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THE VALUE OF UNITY IN U.S. POLITICS

The effect of political uncertainty on U.S. stock prices and the Democratic premium

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PREFACE AND ACKNOWLEDGEMENTS

Throughout every course on economics I have had in one way or another the financial crisis of 2007 has set its mark on the view on economics. Hand in hand was the question on how to fix the financial system which was the politician's job to fix. The interplay between finance and politics has interested me ever since. When I attended the seminar behavioural finance during my masters, I was delighted to study the relation in a refreshing way. The implications of Santa-Clara and Valkanov (2003) struck me to be most interesting due to the unknown origin of the Democratic premium. The day I read that paper the outline of my thesis became clear.

A year later in June 2019 I am delighted to have contributed to the literature on dynamics between politics and finance. During my research the topic of the role of the president regarding to stock prices has become ever more present, giving me daily reminders of the importance of my research.

During the period I wrote my thesis I have had indescribable rich support from a lot of people. Foremost I would like to thank my parents who have always been patient and understanding, when I was feeling down or intimidated by the work. Also, I would like to thank Dr. Maurizio Montone, who as my lecturer for behavioural finance guided me through the process of outlining my proposal and setting up my research. Non the least I want to thank Dr. Jan Lemmen for his extensive feedback and guidance throughout writing my thesis, which really helped me give focus to the research. Last, I would like to thank Dr. Laurens Swinkels for being willing to be my second reader and assessor.

Max Wijbrandts

ABSTRACT

Previous literature strings have documented the market anomaly known as the Democratic premium, where U.S. stock markets exhibit a premium when the sitting president is affiliated with the Democratic party. I introduce political uncertainty as recorded by numerous previous literature to show the effect on stock returns and the Democratic premium. I find the Democratic premium to be persistent but overall slightly lower when introducing political uncertainty at 11.73% for excess equal weighted returns and 8.37% for real value weighted returns. When examining periods where the senate, house of representatives and white house all have a majority belonging to one political party constituting periods where political uncertainty is low due to the legislative (senate and house of representative) and the executive (white house) branch of the U.S. government having the same political views, I find a premium of 12.79% excess equal weighted returns, being in line with my hypothesis that political uncertainty affects stock returns and the Democratic premium.

Keywords: Political uncertainty, Stock market returns, Democratic premium, behavioural finance, JEL classification: E64; G12; G18; G40; P16

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CHAPTER 1 Introduction

U.S. presidents have made a habit of claiming stock market returns to be a result of their administration's success. Even slogans as 'it's the economy stupid!' and strutting around on Twitter about the Dow Jones index breaking records will never get old. As such statements are extrapolated by today's (social) media, the link between politics and finance is something we see we confronted with more often.

The aim of my thesis will be to further investigate the Democratic premium, clarify the relation political uncertainty and the role of U.S. congress have with the Democratic premium and delineate the market anomaly known as the Democratic premium. The Democratic premium is defined as the premium the U.S. stocks experience when a Democratic president is in power. I define four hypotheses: 1) *political uncertainty affects stock prices*, 2a) *Under Democratic presidents stock returns are higher than under Republican presidents, resulting in a Democratic premium,* 2b) *Political party affiliation dominance in the senate and the house of representatives does not result in a premium and* 2c) *having all three houses (white house, senate and house of representatives) of the same party, results in a premium*, 3) *political uncertainty affects the Democratic premium.*

First, I will further explore the effect of different political variables on the Democratic premium. I will rely on previous research in the political finance literature string to introduce political uncertainty to research on political cycles. Allvine and O'Neill (1980), Herbst and Slinkman (1984), Huang (1985), Hensel and Ziemba (1995), Johnson, Chittenden and Jensen (1999), Santa-Clara and Valkanov (2003) and Campbell and Li (2004) use political orientation and the presidential partisan cycle as political variables. Their research shows that Democratic presidents in power, are linked with higher stock returns than Republican presidents, this difference has come to be known as the Democratic premium. The reason this premium exists is still unclear. Using only financial control variables I find a Democratic premium of 14.02% on excess equal weighted returns and 7.16 for real value weighted returns.

Political finance research suggests that there are several variables that can be affiliated with the policy of the president in power. Pastor and Veronesi (2012), Kelly, Pastor and Veronesi (2016), and Brogaard and Detzel (2015) show a relation between political uncertainty and stock prices, as they show the Economic Policy Uncertainty (EPU) index created by Baker, Bloom and Davis (2016) is related to negative stock returns and is associated with a negative risk premium. Dangol (2008) shows how unexpected political events affect the stock market in an event study. Berkman and Jacobsen (2006), Wisniewski (2009) and Omar, Wisniewski and Nolte (2012) show that the presidential approval rating and external conflicts affect stock returns. Internal conflicts measured as government

shutdowns and debt ceiling debates are shown to increase the market equity premium significantly as shown by Aye, Deale and Gupta (2016) and have a clear impact on the economy and the state treasury (Cass, 2013; Zaveri, Gates and Zraick, 2019). I examine both domestic and external political unrest and find that the dummy variable of U.S. shutdowns I use is not significant, but the continuous variable constructed by Baker, Bloom and Davis on their website of newspaper mentions has a significant effect. I also find that the EPU index, Political Disagreement, Political sentiment and conflict beginning are significantly related to stock returns. The annualized magnitudes range from 5% to 3%. Hence there is reason to believe that political uncertainty and political variables that proxy for uncertainty can explain the Democratic premium.

Congress can create political uncertainty and on the contrary periods of one party controlling the white house, senate and house of representatives exhibit smoother political cooperation between the houses, due to similar political views. Political uncertainty is not in the last place created in the political system itself. Due to checks and balances legislation is hard to pass. This is for the good of the democratic system. Institutions required by the president of the U.S. for passing legislation and financial policy are the senate and the house of representatives. When all three houses of power in the U.S. are of the same political party, passing legislation and financial policy are found to be easier as the legislative (congress consisting of the senate and house of representatives) and the executive branch (white house) have fewer political differences. Sabherwal, Sarkar and Riaz Uddin (2017) show how the positive effect Republican presidents have on sin stocks during their presidencies is amplified when at least one chamber in congress belongs to Republicans as well. Montone (2018) shows that political disagreement measured from the dispersion in Gallup's presidential approval rating significantly influences stock returns and decreases the effect of the Democratic premium. I measure how political (dis)agreement affects stock returns by creating a dummy that shows when the houses are aligned in the same party. This dummy captures periods of lower uncertainty and political agreement.

I hypothesize that in these periods of lower political uncertainty as the legislative branch (congress consisting of the senate and the house of representatives) and the executive branch (white house) of the U.S. government are from the same political party and are inclined to have similar political views, U.S. stock returns will be higher. I find that a premium on annual basis of 14.62% on excess equal weighted returns and 7.05% on real value weighted returns persists in the data when unity shows by any of the parties controls the white house, the senate and the house of representatives. Further examination shows that when Democrats hold all three houses, they exhibit an annual premium of 14.25% on excess equal weighted returns. Whereas periods where Republicans hold all three houses the excess equal weighted returns exhibit an annual premium of 15.63%. While coefficients of

political party affiliation of the senate and house of representatives are insignificant, these results show that there is a premium on controlling all three houses in the U.S. political system.

Further investigating the presidential puzzle is meaningful. The paper gives us reason to believe that we do not fully understand the way stock prices behave and give a case for behavioural finance. It gives an example of a violation of the efficient market hypothesis when the authors show that the premium consists of unexpected returns. Suggesting that investors are consequently surprised by democrat's policy decisions. One would expect the effect to be incorporated in the price once the information is public, which it is not. As this paper is an important case for behavioural finance, it is important to get more insight in the phenomenon. My research aims to evaluate the Democratic premium and either strengthen the argument or give it more nuance. I will establish the following contribution to literature: 1) I extend the sample period with another 20 years, 2) I introduce the effect of unity in U.S. politics e.g. the houses of political power having the same party affiliation and and 3) incorporate political uncertainty literature in the political cycle and Democratic premium literature.

