UNIVERSITY OF VAASA

FACULTY OF BUSINESS STUDIES

SCHOOL OF ACCOUNTING AND FINANCE

Juuso Nieminen

U.S. PRESIDENTIAL ELECTIONS & THE STOCK MARKET

Master's Thesis

Master's Degree Programme in Finance

VAASA 2020

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ABSTRACT

An extensive body of literature indicates that political uncertainty has an impact on the price and riskiness of financial assets. Countries with a stable political field offer companies a more predictable and reliable working environment. In developed countries, presidential elections are one of the most influential political events. United States is the world's largest economy and the office of the president has a lot of power compared to many other developed countries. Therefore, it is intuitively plausible that U.S. presidential elections could affect the stock markets as well. Previous literature has focused on three main types of election effects: the short-term effects, the election cycle effect over the four years of the U.S presidential mandate, and the party effect, whether it's a Republican or a Democrat candidate who wins the election.

The purpose of this thesis is to examine the short-term effects that the U.S. presidential elections have on the stock market. The data consists of daily price data from six major world indices and five presidential elections from 2000 to 2016. A special focus is on the 2016 elections. To examine the stock market reaction to the elections, an event study methodology is employed. The abnormal returns from the first trading day after the election result was announced are examined, along with three longer event windows to better grasp the stock market reactions to the elections.

The results indicate that U.S. presidential elections have a short-term impact on the stock markets, both in terms of returns and market volatility. This effect seems to be larger and clearer for U.S. markets than foreign markets. U.S. indices also behave very similarly, suggesting that diversifying across domestic markets will not protect investors from domestic political risks. Certain industries, however, are impacted differently. In particular, industries that are sensitive to regulations and government policies are impacted more. Furthermore, these types of industries seem to prefer Republican winners over Democratic ones. The results for international markets are more mixed. Overall, European markets seem to follow their U.S. counterparts more closely than Asian markets. In some cases, Asian indices even exhibited opposite reactions than U.S. markets. In the light of these results, investors should consider political elections and their effects on assets when making investment decisions.

KEYWORDS: U.S. Presidential Elections, Stock Market, Political Risk, Event Study, Efficient Markets

1. INTRODUCTION

Previous literature indicates that political uncertainty has an impact on both the returns and risk levels of financial assets (see e.g. Pantzalis et al. 2000; Lehkonen & Heimonen 2015, Bekaert & Hodrick 2018: 603-607). This is also intuitively plausible, because a stable and predictable working environment is essential for the well-being of companies.

According to Wisniewski (2016), since the end of the 20th century, an increasing amount of academics have started to study the influence political events and government actions have on stock market price fluctuations. This relatively recent body of interdisciplinary research connects the fields of political science and finance. It examines the impact various topics, such as political uncertainty, political orientation of incumbents in office, as well as political elections, have on stock market returns. Schwert (1989) observed that financial and economic factors fail to fully explain stock price volatility. Considering this, numerous scholars have started to focus on political uncertainty as a potential cause for large price movements. Political uncertainty is positively related with political risk, which leads to unstable and unpredictable economic and social environment.

Political risk is generally defined as the risk of government actions negatively affecting a company's cash flows (Bekaert & Hodrick 2018: 603). Elections, and especially presidential elections, are considered as one of the most influential political events (Hung 2013). In the United States, the importance of presidential elections is even more pronounced, due to the status of the U.S. in the global world. The U.S. has the world's biggest economy, and their global influence in terms of economy, military matters and many others, is immense (IMF 2018). In addition, the office of the president wields more power and influence in the U.S. than presidents in many other countries, making the presidential elections even more impactful. Therefore, it is important for investors to understand how presidential elections affect the value of their investments, i.e. the stock market.

Many empirical studies have focused on researching the correlation between U.S. presidential elections and domestic and international stock market movements. Existing

literature demonstrate the existence of three main effects that elections have on stock market prices. The first one is a positive, short-term impact, also known as the bull-run effect. It generally happens within a few weeks around the Election date. The second one, the election cycle, is a 4-years recurring pattern in stock price fluctuations that coincides with the U.S presidential mandate. Lastly, the party effect implies that the incumbent's party, whether they are Republican or Democrat, might also impact the stock markets.

In addition to demonstrating the existence of a relationship between presidential elections and stock market fluctuations, academics have also studied the reasons behind it. (Hung 2013.) According to available research, presidential elections induce three recurring phenomena: predictable macroeconomic policies, widely shared investors sentiment and fluctuating market uncertainty. They likely all play a part in explaining why presidential elections affect stock market prices.

Even though an extensive part of the existing literature focuses on the impact the U.S. presidential elections have on domestic stock markets, some researchers have directed their attention on the impact U.S. presidential elections might also have on foreign stock markets. While there is some documentation to support the ability of the U.S presidential election cycle to forecast international stock returns, there seem to be a lack of evidence to confirm the existence of a party or bull-run election effect in international cases (see e.g. Hung 2013).

The purpose of this paper is to investigate the effects of U.S. presidential elections on the stock market. The aim is to determine whether the outcome of the elections affects stock market returns, and the magnitude and nature of that impact, if there is one. A special focus is placed on the 2016 elections due to its particular nature. Donald Trump's election as the 45th President of the United States on November 8, 2016, was remarkable in many ways. His presidential campaign officially started a year and a half before, on June 16, 2015 at the Trump Tower, the Trump Organization's headquarters, in New York City. In his first campaign rally, he announced his official candidacy and campaign slogan "Make America Great Again", as well as highlighted domestic issues such as illegal immigration, offshoring of American jobs and the U.S national debt. At that point, Ladbrokes Coral, a

British betting company, offered 150/1 odds of Donald Trump being elected President of the United States (bbc.co.uk 2016).

On August 21, 2015, the Federal Election Commission revealed that Donald Trump was the only major Republican who did not yet have a super PAC backing his candidacy. Political Action Committees (PACs) are organizations formed to privately raise money for a political campaign in order to influence the election. Super PACs can raise unlimited contributions to finance independent expenditures, such as a website or advertisements in favour of a clearly identified candidate. However, they cannot donate directly to a candidate's campaign. (fec.gov.) Even though on August 6, during the first Republican primary debate on Fox News, Trump mentioned the possibility of a third-party candidacy, he eventually pledged allegiance to the Republican Party in September 2015 (cnn.com 2015).

Seventeen major candidates entered the 2016 Republican Party presidential primaries and caucuses, taking place between the 1st of February and the 7th of June 2016. On May 3, Donald Trump was declared the Republican presumptive nominee. On July 19, during the Republican National Convention, Donald Trump and the Indiana Governor Mike Pence were officially announced as the Republican presidential and vice-presidential candidates. However, with 44.9% of the popular primary vote, Trump had the lowest percentage for a major party candidate since the 1988 Democratic primaries. (cnn.com.)

Three presidential debates between Donald Trump and the Democratic candidate Hillary Clinton took place on September 26, October 9 and October 19, 2016. The first one, held at New York's Hofstra University, was the most-watched debate in the US history, with over 84 million viewers. Many polls took place after each debate to survey respondents' opinion on who had won it. The large majority of polls, if not all of them, pointed at Hillary Clinton as the winner of the three 2016 presidential debates. On October 24, Trump received his first and only endorsement from a major newspaper, The Las Vegas Review-Journal while many usually Republican-leaning papers, such as The Houston Chronicle, The Dallas Morning News or The Arizona Republic, endorsed Clinton. (bbc.com, 2016.)

And yet, on November 8, 2016, Trump won the Electoral College and became the 45th President of the US. In addition to winning traditional Republican States such as Texas, Indiana, Oklahoma and Tennessee, Donald Trump succeeded in traditional swing states such as Florida and Ohio. Furthermore, he became the first Republican to win the Democratic States of Pennsylvania, Michigan and Wisconsin since the 1980s. Hillary Clinton, despite winning the popular vote by more than 2.5 million votes, lost the elections (bbc.com). The media, the polls, the forecasts and even the betting markets had failed to predict the results of the 2016 US Presidential elections. Therefore, it is not surprising that the event came as a shock for the financial markets as well.

1.1. Purpose of the thesis

The purpose of this thesis is to determine if U.S. presidential elections have an impact on the stock market. More specifically, the aim is to investigate how the presidential elections affect both domestic, i.e. U.S. and foreign stock market indices. The indices examined are the S&P500 index, NASDAQ Composite, Dow Jones Industrial Average, EUROSTOXX 50, Hang Seng and Nikkei 250 stock index. The elections examined are the 2016, 2012, 2008, 2004 and 2000 presidential elections. A special focus is placed on the 2016 elections because they are the most recent and because they were somewhat particular by nature. For the 2016 and 2012 elections, the potential impact on individual industries is also statistically examined.

This study focuses mainly on the short-term impacts of the elections. In order to do this, an event study methodology is employed. This is explained in detail later in chapter four. Previous literature is also discussed and analyzed. Previous findings are then compared to the findings of this thesis to see if the latest elections differed from previous ones in any way.

