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The effect of the USA Presidential Debate on the stock market performance.

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Abstract

The very core idea behind political uncertainty lies with the left-wing and right-wing ideology conflict for the optimal governing policy. Such uncertainty is affecting the stock market performance and is enabling a bias in the decision-making process among investors. This paper takes a particular interest in the USA Presidential Debate, and it uses the debate as a proxy for political uncertainty. Through an event study methodology, it investigates the effect of the USA Presidential Debate on the stock market performance. More specifically, the three debates between Hilary Clinton and Donald Trump, Barack Obama and John McCain, and George W. Bush and Al Gore. A negative market reaction effect was found in six out of nine debates, while a positive in one out of nine. Furthermore, through a regression analysis, it is observed that the effect of political uncertainty varies significantly across firms and industries.

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1. Introduction

The difference in ideologies between the Democrats and the Republicans is bringing uncertainty in the domestic political landscape. Such uncertainty does directly affect the stock market performance and investors investment decisions. The aforementioned ideologies shape country's legislation and governing policies that will affect and influence the lives of 327.2 million US citizens, but also will have a significant impact on the global geopolitical and economic landscape.

The Democratic Party follows a left-wing ideology, an ideology that believes on minimum wage, progressive taxation, gun control, lower spending for the military and armed forces, universal access to healthcare, and liberal views on immigration ("Democrat vs Republican - Difference and Comparison | Diffen", 2019). Whereas the Republican Party follows a right-wing ideology, that believes in flat taxation, a strong supporter of the second amendment, increased spending for the military and limited government interaction in the market ("Democrat vs Republican - Difference and Comparison | Diffen", 2019).

The aforementioned conflict is embodied in the 45th USA president Donald Trump and the Democratic majority Congress' views on emigration. Donald Trump promised to limit the number of illegal emigrants from Mexico by building a wall on the US-Mexican border. The Democratic Congress did not approve the funds required for the wall. Thus, a government shut-down from December 22, 2018, until January 25, 2019, took place, resulting in the biggest shut-down in history (Saintvilus, 2018). The political crisis did not only directly affect the federal workers but also the investor's sentiment. According to Nasdaq, Dow Jones industrial average dropped nearly 6.9% the week following the shut-down, it was considered the most significant drop in the last ten years. During the Christmas and New Year's the market dropped nearly 3% (Saintvilus, 2018).

History has proven that the tension in the political landscape can strongly affect the stock market performance. For instance, in 1972, the famous Watergate Scandal happened. The political crises, combined with global oil shock and the conflicts in the Middle East, caused the S&P 500 to fall nearly 14% in two-month' time (Yahoo Finance, 2017). Moving on to the beginning of 1998, Counsel Kenneth Star started the investigation of the 42nd USA president Bill Clinton. The president was under investigation for perjury and obstruction of justice regarding the Lewinsky scandal. The news of investigating the head of state for criminal charges brought significant political uncertainty in the market. From July until the beginning of September S&P, 500 dropped nearly 19.4% in value (Stewart, 2017). Furthermore, in 2001, Republican senator James Jeffords passed the Senate majority to the Democratic Party. Jayachandran (2006)

investigated the aforementioned event, and found that the firms that had contributed to the Republican election campaign experienced a loss in market capitalization.

The effect of political uncertainty seems to be substantial, and many researchers have tried to quantify this relationship. For instance, Baker, Bloom & Davis (2016) have developed an uncertainty index and put an emphasis on the national election effect on the stock market performance. Santa-Clara & Valkanov (2003) analyze the stock market performance under Democratic and Republic governments. Maligkris (2017), investigates the effect of the Candidate's political speeches, on stock market performance. All the aforementioned papers focus on the period around national elections and use this period as a proxy for political uncertainty.

Even though political events seem to be highly influential on enhancing investor's biases and have an impact on the market and firm performance, the mechanism of the asset pricing under political uncertainty and crises is still unclear. This paper builds on current academic literature, and takes a particular interest in USA presidential debates. The presidential debate is used as a proxy for political uncertainty.

During the election period, the Republican and Democratic Candidates face each other on three national debates of 90 minutes divided into nine segments. The debate serves as an essential platform where the candidates discuss their views on specific topics in front of a broad domestic and international audience. The Presidential Debate is an event viewed by nearly 70 million people domestically, and it is considered to be a reflection of presidential candidate leadership ability, character, and competence (Benoit, Hansen & Verser, 2003).

This research will be focused on nine important and highly controversial USA Presidential Debates in the modern days. The first three debates that will be examined are between the former Secretary of State Hillary Clinton and the 45th USA President Donald Trump. The other debates that will be considered are between the 44th USA President Barack Obama and former USA Arizona Senator John McCain. The last three debates that will be considered are between 43rdUSA President George W. Bush and former Vice President Al Gore.

Through an event study based on MacKinlay, (1997) methodology and by following the main principles of behavioral finance, this paper investigates the effect of USA Presidential debate on stock market performance. Therefore, the research question that this empirical paper aims to answer will be as follows,

"To what extent does the USA Presidential Debate affect and influence stock market performance?"

Additionally, through a regression analysis on the cumulative abnormal returns that have resulted from the USA presidential debates, it aims to capture the firm and industry sensitivity toward political noise. One can argue that certain industries are more sensitive toward political uncertainty and some less. Furthermore, firm-specific attributes could be influencing the firm sensitivity toward political uncertainty. By analyzing the relationship above, one could provide further insights on additional diversification opportunities in times of significant political noise. Furthermore, it investigates the effect on the stock returns when the debate winner is the Democratic or the Republican candidate.

