The Impact of the 2016 US Presidential Election on Defense and Fossil Fuel Stock Returns: An Event Study of US and NATO Markets

Maren Blindert

Dissertation written under the supervision of professor Jörg Stahl

Dissertation submitted in partial fulfilment of requirements for the International MSc in Finance, at the Universidade Católica Portuguesa, January 2025.

Abstract

This thesis explores how the 2016 US presidential election, which saw Donald Trump's unexpected win, impacted stock markets in the defense and fossil fuel industries. The study focuses not only on the US but also on NATO countries, which are linked to the US through defense and trade agreements. Using event study methods, it looks at how Trump's campaign promises - like increasing military spending, reducing regulations on fossil fuels, and pursuing an "America First" agenda - affected investor behavior in these industries.

The results show that the defense sector reacted strongly and positively to Trump's victory. US defense stocks experienced significant abnormal returns, reflecting investor confidence in increased military budgets and government contracts. NATO defense stocks also showed positive reactions, although they were smaller than in the US. This suggests that investors expected NATO countries to align with US defense priorities, such as spending more on militaries.

In contrast, the fossil fuel sector had weaker and more delayed responses. US fossil fuel stocks showed positive returns only in longer time windows, indicating initial investors' hesitation about the feasibility of Trump's policies. NATO fossil fuel stocks had even smaller reactions, likely due to many NATO countries' focus on renewable energy and stricter climate policies. This study highlights how different industries and regions respond to major political events. By including NATO countries, it provides a global perspective on the financial impact of US elections.

Keywords: 2016 US Presidential Election, Donald Trump, Defense Industry, Fossil Fuel Industry, NATO Countries, Military Spending, Regulatory Changes, Political Events and Market Reactions

Title: The Impact of the 2016 US Presidential Election on Defense and Fossil Fuel Stock Returns: An Event Study of US and NATO Markets

Author: Maren Blindert

Resumo

Esta tese analisa como as eleições presidenciais norte-americanas de 2016, com a inesperada vitória de Donald Trump, impactaram os mercados de defesa e combustíveis fósseis. O estudo abrange os EUA e países da NATO, ligados aos EUA por acordos comerciais e de defesa. Utilizando métodos de estudo de eventos, examina-se como promessas de campanha de Trump – como o aumento dos gastos militares, redução da regulamentação sobre combustíveis fósseis e a agenda "America First" – influenciaram os investidores.

Os resultados mostram uma reação forte e positiva do setor de defesa à vitória de Trump. As ações de defesa nos EUA apresentaram retornos anormais significativos, refletindo confiança no aumento dos orçamentos militares e contratos públicos. Nos países da NATO, as reações também foram positivas, mas em menor escala, sugerindo expectativas de alinhamento com as prioridades de defesa dos EUA.

O setor de combustíveis fósseis, por outro lado, reagiu de forma mais fraca e tardia. Nos EUA, retornos positivos surgiram apenas em prazos mais longos, evidenciando hesitação inicial dos investidores sobre a viabilidade das políticas de Trump. Nos países da NATO, as reações foram ainda menores, influenciadas pelo foco em energias renováveis e políticas climáticas mais rigorosas.

Este estudo contribui para entender como diferentes indústrias e regiões reagem a eventos políticos, oferecendo uma perspetiva global sobre o impacto financeiro das eleições norte-americanas.

Palavras-chave: Eleições presidenciais norte-americanas de 2016, Donald Trump, Indústria da defesa, Indústria dos combustíveis fósseis, Países da NATO, Despesas militares, Alterações regulamentares, Acontecimentos políticos e reacções da bolsa

Título: O Impacto das Eleições Presidenciais dos EUA de 2016 nos Retornos das Acções da Defesa e dos Combustíveis Fósseis: Um estudo de eventos dos mercados bolsistas dos EUA e da NATO

Autora: Maren Blindert

Table of Contents

List of Figures

List of Tables

List of Abbreviations

α	Alpha, regression coefficient
AQR	Applied Quantitative Research
AR	Abnormal Return
ß	Beta, regression coefficient
BAB	Betting Against Beta
CAAR	Cumulative Average Abnormal Return
CAPM	Capital Asset Pricing Model
CAR	Cumulative Abnormal Return
EMH	Efficient Market Hypothesis
E[r]	Expected Return
GDP	Gross Domestic Product
HML	High Minus Low (value factor in the Fama-French model)
IEA	International Energy Agency
MKT	Market Return (broad market factor)
MKT-rf	Market Excess Return (market return minus risk-free rate)
N	Number of companies
NATO	North Atlantic Treaty Organization
OLS	Ordinary Least Squares
P	Stock Price

R	Stock Return
rf	Risk-Free Rate
RIC	Reuters Instrument Code
S	Standard Error
S^2	Variance
SIPRI	Stockholm International Peace Research Institute
SMB	Small Minus Big (size factor in the Fama-French model)
UMD	Up Minus Down (momentum factor in the Fama-French model)
UK	United Kingdom
US	United States
T_{-2}	Beginning of estimation window
T_{-1}	End of estimation window
T_0	Event Date
T_1	End of Event Window

AI Disclaimer

In this document, AI tools have been used during review for linguistic refinement and clarity.

1. Introduction

The result of the 2016 US presidential election is one of the most unexpected and consequential elections in recent American history. Donald Trump, a political outsider and businessman, won the presidency over former Secretary of State Hillary Clinton, contrary to what both the polls and people expected. All major prediction sites predicted a Clinton victory the evening before the election. Even on the morning of the election, Trump's chance of victory was less than 1:3 (Wagner, Zechhauser, 2017). His victory did not just catch the public by surprise; it also sparked immediate reactions across global markets. Not only was he the first Republican in office after 8 years of democratic administration, automatically creating uncertainty in the market. He also had bold and often opposed views on current policies and communicated drastic changes following his election. These changes were particularly relevant for industries closely tied to government regulation. At the forefront of such industries were the defense and fossil fuel industries. Given Trump's campaign promises regarding military spending and energy policy, significant changes were expected here. With Trump's emphasis on an "America First" approach, Trump's win raised questions about how the US might reshape its position on the world stage, affecting domestic and international economic landscapes. Furthermore, the election presented a unique opportunity to analyze how an unexpected political transition can shift market expectations and investor sentiments across critical industries, offering valuable insights into the relationship between political events and financial markets.

Trump's win carried specific expectations for industries dependent on regulations and political decisions. For instance, Trump's campaign emphasized increased defense spending and a modernized US military, impacting the defense sector. Furthermore, his push for greater energy independence based on domestic fossil fuel production also implied changes to the fossil fuel sector. As a result, investor sentiment for both sectors was optimistic, anticipating favorable conditions like increased defense contracts and deregulation in fossil fuel production. Nevertheless, it also introduced uncertainty: Trump's withdrawal from the Paris Climate Agreement aimed to ease restrictions on oil, gas, and coal, boosting the fossil fuel industry at a time when environmental regulations were tightening globally.

One key objective of this thesis is to examine the immediate stock market response within the US defense sector following Donald Trump's election. Given Trump's campaign promises to increase military spending and strengthen national defense, the defense industry is anticipated

to have seen a positive market reaction, reflecting investor expectations of future growth and increased government contracts.

While the existing literature mainly focuses on the effects within the US, given today's global interconnectedness, the impact of Trump's policies is likely to extend beyond US borders. Trump's proposed shifts in US defense policies had significant implications for countries relying on US support for national security. Such countries are, for instance, the NATO (North Atlantic Treaty Organization) countries, connected through collaborative defense commitments. For these countries, the reaction to the election can go in two directions. On the one hand, if investors expect member states to align with Trump's demand for increased defense spending, the market will react similarly positively as in the US. On the other hand, investors may take a more laid-back view, interpreting Trump's NATO criticisms as symbolic rather than indicative of actual policy changes, thereby reducing the need for the states to follow his requests. Therefore, the study's second objective is to analyze the defense sector's reaction within key NATO countries.

The third objective is to analyze how the fossil fuel industry in the US reacted to Trump's electoral victory. His platform emphasized energy independence, deregulation, and prioritization of fossil fuels, resulting in expectations of a friendlier environment for oil, gas, and coal sectors. Additionally, Trump promised to create more jobs in this sector, which would benefit the US economy and which is connected with cheaper energy prices due to increased production. This favorable outlook likely encouraged a positive reaction among fossil fuel stocks, as markets priced in potential regulatory relief and an emphasis on domestic production.