I hypothesize that the Democratic premium is driven by political uncertainty. I define political uncertainty as the economic policy uncertainty (EPU) index, the presidential approval rating, the engagement in conflict by the United States and periods of shutdown of the U.S. government. I will add these variables in the same base regression as the paper by Santa-Clara and Valkanov (2003).

The paper consists of five sections. Section II will give an overview of the previous literature on the subject. Section III will show the data and methodology used in this paper. Section IV will discuss the results. And last section V will conclude.

CHAPTER 2 Literature Review

Literature concerning the political cycles and Democratic premium have a long history and entail multiple areas of research. In this chapter I will examine the previous literature strings to contextualize this article. I will discuss the literature string on the political business cycle and the Democratic premium, where I will give the paper of Santa-Clara and Valkanov (2003) explicit attention as its implications are most relevant to my research. Furthermore, I will discuss the literature string on political uncertainty and stock returns and last.

2.1 The political business cycle & Democratic premium

Nordhaus (1975) is the first to discuss and elaborate on the phenomenon we know as the political business cycle. Nordhaus poses a model in which politicians are only concerned with being re-elected and can do so by influencing the employment rate and the inflation rate. An incumbent politician will use its power to create a state of economy which will increase the chance of re-election. In his paper he shows that there is a relation with the employment rate and the election dates. The paper examines the development of the employment rate throughout electoral terms of several developed economies. In this paper the theory is posed that links economic factors to political cycles with the election date as central point in time. The economic data fit the theory posed by Nordhaus (1975) when multiple developed economies are examined over a sample ranging from 1948 until 1972.

Allvine and O'Neill (1980) and Herbst and Slinkman (1984) further build on the theory of political business cycles. Allvine and O'Neill (1980) investigate the stock returns during presidential terms in the U.S. They show that the years pre-election have higher returns than the years after election. Hence, they further strengthen the theory of Nordhaus (1975) as they show how stock prices move according to political cycles. Herbst and Slinkman (1984) provide further support for political cycles by investigating month end stock data during 12, 24- and 48-month cycles. They show that there is evidence for a four-year cycle with peaks around the election month.

Based on the literature string on political cycles Huang (1985), Hensel and Ziemba (1995), Johnson, Chittenden and Jensen (1999), Santa-Clara and Valkanov (2003) and Campbell and Li (2004) investigate the difference in return under different political orientations in the U.S. with roughly the same time period samples (1930-1995). These papers show the relation between Democratic presidencies and stock returns. All papers find that Democratic presidents can be associated with higher stock returns. The so called 'Democratic premium' in the papers on average amounts to 9% annually. However, clarification on the origin of this premium is hard to find, as numerous control variables have been used such as inflation, volatility etc. and the premium remains persistant.

Next to a Democratic premium, Hensel and Ziemba (1995) and Johnson, Chittenden and Jensen (1999) show a positive relationship between Republican presidencies and the total return on corporate bonds. The magnitude of the effect is around 5% annually. The authors suggest that the difference in total return among Democrats and Republicans is due to differences in inflation rate. Just as the later papers on the subject, they find that inflation rates are higher under Democratic presidents.

Santa-Clara and Valkanov (2003) affirm the existence of a Democratic premium. Under Democratic presidencies the stock market return is 9 percent higher for the value-weighted portfolio and 16 percent for the equal weighted portfolio. The difference in returns are exist of higher real stock returns and lower real interest rates. There is no difference in volatility across presidencies. In table I, an overview of all relevant literature concerning political cycles and the Democratic premium is presented.

The Democratic premium is driven by unexpected returns. Santa-Clara and Valkanov use three different approaches to investigate this. First, they test if the presidential cycle might be proxying for variations in expected returns. Macroeconomic variables can forecast the variations in expected returns. When these variables are added as controls, there is still a Democratic premium of 10 percent for the value-weighted portfolio and 20 percent for the equal-weighted portfolio.

In a second test the paper uses the same business cycle variables to decompose the returns in to expected and unexpected returns. When realized returns are regressed on the macroeconomic variables, the fitted values are taken as expected returns and the residuals of the regression are taken as unexpected returns. Closer examination shows that the difference of the Democratic premium is driven by unexpected returns. The paper reports that unexpected returns are 10.8 percent higher under Democratic presidents and expected returns are 1.8 percent higher under republican presidents.

Last, the paper excludes the possibility that the difference in expected and unexpected returns is driven by presidential partisan cycles. If presidential partisan cycles would explain the difference in both expected and unexpected returns, we would expect a price shock around election dates. However, when event studies around election dates are conducted, no significant price shocks are found.

TABLE I: Meta table literature on the political business cycle and the Democratic premium.

This table shows an overview of the literature on political cycles and the Democratic premium. It shows which time sample the authors have used to do their research, what kind of regression was used, the main explanatory and control variables to test the hypothesis and finally the results the article reports.

Author and year of publication	Region	Time period	Model	Explanatory variables	Control variables	Results
Campbell and Li (2004)	US	1927-1997	OLS WLS GARCH	Presidential dummy	Same as Santa-Clara and Valkanov	OLS: 8,93% WLS: 2,95% GARCH: 5,41%
Santa-Clara and Valkanov (2003)	US	1927-1998	OLS	Presidential dummy	Congressional dummy Financial set	Democratic premium: 9% VWR, 16% EWR
Johnson, Chittenden and Jensen (1999)	US	1929-1996	OLS	Presidential dummy	Inflation	Small size stocks 20% Corporate bonds -5%
Hensel and Ziemba (1995)	US	1928-1993	OLS	Presidential dummy, Categorized monthly	January effect	Small size stocks 18,59% Large size stocks 5,29% Bonds: -5% DP
Huang (1985)	US	1832-1980	OLS	Presidential dummy		Mean annual returns 9,2%
Herbst and Slinkman (1984)	US	1926-1977	OLS	48-month stock cycle		Pre-election higher return. 12, 24 and 48 month cycles.
Allvine and O'Neill (1980)	US	1961-1978	OLS	Political cycle, Year 1,2,3,4		Pre-election higher return than after election
Nordhaus (1975)	US	1948 - 1972		Political cycle and unemployment		Politicians are inclined to use macroeconomic instruments for re-election

The difference in returns therefore seems to be driven by systematic "surprises" for investors about the political orientation of the president. The policies of the presidencies thus should differ systematically from what the market expects. This conclusion would be hard to defend. The results by Santa-Clara and Valkanov (2003) are not in line with what should be expected in a world where the efficient market hypothesis holds. As investors should have incorporated the Democratic premium. This makes the paper an argument for behavioural finance.

2.2 Political uncertainty and stock returns

I hypothesize that the Democratic premium is driven by political uncertainty. Recent previous literature shows that there is a link between political uncertainty and stock prices. I will examine multiple literature strings that document links between political uncertainty and stock returns, namely case studies, wars and international political crises, continuous measurement of political uncertainty, congressional unrest and government shutdown.

2.2.1 Case studies on political uncertainty and stock returns

There exists a clear link in the literature between political uncertainty and stock returns. I will describe several literature strings of political uncertainty related to stock returns. Several articles document case studies on policy uncertainty linked to asset prices. Bittlingmayer (1998) presents a case study on the shift of Imperial Germany and the Weimar Republic from 1880 to 1940 and concludes that political uncertainty increases volatility and decreases output. Liu, Shu and Wei (2017) show that a political crisis in China resulted to a drop in stock prices which was mainly driven by a change in discount rate, presenting evidence of priced political risk. Smales (2016) presents a case study on political and financial market uncertainty in relation to Brexit. He concludes that during the Brexit political uncertainty has a positive and strong relation to market uncertainty. Bealieu, Cosset and Essadam (1995) show that political uncertainty surrounding the 1995 Quebec referendum in Canada has a negative effect on stock prices and find that firms with more political exposure are affected more strongly. These case studies indicate the relation between political uncertainty and stock returns as they illustrate the effect instances of high political uncertainty have on the economy and stock market.

