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The Impact of Political Cycles and Lobbying on U.S. Stock Market Performance: An Empirical Analysis

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ABSTRACT

This study examines whether firms' strategic deployment of lobbying moderates the relationship between political cycles and U.S. stock market performance. A time series regression is conducted with lobbying data, U.S. company stock market returns, U.S. presidential party affiliations, and various business-cycle control variables. The study finds no statistically significant effect of political cycles on stock market performance. However, the study does find that lobbying expenditures, through their delayed impacts, in combination with a presidential cycle, significantly affect the stock market performance. Furthermore, lobbying expenditures, on average, regardless of the political party in office, significantly positively affect the overall stock market performance via delayed effects. Lastly, the study found no significant difference in lobbying expenditures two years preceding an election compared to other periods. This study highlights the impact of corporate lobbying and presidential cycles in the United States on global financial markets. Investors and lobbying firms should consider this combined effect in their investment strategies.

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CHAPTER 1 Introduction

On January 20, 2021, Joe Biden was inaugurated as the 46th President of the United States of America. That day, major U.S. stock indexes closed at new all-time highs, potentially signaling investor relief due to anticipated generous coronavirus aid under Biden's administration. Countering this, former President Donald Trump highlighted the U.S. stock market's strength during his presidency, stating, "The stock market is actually substantially higher than it was at its higher point prior to the pandemic," adding, "We built it twice" (Al Jazeera, 2021, para. 7). By the beginning of 2024, the S&P 500 benchmark had risen 34% since Joe Biden's inauguration, outperforming the stock market under Trump at a comparable stage in his term (Reklaitis, 2024). For additional context, after three years and two months in office, George W. Bush, a Republican, experienced stock performances of -16.40% in his first term and 13.21% in his second term. In contrast, Barack Obama, a Democrat, saw stock performances of 74.38% in his first term and 37.93% in his second term. Donald Trump, also a Republican, had a stock performance of 5.58% at the same juncture in his term. As for Joe Biden, a Democrat, his administration has seen a 34% increase in stock market performance up to the same point in his term (Reklaitis, 2024). These variations in stock market performance, which align with the political cycles of Republican and Democrat presidencies, illustrate the 'Presidential puzzle' described by Santa-Clara and Valkanov (2003).

Researchers within the Finance and Political Economy fields have demonstrated an interest in exploring these differences in the stock market performance due to changes in political cycles. Early research, like the study by Santa-Clara and Valkanov (2003), revealed that stock market excess returns are higher during Democratic administrations than Republican ones in the United States. Through regression analysis of data encompassing approximately 80 years and 16 presidential terms, the findings indicate that annual returns for value-weighted and equal-weighted portfolios are 9 to 16 percent higher when Democrats are in office. These results remain consistent when adjusting for various control variables associated with business cycles. Frederico Belo et al. (2013) built on these insights, and their study adds a new dimension to the discussion. They discovered that companies with high government exposure (significantly impacted by government spending or regulatory decisions) experience higher cash flows and stock returns during Democratic presidencies. In comparison, they experience lower cash flows and stock returns during Republican presidencies. Furthermore, the study indicates that business cycles, firm characteristics, and standard risk factors alone do not explain the return patterns associated with political presidencies. Consequently, investors could achieve abnormal returns as high as 6.9% per annum by deploying strategies that capitalize on this presidential cycle predictability. Lastly, the study of Pástor and Veronesi (2020) suggests that when risk aversion is high, voters are more likely to elect Democrats associated with higher redistribution. Moreover, they found higher average stock market returns and lower stock return volatility under Democratic administrations. In conclusion, many studies, including those mentioned, consistently demonstrate that

stock market performance tends to be more favorable during Democratic administrations, reinforcing the 'Presidential puzzle.'

Despite these robust results, the impact of lobbying on the relationship between political cycles and stock market performance has not yet been thoroughly explored. Lobbying can be described as “the activity of trying to persuade someone in authority, usually an elected member of a government, to support laws or rules that give your organization or industry an advantage” (Cambridge, 2024). With a total expenditure of 4.26 billion U.S. dollars on lobbying in 2023, lobbying significantly influences the economy and political landscape in the United States (Statista, 2024). Bertrand et al. (2014) explained how corporate lobbying is a form of investment, suggesting firms engage in lobbying with the expectation of favorable policy outcomes. This could influence their market performance. Moreover, Hillman and Hitt (1999) argued that corporate political strategies, including lobbying, are integral to a firm’s overall competitive strategy. This strategy can potentially affect its valuation and market performance. Therefore, the strategic timing of lobbying efforts during political cycles can be considered a calculated measure. Firms may intensify their lobbying activities to mitigate or amplify the effects of political shifts on stock market performance. This motivates an investigation into how lobbying is a strategic tool for firms to navigate stock market variances under different political administrations, potentially mitigating risks or leveraging favorable policies during political transitions. This thesis suggests that lobbying significantly influences the interaction between political cycles and stock market performance. It also examines how corporate lobbying efforts' intensity and strategic timing differ when new elections are on the horizon. Therefore, this thesis aims to study: “*How does the strategic deployment of lobbying by firms moderate the relationship between political cycles and U.S. stock market performance?*”.

Consistent with prior research, this study will focus on monthly U.S. data, spanning the presidency of Bill Clinton (February 1998) until the middle of Biden’s presidency (January 2023). The official White House website will provide information regarding presidents and their party affiliations (https://www.whitehouse.gov). This political cycle data will be transformed into a dummy variable, with 1 indicating a Democratic president and 0 indicating a Republican president. Data on the stock market performance since 1998 will be obtained from the Center of Research in Security Prices (CRSP) and include U.S. companies listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), and NASDAQ. The Lobbying data, which reflects the scale and scope of lobbying activities, will be obtained from OpenSecrets – a nonprofit organization specializing in tracking and publishing campaign finance and lobbying information. The large raw lobbying data first needs to be filtered. Then, the data will be converted into monthly data using linear interpolation (statistical method for estimating values) for quarterly lobbying data to create monthly values, as lobbying expenditures are reported quarterly. Note that before 2008, the lobbying expenditures were reported half-yearly. For those years, the lobbying expenditures before mid-year will be summed, and monthly amounts will be created using linear interpolation. This process will be the same for the year-

end lobbying expenditures. This data, available since 1998, will be coded as a continuous variable. At the time of research, the lobby data is available until January 2023. Finally, to test the moderating role of lobbying, a time series regression will be performed on different political administrations (Republican or Democrat), including an interaction term between the political cycle and lobbying variable. The model will account for various macroeconomic and business cycle variables as controls to isolate the specific effects of lobbying and political cycles on stock market performance.

I hypothesize that the intensity of lobbying activities significantly affects the relationship between political cycles and the stock market in the United States. This aligns with findings from Chen et al. (2015), which demonstrate that firms engaging in lobbying tend to exhibit better financial performance. They also showed that firms with substantial lobbying activities outperform their benchmarks over time, suggesting an underappreciation of lobbying's value in market predictions. This insight informs the hypothesis that firms may leverage lobbying as a strategic tool to navigate political changes and capitalize on resultant economic opportunities. During Republican presidencies, firms might anticipate deregulation and, therefore, initially reduce their lobbying efforts. However, even with reduced lobbying activity, these efforts should still mitigate potential lower stock performance. Lobbying is unlikely to worsen their position unless it negatively affects other industries. In this study, I hypothesize that lobbying will not worsen the overall stock market performance. Contrarily, under Democratic presidencies, firms might increase their lobbying in anticipation of restrictive policies. This could amplify stock market performance if the policies result in positive economic surprises, as Santa-Clara and Valkanov (2003) suggested. Thus, I hypothesize that lobbying is a mitigating factor during Republican presidencies and an amplifying factor during Democratic presidencies.

This study finds that corporate lobbying expenditures significantly moderate the relationship between political cycles and stock market performance through their delayed effects. While there was no direct relationship between political cycles and stock market performance, the interaction between the prior period's increase in lobbying expenditures and political cycles does. Specifically, under Democratic presidents, lobbying is a positively amplifying factor, whereas, under Republican presidents, it is a negatively amplifying factor for stock market performance.

The remainder of this paper is structured as follows: Section 2 discusses relevant literature and previous research. Section 3 introduces the dataset used for this research. Section 4 discusses the empirical methodology. Section 5 presents and discusses the study's main results, including answering the hypotheses. Section 6 provides a summary and conclusion while discussing the limitations and further research opportunities. Additional supportive materials are provided in the Appendices.

CHAPTER 2 Theoretical Framework

This section provides an overview of the current literature regarding political cycles and the stock market. It also aims to investigate the relationship between those two and the reasons behind this relationship. The role of lobbying and its influence on this relationship will also be examined. Lastly, three hypotheses will be stated throughout this section.

2.1 The Stock Market

The stock market refers to the trading, primarily online, of shares representing partial ownership of companies (Gratton, 2024). This definition aligns with those found in academic articles, such as the description provided by Teweles and Bradley (1998), where the stock market is defined as a market for shares of ownership in corporations. Macroeconomically, the stock market is often considered a leading indicator of a country's economic health (barometer of the economy). This means that the stock market reflects corporate performance (Fama, 1990), consumer and investor confidence (Baker & Wurgler, 2007), and acts as a leading indicator for the overall economy (Chen et al., 1986). Thus, the stock market is closely monitored as a key indicator of the economy's overall health. Numerous studies have examined the stock market as an outcome influenced by various macroeconomic variables. Over time, research has identified new variables that can predict stock market movements.

Initially, authors were mainly concerned about the overall movements of the economy and the stock market. On of the most influential studies is by Bachelier (1900), "Théorie de la spéculation". One of Bachelier's motives was his interest in the underlying factors of stock price movements. The study implied that changes in stock prices are random and unpredictable. Fisher (1930) examined the role of the macroeconomic tool in the form of interest rates in relation to the stock market. High interest rates would discourage borrowing and reduce investments, which can lead to lower stock market performance. Keynes (1936) also highlighted that interest rates and aggregate demand influence the stock market.

Later studies were more specific on how factors could influence the stock market. For example, Chen et al. (1986) examined how macroeconomic variables affect stock market returns in the United States. The study finds that a high future interest rate can negatively impact stock returns by raising the cost of capital and reducing economic growth expectations. The study also finds that unexpected inflation tends to decrease stock returns, whereas expected inflation could potentially lift stock prices due to increased economic activity. However, it can also lead to fears of high rates, which might decrease stock returns. Additionally, changes in industrial production directly correlate with stock market performance. Therefore, an increase in industrial production leads to higher stock prices,

while a decrease leads to lower stock prices. In contrast, Taylor and Poon (1991) discovered that the macroeconomic variables examined in Chen et al.'s study (1986) did not exhibit the same significant influence on share prices in the United Kingdom. This indicates potential differences in how macroeconomic factors affect various regional stock markets.

Recent studies, such as those by Mittal et al. (2020), have focused on the impact of macroeconomic factors on the stock market index return in India. The study found that most examined macroeconomic variables, specifically gold price return, inflation rate, and crude oil prices, have a negative impact on the stock market index return. Bhuiyan and Chowdhury (2020) also examined the relationship between various macroeconomic variables and sector-specific stock market indices in the United States and Canada. Their study revealed a stable long-term relationship between macroeconomic variables (industrial production, money supply, and long-term interest rate) and different sector indices, such as the S&P 500, in the United States. However, no such relation was found for Canada. They even found a solid cross-border economic influence; the money supply and long-term interest rates of the United States significantly influence the Canadian stock market.