1.2. Structure of the study and research hypotheses

The structure of the study is as follows. Chapter two introduces different political risk factors and the U.S. Presidential election system. Previous empirical findings are also introduced, analyzed and compared to see how political risk and presidential elections affect the stock market. Chapter three introduces and discusses the efficient market hypothesis (EHM), which is crucial to the methodology used in this thesis, i.e. the event study methodology. Chapter four presents data and methodology that are used in this study. The event study methodology and the rationale behind it is also discussed in detail. In chapter five, empirical findings from the 2000-2016 U.S. presidential elections are presented and analyzed. Chapter six concludes and presents potential implications for investors.

The aim of the study is to see whether U.S. presidential elections have a short-term impact on both domestic and foreign stock markets. Therefore, the main research question of this thesis is: *Do United States presidential elections have an impact on the stock market?*

This potential effect is measured with abnormal returns and cumulative abnormal returns (CARs). In addition, the political party of the election winner might affect the direction and magnitude of the potential market reaction. Thus, the following hypotheses are derived:

H1: *There are abnormal returns around or following U.S. presidential elections.*

H2: Stock *markets react differently to Republican and Democratic election winners.*

H3: *The reaction to U.S. Presidential elections is different across domestic and foreign markets.*

H4: *Industries that are sensitive to government policies and regulations react positively to Republican election winners and negatively to Democratic winners.*

2. POLITICAL RISK

Political risk factors include the risk of expropriation, contract repudiation, currency exchange controls and laws that prevent companies from transferring their earnings out of the host country. Taxes, regulation, corruption, civil strife and wars are also political risks. Changes in these factors affect the working environment of companies and therefore their returns. Different political risk factors are more prominent in developed and developing countries. In developed countries, legislation concerning taxes, regulation, tariffs and similar issues are something investors have to worry about whereas in developing and more politically unstable countries more serious issues have to be considered (Lehkonen & Heimonen 2015; Bekaert & Hodrick 2018: 603-607). In this paper, the focus is on the U.S., which is considered as one of the most politically stable countries in the world.

Quantifying political risk is challenging, although events related to political risk can be easily observed. Baker, Bloom, and Davis (2013) created an economic policy uncertainty index based on three main components. The first one is the number of major domestic newspaper articles about policy uncertainty. The second is forgone earnings from expiring tax code provisions. A general definition of forgone revenue is the difference between realized earnings and potential earnings that could have been obtained in the absence of fees, expense or lost time. The last component of the economic policy uncertainty index is the level of disagreement among specialists about future levels of government expenditure and inflation. Pástor and Veronesi (2013) find a positive correlation between this index and both realized and implied volatility of the S&P500 index.

Another widely used method is the Political Risk Services (PRS) Group's ICRG Rating System. PRS Group provides on a monthly basis the International Country Risk Guide (ICRG), along with the Political Risk Yearbook and other data sets. The ICRG ratings can be split up into financial, economic and political risk components and their subcomponents. The thirteen political risk attributes include, for example, corruption, external conflicts and the role of military in politics. These components allow assessing

political risk on a relative basis. (Lehkonen & Heimonen 2015: 84; Bekaert & Hodrick 2018: 623.)

2.1. U.S. Presidential Election System

In the United States, presidential elections take place every four years. The Election Day is held on the first Tuesday after the first Monday in November. The election process starts with caucuses and primary elections. States use these two methods to choose a potential presidential nominee. Caucuses are local gatherings where voters vote for a particular candidate at the end of the meeting. Primaries use generally secret ballots for voting. Next in the process are nominating conventions where political parties each select a nominee to unite behind. During the convention, a vice presidential running mate is also announced by each presidential nominee. The candidates then campaign across the country to explain their plans and opinions to voters and take part in debates with candidates form other parties. (USA.gov.)

Unlike in other elections in the U.S., the president and vice president are not elected directly by the people (using a popular vote). Instead, the presidents are chosen by electors through a process called the Electoral College. The idea behind using electors comes from the Constitution. The founders of the United States saw the Electoral College as a compromise between a popular vote and electing the president in Congress. (USA.gov.)

Including Washington, D.C.'s three electors, there are 538 electors in total. The number of electors each state gets is determined according to how many members of Congress (including House and Senate) the state has. The political parties of each state choose their own potential electors. When, how and who is chosen to be an elector varies by state. All votes that are casted for a presidential candidate go to a state-wide tally. In 48 states and Washington, D.C., the winner receives all electoral votes for that state. This means that the electors of the winner's party get to vote in the Electoral College. Maine and Nebraska use a proportional system called the Congressional District Method to choose their electors. A presidential candidate then needs a minimum of 270 electoral votes (more than half) to win the presidential election. The electors are not obligated by the

Constitution to vote according to the popular vote of the people that they represent. However, electors usually follow their people's and party's choice. (USA.gov).

It is possible to win the Electoral College but lose the popular vote. In other words, it is possible that a candidate wins a combination of states and reaches the needed 270 electors without actually receiving the majority of votes across the country. This has happened five times, most recently in 2016 when Donald Trump was chosen as the President of the United States. (USA.gov). This also shows that the latest elections were very tight.

There are nowadays two major political parties in the United States: the Democratic and the Republican. The modern-day Democratic Party was founded in 1828 by supporters of Andrew Jackson, the seventh U.S. President, who held office from 1829 to 1837. It is the oldest continuing party in the United States. During the 19th century, the Party supported state sovereignty and limited government, as well as slavery. (Janda, Berry & Goldman 2010: 276.) Contrarily, the Republican Party, also known as the Grand Old Party (GOP), was established in 1854 partly to fight against the expansion of slavery in the United States. Traditionally, the GOP supported industries such as banks and railroads and it was in favor of both protectionism through high tariffs and the gold standard. Following the election of Abraham Lincoln in 1860 as the first Republican President, the party dominated the U.S. political scene for more than 70 years, playing a major part in the Union victory in the American Civil War (1861-1865) and the resulting abolition of slavery. (Gould 2012: 1849.)

The core beliefs of both the Democratic and Republican Parties have evolved since their early days. However, their main values and focuses remain different and are often expressed in opposition with each other's. The Democrats highlight topics such as equal pay, job creation, education, universal healthcare and clean energy. According to their official website, "Democrats believe that we're greater together than we are on our own – that this country succeeds when everyone gets a fair shot, everyone does their fair share, and everyone plays by the same rules." The Democrats also state that their party wants to build an economy that lifts up all Americans, not just the ones who are at the top. They

have been an advocate for topics such as civil rights, social security, stricter gun laws, trade unions and women's rights. (Democrats.org; U.S. Diplomatic Mission to Germany).

On the other hand, the Republicans underline individual rights, safety and reducing the governments' involvement in people's affairs. In 2019, the official Republican Party agenda includes empowering individuals, "getting government off of Americans' backs", keeping United States safe at home and strong abroad, securing borders, protecting all human life, preserving constitutional rights, cutting taxes and upholding the principles and values that have made America great. The Republicans also openly express their critical opinion about their rival, the Democratic Party. In their website, the Republicans state that "In contrast to House Democrats, who are embracing socialism, and pushing radical, far-left policies, we're fighting to keep America safe, prosperous and free." (GOP.gov; U.S. Diplomatic Mission to Germany).

In a few words, the Democratic Party is usually considered to be more liberal, while Republicans are seen as more conservative. Democrats generally believe that government has an obligation to provide social and economic programs for those who need them. Republicans are not necessarily opposed to such programs but believe they are too costly to taxpayers. Republicans put more emphasis on supporting private enterprises in the belief that a strong private sector makes citizens less dependent on the government. They consider self-regulated markets and individual achievements as the main drivers of economic prosperity. Therefore, the traditional belief is that the markets prefer republicans. (USA.gov; U.S. Diplomatic Mission to Germany)

2.2. Previous literature & empirical findings

a. Political risk and stock markets

Changes in government policies, laws and regulations can strongly impact companies' operational environment and investment returns, thus affecting firms' values and the stock markets. One type of political event that has grave consequences on the economy and market sentiment is wars and armed conflicts. For example, Deger and Smith (1983)

demonstrated that substantial military expenditure hinders investment and economic growth, both in OECD and emerging markets. Furthermore, Rigobon and Sack (2005) empirically study the impact the most recent war in Iraq had on U.S. stock markets. The results show that investors preferred safer or more liquid alternatives and moved away from risky assets because of the war risk, causing stock market prices to decline.

Terrorist attacks also have a severe impact on stock markets, even though the magnitude of price fluctuations varies across different industries. Carter and Simkins (2004) illustrate in their empirical study that the airlines industry is especially sensitive to acts of terror, in particular around the World Trade Center attack on September 11, 2001. In addition to facing flight bans afterwards, airlines also suffered from significant decrease in air travel because of the strong psychological effects the attack had on people. In their comprehensive empirical study, Chesney, Reshetar and Karaman (2011) measure the impact of terrorism on market behaviour by considering terrorist events that happened in 25 countries over 11 years. The authors confirm that insurance companies and airlines are the most negatively impacted industries, while banking is the sector least sensitive to terrorist attacks.