Similarly, Trump's clear stance on fossil fuel policies could indirectly impact global energy-related strategies. Therefore, the reaction of companies operating in the fossil fuel sector in NATO countries is examined as a fourth objective. While NATO may not be a natural sample for studying energy markets, this study uses the same sample for consistency, with the primary motivation stemming from the analysis of the defense sector. Again, the reaction of the market can take on two directions. While Trump's policies encouraged domestic production, NATO countries may face a decision between upholding climate commitments (like the Paris Agreement) and remaining competitive with the US energy sector, thereby increasing their fossil fuel production.

These objectives translate into the following hypothesis that are tested:

- H1: Trump's election yielded significant positive abnormal returns in US defense stocks.
- H2: Trump's election yielded significant abnormal returns on key NATO defense stocks.
- H3: Trump's election yielded significant positive abnormal returns in US fossil fuel stocks.
- H4: Trump's election yielded significant abnormal returns on key NATO fossil fuel stocks.

To test these hypotheses an event study methodology is applied. A total sample of 68 companies in the US and key NATO countries is analyzed for the defense sector. For the fossil fuel sector, the number of companies amounts to 198. The Market Model is used to calculate the selected companies' abnormal returns. Stock price data is retrieved from Refintiv. The estimation window begins 200 days before the event, and data is extracted until the 23rd of November, i.e., 10 trading days after the event date. To test for robustness of the results, additionally, the Fama-French Four-Factor Model is used, and four different event windows are tested.

The results show notable differences between the defense and fossil fuel industries. US defense stocks exhibit the strongest positive reactions (5.39% in the [−1, +3] event window), with significant abnormal returns across all event windows, reflecting confidence in Trump's promises of increased defense spending. Despite smaller reactions (4.54% in the [−1, +3] event window), NATO defense stocks also showed positive reactions, highlighting interconnected investor expectations. The US fossil fuel sector demonstrated delayed and weaker responses, with significant returns only in longer windows (3.26% in the [−1, +10] event window), suggesting initial investor skepticism followed by a cautious adaption. NATO fossil fuel stocks show a similar trend of more positive returns in the longer windows (2.55% in the [−1, +10] event window). For both samples in the fossil fuel sector, the robustness check reveals inconsistent results and thus fails to confirm the results.

The next chapter reviews the relevant literature, focusing on theoretical frameworks such as the Efficient Market Hypothesis (EMH) and event study methodology, as well as past studies on political elections and sector-specific market dynamics. Furthermore, it gives an overview of NATO and its dynamics. Chapter 3 outlines the methodology, detailing the event study design, sample selection, and analytical framework used to assess abnormal returns. Chapter 4 presents the results, comparing market reactions across the two sectors and geographic regions. Chapter

5 discusses the implications of these findings, emphasizing the role of political uncertainty, investor behavior, and regional policy differences. Finally, Chapter 6 concludes with a summary of the study's contributions, limitations, and future research suggestions, followed by an overall conclusion of the paper in chapter 7.

2. Literature Review

2.1 Theoretical Framework

2.1.1 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH), introduced by Fama in 1970, suggests that financial markets are "informationally efficient", meaning stock prices incorporate all available information. The basic assumption of the EMH is that any new, relevant information - such as the outcome of a major political event like an election, as investigated in this paper - will almost immediately influence stock prices. Abnormal returns are thus an effective way to measure the market's response to unexpected events, such as Trump's election (Fama, 1991).

2.1.2. Event Study Methodology

Event studies have become popular for assessing how specific events influence stock prices. First developed by Ball and Brown (1968) and later refined by Brown and Warner (1985), this approach focuses on abnormal returns to capture stock price reactions. This method is beneficial for unexpected events like an unlikely outcome of an election, where, in line with the efficient market assumption, price adjustments around the event date may signal revised expectations of investors.

Expected returns are typically estimated using the Capital Asset Pricing Model (CAPM), the Market Model, or more complex models like Fama-French's four-factor model. Brown and Warner's (1985) work emphasizes that daily stock data can effectively capture short-term market reactions despite the challenges of non-synchronous trading, i.e., the possibility of ß being biased. While the Market Model, with its simplicity and ease of interpretation, is often preferred in event studies (Cable & Holland, 1999), there are mixed results regarding its accuracy. For example, Rehnby (2016) analyzes the suitability of these models for Swedish stocks by comparing their adjusted R^2. Testing the models in a non-US market, he finds that multi-factor models, including the Fama-French model, better accounted for variations in stock returns. On the contrary, Brown and Warner (1980) argue that simpler models like the Market Model may be just as effective, especially in short-term studies where model complexity can introduce noise rather than clarity. This discrepancy highlights the importance of model

selection, particularly in international studies where differences in market structure and investor behavior may impact outcomes.

2.2 Political Elections and Market Dynamics

Academic research has extensively studied the relationship between political elections and financial markets, revealing patterns of market anticipation, reaction, and adjustment. These dynamics are especially pronounced during presidential elections, when potential policy shifts can significantly change business environments across various sectors.

2.2.1. Historical Context of Election Impacts

Studies on US presidential elections have consistently shown that electoral outcomes influence market behavior, though the patterns and magnitude of these effects have evolved over time. Oehler et al. (2013) conducted an event study of US elections from 1980 to 2008, revealing that different industries react distinctly depending on whether a Democrat or Republican wins. Their research emphasizes how elections, especially when they anticipate substantial policy shifts, tend to influence investor expectations and, in turn, stock prices.

Pastor and Veronesi (2012) demonstrate that policy uncertainty during election periods typically leads to increased market volatility, particularly in sectors most sensitive to regulatory changes. This effect became especially pronounced during the 2016 election, when Trump's unconventional policy positions created high levels of market uncertainty. Pham et al. (2022) state that Trump’s radical policy proposals led to increased market volatility and changing risk-return factors, especially in sectors where his declarations differed from Clinton’s positions.

2.2.2. Sector-Specific Market Reactions

Different economic sectors show varying sensitivities to electoral outcomes, strongly based on their regulatory exposure and dependence on government policy. Knight (2006) shows that companies closely tied to specific policy proposals experience significant price movements around elections. This "policy sensitivity" is particularly evident in regulated industries and sectors dependent on government contracts.

Capelle-Blancard and Couderc (2007) provide insights into the defense industry's market behavior by examining 10 years (1995–2005) of abnormal returns. Their findings highlight how formal earnings announcements, geopolitical events, and government contracts significantly influence stock returns in the defense sector. This research is particularly relevant when examining the context of the 2016 election.

Similarly, Wagner et al. (2017) document that sectors anticipating major policy shifts under new administrations typically experience dramatic market reactions. Their analysis of the 2016 election reveals that sectors targeted by specific campaign promises - such as defense and energy - show particularly strong responses to Trump's unexpected victory. This aligns with earlier findings by Boutchkova et al. (2012), who demonstrate that politically sensitive industries exhibit higher systematic volatility during political events.

2.2.3. International Comparative Perspectives

The global implications of US presidential elections extend beyond domestic markets. Brogaard et al. (2020) find that political uncertainty in the US significantly affects international market volatility, which is more substantial in countries with closer economic ties to the US. This international transmission of political uncertainty is particularly relevant when examining NATO countries' markets during US elections.