The rest of the paper is constructed as follows. The second section provides further insight into the theoretical framework. Section three describes the data and the data sources, followed up by section four that provides the methodology used in this event study and the regression analysis. Section five & six, describes the results, conclusions, limitations of the research, and several recommendations for further research.

2. Theoretical Framework

2.1 Political Uncertainty and Financial Markets

Uncertainty risk does affect and influence investment decisions and the economic prospects of a country. Cukierman (1980) put an emphasis on investor's behavior under uncertainty and argues that there is a tendency to delay investment projects and collect more information to reduce the degree of uncertainty. Sandmo (1970) establish a link between uncertainty and saving behavior of individuals, it was found that the self-employed individuals tend to be highly sensitive to uncertainty risk, thus, resulting in higher savings. Additionally, Bloom, Terrones, & Kose (2013) argues that policy uncertainty leads to economic stagnation and slow economic recovery from the crises. However, the degree of uncertainty increases significantly when the government follows highly controversial and unfamiliar policies. The left-wing and right-wing political parties share fundamentally different views on how to tackle critical political and economic challenges from fiscal and monetary policies that influence the macro-economic condition to financial regulation emigration, environment, education, and healthcare (Angelini, Foglia, Ortolano & Leone, 2018). Therefore, the more controversial the views off the politicians running for office, the higher the degree of uncertainty about the policy they will implement.

PÁSTOR & VERONESI (2012) based on a general equilibrium model, establish a link between stock prices and political uncertainty, and they argue that the higher the degree of uncertainty, the larger the fall in stock

prices. Chang, Chen, Gupta & Nguyen (2015) discuss the international character of these findings, they put an emphasis on Europe and Canada, and find evidence that stock prices are affected by uncertainty in Italy, Spain, UK, and the USA. However, no empirical support was observed for Germany, Canada, and France. Based on the findings mentioned above the first hypothesis that this paper will evaluate will be as follows,

Hypothesis One - The political uncertainty caused by the USA presidential debates negatively affect the stock market performance.

According to PÁSTOR & VERONESI (2012) model, the market volatility and the correlation between stocks increases significantly in the case of political uncertainty. The results are highly significant, especially in weaker economies and developing countries. KELLY, PÁSTOR & VERONESI (2016) shift their focus toward the financial derivatives market, especially the options market. Options serve as financial insurance against risk, based on econometric and asset pricing models, the authors argue that the options that have a lifespan during political crisis and uncertainty tend to be highly-priced (KELLY, PÁSTOR & VERONESI, 2016). Based on the previous findings, Baker, Bloom & Davis (2016) develop an index that aims to measures political uncertainty. The index reaches a peak on the national elections and other major political news such as a change in policy. In their empirical analysis, they focus on developed economies, namely, G10 members. They found that the firm stocks that are highly exposed to government policy change are more likely to fall in value, and to increase in volatility. Additionally, Baker, Bloom & Davis (2016) distinguish across industries and observe that the linkage between financial, healthcare, defense sector tends to be stronger than other industries. Besides industries, there are even firm-specific characteristics that make the firms more vulnerable toward risk. Fama & French (1993) emphasized the firm-specific characteristics that have an influence on cumulative abnormal returns, and the authors use several firm-specific accounting data to explain the abnormal returns. Based on the aforementioned findings the second hypothesis will be as follows,

Hypothesis Two – The impact of political uncertainty varies across firms and industries.

2.2 Political Cycles and Partisanship Effect

It has been established that politics can play a crucial role in influencing financial markets, especially the stock market performance. However, most of the empirical research has been focused on the Partisanship Effect. Santa-Clara & Valkanov (2003) found that the stock market under Democratic leadership performs better than it would under Republican leadership by nearly 5%. The magnitude difference reaches a peak in terms of treasury bills (9%), and when comparing equal-weighted portfolios, the difference reaches nearly 16% (Santa-Clara & Valkanov, 2003). Furthermore, they argue that small caps perform better under

Democratic leadership and large caps perform better under Republican leadership. However, in many other countries, especially in Europe, the government is formed by multi-party coalitions. Therefore, the degree of uncertainty and political risk seems to be more substantial (Vuchelen, 2003). Vuchelen (2003) argues the Belgian election case, and he discovered that under left-wing coalitions the stock prices tend to increase, whereas when right-wing political parties take office, the stock prices tend to fall in value. Building on previous findings, Döpke & Pierdzioch, (2006) analyses that German stock market performance during left-wing and right-wing leadership. The authors found that the stock market performs significantly better when left-wing parties take office. Freeman (1986), has shed some additional light on the ideology difference between the aforementioned parties. It is concluded that the Republican Party is a different type of organization that has a significantly different approach toward policies (Freeman, 1986). Therefore, building on the recent empirical research in this field the third hypothesis that will be tested is,

Hypothesis three- The market reaction would be substantially more negative in case the Republican Candidate wins the debate.

However, the previous findings have faced criticisms among academics. Bohl & Gottschalk (2006) empirically prove that the market superior performance under left-wing leadership is not a global phenomenon. Evidence for such performance is only found in Denmark, Germany, and the United States of America.