Lastly, other events that can lead to major political change and, thus, impact the pricing of stocks, are coup d'états, revolutions or even assassination attempts on an incumbent or political leader. An interesting event supporting this argument is what happened in the U.S. on April 23, 2013. The official Twitter account of Associated Press, the biggest not-for-profit American news agency, was hacked. A hoax tweet was released, mentioning President Obama being injured due to two explosions at the White House. According to Zamansky (2013), the U.S. stock markets plummeted in consequence of this tweet. For example, the Dow Jones index declined by about 150 points and a total of $136 billion in stock market capitalization vanished, before quickly rebounding once Associated Press explained the situation. (Wisniewski 2016: 20).

Low political risk in a country means lower uncertainty for organisations and investors, due to a more stable and predictable economic environment. Lehkonen & Heimonen (2015) examine the effects of political risk on emerging stock markets. They use

annualized panel data for 49 emerging markets between 2000-2012 and find that decreases in political risk lead to higher returns. Lehkonen et al. also find that political risk begins to decline after a certain threshold level of democracy. (Lehkonen & Heimonen 2015: 77).

Elections, especially for top offices, are a major political event for every country. Their results give investors valuable information about the macroeconomic and societal policies that are likely to be implemented by the election winner during the coming years. As a result, one may expect elections to have a significant impact on stock markets. Pantzalis, Stangeland & Turtle (2000) examine the behaviour of stock market indices around political election dates across 33 countries between 1974-1995. Using an event study methodology, the authors find a positive and significant market reaction during the two-week period preceding the elections. Only elections for top offices in each country are considered, i.e. presidential and/or parliamentary elections. (Pantzalis et al. 2000: 1575, 1601).

The positive stock market reaction is shown to be a function of a country's level of economic, political and press freedom, and a function of the success of the incumbent in being re-elected and the timing of the election. The positive effect is found to be strongest (largest CARs) in less-free countries when incumbents lose the elections. Pantzalis et al. (2000) find strong positive abnormal returns leading up to the elections especially in less free countries when the opposition wins, and in elections that are called early and lost by the incumbent government. The results of Pantzalis et al. are in line with Brown et al.'s (1988) uncertain information hypothesis (UIH). (Pantzalis et al. 2000: 1575, 1601).

Brown, Harlow and Tinic (1988) develop the uncertain information hypothesis in order to explain the reaction of rational, risk-averse investors in response to the appearance of unexpected information. The UIH model relies on three main assumptions: the first one is that investors usually set stock prices before they know the full consequences of a major financial event. The second one is that after there is news of a startling financial event, both the risk and expected returns of the concerned firms systematically increase. Whether the surprising event is favorable or unfavorable, stock prices are immediately

set below their conditional anticipated values by risk-averse investors. Once the uncertainty about the final outcome is eventually resolved, ensuing price changes are on average positive. The last assumption is that price movements will be larger after negative news than positive news. The authors empirically study over nine thousand events, both market wide and firm specific, to test the uncertain information hypothesis. The results are consistent with the uncertain information hypothesis and confirm that the market reacts efficiently to uncertain and imperfect information. (Brown et al. 1988.)

b. Elections & U.S stock markets

The USA, in addition to being considered as one of the most politically stable countries in the world, is also the world's largest economy with a GDP of USD 21.44 trillion in 2019, as well as the largest recipient of foreign direct investments, with an inflow of USD 251.8 billion in 2018 (UNCTAD 2019: 212). The prominent status of the United States in international trade explains why a lot of research examines the effect U.S presidential elections have on both domestic and international stock markets.

Previous literature has focused on three main types of election effects: the short-term bull-run effect, the election cycle effect over the four years of the U.S presidential mandate, and the party effect, whether it's a Republican or Democrat candidate who wins the election.

Focusing on the party effect, Niederhoffer, Gibbs & Bullock (1970) examine whether the traditional Wall Street view that the market prefers Republicans is accurate. If the market does prefer Republicans, there should be a general feeling of ebullience on the days following a Republican victory. This hypothesis turns out to be true. The market rose the day following the Presidential election on eight of the nine occasions that a Republican has won. However, the authors find no systematic differences in the performance of the market during Republican and Democratic administrations, except that during the third year of Democratic administrations the market performs significantly better than during the third year of Republican administrations. Thus, there appears to be no long-term

pattern in market movements which would justify Wall Street's Republican bias. (Niederhoffer et al. 1970).

In addition, Santa-Clara & Valkanov (2003) also investigate the relationship between presidential elections and the stock market. Contrary to traditional believes, the authors find that the excess return in the stock market over the three-month Treasury bill is higher under Democratic presidencies than under Republican terms; nine percent for the value-weighted CRSP portfolio and 16 percent for the equal-weighted portfolio. This difference in returns is greater for small firms than for companies with a large market capitalization. Furthermore, Santa-Clara et al. find no evidence of large excess returns around the actual election dates. The difference in excess returns is found to accumulate homogeneously throughout the presidential term. (Santa-Clara et al. 2003: 1841, 1869-1870.)

According to Santa-Clara et al. (2003), business-cycle variables related to expected returns cannot explain the observed difference in returns. There is also no difference regarding the riskiness of the stock market between presidential terms that could justify such a risk premium. Therefore, the difference in returns throughout the presidential cycle is, according to the authors, still a puzzle. (Santa-Clara et al. 2003: 1841, 1869-1870.)

More generally, and without focusing on any specific winning party, Wong & McAleer (2009) show in their research paper the existence of a 4-year presidential election cycle in U.S. stock prices. Empirically, the U.S. stock market closely followed the Presidency timeline of the ten administrations in place between 1965 and 2003, from President Lyndon Johnson to President George W. Bush. Stock prices decreased during the first half of the presidential mandates, reaching their lowest level during the second year. They raised again in the second half, hitting a peak during the third or fourth year. This trend was particularly visible during Republican administrations, suggesting that Republican Party may be more inclined to policy manipulation in order to win the re-election process. The two authors point out that this cyclical behaviour in the US stock market represents an opportunity for investors to potentially benefit from this anomaly. Similar to Santa-Clara & Valkanov (2003), Wong & McAleer (2009) find that bullish runs in the U.S.

stock market tend to take place during Democratic administrations rather than Republican. (Wong & McAleer 2009: 3267, 3275-3276.)

Nordhaus (1975) was the first to develop the political business cycle model, according to which incumbents try to induce economic prosperity through expansionary policies just before the elections in order to gain popularity. The main assumption behind this theory is that politicians must deal with a trade-off between unemployment and inflation. Expansionary policies, which aim at reducing unemployment and attract voters' support, will result in significant inflation pressure in the post-election period. Restrictive measures are then needed in order to curb inflation and are likely to result in recessionary trends. To summarize, according to Nordhaus' model, the incumbents' term typically begins with austerity and ends with abundance and excesses (Wisniewski 2016: 18).

Allvine and O'Neill (1980) examine whether the political business cycle theory is reflected in the distribution of U.S stock market returns. According to the authors, since 1960, U.S. macroeconomic policies have coincided with the election cycle described by Nordhaus and the stock market has been mirroring it. During the first two years of the terms, equities seem to offer notably low returns compared to the second half of the term. Their spectral analysis demonstrates the existence of a 208-week recurring cycle, which could offer lucrative trading opportunities for investors who manage to time their investments in line with this pattern. (Allvine et al. 1980; Wisniewski 2016: 18.)

In addition, Huang (1985) notes that the annualized return difference between the two halves of U.S. presidential terms is over 24% during the 1961-1980 period. Both Hensel & Ziemba (1995) and Gärtner & Wellershoff (1995) observe that the political cycle impacts firms with small and large capitalization alike, under both Democratic and Republican governments.

However, Stovall (1992) and later Booth & Booth (2003) argue that the political cycle might be generated by investors' sentiment rather than actively managed macroeconomic policies. According to the authors, the U.S. stock market reflects the deception and frustration that is likely to result during the first half of the US presidential term from

broken election campaign promises. On the contrary, as the term comes to an end and new elections arrive, the market is filled with optimism and hope in anticipation of good outcomes. (Booth & Booth 2003: 131-132, 154-155.)

In addition to predictable macroeconomic policies and market sentiment, elections also bring new information to investors. Before the elections, investors can only guess who will be in charge of deciding and implementing future policies in the medium-term. Therefore, election dates and the short-term periods around them are correlated with increased public uncertainty, as the U.S president for the next four years is about to be elected. However, as the Election Day approaches, the probability of a specific candidate winning might increase, thus giving the markets more information about the macroeconomic policies likely to be on the agenda during the next presidential mandate. According to Wisniewski (2016), Stock market volatility can nevertheless increase in the short run because of an election surprise. Some investors, startled by unexpected results, adapt their portfolios after the Election day in light of the changes in their expectations. This behavior partly explains the bull-run effect, increasing short-term stock price fluctuations after the elections (Wisniewski 2016: 18).