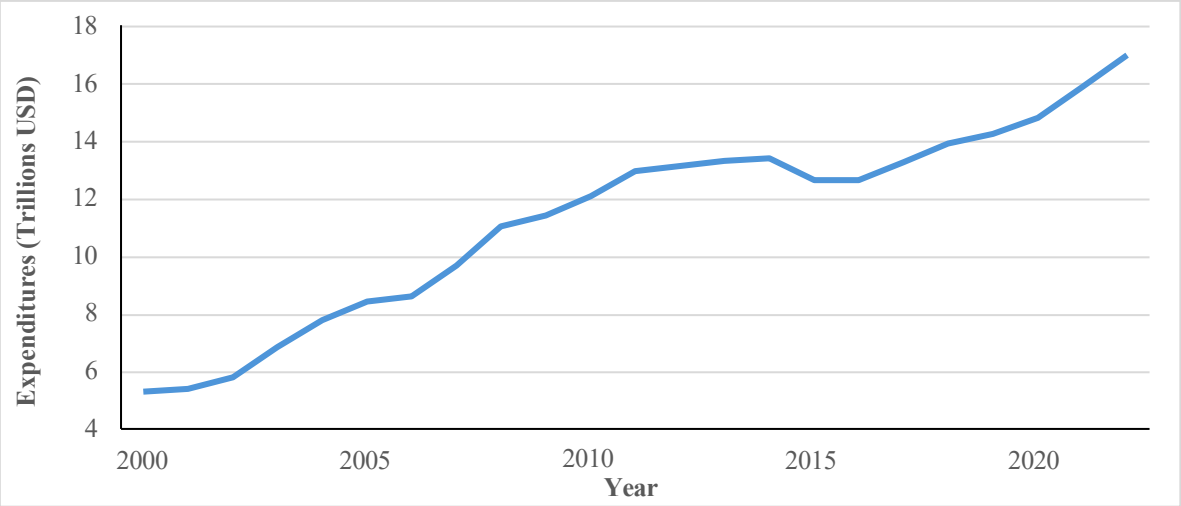
Gemmill (1992) adds another dimension by documenting that defense contractors in NATO countries show coordinated but not identical responses to US political developments, reflecting their interlinked but distinct market environments. This finding is significant in the context of the 2016 election, where Trump's NATO skepticism added an additional layer of uncertainty for international defense contractors.

2.3. Background on the defense sector

2.3.1 Global Market Characteristics

The defense industry plays an essential role in global markets, given its intrinsic connection with national security and geopolitical interests. In recent years, conflicts in regions such as the Middle East, as well as rising global tensions, have significantly impacted defense spending worldwide. By 2022, military expenditures had reached an all-time high of $17 trillion (Figure 1). The largest contributors to this number are the United States, Russia, and China (Stockholm International Peace Research Institute, 2024).

Figure 1: Global Military Expenditures (2000-2022)



This figure shows the development of global military expenditures from 2000-2022 in trillions of current US dollars. From 2000 onwards, there has been a steady and linear increase in expenditures from $5 trillion in 2000 to $17 trillion in 2022, with a slight decline in 2015. Source: Stockholm International Peace Research Institute. Military Expenditure Database.

Unlike consumer-driven markets, demand within the defense industry is primarily shaped by government procurement and geopolitical factors rather than traditional economic cycles (Guay & Callum, 2002). Given its direct connection to national security, the market value of defense companies is heavily tied to government budgets and procurement policies. Research by Capelle-Blancard and Couderc (2007) shows that political events, such as elections and international crises, directly impact defense companies by influencing defense budgets and military engagement levels. This direct link between government spending and defense industry performance underscores the strategic nature of the sector and its sensitivity to shifting political landscapes.

2.3.2. Political Influence Mechanisms

Political decisions are central to the performance of the defense industry, with government policies directly affecting market stability, spending levels, and stock performance. Defense contractors are heavily influenced by several key political mechanisms:

1. National defense budgets directly impact defense companies' revenue streams as they influence procurement levels.
2. Shifts in government policy, especially during elections, often signal changes in military funding priorities. Bove and Cavatorta (2012) find that defense stocks are highly sensitive to politics, particularly during election cycles when candidates discuss defense spending

plans. With Trump's promises to increase military funding and modernize defense capabilities, this is exactly what he did, therefore creating volatility within the market.

3. Geopolitical alliances such as the NATO establish collaborative commitments among countries, which increases market sensitivity to defense spending shifts, as shown by Apergis and Apergis (2016).

4. Export regulations control the flow of military equipment and technology, with shifts in export policies influencing global demand and impacting stock prices of companies that rely on foreign contracts.

2.3.3. NATO Dynamics

NATO has become a major factor within the defense sector, shaping defense priorities and procurement needs among its member nations. The NATO came into existence in 1949 and is based on the commitment of mutual protection in the case of an attack (North Atlantic Treaty Organization, 1949). This is stated in Article 5 of the NATO agreement: "an armed attack against one or more of them in Europe or North America shall be considered an attack against them all" and requires NATO countries to take military action in case of an attack on either one of the states. This commitment has created a network of interdependent defense strategies among NATO countries, impacting defense contractors by creating demand for interoperable, standardized military equipment across member nations. NATO's expansion to 31 members in 2024 reflects growing interdependencies and highlights the alliance's influence over defense procurement practices.

NATO's influence on the defense industry operates through several channels:

1. Standardization of Military Equipment: NATO's requirements for interoperable equipment create a need for defense contractors to follow alliance-wide standards, impacting product development and encouraging technology-sharing among members.

2. Joint Procurement Initiatives: NATO countries often engage in collective procurement efforts to lower costs and enhance compatibility, resulting in significant contract opportunities for contractors.

3. Technology Sharing Agreements: Alliances between NATO members foster technology exchanges, benefitting defense firms capable of adapting to multinational demands.

4. Interoperability Requirements: NATO's demand for coordinated defense operations necessitates equipment that functions seamlessly across member states, presenting unique challenges and opportunities for defense contractors.

The alliance has a particularly strong influence on companies heavily reliant on NATO-related contracts. Trump's "America First" campaign and skepticism toward NATO raised questions about US commitment to Article 5 and led NATO countries to reassess their own defense commitments. Furthermore, Trump demanded that member countries meet their commitment to spend at least 2% of their GDP on defense (Elder and Kwan, 2016).

2.4 Background on the fossil fuel industry

2.4.1 Global Energy Market Trends

The global energy landscape has undergone substantial transformations over the past decades, with fossil fuels such as coal, oil, and natural gas continuing to play a predominant role in the energy mix. Fossil fuels constituted approximately 80% of the world's primary energy consumption as of 2021. However, this share is projected to decline as renewable energy sources become increasingly viable. The International Energy Agency (IEA) anticipates that fossil fuel usage will decline to about 73% of global consumption by 2030, as a result of environmental awareness, advances in renewable technology, and supportive policies for cleaner energy (International Energy Agency, 2023). A study by Dordi and Weber (2019) emphasizes how the fossil fuel divestment movement has impacted the financial performance of fossil fuel companies by influencing both public perception and policy at the international level. They observe that following restrictive announcements of fossil fuel usage, the share prices of companies with high fossil fuel involvement often see a decline.

2.4.2 Implications of Trump's Policy Transformation

Policy developments significantly shape the future of the fossil fuel industry, with political shifts in key markets leading to pronounced industry responses. The 2016 US presidential election, for example, represented a turning point for fossil fuel policy. The Trump administration's commitment to increase fossil fuel production aimed to achieve energy independence via more secure and cheap access to fossil fuel energy, stimulate economic growth, and create jobs within the fossil fuel sector by rolling back environmental regulations (Ramelli et al., 2021). Hermwille and Sanderink (2019) argue that Trump's "America First" energy policy had the goal of reinforcing the US fossil fuel industry's global standing. Additionally, regulatory burdens were to be reduced as they were limiting industry growth.

Furthermore, he wanted to increase research initiatives on alternative and responsible development of nuclear energy and withdraw from international climate agreements like the Paris Agreement (Ramelli et al., 2021).

Additional research by Elder and Kwan (2016) notes that these policy shifts resulted in a reconsideration of climate goals internationally, as the US departure from the Paris Agreement weakened the mutual vision towards climate action. The influence of these policy changes also created volatility in market perceptions. This is indicated by the stock reactions of US-listed oil and gas firms, which fluctuated in response to Trump's climate policy approach (Diaz-Rainey, Gehricke, & Roberts, 2021). This response reflects investor expectations of a more favorable environment for fossil fuel companies, likely reducing costs and regulatory risks. Ramelli et al. (2021) find this reaction however to be short-term, due to uncertainty regarding possible reversals of favorable policies following the next election.

2.4.3 International Competitiveness

The US policy shift towards enhancing fossil fuel production had significant implications for international energy markets. Increased US oil and gas output contribute to a more competitive global market, reducing energy prices and changing trade dynamics. Aklin (2018) observes that the renewable energy sector demonstrates resilience to political shocks, particularly in response to the 2016 election, which reflected the growing distinction between fossil fuels and renewables in terms of risk and investment stability. Nevertheless, European countries, committed to reducing carbon emissions and investing in renewable energy, experienced increased price pressures and faced challenges in maintaining competetiveness (Trinks, Scholtens, and Mulder, 2018). These differences in energy policies highlight the complexities of international energy relations, where economic competitiveness, environmental commitments, and geopolitical considerations meet and result in differing energy strategies.