According to Baker, Bloom & Davis (2016) political uncertainty index, the index reaches a peak around national elections, and they describe the national election period as the ultimate proxy for political risk. The period around national elections and the effect that this period has on the stock market performance has been a topic of interest among researchers. The recent findings in this field suggest that there is a strong relationship between political clime and market volatility. Pantzalis, Stangeland & Turtle (2000) discuss the international character of the effect that election week has on stock market performance. They examine nearly 33 countries and find positive abnormal returns two weeks before Election Day. The evidence is stronger and highly significant in weaker economies and developing countries. Building on the aforementioned findings, Białkowski, Gottschalk & Wisniewski, (2008) conclude that the election period, and especially election week increase significantly the volatility index in 27 OECD countries. Furthermore, the effect of elections goes beyond the domestic market, a spillover effect in volatility and returns is observed in major word indices. One of the biggest and most controversial elections was the 2000 election between the 43rd President Gorge W. Bush and former Vice President Al Gore. Al Gore won by the popular votes. However, the Electoral College appointed the Gorge W. Bush as the 43rd USA President. The event seems to be highly significant and had a spillover effect over the closely related markets to the USA namely

Canada and Mexico, both the Canadian stock market and Mexican stock market experienced a negative performance due to the aforementioned event (Nippani & Arize, 2005). The same effect was observed sixteen years later on one of the most controversial elections between the former Secretary of State Hilary Clinton and the 45th USA President Donald Trump. History repeated itself, Clinton won by the popular votes. However, the Electoral College elected Donald Trump to serve as the 45th USA President. According to Pham, Ramiah, Moosa, Huynh & Pham (2018), the 2016 Donald Trump triumph and his policy uncertainty were reflected in stock prices. Dow Jonson index fell nearly 4% based on his views regarding the trade policies, especially with China. The same effect was observed in all world major indices, Hang Seng, Kospi, Nikkei, FTSE 100. That fell by 2.7%, 2.5%, 5.1% and 2% respectively.

2.3 Political Biases and Investors Behavior

The early 90's analyzed the effect of human behavior and psychology on the economic decision, and gave raise to behavioral finance. Herbert Simon was a pioneer in this field, and he put an emphasis on the cognitive limitation that influences economic decisions. De Long, Shleifer, Summers & Waldmann (1990) differentiate between two types of market participates the irrational one affected by exogenous sentiment and the sentiment-free investors. According to their empirical findings, the competition between the aforementioned type of investors lead to a significant asset mispricing by the market and also an increase in volatility (De Long, Shleifer, Summers & Waldmann, 1990). Additionally, De Bondt & Thaler (1995) and Odean (1998) portrays human nature as overconfident, and their empirical findings suggest that investor's pessimism and optimism lead to a deviating investment behavior. Building on the current behavioral finance principles, an issue of interest among academia has been to analyze the political bias on the decision-making process and the psychological nature of the investment decision process under different political ideology.

Investors political beliefs tend to influence their optimal portfolio choice. Moreover, mutual fund managers that share democrat's ideology tend to invest in the company's stocks that are socially responsible compared to the Republicans (Hong & Kostovetsky, 2012). Moreover, DeVault & Sias (2017) argue that political beliefs and several physiological characteristics shape the investment strategies among hedge fund managers. According to their empirical study, hedge fund managers that share democratic or left-wing values and principles are prone to invest in small and highly volatile stocks, non-dividend paying companies, and lottery-type securities. Furthermore, Bonaparte, Kumar & Page (2012) argue that investors are overoptimistic and underestimate the risk in the market when the political party that they support gets elected. Their portfolio composition shifts toward high-beta stocks, value stocks, and small-caps, thus, resulting in a significant increase in portfolio risk (Bonaparte, Kumar & Page, 2012). This fact might be

influenced by biased expectations and overconfidence in the government's leadership abilities to increase the economic performance of the country.

2.4 Political Speeches and Presidential Debate

There has been little to almost no investigation of the effect of political speeches on market performance. Wolfers & Zitzewitz, (2016) on their paper investigated the effect of the 2016 USA election on financial markets. They found a positive reaction of the stock market performance after the first USA presidential debate. A similar effect was observed on fixed financial instruments and the FX market. A volatility decrease was also recorded in the USA market. Furthermore, a spillover effect occurred in major world indices, namely, in Asia and the United Kingdom.

Maligkris (2017) analyses the candidate speeches throughout the entire election campaign and the effect on the stock market performance. Maligkris (2017) observes a significant impact of speeches that contain economic information, and he observed a decrease in volatility, increase in returns, and trading volume in the market. Furthermore, he argues that the negative linguistic tone during a speech has the opposite effect on the stock market. The results seem to be more significant during the first months of the campaign.

3. Data

In order to analyze the research question, time series and cross-section data were used. The data containing company codes were obtained from Thomson One, debate history dates and debate information, from the official USA debate site, Debate.org, and the industry and accounting data from Wharton Research Data Services (WRDS). Furthermore, the evaluation is conducted through the Data Stream Event Study Tool.

The sample used in the analysis contains time series data and cross-sectional observations of 960 USA companies for the debate between Hillary Clinton and Donald Trump (2016). The same sample is used when evaluating the three debates between Barack Obama and John McCain (2008). However, there are only 846 USA companies used when evaluating the three debates between George W. Bush and Al Gore (2000). It should be mentioned that several observations are dropped from the sample because of the lack of stock prices available at the period of the evaluation.

Additionally, the stock returns are calculated as follows,

Formula 1
$$R_{(i,t)} = \frac{P_{(i,t)} - P_{(i,\,t-1)}}{P_{(i,t)}}$$

R(i,t), is the return of stock i at point t.

