CFNAI							-0.404
							(-1.25)
Observations	1140	1140	1140	1140	1140	1140	645
Constant?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2 (%)	0.4	0.3	0.5	12.7	12.6	13.1	6.6

Table 11: Regressions of EPU Index and Monthly Stock Market Volatility on Political Dummies

Note: This table presents regressions of monthly EPU index and stock market volatility on political variable dummies. In both panels, independent variables are political dummies (united government dummy and democratic president dummy) and NBER recession dummy. We also include CFNAI in place of NBER dummy. Dependent variable in Panel A (Panel B) is log of EPU index (monthly stock market volatility of [French et al. \(1987\)](#)) Except for regression (7) where CFNAI has limited coverage, all other regressions in Panel A span 1900:01 - 2020:12 and Panel B 1927:01 - 2020:12. Numbers in parenthesis are t-statistics, adjusted using robust standard errors. ***/**/* denote the statistical significance at 1%/5%/10% level.

		(1)	(2)	(3)
		B30.TBL	B20.TBL	B10.TBL
Governments	United	-2.71	-2.05	-1.52
		(-1.87)	(-1.60)	(-1.69)
	Divided	3.88	3.75	2.73
		(2.21)	(2.60)	(2.51)
	Difference	-6.60***	-5.76***	-4.20***
		(-2.76)	(-3.04)	(-3.10)
Presidents	Democrat	-0.77	-0.21	-0.19
		(-0.48)	(-0.15)	(-0.19)
	Republican	3.16	3.01	2.20
		(1.95)	(2.22)	(2.11)
	Difference	-3.96	-3.24	-2.40
		(-1.62)	(-1.53)	(-1.54)

Table 12: Average Treasury Premium under Political Regimes

Note: This table reports the average annual Treasury term premium across different political regimes. B30.TBL represents the return on 30-year U.S. Treasuries minus the return on the three-month Treasury bill; B20.TBL and B10.TBL are defined analogously using 20-year and 10-year Treasuries, respectively. Due to data availability, the Treasury data span the period from 1947 to 2020. Numbers in parentheses are Newey-West adjusted t-statistics, using 24 lags. ***/**/* denote the statistical significance at 1%/5%/10% level.

Panel A: Fama-Macbeth regression

	Full sample (1927:01 - 2020:12)			Post-1980s (1983:01 - 2020:12)		
	(1)	(2)	(3)	(4)	(5)	(6)
	All samples	United only	Divided only	All samples	United only	Divided only
log (ME)	-0.13*** (-3.70)	-0.23*** (-4.42)	-0.03 (-0.71)	-0.09* (-1.91)	-0.20*** (-2.84)	-0.05 (-0.81)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
B/M included?	Yes	Yes	Yes	Yes	Yes	Yes
No. of Obs.	2,474,568	876,294	1,598,274	1,604,919	408,711	1,196,208

Panel B: SMB subsample

Sample period	Regime	Mean (monthly %)	SD (%)	n
Golden age (1957:07 - 1979:12)	Entire period	0.35	2.88	270
	United Government only	0.91	2.61	132
	Divided Government only	-0.19	3.04	138
Embarrassment (1980:01 - 1999:12)	Entire period	-0.06	2.69	240
	United Government only	0.31	2.26	36
	Divided Government only	-0.12	2.76	204
	Democratic Presidents only	-0.13	3.07	96
	Republican Presidents only	-0.00	2.42	144
Resurrection (2000:01 - 2020:12)	Entire period	0.25	3.25	252
	United Government only	0.41	2.43	100
	Divided Government only	0.15	3.69	152
	Democratic Presidents only	0.15	3.88	108
	Republican Presidents only	0.33	2.70	144

Panel C: SMB interaction with QMJ (1957:01 - 2020:12)

$SMB_t = \alpha + \beta RMRF_t + \beta_{-1} RMRF_{t-1} + h \times HML_t + m \times MOM_t + q \times QMJ_t + \varepsilon_t$				
Regime	α	$t(\alpha)$	R-squared	QMJ included?
United Government	0.38***	2.63	0.19	No
	0.45***	3.30	0.28	Yes