3. Methodology

3.1 Research Design

This study uses a comparative event study to explore how the 2016 US presidential election affected stock returns in two industries: defense and fossil fuels. The goal is to investigate whether Trump's unexpected win led to significant changes in stock prices. To do so, abnormal returns of both, companies within the US and across key NATO countries, are analysed. This comparative approach offers insights into how markets in different countries respond to

political events, especially within industries sensitive to policy changes and for countries connected via trade and defense agreements.

3.2 Sample Selection and Data Collection

As two sectors are analysed, two datasets are extracted separately. The first dataset includes daily stock prices for 68 defense companies, with 36 based in the US and the remaining 32 spread across seven NATO countries: Austria, Canada, France, Germany, Italy, the UK, and Norway (Table 1). This cross-country sample gives a view of the defense industry within NATO. The companies are identified using the Refinitiv Eikon platform. Within the platform, firstly the market is filtered by industries, selecting "Aerospace & Defense". Then, another filter is set based on geographical location, selecting the relevant NATO countries, as well as the US. Next the "constituents" feature is accessed to generate the list of companies included in the analysis. While no specific industry classification standard is applied, this approach ensures that only companies explicitly categorized as part of the defense industry are included.

Table 1: Defense Sector - Breakdown of Country Sample

Country	US	Austria	Canada	France	Germany	UK	Italy	Norway
Sample	36	1	7	10	3	8	2	1

This table shows a breakdown of the number of companies per country in the defense sector sample. The total sample size amounts to 68, thereof 36 in the US and 32 within NATO.

The fossil fuel dataset, i.e. companies involved in oil and gas exploration, production, or distribution, covers daily stock prices of 198 companies (Table 2). This dataset includes 90 US-based companies, and 108 stocks from NATO countries (Canada, France, the UK, the Netherlands, Austria, Norway, and Italy). The data is extracted from Refinitiv following the same approach as for the defense industry, however, the industry filter is adjusted to "Energy - Fossil Fuels". Although NATO countries are not a natural sample for looking at the energy sector, the same set of countries as used in the analysis of the defense sector is chosen for consistency reasons. While Germany is part of the defense sector analysis, it is excluded here due to a lack of sufficient data on fossil fuel companies, and the Netherlands is selected as a substitute.

Table 2: Fossil fuel Sector - Breakdown of Country Sample

Country	US	Austria	Canada	France	Netherlands	UK	Italy	Norway
Sample	90	2	52	7	3	27	4	14

This table shows a breakdown of the number of companies per country in the fossil fuel sector sample. The total sample size amounts to 198, thereof 90 in the US and 108 within NATO.

To ensure the relevance of the fossil fuel dataset, it is confirmed that the selected NATO countries also heavily depend on fossil fuels. For 2016, this dependence was measured by Florina Martins et al. (2018) as the fossil fuel energy consumption. It is calculated as the sum of the countries' energy consumption from solid fuels, petroleum products and gas divided by the gross inland energy consumption. While France and Norway show comparably low consumptions between 40-60%, all other countries in the sample exceed this level, with the Netherlands having the highest fossil fuel energy consumption of 90% (details given in Figure 1 of the Appendix).

As a next step, daily stock price data for the US sample is extracted from the CRSP database, by inserting the RICs for each company provided by Refinitiv as identifier. Daily stock price data for NATO-based companies was sourced from Refinitiv by accessing each company's stock price history and retrieving it for the relevant time period. For both sectors only companies without missing data points in the 180-day estimation window are considered. Companies with minimal price movement are filtered out to avoid illiquid stocks. To ensure data quality, only fossil fuel companies with a market capitalization of at least $5 million are included. Due to a generally smaller sample of companies operating in the defense sector, the last filter is not applied here.

3.3 Analytical Framework

To calculate daily stock returns, the log difference of closing prices is used:

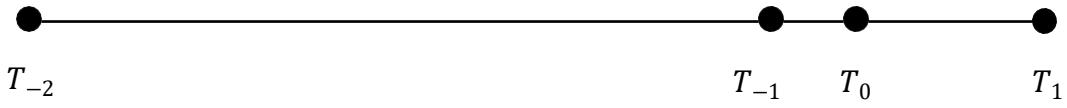
$$R_{i,t} = \ln\left(\frac{P_{i,t}}{P_{i,t-1}}\right)$$

where $P_{i,t}$ represents the closing price of company i on day t. Using the log-return formula standardizes returns, making them comparable across all companies and countries. Windsorizing is applied to reduce the impact of extreme outliers by setting values below the 1st percentile and above the 99th percentile to those threshold values.

The Market Model is used to estimate expected returns. To do so, the daily stock returns of all companies are regressed against market excess returns over a 200-day estimation window, ending 20 days before the event date. This 180-day estimation period provides a stable baseline while avoiding any potential noise close to the election. Since trading days vary by country due to national holdiays or similar, the estimation windows do not all start on the same date. For

instance, the US window begins on January 25, 2016, while the UK's begins on January 22, 2016. The outline of the estimation timeline therefore looks as shown below.

Figure 2: Outline of estimation timeline



where:
T_{-2}= Beginning of estimation window (200 days before the event)

T_{-1}= End of estimation window (20 days before the event)

T_0= Event Date (8th November 2016)

T_1= End of Event Window (done for 1, 3, 5, and 10 days after the event)

Expected returns per company are calculated using the following formula in the Market Model:

$$E\text{-}R_{i,t.} = (\alpha_i + \beta_i * (Mkt_t - rf))$$

where α and β are the outputs of the regression. The Market factor (Mkt_t) and risk free-rate (rf) are retrieved from the website of AQR Capital Management. The retrieved data set is related to the "Betting Against Beta" (BAB) paper by Frazzini and Pedersen (2014), and includes the daily equity factors. Mkt_t is constructed per country and represents the value-weighted return on all available stocks minus the one-month Treasury bill rate. This is consistent with the Fama and French methodology and ensures that the broad market portfolio is reflected within each country. The data set provides the BAB equity factors for US equities, as well as 23 international equity markets.

Abnormal returns (AR) are calculated by subtracting expected returns from actual returns:

$$AR_{i,t} = R^*_{i,t} - E\text{-}R_{i,t.}$$

where $R^*_{i,t}$ is the observed stock return on day t. To capture the cumulative effect of the event, Cumulative Abnormal Returns (CAR) are calculated over four different event windows: (-1,1), (-1,3), (-1,5), and (-1,10). This variation in windows provides a robustness check to capture immediate and slightly delayed reactions. Given that the election results were announced late on November 8 and were essentially traded on November 9, CARs are calculated with the event

date (t=0) set as either November 8 or November 9. As the company sample size is bigger than 1, it is necessary to calculate a Cumulative Average Abnormal Return (CAAR) in order to perform statistical tests.

$$CAAR = \frac{1}{N} \sum_{i=1}^{N} CAR_i$$

For additional robustness, the Fama-French Four-Factor Model is applied, which includes market risk, size (SMB), value (HML), and momentum (UMB) factors. SMB, HML and UMB are also retrieved from the same data set as the market factor.

Expected returns are calculated as follows:

$$E"R_{i,t}\$ = R_t - (\alpha + \beta_i * (Mkt_t - rf) + \beta_{i,SMB} * SMB_t + \beta_{i,HML} * HML_t + \beta_{i,M)M} * MOM_t)$$

The Fama-French model adds depth by accounting for additional risk factors beyond the market alone, making it particularly useful for capturing specific firm characteristics in international settings. To further validate the results, an 80-day estimation window (100 days with a 20-day gap) is applied to see if using a shorter window produces consistent results. These additional checks confirm that the findings are not overly reliant on any one model or time frame.

The statistical significance of the CAARs across each event window are tested with a two-sided t-test. This test examines whether the CAAR differs significantly from zero, indicating whether the election event had a measurable effect on stock prices. The formula for the two-sided t-test is as follows:

$$t = \sqrt{N}\frac{CAAR}{S_{CAAR}} \quad \text{with} \quad S^2_{CAAR} = \frac{1}{N-1}\sum_{i=1}^{N}(CAR_i - CAAR)^2$$

where N is the number of companies. This t-test is applied across all event windows to provide a robust measure of statistical significance.