P(i,t), is the price of stock i at point t.

P(i, t-1), is the price of stock i at point t-1.

Moreover, the sample is divided into industry-specific categories to observe the industrial sensitivity to political uncertainty, as table 20 in the appendix suggests. The industries used in the analysis are, as follows, Healthcare, Basic Materials, Technology, Utilities, Oil and Gas, and Financials. By following the Fama & French (1993), several accounting variables are used as explanatory variables for the cumulative abnormal returns. The accounting variables that will be used are Book/Market ratio (B/M), Earnings/Share (E/SH), and Dividend/Share (D/SH). Due to the lack of accounting data available for many of the companies in the initial sample, the sample used for the regression analysis is reduced by nearly 400 observations per each debate resulting in a combined sample of nearly 4569 observations. Finally, the ideology variable is used to evaluate the last hypothesis.

Please refer to table 20,21,23 in the appendix for further information regarding the descriptive statistics.

4. Methodology

4.1 Event Study Analysis

As previously discussed, the purpose of this paper is to test the effect of the USA presidential Debate on stock market performance. This is analyzed by using an event study methodology based on the paper of MacKinlay (1997). Accordingly, a control period from (-171; 71) is implemented and an in-between period between (-70; -5) is used in the analysis to prevent any event clustering. Furthermore, the analysis takes a special interest in observing the abnormal returns in an event window (-4;4). The expected returns during the event period are calculated using the market model due to its superior performance (Campbell, Lo & MacKinlay, 1997). The index used as a benchmark when calculating expected returns is Standard and Poor 500 (S&P 500). S&P 500 provides an accurate market representation in the USA, and the 500 constitutes in the S&P represent nearly 80% of market capitalization in the USA. Therefore, the expected returns and the abnormal returns are calculated as follows:

Formula 2 $\qquad\qquad E(R_{i,t}) = \alpha i + \beta i S\&P500 + \varepsilon$

Formula 3 $\qquad\qquad AR(i,t) = R(i,t) - E(R_{i,t})$

Where E(Ri,t) is the expected return based on the market model of stock i at time t, and A$R(i,t)$, is the actual return of stock i at time t subtracted the expected return calculated according to the market model.

The second step of the analysis is calculating the Average Abnormal Returns (AAR) per each day as follows:

Formula 4 $$\text{AAR} = 1/N \sum_{i=1}^{N} \text{AR}(i, t)$$

Moreover, cumulative abnormal returns (CAR) are calculated as follows per each company in the event window (-4; 4)

Formula 5 $$CA\text{R } (\text{-4:4}) = \sum_{4}^{-4} \text{AR}(i, t)$$

Where CAR is the sum of the abnormal returns from day -4 until day 4 per each stock i in the evaluation.

The last step of the first part of the analysis is calculating the cumulative average abnormal return (CAAR) as follows,

Formula 6 $$\text{CAAR} = 1/N \sum_{i=1}^{N} \text{CAR}(i, t)$$

Where the CAAR is the mathematical average of the CAR per each company, and the significance of the coefficients will be analyzed by using a simple t-test.

4.2 Regression Analysis

The second part of the analysis consists of analyzing the stock sensitivity to political uncertainty based on industry-specific, firm-specific characteristics, and candidates' ideology. Several dummy variables are created and included in a regression model in addition to the accounting variables. The first dummy variable created is MATERIALS that takes the value of 1 if the firm operates in the basic materials sector and 0 otherwise. The other dummy variable is TECH that takes values of 1 if the firm operates in the technology sector and 0 otherwise. Additionally, the OILGAS variable takes the value of 1 if the firm operates in the Oil and Gas sector and 0 otherwise. HEALTH variable is created and takes the value of 1 if the firm operates in the healthcare industry and 0 otherwise. Furthermore, the same logic applies to other dummy variables such as UTL (Utilities) and FINANCIAL. It should be mentioned that the financial sector is dropped by the model due to multicollinearity (Brooks, 2017). In addition, the model also controls for an ideology effect, which is incorporated through a dummy variable named REPUBLICAN, that takes the value of 1 if the debate winner is the Republican Candidate and 0 in case the debate winner is the Democratic Candidate.

Formula 7   CAR = α +β1*B/M + β2*E/SH+ β3*D/SH +β4*MATERIALS + β5*HEALTH +
β6*OILGAS + β7*TECH + β8*UTL+ β9*REPUBLICAN + ε

In case the coefficients $\beta 4$, $\beta 5$, $\beta 6$, $\beta 7$, $\beta 8$, are statistically different from zero, it could be argued that certain industries are more sensitive toward political uncertainty than others. Additionally, in case the coefficient $\beta 1$, $\beta 2$, $\beta 3$ are statistically different from zero, it can be argued that firm-specific characteristics have explanatory power on cumulative abnormal returns (CAR). In case the coefficient $\beta 9$ is statistically different from zero, a potential ideology effect could be influencing the cumulative abnormal returns.

It is essential that the regression coefficients are reliable and not biased. Thus, five assumptions need to be fulfilled. The variables should have a linear relationship, little or no multicollinearity, no autocorrelation, normality, and homoscedasticity.

Since this paper only uses static observations, autocorrelation assumption is not a point of concern (Stock & Watson, 2015). Furthermore, the regression analysis uses robust standard errors, a command that controls for heteroskedasticity. In order to further investigate the multicollinearity, a variance inflation factor (VIF) is used. The results can be depicted in table 22 in the appendix. While a VIF of 10 could give a strong indication of multicollinearity between the variables of interest, the results obtained from the model show a mean VIF of 1.22 implying that there is no multicollinearity between the variables. Therefore, in accordance with Stock & Watson (2015), if the aforementioned conditions are fulfilled, a linear relationship between the variables could be assumed.