Table 13: Size Matters Under United Governments

Note: This table records the size effect conditional on the government cycle. Panel A performs month-by-month Fama-MacBeth regressions of stock returns on size and book-to-market equity (B/M). Panel B provides descriptive statistics in subsamples. In the golden age, united (divided) governments perfectly coincide with Democratic (Republican) presidents. Panel C presents the SMB (Fama-French size factor) performance across the regimes. QMJ is the Quality-Minus-Junk factor in [Asness et al. \(2018\)](#). In both panels, the parentheses indicate t-statistics, with corresponding ***/**/* denoting the statistical significance at 1%/5%/10% level.

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Divided Government and the Stock Market

Online Appendix

Introduction

This online appendix accompanies [Papamichalis et al. \(2025\)](#) and is organized as follows: Section [A](#) details the political affiliations of U.S. presidents, along with the Senate and House majorities, from 1871 to 2020. Section [B](#) presents additional stock market results, demonstrating the robustness of the established government cycle. Section [C](#) provides a more detailed analysis of the small firm issue. Section [D](#) offers further explanation of the September effect, and Section [E](#) addresses media mentions on this topic.

A The U.S. Political Regimes

Table [A.1](#) reports the political affiliation of the incumbent president, along with the majority party in both the Senate and the House of Representatives, for each congressional term from 1871 to 2020.

Table A.1: Political Regimes

Year (Congress)	The White House		Congress		Government
	President	Party	Senate	House	
1871-72 (42nd)	Grant	R	R	R	United
1873-74 (43rd)	Grant	R	R	R	United
1875-76 (44th)	Grant	R	R	D	Divided
1877-78 (45th)	Hayes	R	R	D	Divided
1879-80 (46th)	Hayes	R	D	D	Divided
1881-82 (47th)	Garfield/Arthur*	R	D*	R	Divided
Continued on next page					

Table A.1 – continued from previous page

Year	The White house		Congress		Government
	President	Party	Senate	House	
1883-84 (48th)	Arthur	R	R	D	Divided
1885-86 (49th)	Cleveland	D	R	D	Divided
1887-88 (50th)	Cleveland	D	R	D	Divided
1889-90 (51st)	Harrison	R	R	R	United
1891-92 (52nd)	Harrison	R	R	D	Divided
1893-94 (53rd)	Cleveland	D	D	D	United
1895-96 (54th)	Cleveland	D	R	R	Divided
1897-98 (55th)	McKinley	R	R	R	United
1899-00 (56th)	McKinley	R	R	R	United
1901-02 (57th)	McKinley / T. Roosevelt	R	R	R	United
1903-04 (58th)	T. Roosevelt	R	R	R	United
1905-06 (59th)	T. Roosevelt	R	R	R	United
1907-08 (60th)	T. Roosevelt	R	R	R	United
1909-10 (61st)	Taft	R	R	R	United
1911-12 (62nd)	Taft	R	R	D	Divided
1913-14 (63rd)	Wilson	D	D	D	United
1915-16 (64th)	Wilson	D	D	D	United
1917-18 (65th)	Wilson	D	D	D	United
1919-20 (66th)	Wilson	D	R	R	Divided
1921-22 (67th)	Harding	R	R	R	United
1923-24 (68th)	Harding / Coolidge	R	R	R	United
1925-26 (69th)	Coolidge	R	R	R	United
1927-28 (70th)	Coolidge	R	R	R	United
1929-30 (71st)	Hoover	R	R	R	United
1931-32 (72nd)	Hoover	R	R	D	Divided

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Table A.1 – continued from previous page