As this paper aims to understand the reaction to the election of key NATO states as a whole and not of separate countries, the CAAR, SE and t-stat for NATO are calculated in the same way.

3.4 Limitations of the Methodology

Several limitations need to be considered when interpreting the results of this study. As highlighted in the literature review, event studies are often sensitive to external influences such as other geopolitical events or macroeconomic trends that may affect stock prices around the

event window. Although in this study, multiple event windows are tested to help filter out noise, it is difficult to completely isolate the effect of the election itself.

Another limitation is the variation in data quality and availability across different countries, which can affect the consistency of results. Especially with regards to the defense sector, data availability in Europe is limited to the countries examined, and to a small sample of companies per country. With such small samples, these countries are not representative and conclusions cannot be derived from them solely but only if put into perspective with the whole NATO sample. Furthermore, differences in trading hours, market structures, and trading volumes across international markets may also introduce inconsistencies. With regard to this, the estimation period is adjusted to each country's trading schedule to mitigate the impact of such discrepancies.

Finally, the choice of estimation and event windows may introduce bias, despite the usage of multiple windows to strengthen robustness. As noted in past research, using shorter or longer estimation periods can sometimes influence findings. Different models and window lengths are applied as part of the robustness checks to ensure the results are stable and not overly reliant on specific configurations. This layered approach helps to enhance confidence in the findings, even if certain limitations remain an issue.

4. Results

4.1 Stock Market Reaction

4.1.1. Defense Sector

The Market Model analysis indicates a significant positive reaction in US defense stocks. Even though the election date on the paper is November 8th, 2016, this analysis considers November 9th as the event date for several reasons. Firstly, markets in the US were closed when the final election results came out on the night of 8th to 9th November. Hence, investors traded the results on November 9th for the first time. Secondly, the sample shows strong negative returns the day before the election (November 7th), likely due to uncertainty, which would otherwise bias the results of this study. Using November 9th as the base date resolves these issues, ensuring that the election's full effect is considered and that uncertainty on the day before does not confound results. The analysis using November 8th as the base date is to be found in tables 1-4 of the appendix.

The US sample of 36 companies shows statistically significant and positive CAARs across all event windows (Table 3). The [−1, +3] window records the highest CAAR, with 5.39% at the 1% significance level. The sample of NATO countries also shows a significant and positive reaction. Nevertheless, it is slightly smaller in size. In the same window, NATO states incur a CAAR of 4.54% above the market, which is significant at the 1% level. These results imply that investors' expectations of Trump's policy announcements are optimistic and anticipate beneficial implications for defense spending and NATO-related commitments. For both samples, a pattern of smaller abnormal returns can be observed directly after the election, with increasing magnitudes in the [−1, +3] window and the longer-term [−1, +10] window. The highest abnormal return for NATO occurs in the [−1, +10] window, indicating that investors took longer to digest the new information and adjust their expectations accordingly.

Table 3: Effect of Trump election on US and NATO defense sector

Event Window	US			NATO		
	Sample Size	CAAR	T-stat	Sample Size	CAAR	T-stat
[-1, +1]	36	3.39%***	4.44	32	3.98%***	6.90
[-1, +3]		5.39%***	4.53		4.54%***	4.83
[-1, +5]		4.27%***	4.21		3.77%***	4.15
[-1, +10]		5.26%***	4.86		4.89%***	5.63

*This table reports mean cumulative abnormal returns for US and NATO defense stocks for the US presidential election. The market model is estimated using ordinary least squares (OLS) and the market factor is constructed per country and represents the value-weighted return on all available stocks minus the one-month Treasury bill rate. The estimation period includes trading days -20 to -200 relative to the event and the event date (t = 0) is 9 November 2016. The symbols *, **, and *** denote statistical significance at the 10%, 5% and 1% respectively.*

4.1.2. Fossil Fuel Sector

Regarding the fossil fuel sector, the results from the Market Model indicate a positive and increasing reaction in the longer term for both the US and NATO (Table 4). For the US sample of 90 companies, CAARs become larger and statistically significant from the [−1, +5] window onwards. The [−1, +10] window reaches the highest CAAR of 3.26%, which is significant at 1%. This indicates that investors were more reluctant to interpret the Trump election as beneficial for the fossil fuel sector. Similarly, the NATO sample of 108 companies shows limited evidence of statistically significant abnormal returns in shorter event windows. The strongest reaction captures the [−1, +10] window with a CAAR of 2.55% (1% significance). This implies that while investors show a delayed reaction, it is smaller than in the US sample

and indicates that NATO countries anticipated moderate benefits for their fossil fuel sectors from Trump's victory.

Table 4: Effects of Trump election on US and NATO fossil fuel sector

Event Window	US			NATO		
	Sample Size	CAAR	T-stat	Sample Size	CAAR	T-stat
[-1, +1]	90	0.76%	1.19	108	0.36%	0.93
[-1, +3]		0.91%	1.11		0.31%	0.56
[-1, +5]		2.06%*	2.33		1.45%***	2.91
[-1, +10]		3.26%***	3.22		2.55%***	3.68

*This table reports mean cumulative abnormal returns for US and NATO fossil fuel stocks for the US presidential election. The market model is estimated using OLS and the market factor is constructed per country and represents the value-weighted return on all available stocks minus the one-month Treasury bill rate. The estimation period includes trading days -20 to -200 relative to the event and the event date ($t = 0$) is 9 November 2016. The symbols *, **, and *** denote statistical significance at the 10%, 5% and 1% respectively.*

4.2 Robustness Check

4.2.1 Defense Sector

Results using the Fama-French Four-Factor Model further support the conclusions taken from the analysis of the Market Model (Table 5). The analysis for the defense sector indicates a clear response in the US market across all windows. The CAAR in the [−1, +3] window equals 4.53%, which is significant at the 1% level. The biggest CAAR is in the [−1, +10], i.e., the longer-term window with 6.01%, significant at the 1% level. Again, NATO countries show a more minor but significant reaction across all windows. The [−1, +3] window reaches a CAAR of 4.23% with 1% significance level. Similarly to the US sample, the largest CAAR is found in the [−1, +10] window with 4.67%, again with 1% significance. For both samples, the same pattern as in the market model is observed, with smaller abnormal returns directly after the election and in the [−1, +5] window. Increasing magnitudes are observed in the [−1, +3] window and [−1, +10] window. The consistency in results across both models confirms the robustness of the findings. The Fama-French Four-Factor Model confirms the results of the Market Model, although with slightly higher averages.

Table 5: Robustness check of Trump election on US and NATO defense sector

Event Window	US			NATO		
	Sample Size	CAAR	T-stat	Sample Size	CAAR	T-stat
[-1, +1]	36	4.12%***	4.44	32	3.87%***	5.63
[-1, +3]		4.53%***	3.40		4.23%***	3.82
[-1, +5]		4.03%***	3.12		3.56%***	3.17
[-1, +10]		6.01%***	4.43		4.67%***	4.18

*This table reports mean cumulative abnormal returns for US and NATO defense stocks during the US presidential election, using the Fama-French Four-Factor Model (MKT, SMB, HML, and UMD). The event date ($t = 0$) is 9 November 2016. The model is estimated using OLS over the estimation period from trading days -20 to -100 relative to the event. Statistical significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.*

4.2.2 Fossil Fuel Sector

The results from the Fama-French Four-Factor Model show divergent results compared to the market model and thus do not confirm the robustness of the results (Table 6). CAARs are predominantly negative in the shorter event windows for the US sample. In the [−1, +3] window, a statistically significant negative CAAR of -1.79% is observed, significant at the 5% level. In the longer-term window, i.e., the [−1, +10] window, the CAAR shows a recovery trend of 1.29%; however, it is not statistically significant. For NATO countries, the results are similarly contrasting to the market model. Same as for the US, the largest and, at the same time, most negative CAAR occurs in the [−1, +3] window with -2.66%, significant at the 1% level. In every window, NATO's reaction is stronger than that of the US, and the results are statistically significant.