2.2.1 Wars and international political crises

The literature string on wars and international political crises creates a clear example of political uncertainty. Rigobon and Sack (2005) show that during the second gulf war in Iraq investors moved away from riskier stocks especially those influenced by war risk and moved to safer or more liquid stocks. Indicating investors try to shield themselves from international political risk and uncertainty. Wolfers and Zitzewitx (2009) show in a case study on the second gulf war in Iraq that prior to the war a 10% increased chance of war resulted in a drop of the S&P 500 by 1.5 percent. Berkman and Jacobsen (2006) , Wisniewski (2009), Berkman, Jacobsen and Lee (2011), Omar, Wisniewski and Nolte (2012) investigate a wide range of international political conflicts of which some have ultimately resulted in a military conflict and show a negative impact on the U.S. stock returns and economy, especially in the first month of the conflict the reaction is strongest. These articles show an effect over time and also for political crises with different outcomes, ranging from war to withdrawal of diplomats at an embassy. Thus, the literature shows a clear negative relation between U.S. political and military conflicts and stock returns.

The literature shows that international political crises have a spill over effect. Colombo (2013) concludes that shocks in the U.S. EPU index have an effect on stock prices in countries in the Euro area. The effect of a shock in the U.S. EPU index is larger than a Euro area specific shock. Furthermore, Klößner and Sekkel (2014) evaluate the effect of the EPU index of six developed countries on each other. They find that the EPU has a spillover effect and makes up to a quarter of EPU index development. Political uncertainty not only influences the stock market but also impacts the real economy. Leduc and Liu (2016) illustrate the effect of uncertainty shocks on U.S. employment further establish the effect uncertainty induces on the economy. Moreover, Giavazzi and McMahon (2012) illustrate the effect of uncertainty on household savings further underpinning the impact of political uncertainty on the economy. Julio and Yook (2012) show that political uncertainty not only affects households, but firms' investments decisions are also impacted. In election years investments are cut with a mean of 4.8%.

2.2.2 Continuous measurement of political uncertainty

Another literature string on political uncertainty focusses on continuous measurement of political uncertainty by newspaper article reviews, documented by Baker, Bloom and Davis (2016). They construct the Economic Policy Uncertainty index (EPU), using new articles from leading newspapers to capture mentions of a wide range of topics all related to economic policy. Kelly, Pastor and Veronesi (2016) show that options have a premium if they protect against political uncertainty and this premium increases in an economic downturn. Thereby they show investors value hedging against political uncertainty and are willing to pay to overcome the effects of political uncertainty. Pastor and Veronesi (2013) and Brogaard and Detzel (2015) illustrate the relation between the EPU index and volatility and stock market returns and establish the EPU as an economically important risk factor. They show that the EPU has a negative relation with excess stock returns but can positively forecast excess stock returns and that firms with a higher EPU beta underperform stocks with a lower EPU beta. Bouoiyour and Selmi (2016) use Google and Twitter trends to analyse the effects of uncertainty over Brexit to European countries. They conclude that the effect of a Brexit will be biggest on Germany, France and the UK. This literature string uses continuous data through extensive time periods showing the effect is present over time. Limitations of using twitter and google trends are the meagre sample sizes whereas the time period of the EPU index extends to 1900.

Another continuous proxy for political uncertainty can be derived from the presidential approval rating. Wisniewski (2009) shows that the approval rating of the president of the U.S. has a positive effect on stock prices. Montone (2018) creates proxies for political disagreement and political sentiment using the approval rating. Political sentiment has a positive effect on stock prices and political disagreement has a negative effect on stock prices. The article suggests that political uncertainty is reflected in the approval rating of the president and U.S. citizens reflect political

uncertainty by periods of negative political sentiment and positive political disagreement. Summerizing the literature on continuous measurement of political uncertainty,

2.2.3 Congressional unrest and government shutdowns

Political uncertainty can be caused by unrest in congress and affect stock returns. Wang and Lin (2008) show how disputes in congress affect the Taiwanese stock market negatively. Congressional unrest in the U.S. manifests itself, among other phenomena, in governmental shutdowns. As congress, being the senate and the house of representatives, must approve the federal budget put forward by the president. Therefore, political uncertainty can be proxied for by government shutdowns. In these periods the president, senate and house of representatives cannot agree to a federal budget. This results in a shutdown of the federal government of the U.S. resulting in all non-essential governmental services being stopped, and employees not being paid. Brass (2013) exhibits the causes and effects of a government shutdown in the U.S. He shows how the closing of governmental institutes and restrained pay of employees negatively affects the U.S. economy. Using newspaper mentions Aye et al. (2014) and Aye, Deale and Gupta (2016) show that government shutdown mentions in news articles relate to U.S. real stock returns and the market equity premium. A government shutdown has a negative impact on stock returns, especially during economic expansion. In a recession the effect is diminished. I will create a dummy variable on U.S. government shutdowns to capture the effect of internal conflict in U.S. politics. The U.S. government is in a state of shutdown if non-essential governmental offices and or services are no longer available due to the fact that the federal budget has not been approved by the house of representatives, the senate or the president. Which all three have to approve the federal budget. In other words, when a shutdown occurs it shows political disagreement and brings political uncertainty.

I define political uncertainty as the Economic Policy Uncertainty (EPU) index, political sentiment, political disagreement, the engagement in conflict by the U.S. and domestic conflicts in the U.S. political system being the occurrence of a shutdown of the U.S. government. I will first test hypothesis 1) Political uncertainty affects U.S. stock prices by adding political uncertainty variables to a CAPM model. Next, I will construct the same base regression as the paper by Santa-Clara and Valkanov (2003) to test hypothesis 2a) Under Democratic presidents stock returns are higher than under Republican presidents, resulting in a Democratic premium, 2b) Political party affiliation dominance in the senate and the house of representatives does not result in a premium and 2c) having all three houses (white house, senate and house of representatives) of the same party, results in a premium. In addition, I add the political uncertainty variables as political control variables to test hypothesis 3) political uncertainty affects the Democratic premium.

My contribution to the literature will be to show the relation between political uncertainty and stock prices in relation to the Democratic premium. I give more insight in the effect of the Democratic premium and the effect of different composites in the three houses (e.g. president, senate and house of representatives) in the political system of the U.S. In this paper I show the value of unity in U.S. politics. As to my knowledge the effect of aligned houses in U.S. politics have never been linked to stock returns before.

CHAPTER 3 Data and Methodology

3.1 Data

In the literature string on the political cycle and the Democratic premium no factor is known that explains the origin of the market anomaly known as the Democratic premium. The effect manifests itself in higher stock returns under Democratic presidents, especially in smaller sized firms. The field of political finance documents a relationship between political uncertainty and stock price movements. Bringing these two literature strings together I will investigate how political uncertainty affects the Democratic premium. My research question is as follows: *Is the Democratic premium driven by political uncertainty?*

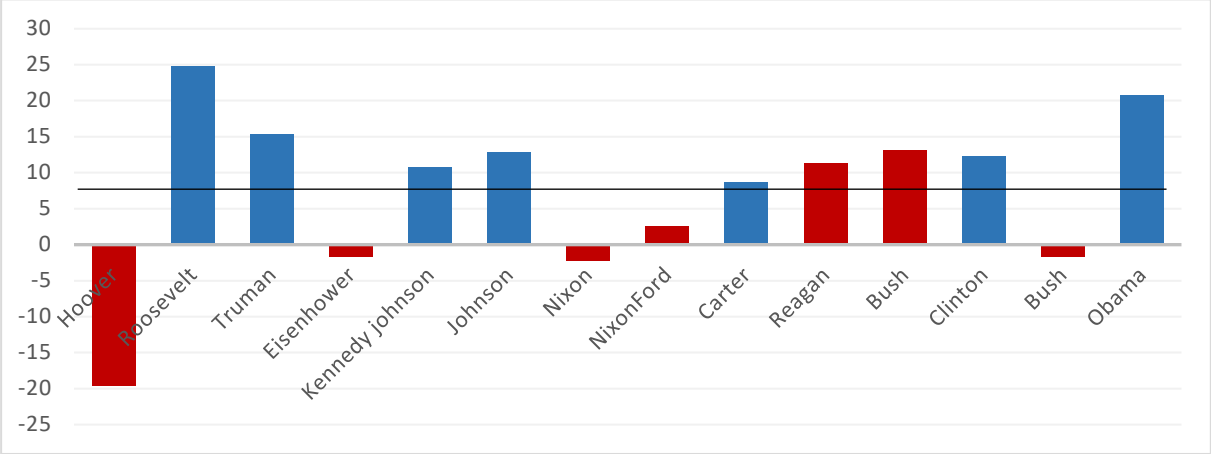
Therefore, I will first test if the Democratic premium exists in my sample which is 20 years more extensive than previous research. Once I have established the base regression, I will add political variables to control for political uncertainty to investigate impact on the Democratic premium. To create this base regression, I will follow the same approach as Huang (1985), Hensel and Ziemba (1995), Johnson, Chittenden and Jensen (1999) and Santa-Clara and Valkanov (2003), that all use a multivariate OLS regression.