Building on previous research that demonstrates a strong correlation between political election cycles and periods of great public uncertainty, John W. Goodell and Sami Vähämaa (2013) examine the impact this election-induced uncertainty has on stock market volatility. The authors study the correlation between five US presidential elections between 1992 and 2008 and stock market volatility by regressing monthly percentage variations in implied volatility on changes in the likelihood of success of the presidential candidate that eventually wins the elections, as a measure of election uncertainty. They utilize the VIX index to measure stock market uncertainty and monthly data from the Iowa Electronic Markets (IEMs) presidential contracts to measure election uncertainty. In essence, IEM presidential contracts are future contracts whose payoffs are based on the election outcome, whether the winning candidate is Democratic or Republican. As a result, the market price of these contracts can be considered as a solid indication of the market's consensus about the probability of the election winner. (Goodell & Vähämaa 2013: 1108-1109, 1111,1116).

The empirical results of Goodell & Vähämaa (2013) demonstrate that US presidential elections create market anxiety and impact stock market volatility. More particularly, they reveal a positive correlation between the implied volatility of the S&P 500 index and the election probability of the winning candidate, even after controlling for variations in the overall election uncertainty. In other words, their study shows that stock market uncertainty increases as the public becomes more certain about the presidential election outcome and investors develop and reconsider their expectations about future macroeconomic policy. Consequently, these findings also strongly support the political uncertainty hypothesis, stating that information about the probability of a specific election winner mirrors information about future macroeconomic policy. (Goodell & Vähämaa 2013: 1108-1109, 1111,1116.)

Specific events that represent inconsistencies in the usual election process also have a short-term impact in the domestic stock market. For example, the U.S. Presidential Election of 2000 had a distinctive element compared to all the previous ones. For the first time in the U.S. modern history, it took more than five weeks for a winner to officially emerge. U.S citizens went to the polls on November 7, 2000, to elect their 43th President. While the final results would normally be announced by the end of the following day the latest, George W. Bush didn't emerge as a clear winner until December 13th the same year. Based on previous research proving a correlation between U.S. presidential elections and stock market performance, as well as on existing literature indicating that one-time occurrences affect financial markets, Nippani and Medlin (2002) examine the effect that the late declaration of the U.S. Presidential Election winner had on the stock markets at the end of 2000.

Nippani et al. (2002) use a conventional t-test to study the impact of this unique event on three most popular stock market indices: Standard and Poor's 500 (S&P 500), the Dow Jones Industrials Average (DJI) and the NASDAQ Composite Index. In addition, the authors also conduct a multiple regression analysis that controls for interest rate movements. The empirical results of their research demonstrate a significant initial negative reaction from the stock markets to the late election results. The market reacted negatively to the delay, but only in the very short term, more exactly during the first four

trading days after the election. As a result, this study also supports the efficient market hypothesis, explained later in this paper, as the market already adjusted for the unique event by the end of the first event window studied by the authors, from November 8th to November 13th, 2000. (Nippani & Medlin 2002: 162-163, 168.)

c. International markets

As explained in this chapter, there is an extensive body of literature that studies and demonstrates the impact U.S presidential elections have on their domestic stock market. However, the U.S is a powerful global player, whose influence plays a noticeable part in shaping the course of world events. As a result, research has also been undertaken to study the impact U.S presidential elections might have on foreign stock markets.

Foerster & Schmitz (1997) examine the international pervasiveness and importance of the previously discovered four-year U.S. election cycle. The authors find that the election cycle is an important factor in forecasting not only American, but also international stock returns. In all 18 countries that are examined over the period of 1957 to 1996, returns in year two are lower than any of the other years, being negative in most countries. In addition, the authors find that the U.S. dollar depreciates more in year two of the election cycle. (Foerster & Schmitz 1997: 1, 21-23).

According to Foerster et al. (1997), the U.S. election cycle variable may be capturing some form of international and U.S. market sentiment, and if that is the case, the election cycle may be an important non-diversifiable political factor in determining international conditional expected stock returns. In this case, it could be beneficial for investors to avoid holding international equity investments in the second year of the U.S. election cycle. This type of investment strategy might dominate the buy-and-hold alternative. (Foerster & Schmitz 1997: 1, 21-23).

More recently, Hung (2013) focuses on the U.S. Presidential elections and the Taiwanese stock market. The author uses monthly stock market returns to measure the election cycle

effect. To measure the bull-run effect, Hung (2013) calculates abnormal returns using the event-study method.

Hung (2013) finds that it is hard to say whether the U.S. election cycle affects the Taiwanese stock market from an analysis of the Taiwanese stock market in the aftermath of U.S. presidential elections. The author also finds that U.S. presidential elections have no bull-run election effect on the Taiwanese stock market. According to the CARs calculated for the eleven event windows of each election, three of the five significant CARs were negative, which means the Taiwanese stock market has no consistent reaction to the results of U.S. presidential elections. A bull-run effect usually refers to positive reactions of the stock market in the event windows of elections. However, most studies that support this hypothesis examine only the relationship between domestic elections and the domestic market. The result of Hung's study implies that a bull-run election effect might not exist in an international case. Lastly, the author finds no evidence to support a party effect in the monthly returns in accordance with a particular U.S. presidential election between 1980 and 2008. (Hung 2013.)

3. EFFICIENT MARKET HYPOTHESIS

The event study methodology suits our research objective because of its ability to identify abnormal changes in asset prices. This is because it is based on the overall assessment of a huge number of investors, analysts and other parties who quickly process all available information to asses each individual company's market value (Chen 2004: 351).

The event study methodology is closely linked to the efficient market hypothesis (EHM), introduced by Eugene Fama (1970). The EMH is a financial theory which suggests that securities markets are extremely efficient in incorporating all available information in asset prices and, therefore, stocks always trade at their "fair" value. This implies that it is impossible for investors to find undervalued stocks or sell stocks for inflated prices, even with tools such as technical analysis of fundamental analysis. The efficient market hypothesis was originally introduced by Eugene Fama in 1970, and it has since been one of the cornerstones of modern finance theory. (Fama 1970: 383-384; 413-414.) However, the EMH has also received a fair share of criticism and a substantial body of contradicting empirical evidence exists. For example, investors such as Warren Buffet have managed to consistently beat the market for extended periods of time, which should not be possible according to the EMH.

Fama (1970) introduces three sufficient conditions for capital market efficiency. The first one is the absence of transaction costs in trading securities. The second condition is total information symmetry, meaning that market participants can access all available information free of charge. Lastly, market participants agree on the implications currently available information has on the current and future price of assets. In such a case, the price of a security would perfectly reflect all information available. In the real world, however, there are both transaction costs and information asymmetries. Luckily, the aforementioned conditions are sufficient but not necessary for market efficiency. When limited, transaction costs, information asymmetry and disagreement among market participants do not automatically imply market inefficiency, even though they are potential sources of it. For example, transaction costs might reduce the flow of transactions. However, it does not mean that prices of the transactions that take place do

not fully reflect available information. Similarly, capital markets may still be efficient despite some level of information asymmetry, as long as a sufficient number of investors can freely access information. Disagreements between investors regarding the implications of available information do not necessarily imply market inefficiency either, expect if there are investors who can consistently interpret available information better than what is implied in market prices. (Fama 1970: 387-388.)

The efficient market hypothesis can be divided in three forms, based on Fama's (1970) categorization of empirical tests. These forms are "weak-form", "semi-strong-form" and "strong-form". The weak-form EMH suggests that all past information, i.e. all the data of past prices, is priced into securities. Therefore, no form of technical analysis can be used to help investors make investment decisions based on historical patterns. However, if the weak-form EMH is believed, fundamental analysis could be used to discover undervalued or overvalued stocks. With fundamental analysis, one tries to find the intrinsic value of a security by analysing various aspects that could have an impact on the value, such as financial factors (e.g. company balance sheet and profit & loss statement), macroeconomic factors and microeconomic factors. The goal is then to buy undervalued stocks and sell (or short sell) overvalued stocks to gain higher profits than the market average. (Fama 1970, Ziliotto & Serati 2015: 414-417.)

Semi-strong-form EMF, on the other hand, is based on the belief that all publicly available information, both historical and current, is already incorporated into asset prices. Any new information that arises is also immediately priced into securities. Therefore, neither technical nor fundamental analysis can be utilized to gain higher returns. According to the semi-strong EMF, only information that is not available to the public (i.e. insider information) can give investors and advantage on the market. (Fama 1970, Ziliotto & Serati 2015: 414-417.)

Lastly, the strong-form EMF states that all information, both publicly available and private, is incorporated into asset prices. Thus, no type of information or analysis can give investors an advantage on the market. (Fama 1970.) If the strong form is believed, active stock investing would be a waste of time and resources, and investors were better off

simply investing in the market index (e.g. ETFs). However, there are multiple anomalies that the EMH cannot explain, and even contradict the theory.