Year	The White house		Congress		Government
	President	Party	Senate	House	
1933-34 (73rd)	Roosevelt	D	D	D	United
1935-36 (74th)	Roosevelt	D	D	D	United
1937-38 (75th)	Roosevelt	D	D	D	United
1939-40 (76th)	Roosevelt	D	D	D	United
1941-42 (77th)	Roosevelt	D	D	D	United
1943-44 (78th)	Roosevelt	D	D	D	United
1945-46 (79th)	Roosevelt / Truman	D	D	D	United
1947-48 (80th)	Truman	D	R	R	Divided
1949-50 (81st)	Truman	D	D	D	United
1951-52 (82nd)	Truman	D	D	D	United
1953-54 (83rd)	Eisenhower	R	R	R	United
1955-56 (84th)	Eisenhower	R	D	D	Divided
1957-58 (85th)	Eisenhower	R	D	D	Divided
1959-60 (86th)	Eisenhower	R	D	D	Divided
1961-62 (87th)	Kennedy	D	D	D	United
1963-64 (88th)	Kennedy / Johnson	D	D	D	United
1965-66 (89th)	Johnson	D	D	D	United
1967-68 (90th)	Johnson	D	D	D	United
1969-70 (91st)	Nixon	R	D	D	Divided
1971-72 (92nd)	Nixon	R	D	D	Divided
1973-74 (93rd)	Nixon / Ford	R	D	D	Divided
1975-76 (94th)	Ford	R	D	D	Divided
1977-78 (95th)	Carter	D	D	D	United
1979-80 (96th)	Carter	D	D	D	United
1981-82 (97th)	Reagan	R	R	D	Divided

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Table A.1 – continued from previous page

Year	The White house		Congress		Government
	President	Party	Senate	House	
1983-84 (98th)	Reagan	R	R	D	Divided
1985-86 (99th)	Reagan	R	R	D	Divided
1987-88 (100th)	Reagan	R	R	D	Divided
1989-90 (101st)	Bush	R	D	D	Divided
1991-92 (102nd)	Bush	R	D	D	Divided
1993-94 (103rd)	Clinton	D	D	D	United
1995-96 (104th)	Clinton	D	R	R	Divided
1997-98 (105th)	Clinton	D	R	R	Divided
1999-00 (106th)	Clinton	D	R	R	Divided
2001-02 (107th)	W. Bush*	R	D	R	Divided
2003-04 (108th)	W. Bush	R	R	R	United
2005-06 (109th)	W. Bush	R	R	R	United
2007-08 (110th)	W. Bush	R	D	D	Divided
2009-10 (111st)	Obama	D	D	D	United
2011-12 (112nd)	Obama	D	D	R	Divided
2013-14 (113rd)	Obama	D	D	R	Divided
2015-16 (114th)	Obama	D	R	R	Divided
2017-18 (115th)	Trump	R	R	R	United
2019-20 (116th)	Trump	R	R	D	Divided

Note: This table records the political affiliation of United States Presidents and the majority party of the Senate and the House of Representatives from 1871 to 2020. R indicates Republican party, and D indicates Democratic party. The definition of government status, whether it is united or divided, follows United States House of Representatives Archives. The asterisk in Bush's term (2001 - 2002) is an exception as the early four months (2001:02 - 2001:05) saw united regime. Until 72nd Congress, the term lasted from March 4 of the starting year to March 4 two years later. For instance, 70th Congress met from March 4, 1927 to March 4, 1929. 73rd Congress met from March 4, 1933 to January 3, 1935. 74th Congress met from January 3, 1935 to January 3, 1937. From 74th Congress, the meeting was held from January 3 of the starting year to January 3 two years later. For ease of exposition, the first column contains two years where Congress was held mostly throughout those periods.

B Additional stock market results

This section records additional stock market results.

Figure A.1 demonstrates that political party dominance in either the Senate or the House alone does not lead to higher stock market returns. This supports our view that it is the government trifecta that matters for the stock market.