5. Results

As previously discussed in the methodology, to test the effect of the debate on the market performance, a t-test on Average Abnormal Returns (AAR) per each day is conducted to see whether or not the AAR is significantly different from zero. In case the t-statistics value is higher than 1.96 or lower than -1.96, the result is considered to be statistically significant at the 5 % confidence level. It should be mentioned that the stars are an indication of the significance level. For instance, (i) *- implies that the coefficient is statistically significant at 10% level, (ii) **- implies that the coefficient is statistically significant at 5% level and (iii) *** - implies that the coefficient is statistically significant at 1% level.

5.1 Hillary Clinton versus Donald Trump (market effect)

The first USA Presidential Debate between the former Secretary of State Hillary Clinton and the 45th USA President Donald Trump affected the market performance to some extent. A market reaction was observed four days before the event date. The market lost nearly -0.24%, followed up by an increase of 0.1% two days prior the debate. It is interesting that on the date of the debate no reaction was observed. However, on the first and fourth day after the debate another -0.32% loss and 0.12% gain was recorded respectively. The effect under the event window (-4:4) seems to be statistically insignificant.

Table 1

*Average Abnormal Return information, resulting from the event study analysis for the first USA Presidential Debate between Hillary Clinton and Donald Trump.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	960	-0.0024	-4.2617***
Day (-3)	960	-0.0005	-0.8863
Day (-2)	960	0.001	1.7803*
Day (-1)	960	0.0006	0.9514
Day (0)	960	-0.0005	-0.4714
Day (1)	960	-0.0032	-5.4780***
Day (2)	960	0.001	1.1778
Day (3)	960	0.0003	0.4197
Day (4)	960	0.0012	2.1170**

Table 2

* Cumulative Average Abnormal Return information, resulting from the event study analysis for the first USA Presidential Debate between Hillary Clinton and Donald Trump.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	960	-0.0028	1.4693

The findings regarding the second USA Presidential Debate were to some extent different. A positive market reaction of 0.23% was observed three days before the debate. On day two and one prior to the debate, a market drop of nearly -0.2% and -0.09% was observed. Furthermore, a reversal of 0.23% was recorded on the day of the debate. Another drop of nearly 5.18% was obtained on day three after the debate. The total effect reached nearly -0.58% on the event window (-4:4).

Table 3

Average Abnormal Return information, resulting from the event study analysis for the second USA Presidential Debate between Hillary Clinton and Donald Trump.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	960	-0.0006	-0.9886
Day (-3)	960	0.0023	4.221***
Day (-2)	960	-0.002	-3.6978***
Day (-1)	960	-0.0009	-1.778*
Day (0)	960	0.0023	4.6876***
Day (1)	960	-0.0006	-1.0426
Day (2)	960	-0.0007	-1.3225
Day (3)	960	-0.0518	-9.7905***
Day (4)	960	-0.0004	-0.7501

Table 4

Cumulative Average Abnormal Return information, resulting from the event study analysis for the second USA Presidential Debate between Hillary Clinton and Donald Trump.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	960	-0.0058	-3.3251***

The results of the third USA Presidential Debate were more substantial. An initial drop of -0.52% was observed on day four before the debate followed up by a gain of nearly 0.09% two days prior the event. Another drop of -0.2% on the day before the debate was recorded. Moreover, the market gained on the day of the debate nearly 0.19%. However, on the following days, a significant reversal was observed, more specifically, on the day +1, +2, +3, +4. The losses were, -0.11%, -0.34%, -0.17%, -0.27% respectively. The total market loss was near -1.39% under the event window.

Table 5

Average Abnormal Return information, resulting from the event study analysis for the third USA Presidential Debate between Hillary Clinton and Donald Trump.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	960	-0.0052	-9.7442***
Day (-3)	960	-0.0005	-0.9298
Day (-2)	960	0.0009	1.6795*
Day (-1)	960	-0.002	-3.6233***
Day (0)	960	0.0019	2.8053***
Day (1)	960	-0.0011	-1.6869*
Day (2)	960	-0.0034	-6.3967***
Day (3)	960	-0.0017	-3.0553***
Day (4)	960	-0.0027	-4.0518***

Table 6

Cumulative Average Abnormal Return information, resulting from the event study analysis for the third USA Presidential Debate between Hillary Clinton and Donald Trump.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	960	-0.0139	-7.4931***

5.2 Barack Obama versus John McCain (market effect)

The first USA Presidential Debate between the 44th USA President Barack Obama and former Arizona Senator John McCain had a substantial effect on market performance. It is worth mentioning that during the entire period under investigation, the market did experience abnormal returns except for the third day post-debate. More specifically, the market lost -0.58% four days prior the debate followed up by an upward and downward movement of nearly +0.3%, -0.91%, -0.69% respectively on the following days. The day of the debate was characterized by a further loss of nearly -0.48%. On the days following the debate, a gain of 1.19% followed up by a reversal of the same magnitude were observed. Market continued to drop substantially even on the fourth day after the debate, a drop of -0.51% was recorded. Reaching a total loss of -2.9% in the event window (-4:4).