I divide the variables used in three categories, 1) financial variables, 2) political variables and 3) control variables. Table II provides a descriptive summary of the variables I use. shows the correlation matrix of variables, which can be found in the appendix.

The total sample period consists of 1105 monthly observations, ranging from 1926:01 to 2017:12. The sample period contains 23 elections, 11 Democratic and 8 Republican presidents, 31 Democratic House of Representatives and 15 Republican House of Representatives, 31 Democratic senates and 15 Republican senates. Figure I gives an overview of the returns under the administration in my time sample. The average annualized monthly excess equal weighted return is 7.6%, no Democratic administration has a lower than average value. Two Republican administration have above average returns.

Figure 1 Average return per president of the U.S. in my time sample

The y-axis shows excess equal weighted returns of the S&P 500 in percentage points, the x-axis shows the administrations in my time sample, when a president has served two terms the average of both terms is taken. The overall average of excess equal weighted returns of the S&P 500 is denoted by the line.



3.1.1 Financial variables

Value Weighted Returns of the S&P index (VWR) and Equal Weighted Returns of the S&P index (EWR) portfolios, the three-month treasury bill and the Consumer Price Index (CPI) are all collected from CRSP.

The data sample contains observations from 1927 and onwards, as there is evidence that the ideologies of the Democratic and Republican party since grown apart enough to make a clear distinction between the parties. Another reason to not use pre 1927 control variable data is that data is unavailable.

3.1.2 Political variables

In U.S. politics three houses of political power constitute the government, being the upper house in congress (the senate), the lower house in congress (house of representatives) and the white house (president). I use a dummy variable for the power in party in the relevant house of power I study. This means I use a presidential Republican dummy (RP_t) which is 1 when a Republican president resides in the white house and 0 otherwise, and a presidential Democratic dummy (DP_t), which is 1 when a Democratic president resides in the white house and 0 otherwise. For the occupation of the house of representatives and the house of senate I use the same construct. Next to the majority of one party in the senate, house of representatives and white house I also construct a dummy variable that shows if Democrats hold all three combined houses, resulting in combined dummy DD_t and a dummy variable for when Republicans hold all three combined houses, resulting in combined dummy RD_t. Finally, I create a dummy which is 1 every time either Democrats or Republicans hold all three houses ($Unity_t$) resulting in the following political variables:

RP_t = 1 if the president is a Republican and RP_t = 0 otherwise.

DP_t = 1 if the president is a Democrat and DP_t = 0 otherwise.

RS_t = 1 if the majority in the house of senate is Republican and RS_t = 0 otherwise.

DS_t = 1 if the majority in the house of senate is Democratic and DS_t = 0 otherwise.

RH_t = 1 if the majority in the house of representatives is Republican and RH_t = 0 otherwise.

DH_t = 1 if the majority in the house of representatives is Democratic and DH_t = 0 otherwise.

RD_t = 1 if the Republican party has the majority in all houses and RD_t = 0 otherwise.

DD_t = 1 if the Democratic party has the majority in all houses and DD_t = 0 otherwise.

$Unity_t$ = 1 if either the Republican or Democratic party has the majority in all three houses and $Unity_t$ = 0 otherwise.

Next to the dummy variables capturing the political party in power in one of the houses or a combination a set of political uncertainty variables is introduced. I introduce variables derived from Gallup's presidential poll, the Economic Policy Uncertainty (EPU) index by Baker, Bloom and Davis (2016), political conflict variables and variables concerning government shutdowns.

From Gallup's presidential poll I derive a measure for political disagreement following the method of Montone (2018). First, I take Gallup's monthly approval rating poll, for which the data is available from January 1948 and my sample extends until December 2017. When participants are called to take part in the poll, they can answer in three different ways, either positive, neutral or negative. I derive 2 political variables from the poll data, political sentiment and political disagreement.

Political sentiment is defined as follows:

Formula 1)

$$PS_t = (a_t - a_{t-1}) - (d_t - d_{t-1})$$

a_t corresponds to the percentage of people approving of the president and his administration, d_t is the percentage of people disapproving of the president's and administration's job. In this way the changes in approval as well as the changes in disapproval are accounted for in the sentiment measure. Montone (2018) shows that political sentiment does not correlate with other sentiment measures such as OECD measure of international business sentiment and the Michigan consumer sentiment index.

Political disagreement demonstrates itself when the presidents' popularity becomes very low. I establish three stages in which political disagreement is manifested. First, when the approval rating of the president falls below 50%, the margin needed for re-election. Second, when the disapproval rating

becomes higher than the approval rating. And third, when the disapproval rating is higher than 50%. Following these stages of political disagreement, I calculate them as follows:

The primary proxy for political disagreement is the squared difference between approval ratings and disapproval ratings when this difference is negative, when positive the value will be zero. PD_1 is political disagreement (first measure), a_t is the percentage of people who approve of the president's job as polled by Gallup, d_t is the percentage of people who disapprove of the president's job as polled by Gallup.

Formula 2)

$$PD_{1t} = \begin{cases} 0 & if\ a_t > d_t \\ (a_t - d_t)^2 & if\ a_t \leq d_t \end{cases}$$

As alternative the following measure for political disagreement is constructed. If the approval rating is less than or equal to 50% the difference with the total approval rating is taken. PD_2 is political disagreement (second measure), a_t is the percentage of people who approve of the president's job as polled by Gallup

Formula 3)

$$PD_{2t} = \begin{cases} 0 & if\ a_t > 50\% \\ (a_t - 50\%)^2 & if\ a_t \leq 50\% \end{cases}$$

Last, if the disapproval rating is higher than 50% the squared difference between the actual disapproval rating and 50% equals the political disagreement. PD_3 is political disagreement (third measure), d_t is the percentage of people who disapprove of the president's job as polled by Gallup.

Formula 4)

$$PD_{3t} = \begin{cases} 0 & if\ d_t < 50\% \\ (d_t - 50\%)^2 & if\ d_t \geq 50\% \end{cases}$$

As a proxy for political uncertainty I use the Economic Policy Uncertainty index (EPU) constructed by Baker, Bloom and Davis (2016). The EPU is a proxy for the uncertainty surrounding economic policy. It is constructed by examining newspaper coverage of 10 large newspapers in the U.S. on political policy topics which have an effect on business. They identify 10 themes such as monetary policy, fiscal policy, taxes, health care etc. as political policy topics. They show that the EPU has a correlation with market volatility and is well suited to evaluate the political climate created by a president.

Furthermore, I use conflict engagement by U.S. presidents and congress as a proxy for political uncertainty. Because conflicts can result in armed conflicts which have significant impact on the financials and general view of the administration, this can be an important indicator for political uncertainty. Information on conflicts of the U.S. is gathered from the Congressional Research Service report by Grimmett (2004). I create three dummies to capture the different stages of a conflict, being the beginning, ongoing and ending of a conflict**.** Resulting in the following variables:

CB_t = 1 in the first month of a conflict the U.S. is involved in, CB_t = 0 otherwise.
CO_t = 1 in the second until the second to last month of a conflict the U.S. is involved in, CO_t = 0, otherwise.
CE = 1 in the last month of a conflict the U.S. is involved in, CE_t = 0 otherwise.