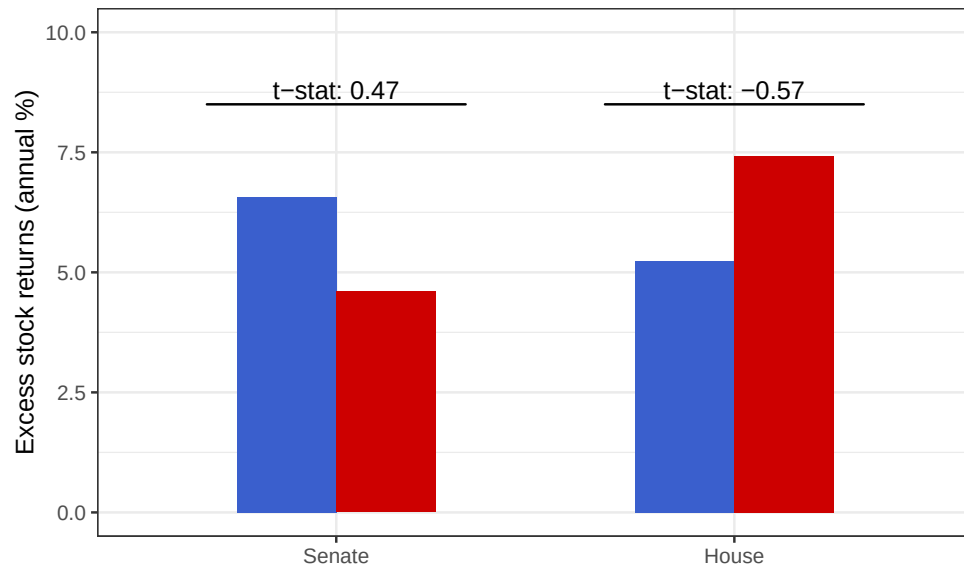


Figure A.1: This graph presents the average annualized excess value-weighted returns for each partisan majority in the Senate (on the left) and in the House of Representatives (on the right). The sample period is 1927 to 2020. In both, the left blue bar indicates the excess stock returns when the Democratic party ruled the Senate (the House), and the right red bar when the Republican party ruled the Senate (the House). The t-statistics of return difference between Democrat- and Republican-majority in each of the Senate and the House is indicated above.

In Table A.2, we present results for VWRETX, where dividends are not reinvested. If the cash flow channel were the primary driver of the government cycle, we would expect

the government gap to narrow significantly. However, we still observe a strong gap in excess VWRETX returns, suggesting that the discount rate channel may play a key role in explaining the government cycle of stock returns.

Panel A: Full sample (1927:01 - 2020:12), Excluding Post-Election Months			
Excess VWRETD	United ($N = 438$)	Divided ($N = 455$)	Difference
	9.64%	-2.00%	11.64%***
	(3.32)	(-0.60)	(2.73)
Excess VWRETX	United ($N = 438$)	Divided ($N = 455$)	Difference
	5.48%	-5.33%	10.80%**
	(1.87)	(-1.58)	(2.46)

Panel B: Post-World War II (1947:01 - 2020:12), Excluding Post-Election Months			
Excess VWRETD	United ($N = 267$)	Divided ($N = 436$)	Difference
	10.63%	-0.10%	10.74%**
	(4.15)	(-0.04)	(2.40)
Excess VWRETX	United ($N = 267$)	Divided ($N = 436$)	Difference
	6.92%	-3.29%	10.20%**
	(2.71)	(-1.11)	(2.33)

Table A.2: Government Cycle without Cash Flows

Note: This table presents average returns (% per annum) across government cycles. We report both excess value-weighted return (Excess VWRETD), which includes reinvested dividends, and excess value-weighted return (Excess VWRETX), which excludes dividends to isolate the impact of discount rate variations across government cycle. The Excess VWRETD results are identical to those in Table ?? and are included here as a benchmark. To focus on the long-term effects of government structure rather than temporary resolution of uncertainty, we exclude post-election months following midterm and presidential elections, as these periods typically exhibit higher returns due to a short-term decline in uncertainty rather than reflecting the persistent effects of government status (Chan and Marsh 2021). Numbers in parenthesis are t-statistics, adjusted using Newey-West procedure with 24 lags. ***/**/* denote the statistical significance at 1%/5%/10% level.