Table 7

Average Abnormal Return information, resulting from the event study analysis for the first USA Presidential Debate between Barack Obama and John McCain.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	960	-0.0058	-3.2089***
Day (-3)	960	0.003	2.2415**
Day (-2)	960	-0.0091	-7.1445***
Day (-1)	960	-0.0069	-6.6651***
Day (0)	960	-0.0048	-3.7374***
Day (1)	960	0.0119	5.27086***
Day (2)	960	-0.0119	-5.4798***
Day (3)	960	-0.0004	-0.2025
Day (4)	960	-0.0051	-2.8796***

Table 8

Cumulative Average Abnormal Return information, resulting from the event study analysis for the first USA Presidential Debate between Barack Obama and John McCain.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	960	-0.029	-7.0072***

Similar findings were found even in the second USA Presidential Debate. It should be mentioned that on the day of the debate, market did not experience abnormal returns. However, it was characterized by statistically significant abnormal returns three days prior the debate and three days following the debate. This phenomenon might happen due to event day uncertainty. More specifically, a drop of -0.5% was observed on the day -3. The market continued to drop even on the day -2 and -1 by nearly -0.45% and -1.12% respectively. On the days following the debate, it continued to lose nearly -1.08%, -1.29%, and on day three it did gain 2.38%, reaching a total loss of nearly -2.19%.

Table 9

Average Abnormal Return information, resulting from the event study analysis for the second USA Presidential Debate between Barack Obama and John McCain.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	960	0.0000	0.0077
Day (-3)	960	-0.005	-2.8043***
Day (-2)	960	-0.0045	-3.452***
Day (-1)	960	-0.0112	-5.447***
Day (0)	960	-0.0027	-1.5054
Day (1)	960	-0.0108	-5.8405***
Day (2)	960	-0.0129	-5.7779***
Day (3)	960	0.0238	-7.343***
Day (4)	960	0.0013	-0.3877

Table 10

Cumulative Average Abnormal Return information, resulting from the event study analysis for the second USA Presidential Debate between Barack Obama and John McCain.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	960	-0.0219	-4.2807***

The third USA Presidential Debate was characterized by a negative reaction the fourth day prior the event by nearly -1.15%. However, a reversal of the initial reaction was observed in the following days. Respectively, a gain of 2.4% on the day -3, followed up by an additional gain of 0.41% and 0.82% on the day of the event and on the day following the event. It should be mentioned that on day three after the debate, a negative reaction of -0.36% was observed, reversed by a positive reaction of nearly the same magnitude (0.35%) on the fourth day after the debate. To conclude, the market did gain nearly 2.49% because of the third USA presidential debate.

Table 11

Average Abnormal Return information, resulting from the event study analysis for the third USA Presidential Debate between Barack Obama and John McCain.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	960	-0.0115	-5.2038***
Day (-3)	960	0.024	7.4067***
Day (-2)	960	-0.0008	-0.2184
Day (-1)	960	0.0025	1.0138
Day (0)	960	0.0041	1.9756**
Day (1)	960	0.0082	3.8209***
Day (2)	960	-0.0015	-0.8328
Day (3)	960	-0.0036	-1.8725*
Day (4)	960	0.0035	2.4083**

Table 12

Cumulative Average Abnormal Return information, resulting from the event study analysis for the second USA Presidential Debate between Barack Obama and John McCain.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	960	0.0249	5.3375***

5.3 Gorge W. Bush versus Al Gore (market effect)

The first USA Presidential Debate between former Vice President Al Gore and 43rd USA President Gorge W. Bush brought significant uncertainty to the market, which was reflected in the market reaction. The market lost nearly -0.25% four days before the debate, however, a reversal of the initial reaction was observed on the day -3 and -2 by nearly 0.5% and 0.73% respectively. On the day before the event, the market lost nearly -0.85%, followed up by anther decline of nearly -0.47% on the event day. Furthermore, negative abnormal returns were observed on the second day following the debate, a loss of nearly -0.73% was recorded. When examining the total effect on the event window (-4:4), the market seems to have lost nearly -1.47%.

Table 13

Average Abnormal Return information, resulting from the event study analysis for the first USA Presidential Debate between George W. Bush and Al Gore.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	846	-0.0025	-1.8094*
Day (-3)	846	0.005	3.2422**
Day (-2)	846	0.0073	-3.8277***
Day (-1)	846	-0.0085	-4.8767***
Day (0)	846	-0.0047	-3.6212***
Day (1)	846	-0.0024	1.5099
Day (2)	846	-0.0073	-4.7929***
Day (3)	846	-0.0021	-1.4982
Day (4)	846	0.0006	0.4171

Table 14

Cumulative Average Abnormal Return information, resulting from the event study analysis for the first USA Presidential Debate between George W. Bush and Al Gore.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	846	-0.0147	-3.9533***

In the second Presidential Debate, no statistically significant abnormal returns were observed on the day of the event. abnormal returns were only observed on day -4 and +4. On the day -4 the market seems to have lost nearly -0.71%, and on the fourth day after the debate, another loss of –0.53% is recorded. The average cumulative abnormal returns seem to be statistically significant, implying a loss of -1.93% on the period under investigation.