As conflict ongoing and conflict ending were both insignificant, they are held out of the main regressions and can be found in the appendix.

Congressional unrest and disagreement results in political uncertainty if the parties cannot resolve their argument. A clear example of such a case are government shutdowns. A government shutdown occurs if congress, consisting of the senate (upper house) and the house of representatives (lower house), and the white house are unable to agree to a federal budget before the deadline at the end of the year, usually around October. Debates on approving the federal budget occur the month prior to the approval deadline. As the debates prior to the ones that lead to a shutdown bring a lot of political uncertainty (Brass, 2013), and the data used by Aye et al. (2014) and Aye, Deale and Gupta (2016) shows increased mentions of government shutdowns in important U.S. newspapers. With a gap in the budget, non-essential government services close and employees are withheld pay. In total I have 30 months in the sample which exhibit a government shutdown. I create a dummy variable which takes on the value of 1 during a month in which there is a government shutdown active. Next to a shutdown dummy I will also use a variable that captures the average mentions of government shutdowns in prominent U.S. newspapers. This variable was constructed by Baker, Bloom and Davis. This results in the following variables:

SD_t = 1 in a month in which a government shutdown took place or in a month prior to a government shutdown, SD_t = 0 otherwise.

Next to a shutdown dummy I will also use a variable that computes the percentage of average mentions of “government shutdown” in over 1000 U.S. newspapers. This data series has been retrieved from www.policyuncertainty.com, which is hosted by Baker, Bloom and Davis.

$ShDo_t$ = the average mentions of "government shutdown" per news article of 10 prominent U.S. newspapers.

3.1.3 Control variables

To account for market shocks and cycles I use a set of financial control variables that have been used in Santa-Clara and Valkanov (2003) and other well know papers in finance literature such as Campbell and Shiller (1988), Fama and French (1988, 1989) and Fama (1991). The set consists of 1) the dividend-price ratio (DPR_t), 2) the term spread (TSP_t) showing the difference in yield of a 10yr U.S. treasury bill and a 3 month U.S. treasury bill, 3) the default spread (DSP_t) exposing the difference in yield of BAA and AAA rated bonds, and 4) the relative interest rate (RR_t) being the difference between the 1 year moving average of the 3 month U.S. treasury bill and its actual value. All the variables are retrieved from CRSP database. Using these control variables enables me to look past the effect of market shocks and cyclical returns of the stock market.

Table II shows the descriptive statistics of all variables previously described. And table III gives an overview of the correlation between the variables. As there are no correlations over .7 I do not assume collinearity will be an issue in my analysis. I use Cameron and Trivedi's decomposition of IM-test and conclude that in all my models I have heteroskedasticity problems if I do not use robust standard errors, which I do throughout my analysis. Table VII in the appendix shows the results of Cameron and Trivedi's decomposition of IM-test. Auto regression is extensively covered in Santa-Clara and Valkanov (2003) and they show that auto regressive problems do not create a significant issue for the results and implication of their research.

3.2 Methodology

Using the data as described in the previous paragraphs I will now show how I designed my methodology. I used the same approach as the political cycle and Democratic premium literature string. In this approach a measure for market returns is used as dependent variable and the political dummy variable and control variables are used as independent variables. This follows the capital asset pricing model principles. The regression I use to show the presidential dummy effect is the following:

Formula 5)

$$r_{t+1} = \alpha_1 + \beta_1 \pi_t + u_{t+1} + \varepsilon_{t+1}$$

Table II Descriptive statistics table

This table sums up the descriptive statistics of the variables used in this study. Values are monthly observations. The average of the sample (mean), standard deviation (Std.), the minimum (min) and maximum (max) observation. The variables are divided into financial variables, being the dependent variables of this study. The financial controls used to control for macroeconomic cycles and factors. Political variables used to assess the difference between the political parties. And the political control variables, to control for political uncertainty.

	Observations	Mean	Std.	Min	Max
Financial variables					
EWR-TBL	1,092	.0086	.0678	-.3111	.6801
EWR-INF	1,092	.0090	.0679	-.3069	.6877
VWR-TBL	1,092	.0065	.0544	-.2886	.4139
VWR-INF	1,092	.0069	.0545	-.2808	.4143
INF	1,092	.0023	.0053	-.0205	.0588
TBL	1,092	.0020	.0025	-.00008	.0124
Financial controls					
DPR	1,110	.0379	.0170	0	.1384
DSP	1,110	1.974	.9822	.2900	7.24
TSP	1,092	1,5	1.169	-2.648	4.559
RR	1,100	-.00001	.0045	-.0356	.0418
Political Variables					
DP	1,110	.526	.50	0	1
RP	1,110	.474	.50	0	1
DS	1,110	.679	.46	0	1
RS	1,110	.321	.46	0	1
DH	1,110	.692	.46	0	1
RH	1,110	.308	.46	0	1
DD	1,110	.364	.48	0	1
RD	1,110	.120	.32	0	1
Unity	1,110	.484	.49	0	1
Political controls					
EPU	1,100	120,09	50,04	29.62	350.71
PD1	820	106.26	310.45	0	2025
PD2	820	57.12	135.07	0	784
PD3	820	12.41	46.05	0	400
PS	819	-.0255	.4184	-8.63	2.995
ConflictB	1,110	0.0270	.1622	0	1
SD	1,110	0.0160	.126	0	1
ShDo	408	.0004	.0016	0	.0286

r_{t+1} is a measure for real and excess monthly stock returns. u_{t+1} Is a vector for all control variables as proposed in section 3.1.3. The financial variables and control variables are lagged, as I assume that investors know which party resides in the white house, senate and house of representatives at the beginning of the month. π_t is a vector for political variables where I will add dummies on the president, senate, house of representatives, any party controlling all three houses and a specific party controlling all three houses. This is the same regression Santa-Clara and Valkanov (2013) use. The null hypothesis of no Democratic premium would mean $\beta_1 = 0$.

To add new political variables that affect the magnitude of the Democratic premium I will reshape formula 5. P_{t+1} exhibits a vector for political variables (EPU, Conflict Beginning, Political Disagreement and Political Sentiment), resulting in formula (6):

Formula 6)

$$r_{t+1} = \alpha_1 + \beta_1 \pi_t + \beta_2 P_{t+1} + u_{t+1} + \varepsilon_{t+1}$$

r_{t+1} is a measure for real and excess monthly stock returns. u_{t+1} Is a vector for all control variables as proposed in section 3.1. P_{t+1} exhibits a vector for political variables. π_t is a vector for political variables, where I will add dummies on the president, senate, house of representatives, any party controlling all three houses and a specific party controlling all three houses.

CHAPTER 4 Results

In the literature string in political finance on the political cycle and the Democratic premium no factor is known that explains the origin of the Democratic premium effect documented. The effect manifests itself in higher stock returns under Democratic presidents, especially in smaller sized firms. In political finance, a literature string on political finance presents a relationship between political uncertainty and stock price movements. Bringing these two literature strings together I will investigate how political uncertainty affects the Democratic premium. My research question is as follows: *Is the Democratic premium driven by political uncertainty?* To answer this question, I test a set of hypotheses in this section.