In their paper, Ziliotto and Serati (2015) list four important market anomalies. The first one is the "small size-companies effect", according to which returns on small businesses' shares are consistently higher than equilibrium returns due to liquidity issues. The second anomaly is called the "January effect". Research demonstrates that the general selling pressure is particularly high in December every year, before getting back to normal levels in January, because of investors looking for tax savings. The third effect challenging market efficiency is an excessive volatility in the short term. Market prices tend to react excessively to external shocks, including macroeconomic announcements and corporate news. Despite quick readjustments afterwards, this over-reaction is incompatible with the original definition of market efficiency. The last remark is about mean reversion: even after substantial fluctuations, market prices tend to revert to their long-term equilibrium values. This contradicts the behavior hypothesized by the random walk theory. (Ziliotto & Serati 2015: 416.)

According to Fama (1970), the argument behind the EMF, i.e. that in efficient markets prices fully reflect all available information, is so generalized that it has no implications which could be empirically tested. To make the model testable, the price formation process needs to be specified more exactly. It is also necessary to define more precisely what is meant by the expression "fully reflect". In his paper, Fama (1970) proposes three different types of models to empirically test market efficiency. First, the expected return or "fair game" models. Secondly, the submartingale model and lastly, the random walk model.

Regarding the fair game models, Fama (1970) argues that most of the available work on capital market efficiency assumes that the conditions of market equilibrium can be stated in terms of expected returns. According to Fama (1970), the expected return of a security is a function of its own "risk", and that different theories vary mainly in how risk is defined. However, all models that fall under the class of expected return theories, can be described with the following notation:

(1) $\qquad E\left(\tilde{p}_{j,t+1} \mid \Phi_t\right) = [1 + E(\tilde{r}_{j,t+1} \mid \Phi_t)]p_{jt}$

where E is the expected value operator, p_{jt} is the price of security j at time t, $p_{j,t+1}$ is the price at t+1 and $r_{j,t+1}$ is the one-period percentage return which can be calculated from $\frac{p_{j,t+1}-p_{jt}}{p_{jt}}$. Φ_t is a general symbol representing whatever information is assumed to be fully reflected in the price at time t. The tildes indicate that $r_{j,t+1}$ and $p_{j,t+1}$ are random variables at t.

Fama (1970) illustrates the relationship between expected and realized returns with the following notations:

(2) $\qquad \tilde{z}_{j,t+1} = r_{j,t+1} - E\left(\tilde{r}_{j,t+1} \mid \Phi_t\right)$

(3) $\qquad E\left(\tilde{z}_{j,t+1} \mid \Phi_t\right) = 0$

Where $\tilde{z}_{j,t+1}$ denotes the excess return of security j at t+1. Equation (3) states that the sequence $\tilde{z}_{j,t+1}$ is a pure "fair game" in respect to information set Φ_t, meaning that the expected return of every "player" is zero. Thus, all investors are in an equal position regarding information.

Next, Fama (1970) introduces the Sub-martingale Model.

(4) $\qquad E\left(\tilde{p}_{j,t+1} \mid \Phi_t\right) \geq p_{tj}$

According to Fama, the price sequence p_{tj} for security j follows a sub-martingale in respect to the information sequence Φ_t. This means that the expected value of next period's price, which is based on available information, is equal to or greater than the current price. The sub-martingale model has one important empirical implication concerning the EMH, which is that based only on information Φ_t, it is not possible to

gain greater expected returns by mechanical trading rules compared to the buy-and-hold strategy over the future period in question. (Fama 1970: 386.)

Lastly, Fama introduces the Random Walk Model. In early research, the argument that current security prices fully reflect all available information was assumed to indicate that successive price changes are independent. It was also assumed that consecutive price changes are identically distributed. Together, these two hypotheses constitute the random walk model. The same can be noted as follows:

(5) $$f\left(r_{j,t+1} \mid \Phi_t\right) = f\left(r_{j,t+1}\right)$$

This equation states that the conditional and marginal probability distributions of an independent random variable are identical. Also, the density function f must be same for all t. Fama (1970) argues that the random walk model is essentially an extension of the more general expected return or fair game model, the random walk model including a more detailed expression regarding the economic environment.
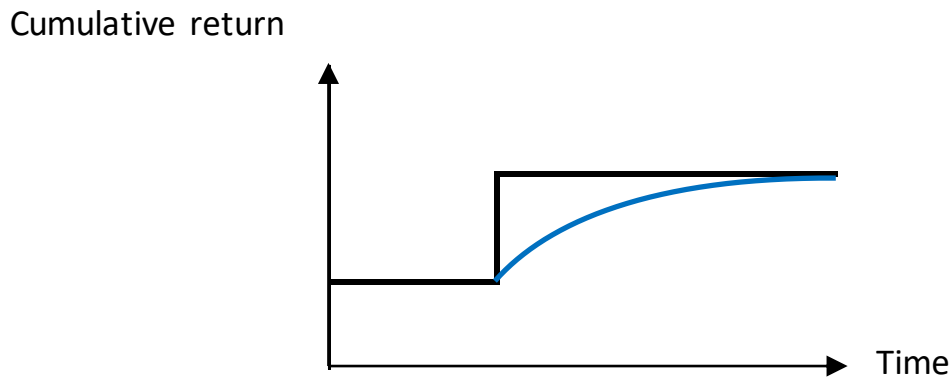
Figure 1. Efficient vs inefficient market reaction. (after Knüpfer & Puttonen 2014: 166.)

Figure 1 illustrates a market's reaction to a positive announcement or event. In efficient markets, the news is incorporated accurately and without delay, causing the security price to jump immediately to the "right" level. If the markets are not efficient, however, the

new information is absorbed into security prices with a delay and it takes time to reach the right price level. (Knüpfer & Puttonen 2014: 166.)

4. DATA AND METHODOLOGY

An event study is a methodology which can be used to measure the relationship between an event that has an impact on securities and the returns of those securities. The event study methodology focuses on identifying abnormal returns on securities around a specific event. This event can be for example a regulatory change, a natural disaster, or in our case, presidential elections. If the markets react favourably to an event, positive abnormal returns can be expected around the event date. If the market reaction is negative, on the other hand, negative abnormal returns can be expected. Therefore, when stock market indices are analysed, abnormal returns provide a way to assess the market's (or a specific sector's) reaction to different events. (Chen & Siems 2004: 351-352.)

4.1. Event Study Methodology

To examine the market's reaction to US Presidential elections, we use the event study methodology. The event study methodology is a widely used statistical approach to market based empirical research in accounting and finance. The main purpose of this type of studies is to analyse the behaviour of security prices around the time of an event or an information announcement. The event study approach has been used to examine a large variety of different events, such as announcements of annual earnings, large block trades, corporate mergers, political events and terrorist attacks. (Bowman 1983: 561-562.)

The event study methodology has its roots in studies conducted by Ball & Brown (1968) and Fama, Fisher, Jensen & Roll (1969). Ball & Brown examined the reaction of security prices to the unanticipated component of annual earnings announcements. The authors found that the security prices already reflected approximately 85 to 90 percent of the information contained in the annual earnings report before the announcement date. These results were initially regarded as concerning, but it later became clear that the markets' fairly accurate earnings estimates were a result of utilizing various sources such as interim earnings reports and other publicly available information. Therefore, annual accounting

earnings reports served merely to revise previous estimates. (Ball & Brown 1968: ; Bowman 1983: 561-562.)

The term event can be interpreted rather broadly. Early research was mainly focused on announcements as events. Usually those announcements were coming from companies directly, such as earnings announcements or stock splits. However, later studies have also examined announcements from outside the companies, such as regulatory changes or announcements from an accounting standard body, as well as other types of more general "happenings", such as natural disasters, terrorist attacks or political elections. The body of event study literature, both in terms of specific technique choices available and different topics that have been covered, is extensive. However, the basic structure of event studies is relatively straightforward. In its simplest form, an event study includes the following five steps. (Bowman 1983: 561-563.)

1. Identifying and specifying the event of interest
2. Modelling the security price reaction
3. Estimating the abnormal returns
4. Organizing and grouping the abnormal returns
5. Analysing the results

The first step in conducting an event study is to define the event of interest and identify the event window or windows. The event window refers to the period of time over which the security prices of the companies or indices involved in the study are examined. The event window generally consists of at least the event day and the day after the announcement. This allows the researcher to capture price effects of announcements that take place after the stock market has closed on the announcement day. In practice, however, the event window is usually expanded to multiple days or several event windows are chosen, enabling closer examination of periods surrounding the event. (MacKinlay 1997: 14-15.)
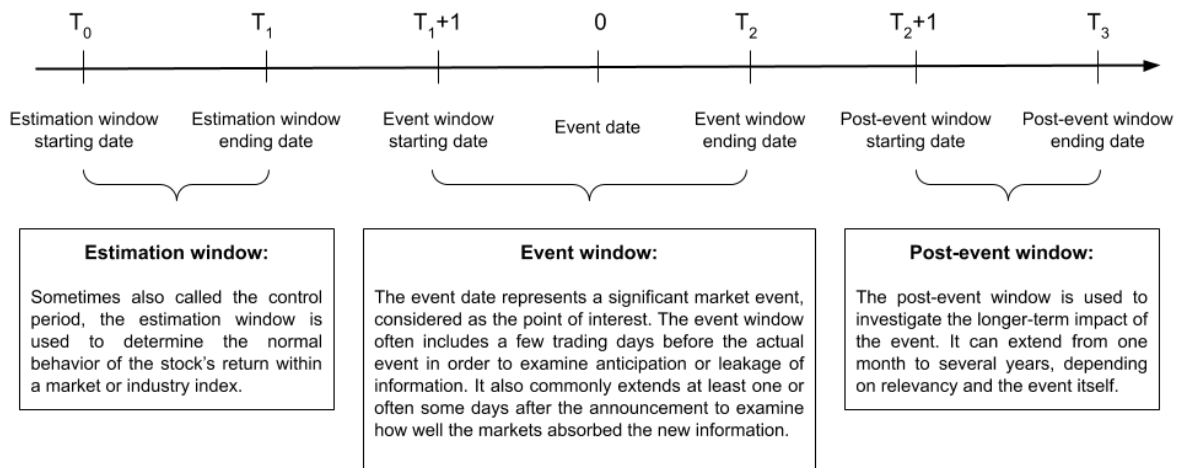
Figure 2. Timeline of an event study. (after Benninga 2014: 332.)