Table 6: Robustness check of Trump election on US and NATO fossil fuel sector

Event Window	US			NATO		
	Sample Size	CAAR	T-stat	Sample Size	CAAR	T-stat
[-1, +1]	90	-0.58%	-0.95	108	-2.24%***	-4.89
[-1, +3]		-1.79%**	-2.26		-2.66%***	-4.89
[-1, +5]		-0.26%	-0.32		-0.99%*	-1.99
[-1, +10]		1.29%	1.24		-1.63%**	-2.14

*This table reports mean cumulative abnormal returns for US and NATO fossil fuel stocks during the US presidential election, using the Fama-French Four-Factor Model (MKT, SMB, HML, and UMD). The event date ($t = 0$) is 9 November 2016. The model is estimated using OLS over the estimation period from trading days -20 to -100 relative to the event. Statistical significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.*

There are several possible explanations for why the results between the two models are so different for the fossil fuel sector but not for defense. Firstly, the two models account differently for risk factors and market dynamics, as the Four-Factor Model incorporates additional dimensions. These may reveal underlying trends or risks specific to fossil fuel companies, which can be an interesting topic for future research.

4.3 Comparative Analysis and Summary

Comparing the results of the defense sector in the US and NATO emphasizes the significantly positive stock market reactions to the 2016 US presidential election. The fossil fuel sector serves as an extension to explore broader industry responses, offering insights into how sector-specific and regional dynamics shape market reactions.

For the defense sector, the results are clear and consistent across both the Market Model and the Fama-French Four-Factor Model, confirming the robustness of the findings. US defense stocks exhibit strong, positive abnormal returns across all event windows, with the most significant reactions occurring in the [−1, +3] and [−1, +10] windows. This reflects investors' confidence in Trump's promises of increased defense spending and a strengthened military. Though smaller than in the US, the positive response in NATO defense stocks highlights the interconnected nature of defense policies between the US and NATO allies. NATO markets respond more reluctantly at first, as shown by smaller abnormal returns in shorter windows, whereas the longer-term windows ([−1, +10]) displayed growing optimism. This suggests that investors in NATO countries anticipated alignment with US defense priorities under Trump's administration. The analysis of the defense sector thus supports both the initial H1 and H2 (H1: "Trump's election yielded significant positive abnormal returns in US defense stocks" and H2: "Trump's election yielded significant abnormal returns on key NATO defense stocks")

In contrast, the fossil fuel sector demonstrates weaker and more inconsistent responses, particularly when comparing results from the Market Model and the Four-Factor Model. US fossil fuel stocks show delayed positive abnormal returns under the Market Model, with significance only in longer windows ([−1, +10]). This indicates a more reluctant market response, as investors weighed the potential benefits of Trump's pro-fossil fuel policies against broader uncertainties about their implementation and the global transition to renewable energy. NATO fossil fuel stocks show weaker reactions, with minimal significant abnormal returns, primarily in longer windows. These limited responses reflect the sector's limited dependency on US energy policies and the prioritization of renewable energy transitions in many NATO countries.

The Fama-French Four-Factor Model's robustness check reveals contrasting results for the fossil fuel sector. It shows negative abnormal returns in shorter US windows ([−1, +3]) and even stronger negative reactions for NATO stocks across all windows. These findings suggest that additional factors captured by the Four-Factor Model, such as size, value, and momentum, change the observed reactions and highlight the complexity of investor behavior in this sector. It is difficult to form a clear conclusion regarding the response of the fossil fuel sector from these results. This is also reflected when looking at the remaining hypotheses of this paper, of which neither is fully supported. H3: "Trump's election yielded significant positive abnormal returns in US fossil fuel stocks" is only partially supported by a delayed reaction using the Market Model and not confirmed during the robustness check. Thus one cannot form a conclusion about the US fossil fuel sector's reaction based on the analysis of this paper. The same applies to H4: "Trump's election yielded significant abnormal returns on key NATO fossil fuel stocks" due to a lack of consistent results.

5. Discussion of results

The 2016 US presidential election was a political event that demonstrated the powerful connection between politics and financial markets. Donald Trump's unexpected victory triggered strong industry reactions driven by his policy promises. This study explored how the defense and fossil fuel sectors, both in the US and NATO countries, responded to the election. This reveals key insights into how investor sentiment and market behavior change during political transitions. The differences in responses between the defense and fossil fuel sectors highlight the different sensitivities of different industries to political events. From these insights, it is possible to derive several recommendations for investor behavior during election times.

The defense sector experiences strong and immediate positive market reactions following Trump's victory. US defense stocks show statistically significant cumulative abnormal returns of up to 5.39% across all event windows. This reflects investor confidence in Trump's campaign promises to increase military spending and modernize the armed forces. The sector's close ties to government contracts and public spending amplify this response, as clear policy signals directly influence investor expectations and stock performance. Longer event windows ([−1, +10]) also reveal strong reactions, suggesting that investors' confidence in the sector's growth potential grew as investors analyzed Trump's policies. This shows the defense industry's unique

dynamics compared to fossil fuels, as the defense sector benefits from the predictable alignment between Trump's rhetoric and expected financial outcomes.

In NATO countries, defense stocks also record positive reactions, though these are smaller than in the US, with CAARs up to 4.89%. This can be attributed to the interconnected nature of NATO's defense policies and European contractors' reliance on US military priorities. For example, requirements within NATO for standardization of equipment, collective procurement within the states, and technology-sharing agreements create opportunities for defense companies. These requirements encourage innovation, and with increased defense spending in the US, other NATO states would have to adapt to new products and developments.

One notable observation is that considering only the day before, the day of the election itself, and the day directly after the election, the CAAR of NATO exceeds that of the US. One likely explanation for this is that the element of surprise of the election and its psychological impact was even more prominent in NATO markets, where political ties with the US play a significant role. However, in the following days, investors in the US adjusted their expectations rapidly. Generally, despite the geopolitical uncertainties that Trump's victory brings, the NATO market reflects optimism toward continued collaboration within NATO. Furthermore, investors anticipate an alignment between NATO defense spending and Trump's demand for an increase thereof. For both the US and NATO, the robustness check confirms these results.

In contrast, the fossil fuel sector, serving as an extension to this analysis, shows more mixed and delayed reactions, making it challenging to conclude its response. In the US, significant positive abnormal returns of up to 3.26% emerge only in longer event windows, indicating that investors were initially unsure and cautious about how to interpret the outcome. The nature of the sector is more complex and faced broader uncertainties following the Trump election, despite his pro-fossil fuel stance. Global dynamics, such as international agreements and global competition, trade policies, and the growing momentum of renewable energy, influence it. Trump's promises of deregulation, increased domestic production, and withdrawal from the Paris Climate Agreement were expected to create a favorable environment, e.g., reduced costs for fossil fuel companies. On the other hand, they implied that he would work against the global priority of reducing fossil fuel usage and instead shifting towards renewable energy. The somewhat cautious market response thus reflects uncertainty and investor skepticism about these policies' feasibility and long-term impact.

For NATO fossil fuel stocks, a similar trend of significant CAARs of up to 2.66% only in longer windows is observed. This slightly smaller but still positive reaction can be explained by the following reasons. Even though many NATO countries are deeply committed to renewable energy transitions and climate policies, most are still highly dependent on fossil fuels. As Figure 1 in the appendix shows, most of the countries in the sample have a fossil fuel energy dependency of more than 80%. Thus, they engage in activities related to fossil fuel production or trading. While they are trying to move towards renewable energy, Trump's pro-fossil fuel approach is still relevant for NATO countries. Though they are not directly affected by US policies, they are impacted through indirect effects like increased competition. As stated above, these results are not robust under the Four-Factor Model; thus, one cannot make a clear conclusion about the sector's reaction.

This consistency in results in the defense sector and inconsistency in the fossil fuel sector suggest sector-specific factors that differentiate the two industries. Defense spending is often driven by national security priorities and geopolitical strategies, which are less susceptible to external market risks. Therefore, elections and policy announcements have a more direct and immediate impact on the sector and, consequently, on market valuations compared to other industries. Trump communicated precise policy changes for the US and also NATO with the demands he imposed, leading the market to adjust accordingly as no other factors are moving against these policies. Therefore, investors can benefit from monitoring campaign promises and policy announcements, as it allows them to anticipate changes in sector performance and leverage on the respective market opportunities. While Trump also announced precise policy changes for the US fossil fuel sector, there are more complex relations and market determinants. Because global energy trends are the opposite of what Trump planned, there is more uncertainty, making it more difficult to predict the sector's performance. In this case, other factors, like the intersection of political influence with global competition and long-term trends, must be considered to make an informed investment decision. Investors must balance short-term policy impacts against these broader forces. For NATO, the effect of his policies was even less clear, which is also reflected in the results.