Moreover, Omar et al. (2022) showed that economic growth and a developed banking sector enhance stock market performance in the long run in Pakistan. Contrarily, high inflation, increased FDI (foreign direct investment), and trade openness adversely affect economic growth. Chiad and Hadj Sahraoui (2022) studied the macroeconomic factors influencing the stock market development. They analyzed ten Arab countries: the United Arab Emirates, Bahrain, Egypt, Jordan, Kuwait, Morocco, Oman, Qatar, Saudi Arabia, and Tunisia. In their research, stock market development is defined as the total value of all listed shares in a stock market as a percentage of the country's gross domestic product (GDP). They found that trade openness, stock market liquidity, broad money supply, and economic growth positively and significantly impact stock market development. Zhang (2023) studied GDP growth as an indicator of stock market movements in China. The study found strong indications of GDP growth as a predictor for the CSI 300 Index, which contains the 300 largest and most liquid stocks traded on China's Shanghai and Shenzhen stock exchanges. However, external factors like the outbreak of the Russia-Ukraine war in 2022 and internal factors like a slowdown in China's economic development can weaken this relationship. Lastly, Jabeen et al. (2022) studied the impact of crucial macroeconomic factors – gold index, crude oil price, interest rate, and exchange rate– on stock returns in the United States, Turkey, and Hong Kong. For all these countries, the influence of these macroeconomic factors was highly significant and negative.

In conclusion, the stock market is highly influenced by macroeconomic factors, which are often determined by the policies of the ruling party or leader. These factors, such as interest rates, inflation, GDP growth, and trade policies, highly influence stock market performance. Therefore, decisions made by political leaders can have profound and far-reaching impacts on financial markets. In the next section, I will examine how different political policies relate to the economy and how they have historically affected it over time.

2.2 Political Cycles

Political cycles in this study refer to the changes in economic policies and outcomes that correspond with presidential terms in the United States, influenced by the party affiliation – Republican or Democratic – of the sitting president. Political cycles can be viewed through economic cycles, as government policies significantly impact economic conditions. Different administrations may implement varying fiscal, monetary, and regulatory policies, influencing factors such as inflation, employment, interest rates, and overall economic growth (Alesina & Roubini, 1992). In another study by Alesina et al. (1997), political cycles were described as fluctuations in economic policies and outcomes driven by the electoral cycle. These cycles arise as elected officials manipulate economic policies to create favorable conditions before elections, such as reducing unemployment or increasing government spending (Roemer, 1995). The topic of how presidential cycles could affect the economy has been studied extensively throughout history.

Nordhaus (1975), for example, conducted one of the earliest and most groundbreaking studies on political cycles in the economic context. He explored how electoral motives shape their economic decisions. For example, incumbent governments often use expansionary fiscal and monetary policies before elections to reduce unemployment and stimulate economic growth. This way, the chance of staying as a government increases. Alesina and Rosenthal (1995) further found that if the governing party creates an optimistic economic environment, their likelihood of remaining in office increases. A more recent study by Azzimonti and Talbert (2014) found that political cycles lead to more significant fluctuations in critical economic variables like output, investment, and consumption. Uncertainty about future policies affects private investment decisions, which makes the economy more volatile.

To now focus specifically on political cycles in the United States. For example, Alesina and Sachs (1986) provided empirical evidence that monetary policies and economic outcomes vary systematically with the political party in power. They examined the period 1948 to 1984 and showed that output tends to expand above trend at the beginning of Democratic administrations due to expansionary policies, while Republican administrations often experience recessions or lower output growth initially. Similar to Nordhaus (1975), the study found systematic differences in output growth, particularly in the first half of administrations, as parties adjust their policies to maintain their electoral positions. Moreover, Hibbs Jr (1994) showed that, although dealing with higher inflation rates, the economy performed better in terms of output growth and employment during Democratic administrations than Republican ones. Additionally, Blinder and Watson (2016) found that the U.S. economy has generally performed better under Democratic presidents, with a noticeable difference in real GDP growth between the two parties. They suggested that these differences might be due to favorable external conditions and positive shocks rather than more expansionary fiscal or monetary policies. Lastly, Guntermann et al. (2021) proved that voters have historically held incumbent presidents accountable for the economy. This demonstrates the importance of the state of the economy in presidential elections throughout U.S. history.

Macroeconomic choices made by the U.S. party in office also affect other countries. For example, Bauerle Danzman et al. (2017) found that patterns of capital flows, driven primarily by U.S. borrowing activities, significantly impact global financial stability. Furthermore, Xi and Xiao (2021) showed that U.S. election outcomes have substantial effects on Chinese policies, especially in sectors like healthcare, trade, and technology. Their results showed that U.S. government policies have far-reaching effects on other countries and, in this case, China. Lastly, Franzese Jr (2002) showed how U.S. policies, especially those related to monetary and fiscal policies, during presidential cycles can lead to fluctuations in global financial markets. Specifically the markets for exchange rates, capital flows, and the stock market. This is partially because economies of developed democracies tend to synchronize their economic cycles with those of the United States due to the government's dominant role in the global economy.

In conclusion, political cycles significantly influence national and global economies through governmental policies. Studies have shown a significant variation in economic outcomes between Democratic and Republican administrations, particularly in the United States. This sub-section has highlighted the importance of political affiliations in shaping economic policies and their subsequent effects on economic performance. The following section will explore the interaction between political cycles and the stock market, focusing specifically on the United States.

2.3 Previous Studies on Political Cycles and the Stock Market

Previous studies have shown the relationships between the stock market, political cycles, and the economy. However, the question remains how the stock market and political cycles relate.

Early studies, like Herbst and Slinkman (1984), examined the relationship between political and economic cycles as reflected in stock market performance in the United States. The study suggests that stock market data may indicate cycles that correlate with election timings. Moreover, the stock market could also be influenced by electorate expectations or government economic policies. The study analyzed month-end stock market prices obtained from the CRSP database from January 1926 to December 1977 (624 observations). They employed statistical analysis to fit the data into two- and four-year cycles using Bartels' test to determine these cycles' significance and verify their alignment with the U.S. electoral cycles. The study found evidence of two-year and four-year political-economic cycles in the stock market, with four-year cycles peaking in November of presidential election years. They hypothesized that the anticipation of government policies or political changes related to elections could be reflected in stock market performance and act as a barometer for public economic sentiment. This aligns with later studies demonstrating the correlation between election timings and stock market performance.

Building on this, Huang (1985) further explored the relationship between common stock returns and presidential election cycles in the United States. The study examined whether noticeable

patterns in stock returns correlate with the timing of presidential elections and whether these patterns vary depending on which political party is in power. The data contained average annual rates of return on common stock across various periods, segmented by each year of the four-year presidential election cycle. Huang analyzed multiple periods, such as 1961-1980, 1949-1980, and 1929-1980, using statistical tests to assess the significance of returns in different years of the presidential cycle. It also included comparisons between Republican and Democratic administrations. The study concluded that stock returns tend to be higher in the third and fourth years of the presidential election cycle (years leading up to an election). This pattern appears consistent across periods and under Republican and Democratic administrations. The study suggested that these patterns could be due to political control of the economy, where economic policies might be manipulated around election times to favor incumbent parties. This result resembles earlier studies like Nordhaus (1975) and Alesina and Rosenthal (1995). The study further extends the analysis of Herbst and Slinkman (1984) by analyzing different historical periods.

Moreover, Hensel and Ziemba (1995) investigated the relationship between U.S. investment returns and political party affiliation (Democratic or Republican) from 1928 to 1993. The study examined investment returns from 1928 to 1993 of asset categories: large-cap stocks, small-cap stocks, corporate bonds, long-term and intermediate government bonds, and cash investments. They compared returns during different phases of the presidential cycle (first two years vs. last two years) and under different administrations. The study found that small-cap stocks performed significantly better during Democratic administrations than under Republican administrations, primarily due to a lack of losses in the April-December period each year. This result was independent of the January small-firm effect, which is an inconsistency in financial markets where small-cap stocks tend to outperform larger stocks during the month of January. Conversely, returns from corporate bonds, long-term and intermediate government bonds, and cash investments were significantly higher during Republican administrations. The authors suggested that these differences could be related to the economic policies implemented by the administrations. Democratic policies might favor conditions to boost small-cap stocks, whereas Republican policies could create favorable conditions for bonds and cash investments. These findings align with previous research, suggesting that presidential elections, through economic policies, influence stock and bond markets.

Furthermore, Siegel (1998) examined the relationship between long-term investment returns and political cycles, among other factors. The author investigates how government policies and political events influence stock market returns. The data used contained historical financial data for stocks over two centuries. The study finds that stocks generally offer superior returns through various political cycles. Consequently, despite political changes and associated economic policies, stocks have consistently outperformed other asset classes in the long run. Hence, despite variations in fiscal and monetary policies due to political cycles, stocks could adapt and grow, demonstrating flexibility against political and economic shifts. This research contributes new insights; despite the short-term

effects of political cycles on economic performance, stocks offer significant flexibility in the long term against political cycles and, therefore, keep their growth potential.

Additionally, Johnson et al. (1999) thoroughly investigated the relationship between presidential politics and stock market performance. The study analyzed stock market indices across different presidential terms throughout history. The results indicate a pattern where stock market indices generally perform better when Democrats are in office as opposed to Republicans. This trend is consistent across various market sectors but is particularly pronounced in industries sensitive to regulatory changes and government contracts, such as defense and healthcare. Moreover, markets tend to be more stable during Democratic administrations. The authors suggested that the relationship between political cycles and the stock market works through policy anticipations, economic expectations, and the administration's philosophy in power, which influences investor sentiment and market movements.

Lastly, Santa-Clara and Valkanov (2003), as already mentioned, was the first study to formally test the relationship between political cycles and the stock market. The study examined the robustness of this relationship, investigated cross-sectional returns, and used macroeconomic control variables. The authors analyzed the stock market, explicitly value-weighted and equal-weighted CRSP indices from 1927 to 1998. Their statistical methods include regression analysis and robustness checks, such as examining subsamples, correcting for short-sample problems, and testing for the influence of outliers. The study found that the stock market performs better under Democratic presidencies than Republican ones. Specifically, the average excess return of the value-weighted CRSP index over the three-month Treasury bill rate was about 2% under Republicans and 11% under Democrats. For the equal-weighted portfolio, this difference was 16% in favor of Democrats. The authors suggested this relationship is not due to a risk premium but instead seems linked to systematic positive surprises from the economic policies enacted by Democratic administrations and their lower real interest rates.

Consequently, based on the existing literature, I expect the outcome to be similar to (most) of the studies reviewed. That is, the stock market performance tends to be higher under Democratic administrations than under Republican administrations. Therefore, the first hypothesis of this study is: **H1**: *The stock market performance is higher under Democratic administrations than Republican administrations in the United States.*

2.4 Lobbying

Despite much research on the relationship between political cycles and stock market performance, the impact of lobbying on this relationship has not yet been thoroughly explored. As described in the Introduction section, lobbying is “the activity of trying to persuade someone in authority, usually an elected government member, to support laws or rules that give your organization

or industry an advantage" (Cambridge, 2024). This is in line with the academic definition of lobbying. For example, Bombardini and Trebbi (2020) described lobbying within the political economy as the process of political influence by corporations and other business interests on adopting, retaining, or amending public policy. This influence is utilized through selective communication of information and material exchange with political officials, including campaign contributions or employment opportunities. Previous research on lobbying mainly focused on its influence on stock market performance rather than in combination with other possible predictors. Therefore, this study examines the interaction between lobbying and political cycles on the stock market performance.