Even though it is somewhat obvious, identifying the event is a crucial step in several ways. Firstly, the choice of an event determines the possible hypotheses that can be tested in a meaningful way. It is also important to decide whether one investigates the impact of a single event or a type of event (e.g. one presidential election or presidential elections overall). Generally speaking, a study of an event type yields more robust results than a study of a single event. This is because a study of an individual event can more easily be influenced by cofounding events, errors in ascertaining the timing of the event and other exogenous factors. When investigating a type of event, the sample size is larger and distributed between different calendar times. Therefore, when the target of the study is a single event, it is important to control for cofounding events and other exogenous influences. (Bowman 1983: 563-564; MacKinlay 1997: 13-15.)

The next step after identifying and defining the event and event window is to estimate the security price reaction to the event and create research hypotheses. In some cases, the price reaction is expected to be in the same direction for all companies that are studied. For example, one could hypothesize that companies which announce a decrease in dividends will face negative security price reactions. In another possible scenario, one might expect all studied companies to react in the same direction without making a prediction regarding what the direction might be. For example, it could be hypothesized that all bidder companies in a merger will be affected similarly by the announcement of

the merger proposal, but the data will indicate the direction of the effect. (Bowman 1983: 565.)

In many studies, however, one expects the direction of the reaction to vary between different companies and the direction to be determined by the information relevant to the event. Therefore, a model is created to divide companies into expected negative and positive price reactions. According to Bowman (1983), it can be analytically hypothesized that:

(6) $$E(e_{it}\,|\eta, y_{it}) \neq E(e_{tj}) = 0$$

where e_{it} is the measure of excess returns for company i in time period t; η is the expectations model and y_{it} describes information from η for firm i at time t.

The third step in conducting an event study is to choose the method that is used to estimate the excess returns, also known as abnormal returns, for the companies, portfolios or indices that are examined. There are several options available. The most common ones can be categorized as unadjusted or mean adjusted returns and risk adjusted returns models. (Bowman 1983: 567.)

The first category was developed and commonly used in research before risk adjustment procedures became available. With the unadjusted approach, one simply defines the realized return as the excess return of the security, thus assuming that the expect return is zero. The mean adjusted approach, on the other hand, defines the expected return of a security as the mean of its past returns over some predefined period. The abnormal return is then calculated by deducting the expected return from the realized return. Both of these methods appear rather simplistic compared to more detailed and complex methods that have been developed more recently. However, Brown & Warner (1980) found that the mean adjusted returns measure, despite being computationally much simpler, was very robust and even outperformed the more elaborate methods under many conditions. Even nowadays, the mean adjusted returns method is a valid tool in many event studies. (Bowman 1983: 567.)

The second category is the risk adjusted returns approach. The most famous of these is the Capital Asset Pricing Model (CAPM), based on which most of the other methods in this group have been developed. The CAPM, introduced by Sharpe (1964), Lintner (1965a and 1965b) and Mossin (1966), is a model that can be used to determine the theoretical price (i.e. the expected return) of an asset. The CAPM formula is as follows:

$$(7) \qquad E(r_i) = r_f + \beta_i[E(r_m) - r_f]$$

where $E(r_i)$ is the expected return of asset i, r_f is the risk-free rate of return, β_i is the beta of asset i (firm-specific risk measure) and $E(r_m)$ is the expected return of the market portfolio.

The most commonly used risk adjusted approach is the market model, which is basically a regression of the firm's stock returns and the returns of the market index. The market model can be illustrated as follows:

$$(8) \qquad r_{it} = \alpha_i + \beta_i r_{mt}$$

where r_{it} is the return of stock i on day t and r_{mt} the market return on day t. Coefficients α_i and β_i are estimated by running an ordinary least square (OLS) regression over the estimation window. (Benninga 2014: 333-334.)

When choosing the market and/or industry indices used in the study, it is important to make sure that the data is available. Generally speaking, a market index should be a broad-based value weighted index or a float weighted index. The industry index, on the other hand, should be corresponding and relevant for the firm that is being studied. (Benninga 2014: 333-334.) Since the abnormal return of an asset is defined as the difference between the asset's realized return and its expected return, it can be de deducted from equation (8) that:

$$(9) \qquad AR_{it} = r_{it} - (\alpha_i + \beta_i r_{mt})$$

where AR_{it} is the abnormal return for asset i at time t, r_{it} is the realized return of asset i at time t and $(\alpha_i + \beta_i r_{mt})$ is the return predicted by the asset's α, β and market return. The abnormal returns during the event window are then interpreted as a measure of the event's impact on the value of the security.

Another popular risk adjustment methodology is the two-factor model. This model is similar to the market model, but in addition to using market returns, the two-factor model also utilizes industry returns in computing the asset's expected returns. In the two-factor model, the asset's expected return is calculated by regressing the asset's realized returns against both market and industry returns during the estimation window. This can be illustrated with the following notation:

(10) $\qquad r_{it} = \alpha_i + \beta_{i,Market} r_{mt} \beta_{i,Industry} r_{Industry,t}$

where r_{it} is the return of stock i on day t, r_{mt} the market return on day t and $r_{Industry,t}$ the industry return (e.g. an industry index) on day t. Coefficients α_i, $\beta_{i,Market}$ and $\beta_{i,Industry}$ are estimated by running an ordinary least square (OLS) regression over the estimation window. The industry returns are included in the model to take into account industry-specific information in addition to the market-wide data. (Benninga 2014: 333-334; 351.) Other models that include even more factors exist as well, but according to MacKinlay (1997), the benefits of using such multifactor models are limited and the reduction in the variance of the abnormal returns is small.

When the abnormal returns have been calculated, these returns need to be organized and grouped. A researcher may want to, for example, group companies into portfolios based on the expected security price reaction which was discussed in step two. In addition, individual abnormal returns need to be aggregated over the event window. The most common method for this is to calculate the Cumulative Abnormal Returns (CARs). This is an arithmetic procedure - the formula is displayed later (formula 13). (Bowman: 569-570.)

The last step in conducting an event study is analysing and interpreting the findings. After the abnormal returns or cumulative abnormal returns have been computed, the null hypothesis (i.e. that the event had no effect on the asset prices) must be tested. According to Bowman (1983), it might be sufficient or even necessary in some cases to simply use descriptive statistics. However, without the use of statistical tests, the sample size needs to be large and the abnormal returns substantial.

Several nonparametric statistical tests have been used in past literature, including the sign test, the Wilcoxon matched-pairs signed-ranks test, the binomial test, the Kolmogorov-Smimov one-sample test and the Marm-Whitney U test. The choice depends on the data used and the setting of the research in general. Parametric measures have also been employed in event studies, even though there are some potential issues related to meeting the necessary assumptions, for example excess returns being independently distributed (see e.g. Bowman 1983 for further information). However, Brown & Warner (1980) found that t-tests on data that was transformed to approximate identically and independently distributed returns yielded promising results. (Bowman 1983: 570-573.)

The goal of this paper is to examine how capital markets, especially stock markets, react to U.S. presidential elections. In order to do this, an event study methodology is applied to several major indices from the U.S., Europe and Asia to see the elections' possible effect on both domestic and world markets. To measure the abnormal performance of the indices selected for this study, the excess returns approach, described by Brown and Warner (1985), is followed. This approach was also described and used by Chen & Siems (2004) to study the impact of terrorist attacks on capital markets. The goal is to measure the index returns following the elections and then examine how those returns differ from past averages. This allows to statistically test the significance of the elections to stock markets.

For each index, daily abnormal returns are computed on the event day, preceding days and the following days:

$$(11) \qquad AR(t) = R(t) - E_r$$

(12) $E(R) = 1/200 \sum_{t=-210}^{-11} R(t)$

Where AR is the abnormal return at time t, R is the actual return at time t and E(R) is the expected return based on the estimation period (-210, -11). For each day, the expected return (formula 12) is subtracted from the actual returns. To estimate the expected return, a 200-day estimation period from t = -210 to t = -11 is used, leaving a 10-day gap between the estimation period and the event day t = 0. This is to prevent election induced uncertainty from affecting the expected returns.