C SMB and United Governments

Sample period: 1957:01 - 2020:12

$$SMB_t = \alpha + \beta RMRF_t + \beta_{-1} RMRF_{t-1} + h \times HML_t + m \times MOM_t + q \times QMJ_t + \varepsilon_t$$

Regime	α	$t(\alpha)$	R-squared	QMJ included?
Full sample	0.12	1.17	0.10	No
	0.43	4.37	0.27	Yes
United Government	0.38	2.63	0.19	No
	0.45	3.30	0.28	Yes
Divided Government	0.01	0.05	0.11	No
	0.44	3.32	0.28	Yes
Democratic presidents	0.15	0.88	0.17	No
	0.46	2.97	0.34	Yes
Republican presidents	0.11	0.88	0.16	No
	0.35	2.86	0.25	Yes

Table A.3: Additional results on SMB interaction with QMJ

Note: All political regimes (United / Divided governments; Democratic / Republican presidents) as well as full-sample analysis are recorded. Coefficients and corresponding t-statistics for other variables are suppressed for brevity.

Table A.3 extends the factor redundancy tests conducted in the main body of the paper (Panel C in Table 13). While full sample analysis shows that SMB alpha is weak at 12 bps per month (t-statistics: 1.17), controlling for QMJ factor resurrects SMB to 43 bps (t-statistics: 4.37), consistent with Asness et al. (2019). When we divide the sample into political regimes, the similar implications are derived. However, as documented in the main body of the paper, size premium is already strong at 38 bps (t-statistics: 2.63) when the status of government is unified. When we consider all the elements, we can confirm

that the outstanding performance of SMB, subject to the political cycle, is exclusive to the United States government.

Figure A.2 extends the results of Figure 8 by focusing on the post-1980s period (1983–2020), during which the size effect is known to have largely disappeared in the U.S. market. Consistent with the political gridlock hypothesis, a conditional size effect persists under United governments, whereas Divided governments fail to exhibit the expected negative relationship between firm size and portfolio returns. The lower panel replicates this analysis conditioned on the presidential cycle, serving as a placebo test. As shown, neither Democratic nor Republican presidential regimes produce a significant size effect. These findings highlight the unique role of government status—rather than presidential affiliation—in shaping stock market behavior through the lens of the size premium, a phenomenon of ongoing interest to both investors and academics.