Previous studies, such as the study by Chen et al. (2015), showed that portfolios of firms with the highest lobbying intensities significantly outperform their benchmarks over three years. Therefore, indicating that the market values and lobbying efforts are positively correlated. Nevertheless, the authors suggested that spending more on lobbying does not guarantee superior stock market returns because lobbying is not the only factor at play. Additionally, Bertrand et al. (2014) found a generally positive correlation between lobbying expenditures and various measures of a firm's financial performance. This includes accounting performance metrics and market-based measures like stock returns. The portfolios of firms that lobby more intensely show higher returns than those that do not engage in lobbying and tend to show higher expected returns in the years following portfolio formation (grouping based on lobbying expenditures). This indicates the potential underpricing by the market. Lastly, only firms that commit to the highest lobbying intensity tend to realize excess returns. Contrarily, Borghesi and Chang (2015) showed that lobbying generally leads to negative excess returns for lobbying firms. Only large firms and those in heavily regulated industries, such as healthcare or utilities, are more likely to lobby and potentially benefit from lobbying. A more recent study by Ghouma and Hewitt (2019) showed that firms in heavily regulated industries lobby more and exhibit higher average returns than non-lobbying stocks in the same regulated industry. Examples of regulated industries are tobacco, alcohol, and gambling industries. In conclusion, studies have shown a (mostly) positive correlation between lobbying activities and stock market performance. That is why I expect the lobbying activities to amplify the overall stock market performance positively.

Therefore, I predict lobbying to be a strategic tool to navigate through political changes. Specifically, as Republican administrations tend to be less willing to intervene in the economy than Democratic administrations (Furhmann, 2022), firms might anticipate deregulation and initially reduce their lobbying efforts. However, even with generally reduced lobbying activity, such efforts should still mitigate any potential lower stock performance, as lobbying is unlikely to worsen their position. I recognize that advocating for a single industry could adversely affect the overall stock market. Nevertheless, based on the majority of the mentioned studies, this study takes the stance that lobbying, on the whole, does not worsen the overall market. Additionally, under Democratic presidencies, firms might increase their lobbying in anticipation of restrictive policies, which could, in turn, amplify stock

market performance if the policies result in positive economic surprises, as suggested by Santa-Clara and Valkanov (2003). Thus, my second hypothesis is:

H2: *Lobbying acts as a mitigating factor of the stock market performance during Republican presidencies and as an amplifying factor of the stock market performance during Democratic presidencies in the United States.*

The two main hypotheses described in this paper are summarized in the following diagram, which outlines the proposed conceptual framework of this study.

Figure 2.1: The Proposed Conceptual Framework

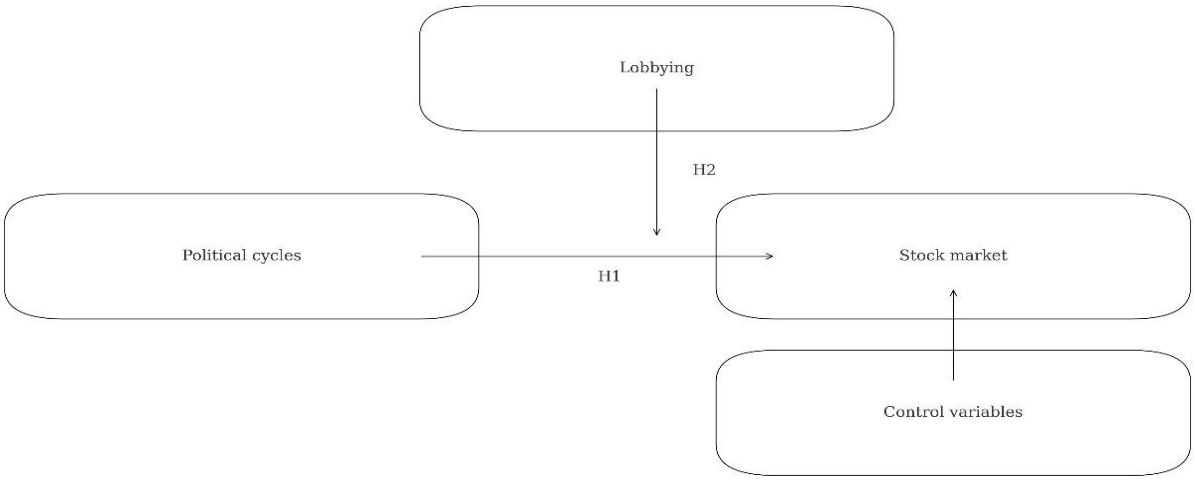

Figure 2.1: Illustrates the proposed conceptual framework for this study. It shows the hypothesized relationships between political cycles, lobbying, the stock market, and control variables. Political cycles are proposed to have a direct influence on the stock market (**H1**) and an indirect influence through lobbying activities (**H2**). Control variables are included to account for additional factors that may affect the stock market.

Lastly, I predict that lobbying expenditures will increase two years before the next presidential election. This is because lobbying companies want to build relationships with possible winning candidates before the elections, to mitigate any uncertainty due to possible changes in political administration, and because lobbying often includes campaign contributions. By providing financial support to candidates, companies can gain access and favor once the candidates take office. This is called 'buying votes', which is the practice where lobbyists offer legislators financial incentives or other benefits in exchange for their votes on specific legislative matters (Dekel et al., 2006). Thus, my third hypothesis is:

H3: *Lobbying expenditures increase in the two years preceding a presidential election in the United States.*

CHAPTER 3 Data

This section will outline the data sample, describe the variables used, and discuss the summary statistics of the data sample.

3.1 Sample Description

This study's sample consists of 300 monthly observations made between February 1998 and January 2023. The presidential observations, in order, are as follows: Bill Clinton (Democrat) was 36 months president, George W. Bush (Republican) was 96 months president, Barack Obama (Democrat) was 96 months president, Donald Trump (Republican) was 48 months president, and Joe Biden (Democrat) was 24 months president. This data is collected via the official White House website.

3.2 Variables

For clarity, the dependent and independent variables are categorized into financial and political variables. Additional variables used to answer **H3** are mentioned in 3.2.3.

3.2.1 Financial Variables

Both monthly returns of the value-weighted (VWR_t) portfolios and log interest rate ($ln(TBL_t)$), which is computed from the three-month Treasury bill, were derived from CRSP. Additionally, I collected cross-sectional returns from ten size decile portfolios ($DECj_t$, for j=1,2,…,10) from CRSP. When examining the dependent variable, I calculated the excess value-weighted returns variable by subtracting the interest rate from the returns of the value-weighted portfolios ($VWR_t - TBL_t$). The excess returns of the ten size decile portfolios are computed in the same manner ($DECj_t - TBL_t$). The formula's interest rate (TBL_t) is not in log form, as these newly created variables are stationary. As this study examines whether current values influence future values of the stock market, the excess returns of the value-weighted portfolios and the ten size decile portfolios are transformed into future values (value at $t+1$). Variables were transformed into logs if their current form was non-stationary, which will be discussed more thoroughly in section 4. The variables mentioned are all in decimals, and each contains 300 observations.

The lobbying data is obtained from OpenSecrets. The enormous raw lobbying dataset had to be cleaned first, as the collected data was messy. Then, the data is converted into monthly data using linear interpolation, as the lobby was quarterly reported. Linear interpolation is a statistical method where we estimate unknown values within the range of known data points. These known data points are the quarterly amounts spent per quarter, reported since 2008. Before 2008, lobbying expenditures were reported half-yearly. Therefore, linear interpolation had to be used for half-yearly data points in

the first half of the dataset. This moderating continuous variable was transformed into its first difference of the logarithm ($\Delta ln(LOB_t)$) to account for stationarity. Additionally, the interaction term between lobbying and political cycles is obtained by multiplying these variables (DD_t x $\Delta ln(LOB_t)$ and RD_t x $\Delta ln(LOB_t)$). To also examine delayed effects, the first lagged forms of the lobbying variable ($\Delta ln(LOB_{t-1})$) and its interaction terms (DD_t x $\Delta ln(LOB_{t-1})$ and RD_t x $\Delta ln(LOB_{t-1})$) were created. Considering the delayed effects of lobbying is very common when examining its effect (Hill et al., 2013), as implementing new rules or regulations usually takes time. The untransformed form of the lobbying data is in billions of dollars and contains 300 observations.

Many of these variables were also studied in the research conducted by Santa-Clara and Valkanov (2003). Contrarily, as the sample used differs, some variables in this study are different in form than in their study. Furthermore, this research added lobbying and its interaction with political cycles to investigate its moderating role in the relationship between political cycles and the stock market.

3.2.2 Political Variables

I defined the following independent presidential cycle dummy variables:

- RD_t = 1 if a Republican is in office at time t; RD_t = 0 otherwise.
- DD_t = 1 if a Democrat is in office at time t; DD_t = 0 otherwise.

As mentioned, the historical political affiliations are obtained via the White House website. The political index variables are motivated by previously described (sub-section 2.2) political macroeconomic studies, like Alesina and Sachs (1986). They gave empirical evidence that monetary policies and economic outcomes vary systematically with the political party in power.

3.2.3 Additional Variables

For the third hypothesis, I created two variable groups (*Pre-election*) and (*Non-pre-election*). The pre-election group variable takes a value of 1 for every observation 24 months preceding an election. It takes a value of 0 for all other periods, which creates the non-pre-election group.

3.3 Control Variables

The control variables used in this study include the annualized dividend-price ratio (DP_t), the first difference of the logarithm of the term spread ($\Delta ln(TSP_t)$) between the yield to maturity of a 10-year Treasury note and a three-month Treasury bill, the default spread (DSP_t) between yields of BAA- and AAA-rated bonds, the relative interest rate (RR_t), computed as the deviation of the three-month Treasury bill rate from its one-year backward moving average, and the first difference of the logarithm

of the real Gross Domestic Product ($\Delta ln(RGDP_t)$) of the United States. The monthly real GDP is obtained using linear interpolating quarterly reported data. The dividend yield data is obtained from CRSP, while the other control variables were sourced from the FRED (Federal Reserve Economic Data) database. The real GDP in its untransformed form is billions of dollars, and the other variables are in decimals. They all contain 300 observations.

While some variables might be correlated, including redundant information rather than omitting crucial data is preferable when examining the impact of political cycles on the stock market performance (Santa-Clara & Valkanov, 2003). As real GDP directly influences the stock market (Zhang, 2023) or via macroeconomic factors (see sub-section 2.1), it is essential to isolate the effect of lobbying and political cycles on excess returns by adding the change in real GDP as a control variable. While potential issues with simultaneity are acknowledged, including this variable is justified by the studies discussed. This is especially important given the presence of The Great Recession in 2007-2009 in the sample, where the decline of the U.S. economy greatly affected stock market performance (Merle, 2018).