Hypotheses:

1) *Political uncertainty affects U.S. stock prices,*

2a) *Under Democratic Presidents stock returns are higher than under Republican presidents, resulting in a Democratic premium,*

2b) *Political party affiliation dominance in the senate and the house of representatives does not result in a premium for either political party,*

2c) *having all three houses (president, senate and representatives) of the same party, results in a premium,*

3) *Political uncertainty affects the Democratic premium*

To test my first hypothesis political uncertainty affects stock prices I have defined a set of variables which I either created or gathered from previous research. Under the null hypothesis of no effect all coefficients of political uncertainty should be zero. I use the Economic Policy Uncertainty index by Baker, Bloom and Davis (2016), which assesses economic policy uncertainty according to mentions of several topics such as monetary policy, fiscal policy, taxes, health care etc. I expect the EPU index to have a negative relation to stock returns. PD1 corresponds to the first political disagreement measure I construct according to Montone (2018). Which is derived from the presidential approval rating and proxies for opposing opinions in the U.S. among citizens. I expect that higher political disagreements negatively affects stock returns. I choose PD1 of the three political disagreement variables I have because it has the fewest values that are zero. PS, political sentiment, is also constructed following Montone (2018) and charts the changes in the approval rating of the U.S. president. I expect that PS has a positive effect on U.S. stock returns. ConflictB is a dummy which is 1 in the first month of a conflict the U.S. is involved with. Wisniewski (2009) uses the conflict beginning dummy to show how conflicts affects U.S. stock returns. I expect that conflict beginning will have a negative impact on U.S. stock returns. SD is the Shutdown dummy, which I constructed as a dummy which is 1 if there is

a shutdown occurring in that month or the following, to also capture the uncertainty beforehand surrounding debates on shutdowns in congress. I expect the Shutdown dummy to have a negative effect on U.S. stock returns. And last, I test ShDo a shutdown down continuous variable which is constructed by Baker, Bloom and Davis by measuring mentions of shutdowns in over 1000 U.S. newspapers.

As noted in table IV I find that all political uncertainty variables are significant except for the shutdown dummy. A one standard error increase in EPU negatively impacts monthly equal weighted excess stock returns by 0.885% (annualized 11.15%) and is significant with a p-value smaller than 1% and t-values ranging from -2.58 to -2.73 dependent on more political uncertainty variables added. Political disagreement is significant with a p-value lower than 5%, t-values differ from -2.47 to -2.59 when more variables are added to the regression and has as expected a negative effect of -0.0000179. A one standard deviation increase leads to a decrease of monthly equal weighted excess stock returns by 0.55% (annualized 6.8%). Political sentiment has an estimated coefficient of 0,00885 which results in a positive effect on monthly equal weighted excess stock returns of 0.37% (annualized 4.53%) with a one standard deviation increase of political sentiment. Significance ranges from the 5% tot the 1% level with t-values around 1.95. The dummy variable conflict beginning has a value of -0.017, constituting a drop of 1.7% of equal weighted excess stock returns when the U.S. engages in an international conflict. This effect is significant at the 10% level with a t-value of -1.8. Last, the Shutdown dummy is insignificant with a t-value of -0.55 and a negative coefficient according to expectations. All but one proxy variable for political uncertainty are significant and have an economically significant effect. Therefore, I can accept the hypothesis *Political uncertainty affects stock prices.*

TABLE IV The effect of Political uncertainty on U.S. stock returns

This table shows the effect of 5 political uncertainty variables, the Economic Policy Uncertainty index (EPU), Political Disagreement (PD1) derived from the difference in approval rating and disapproval rating of the U.S. president, Political Sentiment (PS) derived as the change in approval and disapproval rating of the U.S. president, conflict beginning (ConflictB) as the first month of a conflict the U.S. government is involved with, Shutdown Dummy (SD) which takes the value of 1 in the month of a U.S. government shutdown and the month before and Shutdown (ShDo) which computes the average number of mentions of the word 'shutdown' in U.S. newspaper to capture risk of a U.S. government shutdown. These variables are tested against the equal weighted excess returns (EWR-TBL) to assess the effect political uncertainty has on stock returns and a set of financial control variables is used. The financial controls consists of 1) the dividend-price ratio (DPR_t), 2) the term spread (TSP_t) showing the difference in yield of a 10yr U.S. treasury bill and a 3 month U.S. treasury bill, 3) the default spread (DSP_t) exposing the difference in yield of BAA and AAA rated bonds, and 4) the relative interest rate (RR_t) being the difference between the 1 year moving average of the 3 month U.S. treasury bill and its actual value. I use robust standard errors.

	EWR-TBL					
DPR	0.0883	0.0778	0.159	0.163	0.161	0.170
	(0.23)	(0.61)	(1.24)	(1.28)	(1.26)	(1.33)
DSP	-0.0007	0.00897**	0.0104**	0.0106**	0.0102**	0.0101**
	(-0.12)	(1.97)	(2.30)	(2.30)	(2.22)	(2.20)
TSP	-0.001	0.000313	-0.000932	-0.000928	-0.00102	-0.00107
	(-0.42)	(0.18)	(-0.51)	(-0.51)	(-0.56)	(-0.59)
RR	-0.0109	-1.620***	-1.741***	-1.791***	-1.816***	-1.847***
	(-0.01)	(-4.41)	(-4.66)	(-4.89)	(-4.98)	(-4.94)
EPU		-0.000177***	-0.000180***	-0.000186***	-0.000180***	-0.000175**
		(-2.66)	(-2.65)	(-2.73)	(-2.68)	(-2.58)
PD1			-0.0000179**	-0.0000177**	-0.0000183**	-0.0000186***
			(-2.50)	(-2.47)	(-2.56)	(-2.59)
PS				0.00885*	0.00919**	0.00916**
				(1.88)	(2.00)	(1.98)
ConflictB					-0.0170*	-0.0172*
					(-1.80)	(-1.82)
SD						-0.00721
						(-0.55)
ShDo	1.748***					
	(3.24)					
cons	0.0097	0.00860	0.00693	0.00746	0.00836	0.00798
	(0.52)	(1.03)	(0.86)	(0.93)	(1.03)	(0.98)
F-statistic	0.0574	0.000	0.000	0.0000	0.000	
R^2	0.0042	0.0558	0.0710	0.0771	0.0816	0.0821
N	396	810	810	810	810	810

t statistics in parentheses * p<.10, ** p<.05, *** p<.01

In order to test hypotheses 2a) *Under Democratic Presidents stock returns are higher than under Republican presidents, resulting in a Democratic premium,* 2b) *Political party affiliation dominance in the senate and the house of representatives does not result in a premium and* 2c) *having all three houses (president, senate and representatives) of the same party, results in a premium,* I construct the same regression model used in Santa-Clara and Valkanov (2003). I use real and excess value weighted and equal weighted returns of the S&P 500, a set of financial control variables and test for the effect of Democratic and Republican presidents, senates, houses of representatives and situations in which all three belong to the same party. I suspect that a Democratic premium will prevail which tends to be most dominant in excess and equal weighted returns. As Democratic terms can be affiliated with lower interest rates and stronger growth for small cap firms. For the senate's and house of representative's coefficients I do not suspect significant correlations. However, when all three houses are of the same party affiliation, I suspect a positive effect. In this situation less political disagreement and uncertainty prevails due to smoother collaboration between the houses. This term can be interpreted as an interaction term, as it shows the added value of possessing all three houses at the same time as a political party in the U.S. rather than the separate effect of each.