Three event windows are examined: t=-2 to +2, t=+5 and t=+10. The first event window is meant to capture both pre-election behaviour as well as the initial market reaction, but two longer event windows are also examined in order to see how quickly and well the markets digested the news. In some cases, the emergence of new information reduces uncertainty and thus, market volatility, whereas in other cases the markets struggle to ascertain the impact of this new information, causing the uncertainty to persist even after the news. For all three event windows, cumulative abnormal returns (CARs) are computed:

(13) $CAR_t = \sum_{j=1}^{t} AR_{T1+j}$

Where CAR_t is the sum of all abnormal returns from the beginning of an event window T_1 until day t in the window. The CARs are presented in chapter five.

As mentioned, the null hypothesis is that there are no abnormal returns around or following the elections. Therefore, the aim is to test $H_0 : CAR_t = 0$. The test statistic for this is computed as follows:

(14) $t = \frac{CAR}{S.E.} \sim t_{L-2}$

This test statistic follows a t distribution with L-2 degrees of freedom. $L = T_1 - T_0$ and S.E. is calculated as the standard deviations of ARs during the event window. If the t-

statistic values are statistically significant, it suggests that U.S. presidential elections are perceived as an influential event and that they can explain stock market price movements during the observation period around the elections. This method was also described and utilized by Chien & Siems (2004). The abnormal returns around the elections are also presented graphically to illustrate market movements around the elections.

4.2. Data

For this study, daily price data from S&P500, Dow Jones Industrial Average, NASDAQ Composite, EUROSTOXX 5O, Nikkei 225 and Hang Seng indices are used. Daily observations allow to compute cumulative abnormal returns (CARs) for the selected event windows. In this study, U.S. presidential elections from 2000 to 2016 are studied. A special focus is placed on the latest presidential elections. This is because the 2016 elections when Donald Trump was elected as the President of the United States were very tight and somewhat controversial and might therefore reveal some interesting findings about how global markets reacted to the outcome. The elections from 2000 to 2016 are selected because the era of digitalisation, social media and the internet in general, might have an impact on how investors react to political events, such as presidential elections. In addition, more recent elections have been studied less than the once that took place longer ago. Lastly, previous literature is analysed and compared to the results of this study in order to see how markets have reacted to the elections in the past, and if there is a difference between the digital era and previous elections.

In addition, three different industries are examined around the 2016 elections. These industries are aerospace & defence, financial services and healthcare. These industries were chosen because it is hypothesized that the party of the president and the policies that come with it have an especially strong effect on these industries. The hypothesis is that these three industries would prefer Republicans, due to the Republican party's habits of posing less regulations to companies. Aerospace & defence, financial services and healthcare are all industries which are sensitive to government policies and regulation.

5. EMPIRICAL RESULTS

The empirical findings of the study are presented and analysed in this chapter. First, the results from the 2016 U.S. presidential elections are presented. The focus is in major stock indices, namely the S&P 500, Dow Jones Industrial Average, NASDAQ Composite, EUROSTOXX 5O, Nikkei 225 and Hang Seng indices. A closer look to certain industries that might be especially affected by the election result is then taken. The results for U.S. presidential elections from 2000 to 2012 are then presented and discussed as well. Moreover, the findings of this study are compared to previous findings.

5.1. 2016 U.S. Presidential Elections

Table 1. Abnormal returns and cumulative abnormal returns for six major world indices around the 2016 U.S. Presidential Elections. The event date is 09.11.2016.

Indices/Markets	Event-day AR	T = -2 to +2 CAR	6-day CAR	11-day CAR
S&P 500	1.05	3.46***	1.41***	2.41***
	(0.85)	(0.83)	(0.47)	(0.42)
Dow Jones Industrial	1.34	4.97***	2.57***	3.45***
	(0.82)	(0.67)	(0.60)	(0.48)
NASDAQ Composite	1.04	3.38***	1.54**	2.82***
	(1.03)	(1.02)	(0.71)	(0.60)
EURO STOXX 50	1.08	2.50***	0.07	0.25
	(1.51)	(0.88)	(0.63)	(0.57)
Hang Seng Index	-2.23*	-0.74	-3.08**	-1.57
	(1.24)	(1.47)	(1.35)	(1.14)
Nikkei 225	-5.48***	2.89	4.13	6.88***
	(1.75)	(3.84)	(3.52)	(2.61)

Standard errors are in parentheses

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 1 presents the abnormal returns for six major world indices on their first trading day after the result of the 2016 elections was known, which was the 9th of November 2016. In addition, the cumulative abnormal returns (CARs) for the T = -2 to +2, 6-day and 11-day event windows following the 9th of November are presented. Figure 3 shows the daily abnormal returns over the window from T = -10 to T = +10.

Two observations can be made right away. Firstly, all U.S. indices behaved somewhat similarly around the 2016 elections. The S&P 500, Dow Jones and Nasdaq indices all experienced positive abnormal returns on their first trading day after the election results were published. Furthermore, all three U.S. indices experienced statistically significant positive CARs over all three event windows (all at the 1% level expect Nasdaq 6-Day CAR at the 5% level). These findings imply that the 2016 elections had a significant short-term impact on the U.S. stock markets, and that the markets perceived Donald Trump's victory as positive news. These results also resonate with Wisniewski's (2016) theory about the impact unexpected electoral results can have on stock market volatility. As explained previously, Donald Trump's victory came as a surprise for everyone, including the media, the general public and the markets. As a result, investors may have adapted their portfolios the day following the results announcement, thus participating in the observed bull-run effect.

Secondly, world stock markets seemed to have mixed reactions to the elections. The EUROSTOXX 50 index exhibited an initial positive reaction on the event day. The T=-2 to +2 event window CAR was also positive and statistically significant at the 1% level. However, the CARs for both 6 and 11-day event windows were close to zero and statistically insignificant. This could imply that European stock markets reacted positively to the election result, or that European markets simply followed the same trend as U.S. markets did. The Asian markets had mixed reactions as well. The Hang Seng Index experienced negative abnormal returns on the event day and throughout all three event windows. However, only the event-day AR was statistically significant at the 10% level and the 6-day CAR at the 5% level. The Hang Seng index exhibited large fluctuations both before and after the elections. After the -2.23% AR on the event day, the Hang Seng had a 1.82% positive AR the day after and a -1.41 AR the day after that.

Therefore, it is hard to draw conclusions about the potential effects the elections had on the Hang Seng index. Nikkei 225 index also experienced a large statistically significant negative abnormal return on the event day (-5.48% AR). However, the T=-2 to +2 and 6-day CARs were both positive and statistically insignificant. The 11-day CAR was positive and statistically significant at the 1% level. After the initial big drop, the Nikkei 225 bounced right back the day after with a 6.51% positive AR.