3.4 Descriptive Statistics

Table 3.1 shows the summary statistics of the untransformed variables. The excess returns for the value-weighted portfolios are positive over the whole sample period, with a mean of 0.006 (0.60%). The relatively low autocorrelation (A.R.) coefficient indicates that the excess returns of the value-weighted portfolios weakly depend on their past values. This is a limitation because predicting variables with low autocorrelation often lacks accuracy. However, I included many control variables and used robust feature techniques to check for potential issues (sub-section 4.1), which should help with forecasting. Moreover, the average monthly lobbying expenditures over the sample period is 0.245 billion dollars. Surprisingly, the average excess returns for all decile portfolios are positive, with the smallest decile showing the highest at 0.012 (1.20%) despite having a higher standard deviation. Notably, the control variables relative interest rate, default spread, and dividend price ratio show high autocorrelation, meaning those variables correlate highly with past values. This could endanger the independence of the observation assumption. However, as these control variables are highly relevant and commonly used in most studies, excluding them can lead to omitted variable bias. Therefore, I have included them to capture a more accurate underlying relationship. Lastly, the average real GDP over the sample period is 17309.580 billion dollars. The high standard deviation reflects the significant economic fluctuations the United States has experienced during the sample period.

Table 3.1: Summary Statistics

Variable	Observations	Mean	SD	Min	Max	A.R.
VWR-TBL	300	0.006	0.048	-0.186	0.132	0.041
LOB	300	0.241	0.065	0.114	0.358	0.649
DEC1-TBL	300	0.012	0.083	-0.225	0.537	0.136
DEC2-TBL	300	0.008	0.065	-0.246	0.346	0.244
DEC3-TBL	300	0.007	0.060	-0.225	0.278	0.180
DEC4-TBL	300	0.007	0.058	-0.215	0.254	0.144
DEC5-TBL	300	0.007	0.060	-0.233	0.202	0.126
DEC6-TBL	300	0.007	0.060	-0.250	0.193	0.103
DEC7-TBL	300	0.008	0.061	-0.239	0.201	0.050
DEC8-TBL	300	0.007	0.059	-0.227	0.191	0.069
DEC9-TBL	300	0.007	0.056	-0.227	0.162	0.066
DEC10-TBL	300	0.006	0.046	-0.181	0.129	0.030
TSP	300	0.016	0.011	-0.010	0.037	0.298
DSP	300	0.010	0.007	0.006	0.034	0.954
RR	300	-0.000	0.006	-0.024	0.025	0.988
RGDP	300	17309.580	2482.842	12742.940	22112.330	0.601
DP	300	0.021	0.007	0.006	0.040	0.912

Table 3.1: Overview of the number of observations, the mean, standard deviation (SD), minimum value (Min), maximum value (Max), and autoregressive coefficient (A.R.) of all variables used in this study. Most variables are expressed in decimal points and rounded to 3 decimals. Only lobbying (*LOB*) and real GDP (*RGDP*) are in billions of dollars. For the A.R. coefficients, only lobbying (*LOB*), real GDP (*RGDP*), and term spread (*TSP*) were transformed into the first difference of the logarithm to ensure the A.R. models are based on stationary data.

Chapter 4 Method

This section describes the statistical method used and discusses the methodological steps to conduct this study. Additionally, the multiple equations will be discussed.

4.1 Methodology

The statistical method used in this study is a time-series regression analysis. Various assumptions need to be checked before it is performed.

To check each variable for stationarity, I conducted Augmented Dickey-Fuller tests. The results showed that every variable except lobbying, real GDP, and term spread is stationary for a 5% significance level. Thus, to get these variables stationary, the lobbying, real GDP, and term spread variables were transformed into the first difference of their logarithm. Note that for the logarithm of the term spread, one needs to be added to account for negative values. Secondly, I conducted Breusch-Godfrey tests for first-, second-, third-, and fourth-order serial correlation to check for serial correlation in the residuals. This resulted in p-values higher than 0.05, indicating no significant evidence of serial correlation in the model. I used the Variance Inflation Factor test (VIF) to check for multicollinearity. The outcome resulted in a mean value lower than 5, showing that multicollinearity is not a concern. To check for homoscedasticity, I conducted a Breusch-Pagan/Cook-Weisberg test. Given its low p-value, there is strong evidence against the assumption of homoscedasticity, suggesting heteroskedasticity is present in the residuals. Linearity is checked with scatter plots and graph boxes. The scatter plots showed little correlation between lobbying and political cycles with stock market returns. The graph box showed a few outliers; however, as these are meaningful in this analysis, they will not be removed. The Shapiro-Wilk test is conducted to determine the normality of the residual assumption. The p-value is very small, indicating the non-normality of the residuals. I conducted a Granger causality test for one lag to check whether the variables' past values contain useful information for predicting excess returns. While the joint p-value is not very high, the interaction term has a low p-value, indicating that this variable could be a good predictor. Additionally, as the default term spread showed possible simultaneity issues, I used the instrumental variables (IV) approach. I performed a two-stage least squares (2SLS) regression to get the predicted values of the default term spread variable, solving the endogenous issue for this variable. Notably, real GDP shows some form of simultaneity; however, as it is not as high as the default term spread, I keep the variable as a control variable for the reasons I mentioned in sub-section 3.3. However, interpreting this variable should be done with caution. Notice that missing values will be deleted from the sample.

In short, I transformed the non-stationary variables to make them stationary. Additionally, I conducted various tests to check the time-series assumptions. Because of the heteroskedasticity and non-normality of the residuals, I used both Newey-West standard errors and conditional bootstrap standard errors for the value-weighted excess returns. Only the Newey-West method is used to

measure the excess returns of the decile portfolio due to data characteristics considerations. Moreover, using two methods could cause minor discrepancies in the results. As for the Newey-West method, a 2SLS regression with the default term spread was used, whereas for the bootstrap method, the instrumental variable of the default term spread had to be created manually. As both methods differ in underlying assumptions, further investigation is needed to interpret the coefficient if it is not significant for both methods. Due to the small sample size in this study, the bootstrap method is more reliable. Therefore, if a coefficient for one method is significant, the results should be interpreted cautiously. In contrast, if a coefficient for both methods is significant, it indicates robust evidence of an effect.

4.2 Regression Models

For this study, the following regression models are conducted:

Model 1a:

$$VWR_{t+1}\text{-}TBL_{t+1} = \alpha_2 DD_t + \gamma' X_t + u_{t+1} \quad (1a)$$

Model 1b:

$$VWR_{t+1}\text{-}TBL_{t+1} = \alpha_1 RD_t + \gamma' X_t + u_{t+1} \quad (1b)$$

$VWR_{t+1}\text{-}TBL_{t+1}$ is the excess return of the value-weighted portfolio at time $t+1$. DD_t is a dummy that takes value one if there is a Democratic president at time t, while RD_t is a dummy that takes value one if there is a Republican president at time t. Both dummies cannot be simultaneously in the same state (mutual exclusion). However, due to discrepancies in baseline effects, other coefficients could differ. Therefore, the dummies will be regressed individually (DD_t and RD_t). X_t, is the vector containing the macroeconomic variables at time t associated with business cycles: the first difference log term spread (($\Delta ln(TSP_t)$), the predicted default spread (DSP_t), the relative real interest rate (RR_t), the first difference of the logarithm of real GDP (($\Delta ln(RGDP_t)$), and the dividend yield (DP_t).

Model 2a:

$$DECj_{t+1} - TBL_{t+1} = \alpha_2 DD_t + \gamma' X_t + u_{t+1} \quad (2a)$$

Model 2b:

$$DECj_{t+1} - TBL_{t+1} = \alpha_1 RD_t + \gamma' X_t + u_{t+1} \quad (2b)$$

Here, instead of regressing the variables on the value-weighted excess returns, they were regressed on the ten size decile portfolio excess returns ($DECj_{t+1} - TBL_{t+1}$) at time $t+1$.

Model 3a:

$$VWR_{t+1}\text{-}TBL_{t+1} = \alpha_2 DD_t + \beta \Delta ln(LOB_t) + \alpha_2 DD_t \times \beta \Delta ln(LOB_t) + \gamma' X_t + u_{t+1} \quad (3a)$$

Model 3b:

$$VWR_{t+1}\text{-}TBL_{t+1} = \alpha_1 RD_t + \beta \Delta ln(LOB_t) + \alpha_1 RD_t \times \beta \Delta ln(LOB_t) + \gamma' X_t + u_{t+1} \quad (3b)$$

Here, I added the first difference logarithm of the lobbying variable ($\Delta ln(LOB_t)$) and the interaction terms (DD_t x $\Delta ln(LOB_t)$ and RD_t x $\Delta ln(LOB_t)$) to the equation. In this equation, $\Delta ln(LOB_t)$ is the approximate growth rate of lobbying expenditures from time *t-1* to time *t*. Furthermore, DD_t x $\Delta ln(LOB_t)$ is the approximate growth rate of lobbying expenditures from time *t-1* to time *t* when a Democrat is president. RD_t x $\Delta ln(LOB_t)$ is similarly defined when a Republican is president.

Model 4a:

$$VWR_{t+1}\text{-}TBL_{t+1} = \alpha_2 DD_t + \beta\, \Delta ln(LOB_t) + \beta\, \Delta ln(LOB_{t-1}) + \alpha_2 DD_t \text{ x } \beta\, \Delta ln(LOB_t) + \alpha_2 DD_t \text{ x } \beta\, \Delta ln(LOB_{t-1}) + \gamma' X_t + u_{t+1} \quad (4a)$$

Model 4b*:*

$$VWR_{t+1}\text{-}TBL_{t+1} = \alpha_1 RD_t + \beta\, \Delta ln(LOB_t) + \beta\, \Delta ln(LOB_{t-1}) + \alpha_1 RD_t \text{ x } \beta\, \Delta ln(LOB_t) + \alpha_1 RD_t \text{ x } \beta\, \Delta ln(LOB_{t-1}) + \gamma' X_t + u_{t+1} \quad (4b)$$

Lagged versions of lobbying and the interaction term were added to the equations to examine possible delayed effects of lobbying. Hence, the lagged form of lobbying $\Delta ln(LOB_{t-1})$ and its lagged interaction terms (DD_t x $\Delta ln(LOB_{t-1})$ and RD_t x $\Delta ln(LOB_{t-1})$) were added. $\Delta ln(LOB_{t-1})$ is the approximate growth rate of lobbying expenditures between *t-2* and *t-1*. DD_t x $\Delta ln(LOB_{t-1})$ is the approximate growth rate of lobbying expenditures from *t-2* to *t-1* when a Democrat is president at time *t*. RD_t x $\Delta ln(LOB_{t-1})$ is similarly defined when a Republican is president.

Model 5a:

$$DECj_{t+1} - TBL_{t+1} = \alpha_1 RD_t + \beta\, \Delta ln(LOB_t) + \beta\, \Delta ln(LOB_{t-1}) + \alpha_1 RD_t \text{ x } \beta\, \Delta ln(LOB_t) + \alpha_1 RD_t \text{ x } \beta\, \Delta ln(LOB_{t-1}) + \gamma' X_t + u_{t+1} \quad (5a)$$

Model 5b:

$$DECj_{t+1} - TBL_{t+1} = \alpha_1 RD_t + \beta\, \Delta ln(LOB_t) + \beta\, \Delta ln(LOB_{t-1}) + \alpha_1 RD_t \text{ x } \beta\, \Delta ln(LOB_t) + \alpha_1 RD_t \text{ x } \beta\, \Delta ln(LOB_{t-1}) + \gamma' X_t + u_{t+1} \quad (5b)$$

Again, instead of regressing the variables on the value-weighted excess returns, the variables were regressed on the ten size decile portfolio excess returns ($DECj_{t+1} - TBL_{t+1}$) at time *t+1*.