Table 15

Average Abnormal Return information, resulting from the event study analysis for the second USA Presidential Debate between George W. Bush and Al Gore.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	846	-0.0071	-4.6862***
Day (-3)	846	-0.0018	-1.2525
Day (-2)	846	0.0008	0.5998
Day (-1)	846	-0.0012	-0.7393
Day (0)	846	-0.0002	-0.1449
Day (1)	846	-0.0021	-1.3230
Day (2)	846	-0.0005	-0.2848
Day (3)	846	-0.0018	-1.1887
Day (4)	846	-0.0053	-3.1326***

Table 16

Cumulative Average Abnormal Return information, resulting from the event study analysis for the second USA Presidential Debate between George W. Bush and Al Gore.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	846	-0.0193	-4.8506***

The third Presidential Debate was characterized by negative abnormal returns on the day of the event, a loss of nearly -0.49% is recorded. However, a reversal was noticed on day three and four after the debate, where the market gained nearly 0.62% and 0.46% respectively. It should be mentioned that the total effect under the event window is statistically insignificant.

Table 17

Average Abnormal Return information, resulting from the event study analysis for the third USA Presidential Debate between George W. Bush and Al Gore.

Market Model Adjusted Return	Observation	Mean	T-Statistics
Day (-4)	846	0.0000	0.0317
Day (-3)	846	-0.0018	-1.0942
Day (-2)	846	-0.0006	-0.3279
Day (-1)	846	-0.0017	-1.0795
Day (0)	846	-0.0049	-2.9627***
Day (1)	846	-0.0016	-0.958
Day (2)	846	0.0038	1.6358
Day (3)	846	0.0062	3.9426***
Day (4)	846	0.0046	2.9183***

Table 18

*Cumulative Average Abnormal Return information, resulting from the event study analysis for the third USA Presidential Debate between George W. Bush and Al Gore.

Cumulative Average Abnormal Return	Observations	Mean	T-Statistics
Event Window (-4:4)	846	0.0041	0.9517

5.4 Regression Results

This part of the results analyses the effect of firm-specific variables such as Dividend/Share (D/SH), Earnings/Share, (E/SH) Book/Market, (B/M) on cumulative abnormal returns. Furthermore, industry-specific dummies are included in the regression analysis in order to evaluate the sign and magnitude difference between cumulative abnormal returns across industries. To add on, an additional dummy variable that captures the effect of the debates winner's ideology on the cumulative abnormal returns is incorporated.

From the regression analysis, it was found that the basic materials industry is sensitive toward political uncertainty. If the firm operates in the basic materials industry, the cumulative abnormal returns are nearly 4.1% lower. Also, the healthcare industry coefficient is statistically significant. Meaning that, if the firm operates in the healthcare sector, the cumulative abnormal returns seem to be 1.91% lower. A similar effect was found for the oil and gas sector, however, significantly higher in magnitude. A coefficient of nearly -0.0554 was obtained, implying that if the firm operates in the oil and gas sector, it will experience nearly 5.54% lower cumulative abnormal returns. Similar results were observed for the technology sector, where the cumulative abnormal returns seem to be 2.65% lower. A statistically significant coefficient of -0.016 was obtained for the utility industry, implying nearly 1.6% lower cumulative abnormal returns in case the firm operates in this sector.

In addition to the industry sensitivity, D/SH ratio seem to have explanatory power over cumulative abnormal returns. It is found that an increase of 1\$/Share seems to increase the cumulative abnormal returns by 1.25%. B/M ratio was also found statistically significant at the 10% level, implying a decrease of nearly 0.78% in the cumulative abnormal returns. The third part of this sub-section consists of analyzing the ideology effect on the cumulative abnormal returns. It was found that if the debate winner was the Republican Candidate, the firms experience on average 0.76% lower cumulative abnormal returns. A p-value of 0.055 was obtained, making the coefficient nearly statistically significant at 5%. It should be

mentioned that the constant term is significant, and a positive coefficient is obtained, implying that the model leaves a positive variation of nearly 1.77% on the cumulative abnormal returns unexplained.

Table 19

The regression results on the cumulative abnormal returns that have resulted from the nine debates.

$F (9, 4559) = 13.92$

Adjusted $R^2 = 0.0236$

Variables	Coefficients	Robust Std. Error	t-statistics	P-value
Basic Material	-0.0409***	0.0054	-7.55	0.000
Healthcare	-0.0191***	0.0061	-3.13	0.002
Oilgass	-0.0554***	0.0118	-4.70	0.000
Technology	-0.0265***	0.0043	-6.11	0.000
Utilities	-0.016**	0.0071	-2.27	0.023
Republican	-0.0076*	0.004	-1.92	0.055
B/M	-0.0078*	0.0045	-1.72	0.085
E/SH	-0.0002	0.0011	-0.19	0.847
D/SH	0.0125***	0.0035	-3.6	0.000
Constant	0.0177***	0.0062	2.84	0.004

6. Conclusions

As previously mentioned, the goal of this paper is to analyses the effect of political uncertainty on the stock market performance. As a proxy for political uncertainty, this paper takes a special interest in the USA presidential debate. Furthermore, through nine event studies, it analyses the effect on stock market performance during an event window (-4:4). Moreover, several accounting, industry, and ideology variables are used in the regression analysis to gain a better understanding of cumulative abnormal returns.

6.1 Market Impact: The results conclude that negative abnormal returns were found around the event day, and negative cumulative average abnormal returns were found under the event window in six out of nine events. More specifically, during the second and the third debate between Hillary Clinton and Donald Trump, the first two debates between Barack Obama and John McCain, and the first two presidential debates between George W. Bush and Al Gore. In one out of nine, a positive market reaction was observed, to be precise, the third USA Presidential Debate between Barack Obama and John McCain. It should be mentioned that the third Presidential Debate between George W. Bush and Al Gore, and the first Presidential Debate between Hilary Clinton and Donald Trump did not affect the market performance. Therefore, based on the findings mentioned above, it can be concluded that the USA presidential debate does on average negatively influence the stock market performance. Thus, the first hypothesis is accepted. The implications of the aforementioned results are highly in line with current academic literature (Baker, Bloom & Davis, 2016).