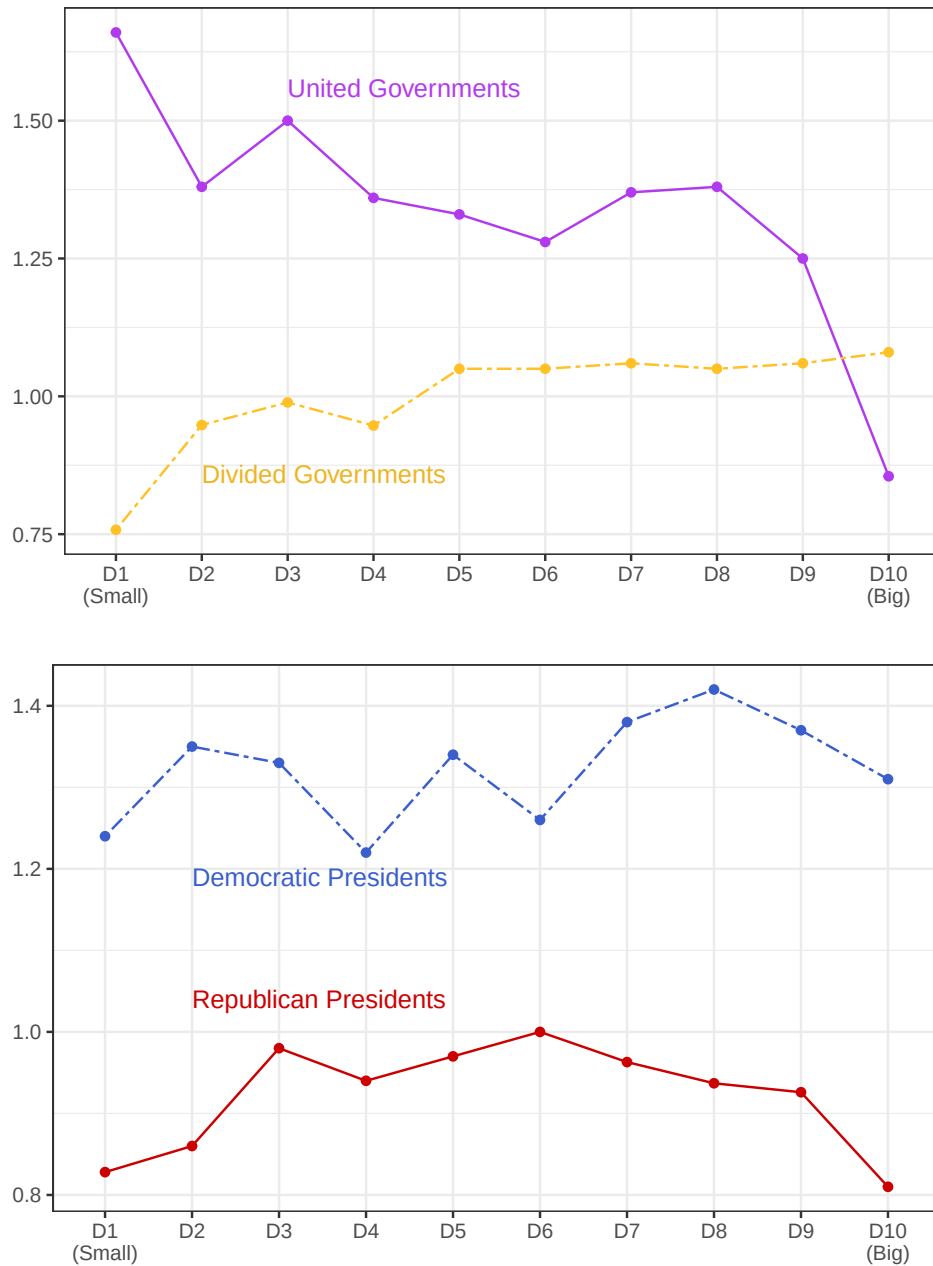


Figure A.2: This figure extends the Figure 8 results by focusing on the post-1980s sample (1983 - 2020) where size effect is known to disappear in the United States. The above panel plots monthly decile portfolio returns sorted on firm size conditional on the status of governments. The below panel plots the same portfolio returns (also post-1980s sample) conditional on the sitting presidents.

D Additional results on September Effect

Table A.4 provides additional explanations on the September effect. For each subsample periods, we calculate September monthly returns (log value-weighted stock returns less log 3-month T-bill; log equal-weighted stock returns less log 3-month T-bill) and record them. Computing with raw returns less raw 1-month T-bill show very similar results (undocumented). We observe that negative stock market responses in September is concentrated almost entirely when Republican presidents are ruling with divided Congress. Since Unified-Republican and Divided-Democratic regimes are small in some subsamples, we also tried Divided-Republican versus other-three-regimes-combined approaches where relevant, and find that only Divided-Republican regimes stand out.