CHAPTER 5 Results

In this section, I aim to address the hypotheses, present the research findings, and analyze compelling facts about lobbying. I will conduct various tests, discuss the results, and provide answers to the hypotheses. As discussed in 4.1, various robustness checks have been conducted to address potential issues, such as adding an instrument variable and lagged versions to the regressions. Coefficients should be interpreted as follows:

For interpreting the political cycle coefficient, a one-unit change in the political cycle corresponds to a one-unit change in the value-weighted excess returns. When interpreting the first difference logarithm lobbying coefficient, the coefficient represents the percentage change in the value-weighted excess returns for a percentage change in lobbying expenditures. The coefficient of the lagged first difference logarithm of lobbying expenditures should be interpreted as the effect of the percentage change in a previous period's lobbying expenditures on the percentage change in the value-weighted excess returns. Furthermore, the net effects must be calculated first to interpret the interaction terms. The net effect is the sum of the baseline effect of the lobbying variable in the model and the interaction term. For lagged terms, this is the sum of the baseline effect of the lagged lobbying variable in the model and the interaction term. Specifically, suppose the net effect is positive for a Democratic administration, and lobbying is not in its lagged form. In that case, a 1% increase in lobbying expenditures increases the stock market performance with the coefficient for a Democratic president. Additionally, suppose the net effect is positive for a Democratic administration, and lobbying is in its lagged form. In that case, a 1% increase in the previous month's, specifically the increase from two months ago to the previous month, lobbying expenditures increase the stock market performance with the coefficient for a Democrat. For Republicans, this is similarly defined.

Table A.1 in Appendix A gives an overview of Models 1a, 1b, 3a, 3b, 4a, and 4b results, with the excess returns of value-weighted portfolios as the dependent variable. Tables B.1 and B.2 in Appendix B show the results of Models 2a and 2b, where the excess returns of the ten size decile portfolios are the outcome variables. Tables B.3 and B.4 show the results of Models 5a and 5b, where the excess returns of the ten-size decile portfolios are the outcome variables and where lobbying for both forms and the interaction terms are in. Note that for Hypothesis 1 (**H1**), the results of Models 1a, 1b, 2a, and 2b are relevant. Furthermore, for Hypothesis 2 (**H2**), the results of Models 3a, 3b, 4a, 4b, 5a, and 5b are relevant. Lastly, for Hypothesis 3 (**H3**), Table 5.1 in sub-section 5.3 is relevant.

5.1 H1: Impact of Political Parties on Stock Market Performance

First, I looked at the broader statistics regarding the returns for each president in my sample. Figure A.1 in Appendix A shows this. The dash-dotted line showed that the average excess return throughout the sample is 0.60%. The average excess return of Democrats was 1.00%, whereas for Republicans, this was 0.13%. Hence, the overall average stock market excess returns were higher for

Democrats than for Republicans, which aligns with the study by Johnson et al. (1999). Furthermore, Barack Obama showed the highest average excess returns with 1.30%, whereas George W. Bush displayed the lowest average excess returns with -0.40%.

Models 1a and 1b in Table A.1 in Appendix A showed that the model's R2 was 0.044, which meant that the variables included in the model explained 4.40% of the variance of the excess returns of the value-weighted portfolios. The coefficient for Democratic presidents was 0.007 (0.70%) and -0.007 (-0.70%) for Republican presidents. This indicated that, on average, the excess returns of the value-weighted portfolios were 0.70% higher when a Democratic president was in office than when a Republican was in office. This finding was consistent with the studies of Johnson et al. (1999), Santa-Clara and Valkanov (2003), Frederico Belo et al. (2013), and Pástor and Veronesi (2020). However, these results were not significant in my findings. Surprisingly, although not significant for both standard error methods, the relative interest rate was positive. This suggested that higher relative interest rates were associated with higher excess returns. This was surprising, as I would have expected higher interest rates to have a negative effect on stock returns because of the higher cost of borrowing and fewer investments. Furthermore, the term spread variable was significant for the Newey-West method. The other control variables were not significant for both methods.

Models 2a and 2b in Tables B.1 and B.2 in Appendix B showed a model's average R^2 of 0.053. The average excess returns were higher for every size decile during Democratic administrations. The difference was the largest for the fifth and sixth size deciles, with 0.008 (0.80%). The signs of the coefficients of the smallest size deciles were similar to those of Hensel and Ziemba (1995), who stated that small-cap stocks performed better during Democratic administrations. However, the differences in excess returns were insignificant for all size deciles. Notably, for some deciles, the change in real GDP, dividend yield, and default spread variables become significant for the Newey-West method while insignificant in Table A1. Other control variables had the expected sign and magnitude.

In conclusion, the difference in excess returns between the two political affiliations was insignificant. Therefore, I cannot conclude that excess returns are higher during Democratic administrations as opposed to Republican administrations. Consequently, Hypothesis 1 (**H1**), which states that the stock market performance is higher under Democratic administrations than Republican administrations in the United States, is rejected based on the insignificant results of the regression.

5.2 H2: Lobbying's Role in Stock Market Performance Across Political Parties

First, a two-sample t-test examined the difference in lobby expenditures during Democratic and Republican administrations. This can be found in Table A.2 in Appendix A. The results showed that, on average, the amount of lobbying spent when a Democrat was in office was 0.249 billion dollars, as opposed to 0.231 billion dollars when a Republican was in office. Hence, the average lobbying expenditures were 18.25 million dollars higher when a Democrat was in office. This

difference was statistically significant at a 5% significance level. This result aligns with the predictions stated in sub-section 2.4, where I stated that because Democratic administrations tend to be more restrictive in economic measures (Furhmann, 2022), I expected firms to increase their lobbying expenditures during Democratic presidencies.

Models 3a and 3b in Table A.1 in Appendix A showed that the model's R^2 was increased to 0.049, indicating that adding those variables improved the model's ability to explain the variation of the returns. Additionally, the addition of lobbying and its interaction term with political cycles decreased the excess returns difference to 0.005 (0.50%) in favor of Democratic administrations. This suggests that when lobbying activities and their interaction with the political cycles were included, the direct effect of the president's party on returns slightly diminished. Nevertheless, the difference remained insignificant for both methods. The net effect of the interaction term for Republicans was -0.065 (0.350-0.415), and for Democrats was 0.35 (-0.065+0.415). This means that a 1% increase in lobbying expenditures between the previous month and this month increases the stock market excess returns by 0.35% the next month when a Democrat is in office. Contrarily, a 1% increase in lobbying expenditures between the previous month and this month decreases the stock market excess returns by 0.07% the next month when a Republican is in office. However, lobbying was only significant in Model 3b and only for the Newey-West method, so insufficient evidence supports these differences.

Furthermore, the overall baseline effect of lobbying, regardless of political affiliation, was 0.285 (-0.065+0.350). This means that a 1% increase in lobbying expenditures between the previous month and this month results in an average 0.29% increase in stock market excess returns the next month, regardless of whether the president is Democratic or Republican. However, this effect was only significant for one model and one method. Therefore, this coefficient should be interpreted cautiously. Furthermore, the real GDP variable became significant for the Newey-West method, whereas other control variables had no significant changes.

Models 4a and 4b in Table A.1 in Appendix A showed that the model's R^2 was increased to 0.068. Increasing lobbying expenditures at time *t* became insignificant for the Newey-West method for both models. However, the lagged variable of lobbying became significant at a 5% level for both methods in Model 4b. The net effect of lagged lobbying was 0.231 (0.745-0.514). This suggests a 1% increase in lobbying expenditures between two months ago and the previous month results in an average 0.23% increase in stock market excess returns the next month, regardless of whether the president is Democratic or Republican. This lagged lobbying coefficient was not significant in Model 4a. Nevertheless, as the baseline coefficient in Model 4b was significant for both methods and the interaction term for lagged lobbying in Model 4a was also significant for both methods, there is sufficient evidence that the overall effect of lobbying on the stock market excess returns is significant through its delayed effects. This positive effect of lobbying is similar to previous studies like Chen et al. (2015), Bertrand et al. (2014), and Ghouma and Hewitt (2019), who showed that there is a positive correlation between lobbying and returns.

Moreover, the interaction terms for time *t* were insignificant for both models. Nevertheless, the lagged interaction terms were significant for both methods and models. The net effects for a Democratic administration were 0.745 (1.259-0.514) and a Republican administration -0.514 (0.745-1.259). Hence, when a Democrat is currently in office, a 1% increase in lobbying expenditures between two months ago and the previous month results in an average 0.75% increase in stock market excess returns the next month. Contrarily, when a Republican is currently in office, a 1% increase in lobbying expenditures between two months ago and the previous month results in an average 0.51% decrease in stock market excess returns the next month. Furthermore, real GDP became insignificant, and the Newey-West method's relative real interest rate became significant. The other control variables had the expected sign and magnitude.

Lastly, focus on the significant variables discussed for the different size deciles in Tables B.3 and B.4 in Appendix B. The model's average R^2 is increased to 0.074. Regardless of party affiliation, the net positive effects of lobbying were mainly concentrated in the ninth to tenth deciles (largest companies). This aligns with Borghesi and Chang (2015), who showed that only large lobbying firms exhibit higher average returns. Additionally, the net negative effect of the interaction term when a Republican was in office was the highest for deciles fourth to eighth (mid to large-sized companies). The net positive effect of the interaction term when a Democrat was in office was the highest for the upper four deciles (large-sized companies). The other control variables had the expected sign and magnitude.

In conclusion, a 1% increase in lobbying expenditures between two months ago and the previous month results in an average 0.23% increase in stock market excess returns the next month, regardless of whether the president is Democratic or Republican. This positive effect is mainly concentrated around the largest companies. Moreover, when a Democrat is currently in office, a 1% increase in lobbying expenditures between two months ago and the previous month results in an average 0.75% increase in stock market excess returns the next month. This positive effect is mainly concentrated around large-sized companies. Lastly, when a Republican is currently in office, a 1% increase in lobbying expenditures between two months ago and the previous month results in an average 0.51% decrease in stock market excess returns the next month. This negative effect is mainly concentrated around mid to large-sized companies.

Consequently, Hypothesis 2 (**H2**), which states that lobbying acts as a mitigating factor of the stock market performance during Republican presidencies and an amplifying factor of the stock market performance during Democratic presidencies in the United States, cannot be fully rejected based on my findings. The results indicate that a change in lobbying expenditures from two months ago (*t-2*) to the previous month (*t-1*) amplifies the stock market performance in different directions depending on the political party in office. Specifically, for a Democrat, this change in lobbying expenditures acts as a positively amplifying factor, while for Republicans, it acts as a negatively amplifying factor. These results are significant for both methods.

5.3 H3: Trends in Lobbying Expenditures Before Presidential Elections

Table 5.1 below shows two groups: the pre-election group includes all lobbying observations 24 months before an election, and the non-pre-election group includes all others.

Table 5.1: Difference in Lobbying Expenditures Two Years Preceding an Election

Group	Observations	Mean	STD Error	SD	[95% conf. interval]	
Non pre-election	204	0.243	0.005	0.065	0.234	0.252
Pre-election	96	0.237	0.007	0.067	0.224	0.251

Table 5.1: Overview of a comparison of mean lobbying expenditures during two distinct periods relative to elections. The "*Pre-election*" group includes all observations within the two years preceding an election, whereas the "*Non pre-election*" group encompasses all observations outside these pre-election periods. The two-sample t-test under the null hypothesis of no significant difference in means generated a p-value of approximately 0.525. Therefore, the difference is not significant at the 5% significance level.