6. Limitations and Future Research

While this study provides valuable insights into the market reactions following the 2016 US presidential election, several limitations exist.

Firstly, as already discussed in the literature review, the event study methodology has several limitations in isolating the effects of a single event. Stock prices are influenced by concurrent geopolitical events, macroeconomic trends, or unrelated sectoral developments, which may create noise in the results. Although this study uses multiple event windows to mitigate this issue, the inability to completely separate the election's impact from other factors remains challenging. Secondly, data constraints resulting in relatively small sample sizes may confound the results. Data availability and quality vary significantly across countries, particularly in defense. The US sample is relatively small, with 36 companies, and for NATO countries, the sample sizes are even smaller. For example, in some countries, the sector is represented by only a few companies, limiting the generalizability of the results. Thirdly, considering multiple countries for the analysis, it is subject to variations in trading hours, market structures, and trading volumes across the sample. While adjustments to estimation periods were made to account for trading schedules, these differences remain a potential source of bias. Additionally, the relatively short event window may not fully capture longer-term market adjustments or policy impacts. For instance, results may have become more evident in longer windows for the fossil fuel sector.

This study focuses on a specific political event and its impact on two sectors within the US and NATO countries. While the findings offer insights into market reactions, they may not be fully generalizable to other elections, industries, or geopolitical contexts. Factors such as the unique nature of Trump's policies and the surprise element of his victory play a significant role, limiting the applicability of the results to other cases. Finally, this study chose the use of NATO countries as a sample for consistency in the defense and fossil fuel sectors. Still, it may not align perfectly with the fossil fuel industry's global dynamics. Due to its collaborative structure, NATO is a natural sample for studying defense markets. Its relevance to fossil fuel markets is less clear, potentially affecting the interpretation of results for the latter sector. Furthermore, the contrasting nature and differing sensitivities of the defense and fossil fuel sectors make it difficult to interpret and directly compare the results. This interpretation is further complicated by the failed robustness check in the fossil fuel sector.

Future research could expand the scope to include other regions, such as Asia or Latin America, to resolve these limitations and add more depth to the analysis. This would reveal insights into how US political events impact global markets more broadly. Studying other industries sensitive to political changes, like technology, healthcare, or renewable energy, would also be helpful to understand different sector reactions better. It would also be interesting to study how

different sectors are connected. For example, increased defense spending might impact industries like technology or cybersecurity. Similarly, examining how fossil fuel markets interact with the growing renewable energy sector could show how industries influence each other during political changes.

Another limitation of this study is that it looks at relatively short event windows. Future research could focus on long-term market reactions, examining how stock prices evolve over months or years. This could provide valuable insights into whether the initial market responses last over time or change as policies are implemented. The differences in results between the Market Model and the Fama-French Four-Factor Model suggest that more advanced or alternative methods could be helpful. Future studies could use machine learning or similar tools to capture market reactions better.

7. Conclusion

This thesis studied how the stock market reacted to Donald Trump's unexpected win in the 2016 US presidential election, focusing on US defense and fossil fuel industries and key NATO countries. Using event study methods, it analyzed how Trump's campaign promises - like increasing defense spending, modernizing the military, and reducing regulations on fossil fuels - impacted investor behavior. Unlike most studies focusing only on the US, this research also looked at NATO countries directly linked to the US through defense agreements. This gives a broader perspective on how markets connected to the US reacted to this political event**.**

The results showed clear differences between the two industries. The defense sector had strong and positive market reactions in the US and NATO countries. US defense stocks showed significant abnormal returns across all event windows, reflecting confidence in Trump's promise to prioritize military spending. While NATO defense stocks showed more minor reactions, they were still significant, suggesting that investors believed NATO countries would align with US defense policies and potentially increase their military budgets. On the other hand, the fossil fuel sector reacted more slowly and less intensely. In the US, fossil fuel stocks showed delayed positive returns, reflecting initial hesitation from investors about how realistic Trump's promises were. NATO fossil fuel stocks had even smaller reactions, likely because many NATO countries focus on renewable energy and stricter climate policies. The results for fossil fuels were less consistent when tested with different methods, making it harder to interpret and indicating that more complex global factors than defense influence this sector.

This thesis makes several contributions to the research on political events and markets. Firstly, it goes beyond the US and includes NATO countries, offering insights into how political events in the US affect financial markets globally, especially in regions closely tied to the US. This focus on NATO is important because it highlights how defense agreements and shared policies influence market expectations. Secondly, it shows how industries react differently to the same political event. The defense sector responded quickly and strongly because of its close ties to government policies. Despite inconsistent results and challenges in interpreting the fossil fuel sector reaction, it becomes clear that it reacted more cautiously, likely due to uncertainties in global energy markets and competing renewable energy trends.

There are some limitations to this study. Short event windows and small samples for some NATO countries make it harder to generalize the findings. It was also challenging to isolate the election's impact from other global events happening simultaneously. Additionally, while NATO is a natural choice for studying the defense sector due to its strong ties to the US, it may not be the best fit for exploring the fossil fuel industry, which operates in a more globally interconnected market.

Future research could address these limitations by studying market reactions over a longer time frame or including other regions like Asia or Latin America. It could also explore other industries, such as technology or renewable energy, that might be highly affected by political events. Advanced tools like machine learning or sentiment analysis could help uncover deeper patterns in investor behavior and overcome challenges with the model selection, making the results more robust.

In summary, this thesis shows how political events, like the 2016 US presidential election, can significantly impact financial markets. Including both US and NATO countries provides a unique perspective on how interconnected markets react to political changes. These findings are valuable for investors, policymakers, and researchers who want to understand better and predict market behavior during political uncertainty.

8. Appendix

Figure 1: Fossil fuel energy consumption and share of renewable energy in European countries (adapted from Martins, Felgueiras, & Smitková, 2018).

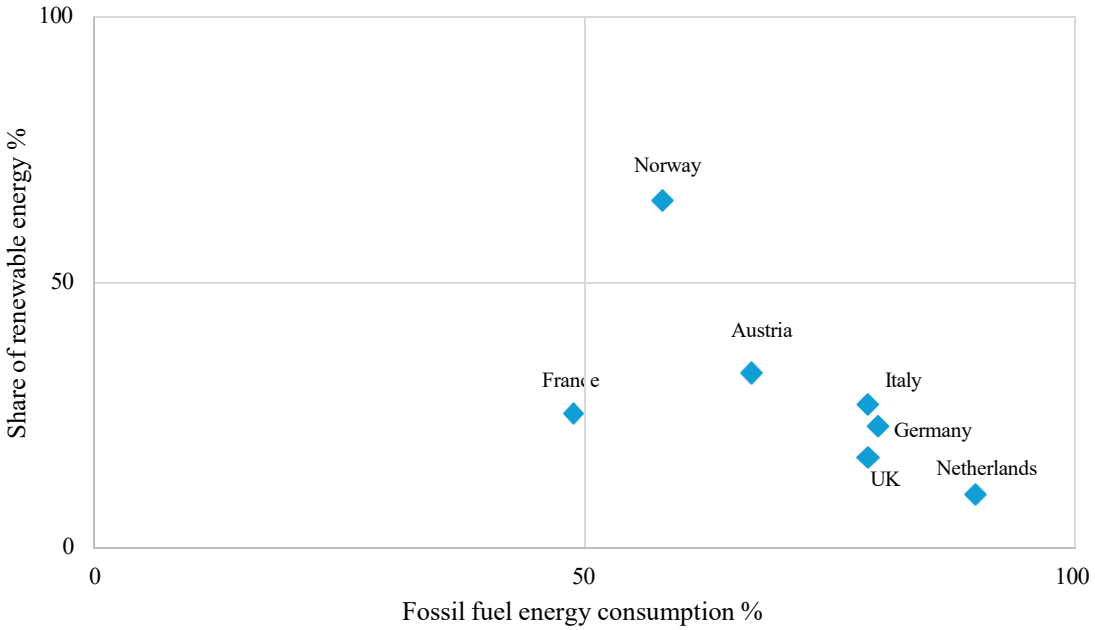


Table 1: Effects of Trump election on US and NATO defense sector with t_0=8 November