Table V shows the coefficients on corresponding panels and differences between political party affiliation. This table shows clear effects on the three-month treasury bill (TBL) and inflation (INF). The data exhibits a Democratic premium as for all four different types of returns the Democratic president coefficient has significant returns, ranging from the 1% to 10% significance level, which are all higher than the insignificant Republican president coefficient. The premium is economically significant as the premium ranges from 14% to 7% higher returns. Coefficients for the senate and the house of representatives are insignificant, although it can be noted that the coefficients are smallest at the equal weighted returns and excess returns and increase with value weighted returns and real returns, p-values decrease along this axis but do not become lower than 0.15. In the last panel results are shown of periods where either Democrats or Republicans possess all houses. Coefficients are higher than the coefficients of the presidential dummy, especially for Republicans. The Democratic combined dummy is on average 4.5% higher than the Democratic presidential dummy where the Republican combined dummy is on average 6.75% higher. For Democrats in three out of four cases the combined dummy is significant at either the 5% or 10% level. Under Republican combined dummies two out of four regressions test have statistically significant coefficients at the 10% level and economically significant results. The robustness of the Republican result seems lower than that of Democratic combined dummies. Following the results I can accept the hypotheses 2a) *Under Democratic Presidents stock returns are higher than under Republican presidents, resulting in a Democratic premium,* 2b) *Political party affiliation dominance in the senate and the house of representatives does not result in a premium and* 2c) *having all three houses (president, senate and representatives) of the same party, results in a premium.*

TABLE V The Democratic premium on the president, senate, house of representatives and the three combined

This table shows the effect of the president, senate, house of representatives and all three houses combined having a Democratic majority or Republican majority and the difference. The table shows the effect of Democrats or Republicans on the Three-month Treasury Bill (TBL), Inflation (INF), excess Equal Weighted Returns (EWR-TBL), real Equal Weighted Returns (EWR-INF), excess Value Weighted Returns (VWR-TBL) and real Value Weighted Returns (VWR-INF). Financial controls have been taken out of this table for brevity. The financial controls consists of 1) the dividend-price ratio (DPR_t), 2) the term spread (TSP_t) showing the difference in yield of a 10yr U.S. treasury bill and a 3 month U.S. treasury bill, 3) the default spread (DSP_t) exposing the difference in yield of BAA and AAA rated bonds, and 4) the relative interest rate (RR_t) being the difference between the 1 year moving average of the 3 month U.S. treasury bill and its actual value. I use robust standard errors.

	President			*Senate*			*HoR*			*Combined*		
Political Party	Democrat	Republican	*Diff*	Democrat	Republican	*Diff*	Democrat	Republican	*diff*	Democrat	Republican	*diff*
TBL	-0,019***	0.068***	-0.087	-0.007***	0.0614***	-0.0684	0.0241***	0.0464***	-0.0223	-0.0187***	-0.0242***	-.0055
	0,00	0.00	0.00	0.001	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.005
INF	0,008**	0.065***	-0.057	0.0215***	0.0533***	-0.0318	0.024***	0.0609***	-0.0369	0.0062	-0.0189***	0.0251
	0,013	0.00	0.00	0.00	0.00	0.001	0.00	0.00	0.00	0.172	0.00	0.00
EWR-TBL	0,1402***	0.0199	0.1203	-0.0005	0.0586	-0.0581	-0.0093	0.0618	-0.0711	0.1816**	0.1006	0.081
	0,009	0.916	0.445	0.991	0.758	0.7716	0.848	0.747	0.7256	0.014	0.127	0.3128
EWR-INF	0,1086**	0.0174	0.0912	-0.0296	0.0667	-0.6966	-0.0092	0.0473	-0.0565	0.1526**	0.1107*	0.0419
	0,031	0.926	0.5392	0.590	0.724	0.6329	0.849	0.802	0.771	0.037	0.097	0.602
VWR-TBL	0,1017**	0.0535	0.0482	-0.0343	0.1443	-0.1786	-0.0440	0.1335	0.1775	0.1072*	0.0951	0.0121
	0,013	0.708	0.7653	0.443	0.334	0.2728	0.301	0.365	0.2614	0.053	0.107	0.8578
VWR-INF	0,0716*	0.0562	0.0154	-0.0644	0.1538	-0.2182	-0.0440	0.1186	-0.1626	0.0798	0.1052*	-0.0254
	0,0760	0.692	0.9224	0.158	0.301	0.1787	0.305	0.414	0.298	0.0145	0.08	0.7066

* p<.10, ** p<.05, *** p<.01

To test whether political uncertainty affects the magnitude or and significance of the Democratic premium I add the set of political control variables which I have showed in table IV are statistically and economically significant. I include the EPU index, the first measure of Political Disagreement (PD1), Political sentiment (PS), Conflict Beginning dummy (CD) and the Shutdown Dummy (SD). The continuous measure for a shutdown (ShDo) is left out as data is only limited to 1980 until 2018. I expect that the Democratic premium will change when political uncertainty is introduced. In this table not only the 'combined' dummies for Democrats and Republicans can be found but also for 'Unity' in the three houses, meaning that no matter what party controls all three houses the dummy Unity will become 1 for that month. In table VI you can find the results of how political uncertainty affects the Democratic premium for the presidential and combined dummy.

Panel A of table VI shows the coefficients for the Democratic premium remain statistically and economical and statistical significance increases when adding political uncertainty, the magnitude of coefficients increases by 1%. The Democratic premium resides between 11.7% and 8.37% when controlling for political uncertainty and shows a robust result having statistical significance at all four

measures for return. Panel B shows the combined dummies in the same regression as the Democratic premium was tested for. In this panel we can see that the Democratic coefficient increases on average 2% but becomes insignificant using real and value weighted returns. The Republican dummy on the contrary stays stable in economical and statistical significance. The premium on having any party in power in all three houses at the same time (Unity) increases with roughly 1% and becomes significant between the 5% and 1% level. The premium on Unity is between 14.6% and 7% after controlling for political uncertainty. Political uncertainty seems to affect the Democratic premium, but the premium remains persistent and statistically and economically significant. Following the results I can reject the null hypothesis of no effect of political uncertainty on the Democratic premium.

TABLE VI The effect of political uncertainty on the Democratic premium

This table shows the effect of including political control variables in the regression used in table V. the table shows the effect of a Democratic or Republican president with and without political controls in panel A, using excess Equal Weighted Returns (EWR-TBL), real Equal Weighted Returns (EWR-INF), excess Value Weighted Returns (VWR-TBL) and real Value Weighted Returns (VWR-INF) as dependent variables. In Panel B the combined dummy shows the effect of either all houses (white house, senate and house of representatives) belonging to Democrats or Republicans, and the effect when all three houses belong a political party (Unity) and when there is no party that controls all three houses (none). Political controls mentioned in the table are the variables shown in table IV (with exception of ShDo due to limits in observations), consisting of Economic Policy Uncertinty index (EPU), Political Disagreement (PD1) derived from the difference in approval rating and disapproval rating of the U.S. president, Political Sentiment (PS) derived as the change in approval and disapproval rating of the U.S. president, conflict beginning (ConflictB) as the first month of a conflict the U.S. government is involved with, Shutdown Dummy (SD) which takes the value of 1 in the month of a U.S. government shutdown and the month before. The financial controls consists of 1) the dividend-price ratio (DPR_t), 2) the term spread (TSP_t) showing the difference in yield of a 10yr U.S. treasury bill and a 3 month U.S. treasury bill, 3) the default spread (DSP_t) exposing the difference in yield of BAA and AAA rated bonds, and 4) the relative interest rate (RR_t) being the difference between the 1 year moving average of the 3 month U.S. treasury bill and its actual value. I use robust standard errors.

	EWR-TBL		EWR-INF		VWR-TBL		VWR-INF	
Panel A: Presidential dummy								
Democratic	0.1054***	0.1173***	0.0939**	0.1056**	0.0867**	0.0952***	0.0753**	0.0837**
	0.008	0.004	0.018	0.01	0,013	0.008	0.031	0.019
Republican	-.0655	0.0158	-.0503	0.0323	0.0072	0.0743	0.0088	0.0923
	0.516	0.874	0.619	0.741	0.933	0.398	0.918	0.296
Financial controls	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*yes*
Political Controls	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*	*yes*
Panel B: Combined dummy								
Democratic	0.1180**	0.1425***	0.1061**	0.1307**	0.0552	0.0747*	0.0439	0.0637
	0.021	0.005	0.037	0.01	0.205	0.083	0.311	0.138
Republican	0.1549***	0.1563***	0.1460**	0.1474**	0.1135**	0.1170**	0.1049**	0.1084**
	0,127	0.006	0.013	0.011	0.020	0.015	0.08	0.029
Unity	0.1279***	0.1462***	0.1167***	0.1351***	0.0707*	0.0859**	0.0601	0.0705**
	0.004	0.001	0.009	0.002	0.061	0.022	0.112	0.044
None	-0.047	0.019	-0.0356	0.0347	0.0278	0.0956	0.0408	0.1114
	0.648	0.845	0.733	0.734	0.759	0.301	0.653	0.230
Financial controls	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*yes*
Political Controls	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*	*yes*
Mean F-statistic	0.0021	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Mean R^2	0.0352	0.0808	0.0457	0.0777	0.0492	0.0753	0.01	0.0798
N	810	810	810	810	810	810	810	810

* p<.10, ** p<.05, *** p<.01

CHAPTER 5 Conclusion

The Democratic premium discussed since the 1980s has been further delved into over the years and given new relevance by the current president who uses stock returns under his presidency as proof for his policy. This underpins makes the relation between stock prices and the white house more and more a public domain. In my thesis I have further uncovered the relationship between politics and stock returns. My research question is: *Does political uncertainty affect the Democratic premium?* To answer this question, I have set up 3 main hypotheses.