6.2 Firm and Industry Impact: Based on the Baker, Bloom & Davis (2016) findings that the effect of political uncertainty varies across industries, the second hypothesis was formed. From the regression analysis, this fact was confirmed. Highly sensitive were found to be, oil and gas and basic materials sector, the effect on the aforementioned industries seem more substantial in magnitude. This fact might happen due to the topic arrangement of the debate discussion, each debate has a unique composition, and it is up to the candidates to tackle a particular issue during the debate. For instance, during the debates between Clinton and Trump, healthcare was one of the most discussed topics.

Inspired by Fama & French (1993), several accounting data were added to the model to gain an in-depth understanding of the cumulative abnormal return variation. It was found that financial ratios had an explanatory power regarding the cumulative abnormal returns, more specifically, Dividend/Share (D/SH) and Book/Market (B/M). Given the aforementioned facts, the second hypothesis is accepted.

6.3 Ideology Impact: It was found that if the debate winner is a Republican, the cumulative abnormal returns will be significantly lower than it would be in the case of a Democratic win. The results are highly

in line with the current academic literature (Santa-Clara & Valkanov, 2003), that argues for a significantly lower stock market performance under Republican leadership. Given the aforementioned results, the third hypothesis is accepted.

Research Question: As the recent academic research in this field suggests, the political risk is becoming more substantial, which can be reflected in the market performance. This paper concludes that political uncertainty negatively influences the stock market returns. Moreover, industries of oil and gas, and basic materials are more sensitive to political risk. Finally, it concludes that the market would experience a more severe loss in the case of a Republican debate winner.

6.4 Discussion and Limitations

The debate between economists and politicians for the optimal policy continues to this day. The right-wing and left-wing ideology shares fundamentally different views on how to choose the optimal policy. The uncertainty raises from this ideology crash. A research of this type that analyses the effect of the presidential debate and political speeches on stock market performance is almost inexistent. This research has shed some additional light on the market reaction to political uncertainty and concludes that the political speeches and debate between the Democratic and Republican candidates for office can be a powerful platform to influence the stock market performance. However, this paper faces several limitations.

First, due to the physical time limitation, this paper is focused only on the nine most influential Presidential Debates in the modern days. By proving a further in-depth analysis of the entire debate history (35) since 1960, one can prove that the effect of presidential debate on the stock market performance is more dominant in the modern days or it is a general phenomenon.

Second, several control variables are included in a regression model such as B/M, E/SH, and D/SH. Moreover, other variables could offer additionally explanatory power and improve the robustness of the results, such as a stock run-up variable, stock volatility, market run-up, market volatility, and additional accounting ratios. The aforementioned variables that are not included in the model might be correlated with the variables of interest and might cause biased coefficients. Thus, the results might suffer from omitted variable bias.

Fourth, in a couple of observations, the difference between technology and the basic material sector was not entirely clear by the WRDS database. Therefore, it was conducted manually.

Fifth, 80% of the sample used in the regression analysis is composed of the healthcare, financial, and technology sectors. The other three sectors account for nearly 20% of the total number of observations due

to the lack of the data available, an increase in the underrepresented industries could further increase the results robustness.

Sixth, abnormal returns tend to be sensitive to the index benchmark used in the calculation. The index that this paper uses is the value-weight, S&P 500. This index is used due to the correct market representation. However, it would be an issue of interest to investigate whether or not the abnormal returns are different if another index is implemented, such a NASDAQ, MSCI USA.

Seventh, this paper ignores the effect of the vice-presidential debate. The vice-presidential debate takes place usually in between the second and the third USA presidential debate. Due to the event study window selection of (-4:4) used in the analysis, the effect of days before the third USA presidential debate might be influenced by the vice-presidential debate.

Seventh, the debate winner is considered to be the election winner. However, this specification might be far from accurate since the debate winner is evaluated by the public perception at the time of the debate. However, this fact cannot be evaluated accurately.

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8. Appendix

Table 20

Information regarding the industries used in the regression analysis for cumulative abnormal returns.

Industries	Number of firms
Financials	1521
Basic Materials	618
Healthcare	672
Oil and Gas	153
Technology	1524
Utilities	81
Total	4569

Table 21

Descriptive statistics regarding the accounting variables used in the regression analysis against the cumulative abnormal returns.

Variable	Observations	Mean	Standard Deviation	Min	Max
Earnings/Share	4569	0.7249	2.4791	-34.06	18.77
Dividend/Share	4569	0.3055	0.4993	0	5.0509
Book/Market	4569	0.7266	0.8399	-0.8955	13.2997

Table 22

Information regarding the test for multicollinearity between the variables.

Variables	VIF	1/VIF
Technology	1.53	0.6539
Healthcare	1.40	0.7132
Basic Materials	1.28	0.7797
D/SH	1.26	0.7967
B/M	1.15	0.8714
E/SH	1.15	0.8721
Oil Gas	1.07	0.9311
Republican	1.06	0.9396
Utilities	1.05	0.9516
Mean VIF	1.22	

Table 23

Descriptive statistics regarding the sample composition of the Republican and Democrats win.

Variable	Observations	Percentage
Democrat	1629	35.65
Republican	2940	64.35