Table 5.1 shows that the average amount of lobbying spending was 0.237 billion dollars in the two years preceding an election, while the average amount of lobbying spending outside of these periods was 0.243 billion dollars. This difference is approximately 5.16 million dollars in favor of the periods outside the two years preceding an election. The high p-value (0.525) of the two-sample t-test indicates no significant difference in the average lobbying expenditures between pre-election periods and non-pre-election periods. This finding differs from the previous study by Dekel et al. (2006), who examined the observation called ‘buying votes’ around election periods. In conclusion, Hypothesis 3 (**H3**), which states that lobbying expenditures increase in the two years preceding a presidential election in the United States, is rejected based on my results.

CHAPTER 6 Conclusion

In this thesis, I have examined the moderating role of lobbying in the relationship between political cycles and stock market performance. This is highly relevant due to the enormous lobby market in the United States. Most previous studies have shown that political cycles significantly affect stock market performance and that lobbying expenditures positively influence firms' performance. However, those studies did not examine the combined effect of political cycles and lobbying on the stock market performance. Therefore, the question that was studied was: "*How does the strategic deployment of lobbying by firms moderate the relationship between political cycles and U.S. stock market performance?*".

To answer this research question, I conducted multiple time series regressions and examined multiple robustness checks beforehand. Firstly, the results showed no statistically significant effect of political cycles on stock market performance. Secondly, the results suggested that lobbying expenditures, through their delayed effects, significantly moderate the relationship between political cycles and stock market performance. Under Democratic presidents, lobbying is a positively amplifying factor, whereas under Republican presidents, this is a negatively amplifying factor for the stock market performance. Thirdly, the results indicated that lobbying positively affects the stock market performance through its delayed effect, regardless of political affiliation. Lastly, there was no statistical difference in average lobbying expenditures two years preceding an election compared to other periods.

This study, therefore, concludes that although previous literature has shown a significant relationship between political cycles and the stock market, this study found that the strategic deployment of lobbying by firms significantly moderates this relationship. Surprisingly, while lobbying has an amplifying effect for both Democrats and Republicans, the sign differs. Specifically, the amplifying effect is positive when a Democrat is in office while being negative when a Republican is in office. This moderating effect also differs for company sizes. Consequently, the findings underscore how corporate lobbying and presidential cycles in the United States affect our global financial markets.

6.1 Implications for Investors and Lobbyists

This study showed important implications for investors and lobbyists. For example, investors could consider increasing their exposure to stocks of large-sized companies that increase their lobbying expenditures during Democratic presidencies, as this amplifies stock returns positively. Conversely, when a Republican president is in office, investors should be more cautious when investing in mid to large-sized companies that increase their lobbying expenditures, as lobbying tends to amplify stock returns negatively. The general trend suggests that an increase in lobbying expenditures positively impacts the overall stock market performance, but this effect is seen with a

time lag. Additionally, companies involved in lobbying should consider the political party in office before increasing their lobbying expenses. Companies should be cautious about increasing their lobbying expenditures during Republican presidencies, while during Democratic presidencies, they should consider boosting their lobbying efforts. However, the impact varies significantly based on the size of the company. For instance, smaller firms tend to benefit less from increasing their lobbying expenditures when a Democrat is in office than larger firms. Consequently, smaller firms should be more cautious when increasing their lobbying expenses.

In conclusion, although the models conducted in this research explained little of the variance of the overall stock market returns, investors and companies should still incorporate lobbying data and political cycles when choosing their investments, as this study showed statistically significant effects.

6.2 Limitations and Further Research

While this study provides valuable insights, it has limitations. Firstly, lobby data in the United States have been available since 1998, which raises caution about possible short-sample biases. It would be interesting to see whether results change when examining a larger period. Additionally, OpenSecrets' database includes data for all 50 states, but only 19 of 50 states make meaningful data available on lobbying spending. This is because some states do not require sufficient disclosure of lobbying activity. Therefore, the actual amount of lobbying expenditures is higher than what is used in this study. Also, the lobbying amounts were quarterly reported from 2008 onwards. To align this data with other monthly variables used in the analysis, linear interpolation had to be employed to estimate monthly values. This could raise potential estimation errors. Furthermore, due to the delayed nature of lobbying reporting, it is difficult to capture the real movements. Lastly, as for other previous studies discussed, this study's findings could result from spurious results because this is often a concern when studying political variables in relation to the stock market. This is because it lacks the exact mechanisms through which the stock market is affected by political cycles.

As the effect of political cycles and the stock market is likely only visible when examining a large dataset, this effect was not visible in my results. Future research should, therefore, investigate a larger data set with the combination of more lobbying data to find more significant results (and less possible spurious results) for the overall relationship between these variables. Future research should also investigate how lobbying during Republican presidencies negatively influences the stock market performance. Possible reasons could be that deregulation, for example, stimulates higher lobby expenditures, through higher expenses lower stock market returns, but do not get a lot for it, as Republicans generally reduce government spending. Or, certain industries may lobby more during Republican administrations, which can negatively affect other industries and, therefore, the overall stock market performance. In short, analyzing more data and examining the reasons behind this study's results could help us understand how lobbying and political cycles truly impact the stock market.

REFERENCES

Al Jazeera. (2021, November 17). US stocks close at new all-time highs on Biden's inauguration day. https://www.aljazeera.com/economy/2021/1/20/us-stocks-open-higher-ahead-of-bidens-inauguration

Alesina, A., Roubini, N., & Cohen, G. D. (1997). Political cycles and the macroeconomy. MIT Press.

Alesina, A., & Rosenthal, H. (1995). Partisan politics, divided government, and the economy.

Alesina, A., & Roubini, N. (1992). Political cycles in OECD economies. The review of economic studies, 59(4), 663-688.

Alesina, A. F., & Sachs, J. D. (1986). Political parties and the business cycle in the United States, 1948-1984.

Azzimonti, M., & Talbert, M. (2014). Polarized business cycles. Journal of Monetary Economics, 67, 47-61.

Bachelier, L. (1900). Théorie de la spéculation. In Annales scientifiques de l'École normale supérieure (Vol. 17, pp. 21-86).

Baker, M., & Wurgler, J. (2007). Investor sentiment in the stock market. Journal of economic perspectives, 21(2), 129-151.

Bauerle Danzman, S., Winecoff, W. K., & Oatley, T. (2017). All crises are global: Capital cycles in an imbalanced international political economy. International Studies Quarterly, 61(4), 907-923.

Belo, F., Gala, V. D., & Li, J. (2013). Government spending, political cycles, and the cross-section of stock returns. Journal of financial economics, 107(2), 305-324.

Bertrand, M., Bombardini, M., & Trebbi, F. (2014). Is it whom you know or what you know? An empirical assessment of the lobbying process. American Economic Review, 104(12), 3885-3920.

Bhuiyan, E. M., & Chowdhury, M. (2020). Macroeconomic variables and stock market indices: Asymmetric dynamics in the US and Canada. The Quarterly Review of Economics and Finance, 77, 62-74.

Blinder, A. S., & Watson, M. W. (2016). Presidents and the US economy: An econometric exploration. American Economic Review, 106(4), 1015-1045.

Bombardini, M., & Trebbi, F. (2020). Empirical models of lobbying. Annual Review of Economics, 12, 391-413.

Borghesi, R., & Chang, K. (2015). The determinants of effective corporate lobbying. Journal of economics and Finance, 39, 606-624.

Cambridge (2024). Lobbying. https://dictionary.cambridge.org/dictionary/english/lobbying

Chen, N. F., Roll, R., & Ross, S. A. (1986). Economic forces and the stock market. Journal of Business, 383-403.

Chen, H., Parsley, D., & Yang, Y. W. (2015). Corporate lobbying and firm performance. Journal of Business Finance & Accounting, 42(3-4), 444-481.

Chiad, F., & Hadj Sahraoui, H. (2022). Macroeconomic Determinants of Stock Market Development: Evidence from Panel Data Analysis.
Dekel, E., Jackson, M. O., & Wolinsky, A. (2006). Vote buying II: legislatures and lobbying (No. 1433). Discussion Paper.
Fama, E. F. (1990). Stock returns, expected returns, and real activity. The journal of finance, 45(4), 1089–1108.
Fisher, I. (1930). The theory of interest. New York, pp. 43, 1–19.
Franzese Jr, R. J. (2002). Electoral and partisan cycles in economic policies and outcomes. Annual review of political science, 5(1), 369-421.
Furhmann, R. (2022, November 10). Republican and democratic approaches to regulating the economy. Investopedia. https://www.investopedia.com/ask/answers/regulating-economy.asp
Ghouma, H. H., & Hewitt, C. S. (2019). Lobbying expenditures and sin stock market performance. Research in International Business and Finance, 49, 176-190.
Gratton, P. (2024, April 12). What is the stock market, and how does it work? Investopedia. https://www.investopedia.com/terms/s/stockmarket.asp
Guntermann, E., Lenz, G. S., & Myers, J. R. (2021). The impact of the economy on presidential elections throughout US history. Political Behavior, 43, 837-857.
Hensel, C. R., & Ziemba, W. T. (1995). United States investment returns during Democratic and Republican administrations, 1928–1993. Financial Analysts Journal, 51(2), 61-69.
Herbst, A. F., & Slinkman, C. W. (1984). Political-economic cycles in the US stock market. Financial Analysts Journal, 40(2), 38-44.
Hibbs Jr, D. A. (1994). The partisan model of macroeconomic cycles: More theory and evidence for the United States. Economics & Politics, 6(1), 1–23.
Hill, M. D., Kelly, G. W., Lockhart, G. B., & Van Ness, R. A. (2013). Determinants and effects of corporate lobbying. Financial Management, 42(4), 931-957.
Hillman, A. J., & Hitt, M. A. (1999). Corporate political strategy formulation: A model of approach, participation, and strategy decisions. Academy of Management Review, 24(4), 825-842.
Huang, R. D. (1985). Common stock returns and presidential elections. Financial Analysts Journal, 41(2), 58–61.
Jabeen, A., Yasir, M., Ansari, Y., Yasmin, S., Moon, J., & Rho, S. (2022). An Empirical Study of Macroeconomic Factors and Stock Returns in the Context of Economic Uncertainty News Sentiment Using Machine Learning. Complexity, 2022.
Johnson, R. R., Chittenden, W., & Jensen, G. (1999). Presidential politics, stocks, bonds, bills, and inflation. Journal of Portfolio Management, 26(1), 27.
Keynes, J. M. (1936). The general theory of employment, interest, and money. Macmillan.

Merle, R. (2018, September 10). A guide to the financial crisis — 10 years later. Washington Post. https://www.washingtonpost.com/business/economy/a-guide-to-the-financial-crisis--10-years-later/2018/09/10/114b76ba-af10-11e8-a20b-5f4f84429666_story.html

Mittal, N., Kumar, R., & Batumalai, M. (2020). IMPACT OF MACROECONOMIC FACTORS ON STOCK MARKET. International Journal on Recent Trends in Business and Tourism (IJRTBT), 4(3), 30-35.

Nordhaus, W. D. (1975). The political business cycle. The review of economic studies, 42(2), 169-190.

Omar, A. B., Ali, A., Mouneer, S., Kouser, R., & Al-Faryan, M. A. S. (2022). Is stock market development sensitive to macroeconomic indicators? A fresh evidence using ARDL bounds testing approach. Plos one, 17(10), e0275708.

Pástor, Ľ., & Veronesi, P. (2020). Political cycles and stock returns. Journal of Political Economy, 128(11), 4011-4045.