1) *Political uncertainty affects U.S. stock returns.*

Previous literature shows that political uncertainty affects stock prices and I can conclude the same. I have taken prominent measures of political uncertainty from the literature and tested them together to show the effect of political uncertainty on U.S. returns. The effects range from 2% to 11% on annual basis for a one standard deviation increase.

2a) *Under Democratic Presidents stock returns are higher than under Republican presidents, resulting in a Democratic premium.*

Just as previous literature finds, I find a Democratic premium. Using financial controls, the magnitude of the premium I find is around 7.16% to 14.02% for real and excess value weighted and equal weighted returns.

2b) *Political party affiliation dominance in the senate and the house of representatives does not result in a premium.*

I do not find a premium for Democratic or Republican senates and house of representatives. The results are all insignificant meaning the occupation of the senate and house of representatives does not have any effect on stock prices.

2c) *having all three houses (president, senate and representatives) of the same party, results in a premium.*

When all houses, white house, senate and house of representatives, are in control by one political party, premiums premium I find are around 6.01% (insignificant) to 12.79% for real and excess value weighted and equal weighted returns. When introducing political uncertainty coefficients increase to 7.05% and 14.62% all being statistically and economically significant.

Further delving into to the properties of the premium I see that both Democrats and Republicans exhibit strong positive returns when holding all three houses. The results for Republicans holding all three houses are more robust and economically and statistically more significant.

3) Political uncertainty affects the Democratic premium

I find that when adding political uncertainty to the regression the Democratic premium on the president remains statistically significant and increases in magnitude by on average 1%. The premium on controlling all three houses becomes more statistically significant. The premium Republicans show when controlling all three houses increases economically and statistical in significance. The increase of premia, in circumstances where any or one particular party controls all three houses, due to political uncertainty can be explained by these periods exhibiting lower political uncertainty. As lower political uncertainty increases stock returns the premia become more extrapolated. The increase of the Democratic premium due to introduction of political uncertainty shows Democrat's administrations are less associated with political uncertainty.

My study is focused on the relation between political uncertainty and the Democratic premium. Controlling for political uncertainty in the main regression increases the Democratic premium by roughly 1% while making it more statistically significant. To further test for the effect of political uncertainty my research also examines periods where the president, senate and house of representatives are of the same political party. This paper documents a unity (all three houses in hands of any political party in the U.S.) premium. Annually the unity premium consists of 14.62% over periods where there is no political alignment (at least one of the three houses has a majority of another political party) in the three houses. Moreover, my research shows how political uncertainty variables being the EPU index, political disagreement, political sentiment, conflict beginning and a shutdown dummy, all but political sentiment have a negative relation to stock prices and extrapolate the Democratic premium. Concluding I can answer my research question: *Does political uncertainty affect the Democratic premium?* Yes political uncertainty affects the Democratic premium but it does not explain the Democratic premium.

Further research is needed to further understand the origin of the Democratic premium. Political uncertainty is a factor that affects the Democratic premium, but the premium persists and both statistically and economically significant. It would be interesting to test what other factors might influence the Democratic premium. Research on the cross-sectional variation of the Democratic premium in industries is interesting, as anti-cyclical industries are more connected to Democratic administration such as health care and veterinary, whereas pro cyclical industries are linked to

Republican administrations such as manufacturing. Returns under Republicans are then more prone to recessions.

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APPENDIX A Additional tables

Table III Correlation matrix

This table shows the correlation between all variables as described in section 3.1.

	DP	RP	DS	RS	DH	RH	DD	RD	Unity	DPR	DSP	TSP	RR	EPU	PD1	PS	CB	SD
DP	1																	
RP	-1	1																
DS	.1	-.1	1															
RS	-.1	.1	-1	1														
DH	-.18	.18	.54	-.54	1													
RH	.18	-.18	-.54	.54	-1	1												
DD	.67	-.67	.4	-.4	.4	-.4	1											
RD	-.29	.29	-.49	.49	-.48	.48	-1	1										
Unity	.46	-.46	.09	-.09	.1	-.1	.82	.4	1									
DPR	-.04	.04	.09	-.09	.49	-.49	.3	-.1	.23	1								
DSP	-.14	.14	-.11	.11	-.26	.26	.34	-.04	-.34	-.36	1							
TSP	-.15	.15	-.02	.02	-.09	.09	-.17	.03	-.15	-.16	.49	1						
RR	.05	-.05	.01	-.01	.01	-.01	.04	.01	.04	.01	-.2	-.4	1					
EPU	-.03	.03	-.12	.12	-.25	.25	-.24	-.05	-.25	-.29	.72	.35	-.06	1				
PD1	-.03	.03	.14	-.14	.14	-.14	.08	-.01	.07	.14	.04	-.15	-.05	.07	1			
PS	.03	-.03	-.03	.03	-.03	.03	-.01	-.01	-.01	-.03	.02	-.01	.07	.06	-.02	1		
CB	.03	-.03	.04	-.04	.03	-.03	.04	-.06	-.01	-.01	-.04	-.02	-.01	.01	-.05	.05	1	
SD	.03	-.03	-.05	.05	.03	-.03	.02	-.05	-.01	.08	.-3	.04	-.12	.1	-.03	.02	-.03	1

Table VII Cameron and Trivedi's decomposition of IM-test

This table shows the tests for heteroskedasticity, skewness and kurtotis for every model I use in the paper. In every case I reject the null of no heteroskedasticity, therefore I use robust standard errors in all my models. In every case I reject the null of no skewness. In every model I cannot reject the null hypothesis of no kurtosis at the 5% level.

	Source	Chi2	df	p
Table IV	Heteroskedasticity	172.37	51	0.000
	Skewness	32.69	9	0.0002
	Kurtotis	3.52	1	0.06
Table V	Heteroskedasticity	270.07	19	0.000
	Skewness	38.92	5	0.000
	Kurtotis	3.74	1	0.0532
Table VI	Heteroskedasticity	177.29	61	0.000
	Skewness	31.87	10	0.0004
	Kurtosis	3.71	1	0.054

Table VIII Effect of conflict dummies on excess equal weighted returns

This table shows the effect of the U.S. being in the beginning of a conflict (ConflictB) during a conflict (ConflictD) and when the conflict ends in the last month (ConflictE) on the monthly excess equal returns of the S&P 500 (EWR-TBL). Using robust standard errors.

	EWR-TBL		
Financial controls	*Yes*	*Yes*	*Yes*
ConflictB	-0.0163*		
	(-1.70)		
ConflictD		0.0026	
		(0.61)	
ConflictE			0.0019
			(0.20)
F-statistic	0.0001	0.0015	0.0025
R^2	0.0178	0.0122	0.012
N	1092	1092	1092

t statistics in parentheses * p<.10, ** p<.05, *** p<.01

Table IX Effect of political disagreement measures on excess equal weighted returns

This table shows the effect of three different political disagreement measures as described in the data section. Returns are denoted as excess equal weighted returns of the S&P 500. I use robust standard errors.

	EWR-TBL		
Financial controls	*Yes*	*Yes*	*Yes*
PD1	-.00002***		
	(-2.65)		
PD2		-.00003**	
		(-2.02)	
PD3			-.00015***
			(0.20)
F-statistic	0.000	0.000	0.000
R^2	0.055	0.0472	0.0612
N	810	810	810

t statistics in parentheses * p<.10, ** p<.05, *** p<.01