Panel A. Subsample Analysis on September Effects

Sample period	President-Government	September returns		<i>n</i>
		Value-weighted (monthly %)	Equal-weighted (monthly %)	
Full sample (1927 - 2020) 94 Septembers	Rep. - Div.	-3.7	-3.86	34
	Rep. - Uni.	-0.01	-0.01	12
	Dem. - Div.	-0.13	-0.37	14
	Dem. - Uni.	0.39	1.07	34
First half (1927 - 1973) 47 Septembers	Rep. - Div.	-4.03	-3.89	13
	Rep. - Uni.	-0.9	-1.83	6
	Dem. - Div.	-1.8	-1.95	2
	Dem. - Uni.	0.1	0.51	26
Second half (1974 - 2020) 47 Septembers	Rep. - Div.	-3.49	-3.84	21
	Rep. - Uni.	0.88	1.8	6
	Dem. - Div.	0.15	-0.11	12
	Dem. - Uni.	1.36	2.89	8
Post-war (1947 - 2020) 74 Septembers	Rep. - Div.	-2.76	-2.74	32
	Rep. - Uni.	1.44	1.71	8
	Dem. - Div.	-0.13	-0.37	14
	Dem. - Uni.	0.98	1.86	20
Middle sample (1940 - 1999) 60 Septembers	Rep. - Div.	-2.25	-2.01	26
	Rep. - Uni.	3.11	1.44	2
	Dem. - Div.	1.76	1.41	7
	Dem. - Uni.	0.27	0.89	25
Recent era (1991 - 2020) 30 Septembers	Rep. - Div.	-3.82	-4.27	8
	Rep. - Uni.	0.88	1.8	6
	Dem. - Div.	0.15	-0.11	12
	Dem. - Uni.	2.68	4.6	4

Panel B. Excluding two outliers (2001:09 and 2008:09)

Full sample	Rep. - Div.	-3.29	-3.25	32
Second half	Rep. - Div.	-2.78	-2.81	19
Post-war	Rep. - Div.	-2.26	-2.02	30
Recent era	Rep. - Div.	-1.66	-1.17	6

Table A.4: September Effect and Political Cycles

Note: This table records the September monthly stock returns (excess value-weighted and excess equal-weighted returns) conditional on political cycles. *n* is the number of Septembers in the relevant samples. Panel A includes all relevant September data, while Panel B specifically focuses on Republican-Divided September returns, excluding two outliers (September 2001 and September 2008). Both 2001 and 2008 Septembers suffer from exogenous shocks and happen to fall into Republican-Divided times.

E Political Gridlock and Stock Market - Media

GRIDLOCK IS GOOD?

Election concerns have not made much of a ripple in markets so far this year, with investors consumed by the Federal Reserve's jumbo-sized rate hikes to tame surging inflation. [read more](#)

Worries over the vote could become more prominent as November approaches. Many investors believe divided government makes sweeping reforms less likely to pass, keeping the investment backdrop more stable.

"The market tends to like gridlock," said Nadia Lovell, senior U.S. equity strategist at UBS Global Wealth Management. "I think it's fair to say a split government is what investors right now expect and are positioned for."

Historical data showed that stocks tend to do better in periods of divided government, although investors cautioned that data is limited and markets have generally risen over time regardless of the governmental make-up.

Average annual S&P 500 returns have been 14% in a split Congress and 13% in a Republican-held Congress when a Democrat is in the White House, according to data since 1932 analyzed by RBC Capital Markets. That compares to 10% when Democrats controlled the presidency and Congress.

(CNN) — Now that CNN has projected [Republicans will win the House of Representatives](#), it's time to consider a Washington where both parties have some control.

Despite underperforming on Election Day, the GOP gains will have a major impact on what's accomplished in the coming two years.

Additional climate change policy? Don't count on it. National abortion legislation? Not a chance. Voting rights? Not likely.

Plus, Republicans have indicated they will use any leverage they can find – including the [debt ceiling](#) – to force spending cuts.

While you might immediately think this is all a recipe for a stalemate in Washington, I was surprised to read the argument, backed up by research, that the US government actually overperforms during periods of **divided** government.

Figure A.3: Screenshots show Reuters (above) and CNN (below) article

Figure A.3 presents two examples of media coverage—Reuters and CNN—that suggest political gridlock may benefit financial markets. In contrast, our findings challenge this narrative by showing that Divided governments are associated with weaker stock market performance.

References for Online Appendix

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