Reklaitis, V. (2024, March 19). The stock market's performance under Biden is now better than under Trump. MarketWatch. https://www.marketwatch.com/story/the-stock-markets-performance-underbiden-is-now-better-than-under-trump-but-a-big-factor-is-covids-toll-in-2020-b655d1e8.

Roemer, J. E. (1995). Political cycles. Economics & Politics, 7(1), 1-20.

Santa-Clara, P., & Valkanov, R. (2003). The presidential puzzle: Political cycles and the stock market. The Journal of Finance, 58(5), 1841-1872.

Siegel, J. J. (1998). Stocks for the long run: The definitive guide to financial market returns and long-term investment strategies (2nd ed.). New York, NY: McGraw-Hill.

Statista. (2024, March 8). U.S. total lobbying spending 1998-2023. https://www.statista.com/statistics/257337/total-lobbying-spending-in-the-us/.

Teweles, R. J., & Bradley, E. S. (1998). The stock market (Vol. 64). John Wiley & Sons.

Taylor, S. P. S., & Poon, S. (1991). Macroeconomic factors and the UK stock market. Journal of Business Finance and Accounting, 18(5), 619–36.

Xi, X., & Xiao, D. (2021). The Impact of the US Election on the US Economy and China's Economy and the Countermeasures. Open Journal of Social Sciences, 9(2), 517-542.

Zhang, Y. (2023, June). The Relationship Between GDP Growth Rate and Stock Market During the Two Epidemic Outbreaks in China. In Proceedings of the 6th International Conference on Economic Management and Green Development (pp. 1293-1303). Singapore: Springer Nature Singapore.

A Disclosure of Generative AI Usage

Generative AI was used during the writing of this research. Its application was limited to exploring academic sources.

APPENDIX A Data Tables and Figures

Figure A.1: Mean Excess Value-Weighted Returns by U.S. Presidents (1998-2023)

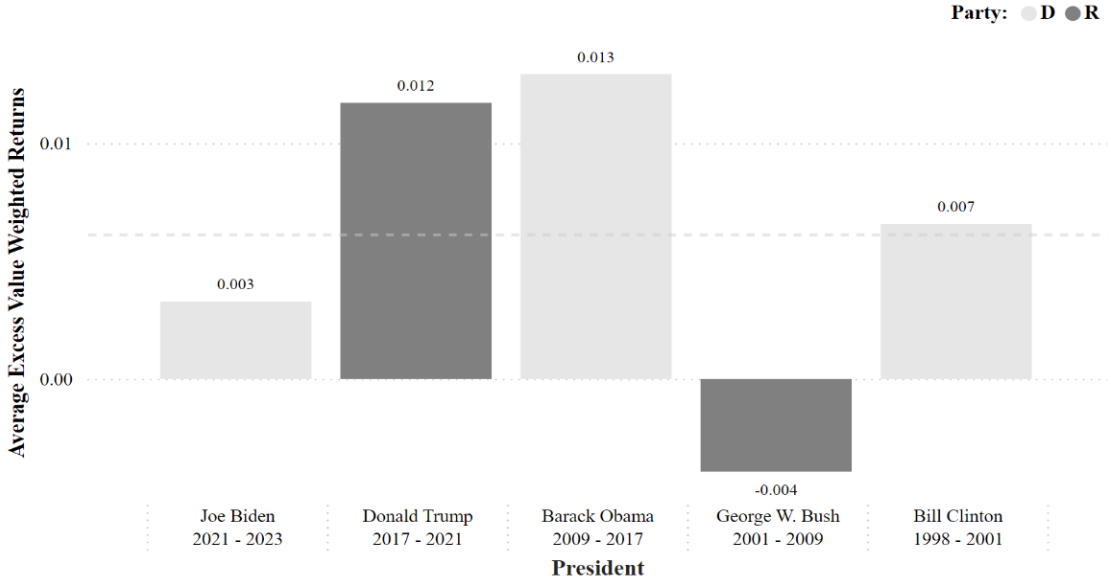

Figure A.1: This figure displays the mean excess value-weighted returns for U.S. presidents from 1998 to 2023. Each bar represents the average excess return during a president's term, with Republican periods in a darker color, and the dashed-dotted line denotes the unconditional mean of the sample.

Table A.1: Excess Returns of Value-Weighted Portfolios under Republican and Democratic Presidents, Including Lobbying, Interaction Term, and Controlling for Business-Cycle Variables

Variable	Model 1a	Model 1b	Model 3a	Model 3b	Model 4a	Model 4b
DD_t	0.007		0.005		0.006	
	(0.005)		(0.006)		(0.006)	
	(0.006)		(0.006)		(0.006)	
RD_t		-0.007		-0.005		-0.006
		(0.005)		(0.006)		(0.006)
		(0.005)		(0.006)		(0.006)
$\Delta ln(LOB_t)$			-0.065	0.350	0.339	-0.139
			(0.293)	(0.126)***	(0.171)	(0.249)
			(0.392)	(0.227)	(0.404)	(0.305)
$\Delta ln(LOB_{t-1})$					-0.514	0.745
					(0.542)	(0.304)**
					(0.516)	(0.329)**
DD_t x $\Delta ln(LOB_t)$			0.415		-0.477	
			(0.315)		(0.330)	
			(0.468)		(0.539)	
RD_t x $\Delta ln(LOB_t)$				-0.415		0.477
				(0.336)		(0.381)
				(0.460)		(0.541)

Table A.1 (continued)

DD_t x $\Delta ln(LOB_{t-1})$					1.259	
					(0.616)**	
					(0.632)**	
RD_t x $\Delta ln(LOB_{t-1})$						-1.259
						(0.653)*
						(0.612)**
$\Delta ln(TSP_t)$	2.343	2.343	2.393	2.393	2.384	2.393
	(1.347)*	(1.142)**	(1.147)**	(1.150)**	(1.123)**	(1.144)**
	(1.536)	(1.531)	(1.597)	(1.532)	(1.490)	(1.503)
RR_t	0.564	0.564	0.415	0.415	0.515	0.515
	(0.333)*	(0.292)*	(0.339)	(0.336)	(0.297)*	(0.292)*
	(0.527)	(0.519)	(0.549)	(0.550)	(0.533)	(0.525)
DP_t	-0.083	-0.083	-0.067	-0.067	-0.099	-0.099
	(0.492)	(0.439)	(0.423)	(0.433)	(0.393)	(0.421)
	(0.537)	(0.523)	(0.510)	(0.519)	(0.507)	(0.509)
DSP_t	0.889	0.889	0.759	0.759	0.797	0.797
	(1.023)	(0.759)	(0.668)	(0.716)	(0.667)	(0.792)
	(1.108)	(1.118)	(1.116)	(1.147)	(1.129)	(1.123)
$\Delta ln(RGDP_t)$	1.864	1.864	1.902	1.902	1.755	1.755
	(1.242)	(1.180)	(0.998)*	(0.995)*	(1.163)	(1.170)
	(1.467)	(1.471)	(1.296)	(1.329)	(1.330)	(1.413)
Constant	-0.008	-0.002	-0.007	-0.002	-0.006	-0.001
	(0.013)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)
	(0.015)	(0.017)	(0.016)	(0.016)	(0.015)	(0.017)
Observations	297	297	296	296	296	296
Centered R^2	0.044	0.044	0.049	0.049	0.068	0.068
Root MSE	0.046	0.046	0.046	0.046	0.046	0.046

Table A.1: Overview of Models 1a, 1b, 3a, 3b, 4a, and 4b results, with the excess returns of value-weighted portfolios (VWR_{t+1}-TBL_{t+1}) as the dependent variable. Models 1a, 3a, and 4a include the dummy variable for a Democratic president (DD_t), while Models 1b, 3b, and 4b include the dummy variable for a Republican president (RD_t). Models 1a and 1b include the vector variable (X_t), containing the control variables. Models 3a and 3b include the vector variable (X_t), the lobbying variable ($\Delta ln(LOB_t)$), and the interaction terms (DD_t x $\Delta ln(LOB_t)$ and RD_t x $\Delta ln(LOB_t)$). Models 4a and 4b include the vector variable (X_t), the lobbying variable ($\Delta ln(LOB_t)$), the interaction terms (DD_t x $\Delta ln(LOB_t)$ and RD_t x $\Delta ln(LOB_t)$), the lagged form of lobbying ($\Delta ln(LOB_{t-1})$), and its lagged interaction terms (DD_t x $\Delta ln(LOB_{t-1})$ and RD_t x $\Delta ln(LOB_{t-1})$). Newey-West standard errors follow the coefficients in parentheses, and in the third row are standard errors using the conditional bootstrap method for 1,000 samples. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1. p<0.05, * p<0.1.

Table A.2: Lobbying Expenditures under Different Political Administrations

Group	Observations	Mean	STD Error	SD	[95% conf. interval]	
RD	144	.2312118	.0046074	.0552883	.2221044	.2403191
DD	156	.2499925	.0058136	.0726113	.2385084	.2614765

Table A.2: Overview of lobbying expenditures under Republican (*RD*) and Democratic (*DD*) administrations. The table presents the number of observations, mean, standard error (STD Error), standard deviation (SD), and the 95% confidence interval for each group. The two-sample t-test under the null hypothesis of no significant difference in means generated a p-value of approximately 0.013. Therefore, the difference is significant at the 5% significance level.

APPENDIX B Data Tables Extended

Table B.1: Excess Returns of Size-Decile Portfolios under Democratic Presidents, Controlling for Business-Cycle Variables

Variable	DEC1	DEC2	DEC3	DEC4	DEC5	DEC6	DEC7	DEC8	DEC9	DEC10
DD_t	0.006	0.006	0.007	0.007	0.008	0.008	0.006	0.008	0.006	0.006
	(0.011)	(0.009)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)	(0.006)	(0.005)
$\Delta ln(TSP_t)$	4.176	4.006	3.695	4.253	4.238	4.724	4.737	4.302	4.058	1.975
	(2.462)*	(1.963)**	(1.774)**	(1.485)***	(1.512)***	(1.532)***	(1.587)***	(1.281)***	(1.242)***	(1.205)
RR_t	0.765	0.718	0.885	1.028	0.780	0.865	0.972	0.863	0.780	0.367
	(0.727)	(0.575)	(0.490)*	(0.459)**	(0.438)*	(0.355)**	(0.371)***	(0.321)***	(0.269)***	(0.348)
DP_t	-1.760	-1.473	-1.332	-0.975	-1.032	-0.934	-0.752	-0.621	-0.404	0.009
	(0.838)**	(0.782)*	(0.659)**	(0.501)*	(0.538)*	(0.519)*	(0.502)	(0.528)	(0.512)	(0.453)
DSP_t	5.222	4.337	3.541	3.235	2.754	2.723	2.514	2.109	1.838	0.523
	(1.697)***	(1.793)**	(1.427)**	(1.056)***	(0.997)***	(0.894)***	(0.798)***	(0.767)***	(0.739)**	(0.884)
$\Delta ln(RGDP_t)$	1.666	2.244	2.046	2.010	1.978	2.431	2.337	2.130	2.079	1.806
	(1.434)	(1.383)	(1.304)	(1.245)	(1.323)	(1.216)**	(1.219)*	(1.278)*	(1.276)	(1.185)
Constant	-0.011	-0.012	-0.008	-0.013	-0.007	-0.010	-0.009	-0.010	-0.010	-0.007
	(0.018)	(0.019)	(0.015)	(0.013)	(0.014)	(0.013)	(0.013)	(0.014)	(0.013)	(0.012)
Observations	296	296	296	296	296	296	296	296	296	296
Centered R^2	0.044	0.066	0.054	0.056	0.049	0.063	0.055	0.051	0.051	0.041
Root MSE	0.079	0.063	0.058	0.056	0.058	0.059	0.059	0.057	0.054	0.045

Table B.1: Overview of Model 2a results, with the excess returns of ten size decile portfolios ($DECj_{t+1} - TBL_{t+1}$) as the dependent variable. Only Newey-West standard errors were used. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1.