Event Window	US			NATO		
	Sample Size	CAAR	T-stat	Sample Size	CAAR	T-stat
[-1, +1]	36	0.23%	0.26	32	2.01%***	3.71
[-1, +3]		4.19%***	3.60		4.27%***	5.83
[-1, +5]		3.64%**	2.77		4.84%***	5.77
[-1, +10]		4.02%***	2.91		4.70%***	4.96

*This table reports mean cumulative abnormal returns for US and NATO defense stocks for the US presidential election. It represents an additional robustness check with the event date ($t = 0$) being 8 November 2016. The market model is estimated using ordinary least squares (OLS) and the market factor is constructed per country and represents the value-weighted return on all available stocks minus the one-month Treasury bill rate. The estimation period includes trading days -20 to -200 relative to the event. The symbols *, **, and *** denote statistical significance at the 10%, 5% and 1% respectively.*

Table 2: Effects of Trump election on US and NATO fossil fuel sector with t_0=8 November

	US	NATO

Event Window	Sample Size	CAAR	T-stat	Sample Size	CAAR	T-stat
[-1, +1]	36	3.84%***	4.08	32	1.79%***	3.17
[-1, +3]		6.19%***	4.79		3.92%***	4.34
[-1, +5]		6.24%***	3.86		4.40%***	3.95
[-1, +10]		7.37%***	4.37		4.37%***	3.78

*This table reports mean cumulative abnormal returns for US and NATO fossil fuel stocks for the US presidential election. It represents an additional robustness check with the event date (t = 0) being 8 November 2016. The market model is estimated using ordinary least squares (OLS) and the market factor is constructed per country and represents the value-weighted return on all available stocks minus the one-month Treasury bill rate. The estimation period includes trading days -20 to -200 relative to the event. The symbols *, **, and *** denote statistical significance at the 10%, 5% and 1% respectively.*

Table 3: Robustness check of Trump election on US and NATO defense sector with t_0=8 November

Event Window	US			NATO		
	Sample Size	CAAR	T-stat	Sample Size	CAAR	T-stat
[-1, +1]	90	-0.40%	-0.72	108	0.04%	1.00
[-1, +3]		-0.35%	-0.41		0.06%	1.16
[-1, +5]		1.24%	1.29		0.19%**	2.21
[-1, +10]		2.64%**	2.33		0.25%**	2.29

*This table reports mean cumulative abnormal returns for US and NATO defense stocks during the US presidential election, using the Fama-French Four-Factor Model (MKT, SMB, HML, and UMD). It represents an additional robustness check with the event date (t = 0) being 8 November 2016. The model is estimated using OLS over the estimation period from trading days -20 to -100 relative to the event. Statistical significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.*

Table 4: Robustness check of Trump election on US and NATO fossil fuel sector with t_0=8 November

Event Window	US			NATO		
	Sample Size	CAAR	T-stat	Sample Size	CAAR	T-stat
[-1, +1]	90	1.13%*	2.07	108	-0.01%	-0.22
[-1, +3]		0.52%	0.70		-0.02%	-0.27
[-1, +5]		-1.14%	-1.31		0.11%	1.52
[-1, +10]		1.31%	1.16		0.11%	1.14

*This table reports mean cumulative abnormal returns for US and NATO fossil fuel stocks during the US presidential election, using the Fama-French Four-Factor Model (MKT, SMB, HML, and UMD). It represents an additional robustness check with the event date ($t = 0$) being 8 November 2016. The model is estimated using OLS over the estimation period from trading days -20 to -100 relative to the event. Statistical significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.*

9. References

Aklin, M. (2018). *How robust is the renewable energy industry to political shocks? Evidence from the 2016 US elections*. Business and Politics.

Apergis, N., & Apergis, E. (2016). The 11/13 Paris Terrorist Attacks and Stock Prices: The Case of the International Defense Industry. *Finance Research Letters*, *17*, 186-192.

Ball, R., & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, *6*(2), 159–178.

Boutchkova, M., Doshi, H., Durnev, A., & Molchanov, A. (2012). "Precarious Politics and Return Volatility." The Review of Financial Studies, 25(4), 1111-1154.

Brogaard, J., Dai, L., Ngo, P. T., & Zhang, B. (2020). "Global Political Uncertainty and Asset Prices." The Review of Financial Studies, 33(4), 1737-1780.

Brown, S. J., & Warner, J. B. (1980). Measuring security price performance. *Journal of financial economics*, *8*(3), 205-258.

Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. Journal of financial economics, 14(1), 3-31.

Bove, V., & Cavatorta, E. (2012). From Conscription to Volunteers: Budget Shares in NATO Defence Spending. *Defence and Peace Economics*, *23*(3), 273-288.

Cable, J., & Holland, K. (1999). Modelling normal returns in event studies: a model-selection approach and pilot study. *The European Journal of Finance*, *5*(4), 331-341.

Capelle-Blancard, G., & Couderc, N. (2007). The Impact of Terrorist Attacks on Stock Market Returns: The Case of the Defense and Airline Industries. Economic Modelling, 25(3), 724-740.

Diaz-Rainey, I., Gehricke, S. A., & Roberts, H. (2021). *Trump vs. Paris: The impact of climate policy on US listed oil and gas firm returns and volatility*. International Review of Economics.

Dordi, T., & Weber, O. (2019). *The impact of divestment announcements on the share price of fossil fuel stocks*. Sustainability, MDPI.

Elder, M., & Kwan, A. (2016). *The 2016 US Presidential Election and the Implications for Climate Change*. IGES.

Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, *25*(2), 383–417.

Fama, E. F. (1991). Efficient capital markets: II. *The Journal of Finance*, *46*(5), 1575–1617.

Frazzini, Andrea and Lasse H. Pedersen, 2013, “Betting Against Beta," Journal of Financial Economics, 111, 1–25.

Gemmill, G. (1992). "Political Risk and Market Efficiency: Tests based in British Stock and Options Markets in the 1987 Election." Journal of Banking & Finance, 16(1), 211-231.

Guay, T., & Callum, J. (2002). The Transformation and Future Prospects of Europe’s Defence Industry. *International Affairs*, *78*(3), 757-779.

Hermwille, L., & Sanderink, L. (2019). *Make fossil fuels great again? The Paris Agreement, Trump, and the US fossil fuel industry*. Global Environmental Politics.

International Energy Agency. (2023). *World Energy Outlook 2023*. Retrieved on 02.11.2024 from https://www.iea.org/reports/world-energy-outlook-2023

Knight, B. (2006). Are policy platforms capitalized into equity prices? Evidence from the Bush/Gore 2000 presidential election. *Journal of Public Economics, 90*(4-5), 751-773.

Martins, F., Felgueiras, C., & Smitková, M. (2018). Fossil fuel energy consumption in European countries. *Energy Procedia, 153,* 107-111. https://doi.org/10.1016/j.egypro.2018.10.050

North Atlantic Treaty Organization. (1949). *The alliance's strategic concept*. NATO. Retrieved from https://www.nato.int/cps/cz/natohq/official_texts_17120.htm

Oehler, A., Walker, T. J., & Wendt, S. (2013). Effects of election results on stock price performance: evidence from 1980 to 2008. *Managerial Finance*, *39*(8), 714-736.

Pastor, L., & Veronesi, P. (2012). "Uncertainty about Government Policy and Stock Prices." The Journal of Finance, 67(4), 1219-1264.

Pham, L., Hao, W., Truong, H., & Trinh, H. H. (2022). The impact of climate policy on US clean energy firms: A firm-level examination of stock return, volume, volatility, and connectedness. SSRN. https://doi.org/10.2139/ssrn.4100609

Ramelli, S., Wagner, A. F., Zeckhauser, R. J., & Ziegler, A. (2021). Investor rewards to climate responsibility: Stock-price responses to the opposite shocks of the 2016 and 2020 US elections. Review of Corporate Finance Studies.

Rehnby, N. (2016). Does the Fama-French three-factor model and Carhart four-factor model explain portfolio returns better than CAPM?: A study performed on the Swedish stock market.

SIPRI Military Expenditure Database. (Retrieved on 02.11.2024). SIPRI. https://www.sipri.org/databases/milex

Trinks, A., Scholtens, B., & Mulder, M. (2018). *Fossil fuel divestment and portfolio performance*. Ecological Economics.

Wagner, A. F., Zeckhauser, R. J., & Ziegler, A. (2017). "Company Stock Price Reactions to the 2016 Election Shock: Trump, Taxes, and Trade." Journal of Financial Economics, 126(3), 650-669.