Table B.2: Excess Returns of Size-Decile Portfolios under Republican Presidents, Controlling for Business-Cycle Variables

Variable	DEC1	DEC2	DEC3	DEC4	DEC5	DEC6	DEC7	DEC8	DEC9	DEC10
RD_t	-0.006	-0.006	-0.007	-0.007	-0.008	-0.008	-0.006	-0.008	-0.006	-0.006
	(0.011)	(0.009)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)	(0.006)	(0.005)
$\Delta ln(TSP_t)$	4.176	4.006	3.695	4.253	4.238	4.724	4.737	4.302	4.058	1.975
	(2.499)*	(1.811)**	(1.596)**	(1.552)***	(1.627)***	(1.604)***	(1.609)***	(1.365)***	(1.428)***	(1.157)*
RR_t	0.765	0.718	0.885	1.028	0.780	0.865	0.972	0.863	0.780	0.367
	(0.742)	(0.548)	(0.467)*	(0.469)**	(0.456)*	(0.374)**	(0.375)**	(0.321)***	(0.317)**	(0.350)
DP_t	-1.760	-1.473	-1.332	-0.975	-1.032	-0.934	-0.752	-0.621	-0.404	0.009
	(0.886)**	(0.664)**	(0.556)**	(0.518)*	(0.569)*	(0.543)*	(0.504)	(0.533)	(0.560)	(0.418)
DSP_t	5.222	4.337	3.541	3.235	2.754	2.723	2.514	2.109	1.838	0.523
	(1.812)***	(1.306)***	(1.139)***	(1.139)***	(1.160)**	(1.072)**	(0.919)***	(0.918)**	(0.994)*	(0.701)
$\Delta ln(RGDP_t)$	1.666	2.244	2.046	2.010	1.978	2.431	2.337	2.130	2.079	1.806
	(1.459)	(1.319)*	(1.253)	(1.246)	(1.343)	(1.238)*	(1.234)*	(1.309)	(1.331)	(1.156)
Constant	-0.005	-0.007	-0.001	-0.006	0.001	-0.002	-0.003	-0.002	-0.004	-0.000
	(0.024)	(0.018)	(0.015)	(0.015)	(0.016)	(0.015)	(0.014)	(0.015)	(0.016)	(0.013)
Observations	296	296	296	296	296	296	296	296	296	296
Centered R^2	0.044	0.066	0.054	0.056	0.049	0.063	0.055	0.051	0.051	0.041
Root MSE	0.079	0.063	0.058	0.056	0.058	0.059	0.059	0.057	0.054	0.045

Table B.2: Overview of Model 2b results, with the excess returns of ten size decile portfolios ($DECj_{t+1} - TBL_{t+1}$) as the dependent variable. Only Newey-West standard errors were used. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1.

Table B.3: Excess Returns of Size-Decile Portfolios under Democratic Presidents, Including Lobbying, Interaction Terms, Lagged Effects of Lobbying, and Controlling for Business-Cycle Variables

Variable	DEC1	DEC2	DEC3	DEC4	DEC5	DEC6	DEC7	DEC8	DEC9	DEC10
DD_t	0.011	0.009	0.008	0.009	0.008	0.009	0.007	0.008	0.006	0.005
	(0.011)	(0.009)	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	(0.008)	(0.007)	(0.006)
$\Delta ln(LOB_t)$	1.518	1.397	0.882	1.237	1.012	1.110	1.091	0.912	0.762	0.215
	(0.649)**	(0.629)**	(0.555)	(0.575)**	(0.591)*	(0.544)**	(0.510)**	(0.463)**	(0.402)*	(0.244)
$\Delta ln(LOB_{t-1})$	-0.602	-0.870	-0.702	-0.965	-1.020	-1.111	-1.047	-0.972	-0.799	-0.431
	(1.150)	(0.866)	(0.750)	(0.675)	(0.683)	(0.666)*	(0.619)*	(0.648)	(0.676)	(0.524)
DD_t x $\Delta ln(LOB_t)$	-1.548	-1.519	-0.880	-1.411	-1.089	-1.332	-1.355	-1.151	-1.005	-0.333
	(0.739)**	(0.669)**	(0.587)	(0.604)**	(0.623)*	(0.587)**	(0.574)**	(0.514)**	(0.462)**	(0.340)
DD_t x $\Delta ln(LOB_{t-1})$	1.244	1.426	1.254	1.613	1.580	1.820	1.865	1.731	1.607	1.142
	(1.253)	(0.928)	(0.820)	(0.724)**	(0.736)**	(0.711)**	(0.675)***	(0.697)**	(0.718)**	(0.600)*
$\Delta ln(TSP_t)$	4.193	4.041	3.758	4.300	4.318	4.792	4.797	4.362	4.110	2.024
	(2.460)*	(1.859)**	(1.581)**	(1.403)***	(1.514)***	(1.524)***	(1.618)***	(1.286)***	(1.235)***	(1.153)*
RR_t	0.831	0.770	0.888	1.060	0.783	0.874	0.979	0.861	0.769	0.326
	(0.754)	(0.582)	(0.459)*	(0.451)**	(0.439)*	(0.354)**	(0.369)***	(0.332)***	(0.266)***	(0.346)
DP_t	-1.767	-1.479	-1.338	-0.980	-1.036	-0.948	-0.772	-0.637	-0.429	-0.006
	(0.849)**	(0.721)**	(0.519)*	(0.443)**	(0.457)**	(0.446)**	(0.453)	(0.476)	(0.473)	(0.393)
DSP_t	5.106	4.205	3.408	3.100	2.592	2.565	2.366	1.975	1.720	0.451
	(1.726)***	(1.585)***	(1.093)***	(0.883)***	(0.838)***	(0.781)***	(0.709)***	(0.701)***	(0.661)***	(0.692)
$\Delta ln(RGDP_t)$	0.766	1.490	1.600	1.389	1.518	1.931	1.838	1.735	1.749	1.760
	(1.486)	(1.397)	(1.330)	(1.392)	(1.438)	(1.320)	(1.316)	(1.339)	(1.297)	(1.134)

Table B.3 (continued)

Constant	-0.013	-0.013	-0.007	-0.012	-0.004	-0.008	-0.007	-0.007	-0.008	-0.005
	(0.020)	(0.018)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.014)	(0.014)
Observations	295	295	295	295	295	295	295	295	295	295
Centered R^2	0.062	0.087	0.071	0.080	0.070	0.087	0.080	0.073	0.074	0.063
Root MSE	0.078	0.062	0.057	0.056	0.058	0.058	0.059	0.056	0.053	0.045

Table B.3: Overview of Model 5a results, with the excess returns of ten size decile portfolios ($DECj_{t+1} - TBL_{t+1}$) as the dependent variable. The lobbying variable, its interaction term, and lagged values of lobbying were added. Only Newey-West standard errors were used. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1.

Table B.4: Excess Returns of Size-Decile Portfolios under Republican Presidents, Including Lobbying, Interaction Terms, Lagged Effects of Lobbying, and Controlling for Business-Cycle Variables

Variable	DEC1	DEC2	DEC3	DEC4	DEC5	DEC6	DEC7	DEC8	DEC9	DEC10
RD_t	-0.011	-0.009	-0.008	-0.009	-0.008	-0.009	-0.007	-0.008	-0.006	-0.005
	(0.011)	(0.010)	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.006)
$\Delta ln(LOB_t)$	-0.031	-0.122	0.002	-0.174	-0.077	-0.221	-0.264	-0.238	-0.243	-0.118
	(0.371)	(0.262)	(0.240)	(0.268)	(0.291)	(0.258)	(0.285)	(0.266)	(0.292)	(0.256)
$\Delta ln(LOB_{t-1})$	0.642	0.556	0.552	0.648	0.561	0.709	0.818	0.759	0.808	0.711
	(0.392)	(0.260)**	(0.280)**	(0.300)**	(0.336)*	(0.305)**	(0.327)**	(0.300)**	(0.320)**	(0.299)**
RD_t x $\Delta ln(LOB_t)$	1.548	1.519	0.880	1.411	1.089	1.332	1.355	1.151	1.005	0.333
	(0.741)**	(0.734)**	(0.590)	(0.611)**	(0.627)*	(0.597)**	(0.593)**	(0.556)**	(0.535)*	(0.360)
RD_t x $\Delta ln(LOB_{t-1})$	-1.244	-1.426	-1.254	-1.613	-1.580	-1.820	-1.865	-1.731	-1.607	-1.142
	(1.234)	(0.911)	(0.813)	(0.801)**	(0.836)*	(0.826)**	(0.797)**	(0.814)**	(0.822)*	(0.614)*
$\Delta ln(TSP_t)$	4.193	4.041	3.758	4.300	4.318	4.792	4.797	4.362	4.110	2.024
	(2.433)*	(1.738)**	(1.558)**	(1.474)***	(1.597)***	(1.552)***	(1.606)***	(1.356)***	(1.430)***	(1.155)*
RR_t	0.831	0.770	0.888	1.060	0.783	0.874	0.979	0.861	0.769	0.326
	(0.703)	(0.550)	(0.455)*	(0.457)**	(0.443)*	(0.354)**	(0.369)***	(0.327)***	(0.318)**	(0.341)
DP_t	-1.767	-1.479	-1.338	-0.980	-1.036	-0.948	-0.772	-0.637	-0.429	-0.006
	(0.769)**	(0.624)**	(0.514)***	(0.473)**	(0.510)**	(0.481)**	(0.459)*	(0.485)	(0.522)	(0.408)
DSP_t	5.106	4.205	3.408	3.100	2.592	2.565	2.366	1.975	1.720	0.451
	(1.526)***	(1.200)***	(1.055)***	(1.065)***	(1.119)**	(1.044)**	(0.931)**	(0.925)**	(0.994)*	(0.749)
$\Delta ln(RGDP_t)$	0.766	1.490	1.600	1.389	1.518	1.931	1.838	1.735	1.749	1.760
	(1.518)	(1.464)	(1.332)	(1.361)	(1.420)	(1.323)	(1.326)	(1.367)	(1.322)	(1.137)

Table B.4 (continued)

Constant	-0.002	-0.004	0.001	-0.003	0.004	0.001	-0.000	0.001	-0.002	0.000
	(0.020)	(0.017)	(0.015)	(0.014)	(0.015)	(0.015)	(0.014)	(0.015)	(0.016)	(0.014)
Observations	295	295	295	295	295	295	295	295	295	295
Centered R^2	0.062	0.087	0.071	0.080	0.070	0.087	0.080	0.073	0.074	0.063
Root MSE	0.078	0.062	0.057	0.056	0.058	0.058	0.059	0.056	0.053	0.045

Table B.4: Overview of Model 5b results, with the excess returns of ten size decile portfolios ($DECj_{t+1} - TBL_{t+1}$) as the dependent variable. The lobbying variable, its interaction term, and lagged values of lobbying were added. Only Newey-West standard errors were used. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1. The number of observations, the Centered R-squared (R^2), and Root MSE values are also reported. Note that: *** p<0.01, ** p<0.05, * p<0.1.