Overall, the evidence indicates that Asian markets had a negative initial reaction, but it did not persist for long. Therefore, drawing any definite conclusions regarding the world stock market reaction to the 2016 elections would be difficult. This is consistent with previous literature and research. While some academics managed to demonstrate the international pervasiveness of the 4-years U.S. election cycle (see e.g. Foerster & Schmitz 1997), Hung (2013) concludes his research with a lack of evidence supporting the existence of either a party effect or a bull-run effect on international stock markets. Similarly, these results are too ambiguous to determine a specific correlation between U.S presidential election results and short-term stock market performance in international cases.
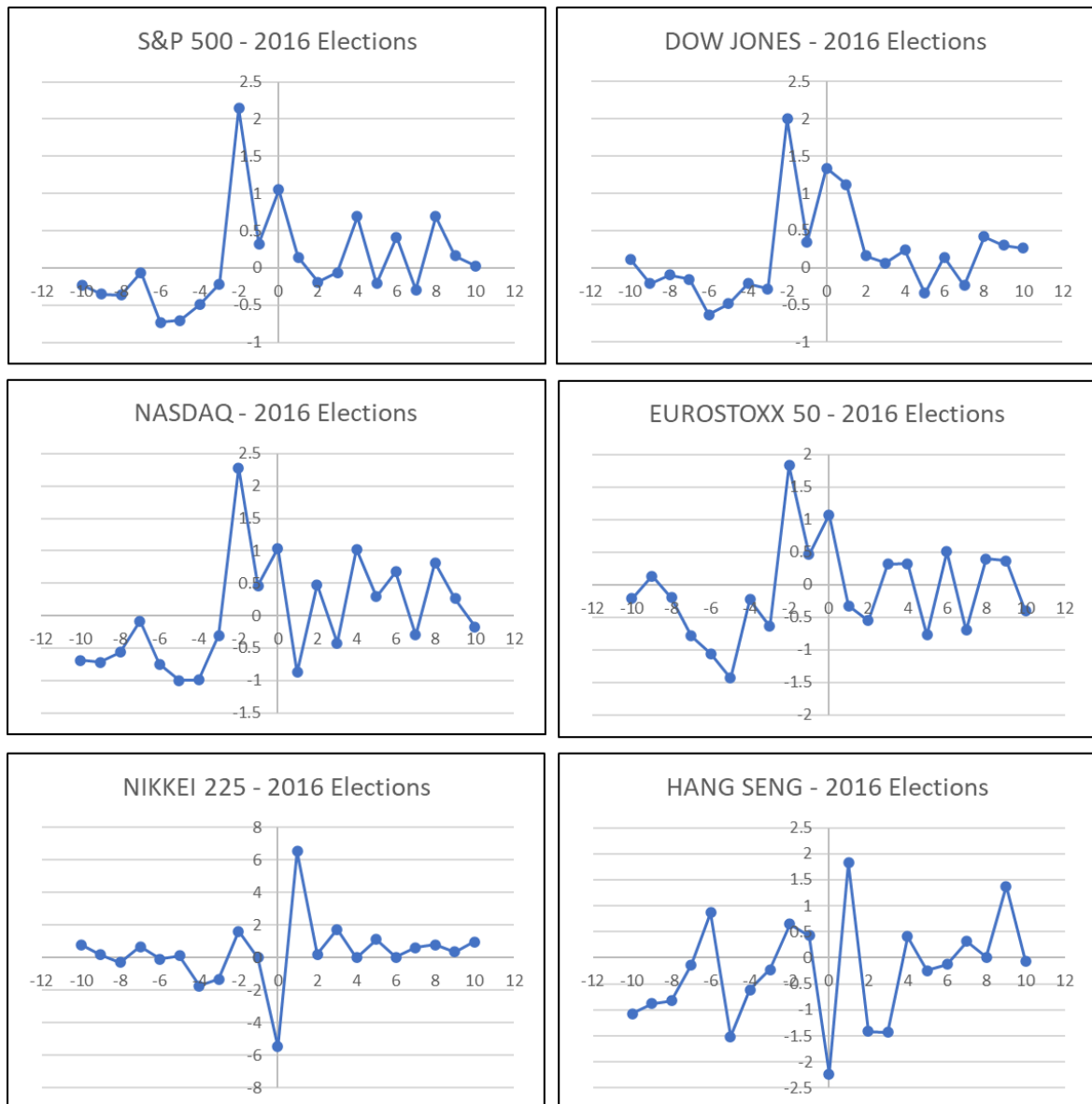
Figure 3. Daily abnormal returns around the 2016 U.S. Presidential Elections for six major world stock indices.
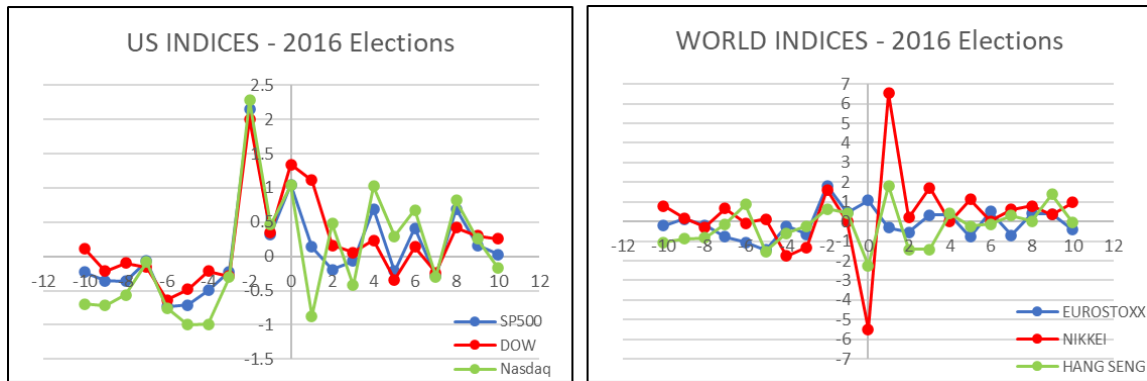
Figure 4. Daily abnormal returns around the 2016 U.S. Presidential Elections - U.S. Indices vs World Indices.

Since the traditional view is that the Republicans allow markets to operate more freely and tend to impose less regulations and restrictions to companies than the Democrats, different industries might react differently to the presidential elections. To test this hypothesis, three industry indices are examined around the 2016 elections. These industries are aerospace & defence, healthcare and financial services. The hypothesis is that since all these industries theoretically benefit from less regulation, they should prefer a Republican victory.

Table 2. Abnormal returns and cumulative abnormal returns of three US industry indices around the 2016 U.S. Presidential Elections. The event date is 09.11.2016.

Indices/Markets	Event-day AR	T= -2 to +2 CAR	6-day CAR	11-day CAR
Aerospace & Defense	4.85***	9.84***	8.10***	10.08***
	(1.03)	(1.60)	(1.80)	(1.46)
Healthcare	3.44***	6.31***	3.11**	1.99
	(0.99)	(1.63)	(1.50)	(1.30)
Financial Services	3.98*	9.68***	7.84***	9.26***
	(2.22)	(1.69)	(2.05)	(1.63)

Standard errors are in parentheses

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 2 presents the abnormal returns for aerospace & defence, healthcare and financial services sectors on their first trading day after the elections. CARs for the T = -2 to +2, 6-day and 11-day event windows are also presented. Figure 5 illustrates the daily abnormal returns for these industries over the window from T = -10 to T = +10. The results show that all three industry indices exhibited statistically significant strong gains on their first trading day after the elections. The aerospace & defense index had a 4.85% abnormal return, healthcare index a 3.44% AR and the financial services index a 3.98% AR. In addition, both aerospace & defense and financial services indices experienced statistically significant positive CARs throughout all three event windows at the 1% significance level. Healthcare industry also had a strong positive initial reaction, and the T = -2 to +2 and 6-day CARs are positive and statistically significant as well (at the 1% and 5% levels, respectfully). All in all, the results strongly suggest that government policy and regulation-sensitive industries such as aerospace & defense, healthcare and financial services were impacted by the 2016 election result and that these industries saw Donald Trump's victory as a positive surprise.
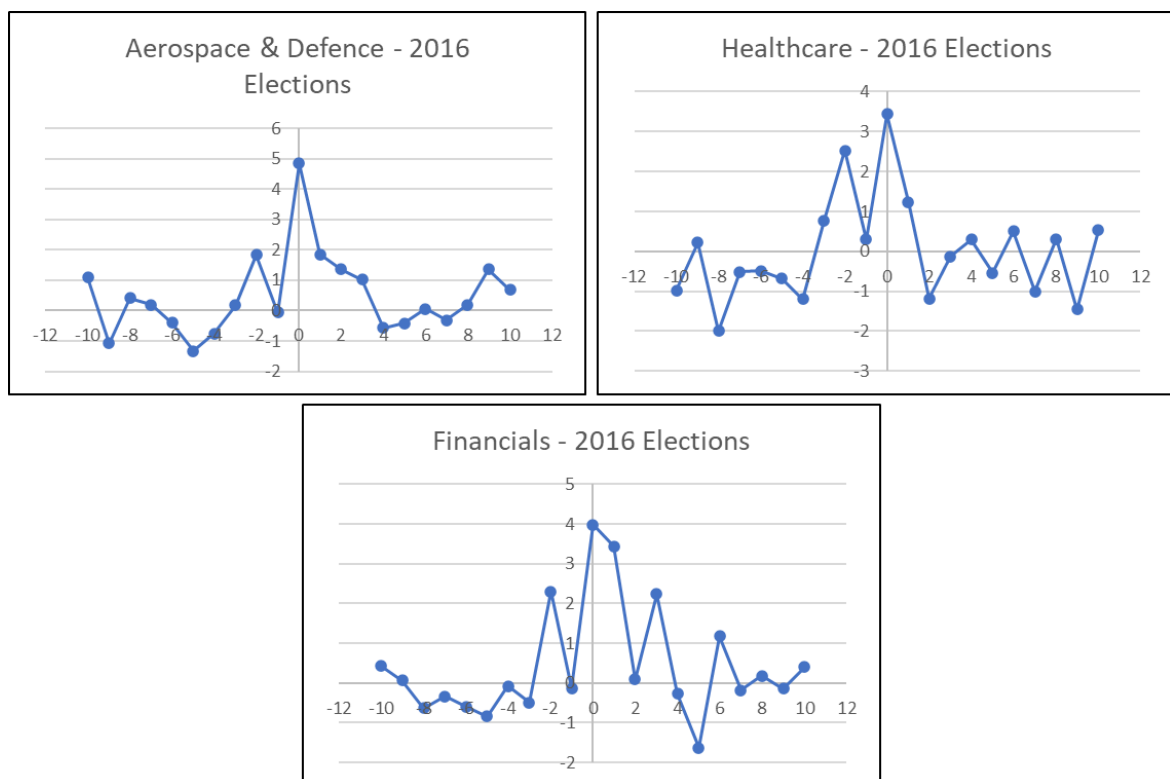
Figure 5. Daily abnormal returns around the 2016 U.S. Presidential Elections – Three U.S. industry indices.
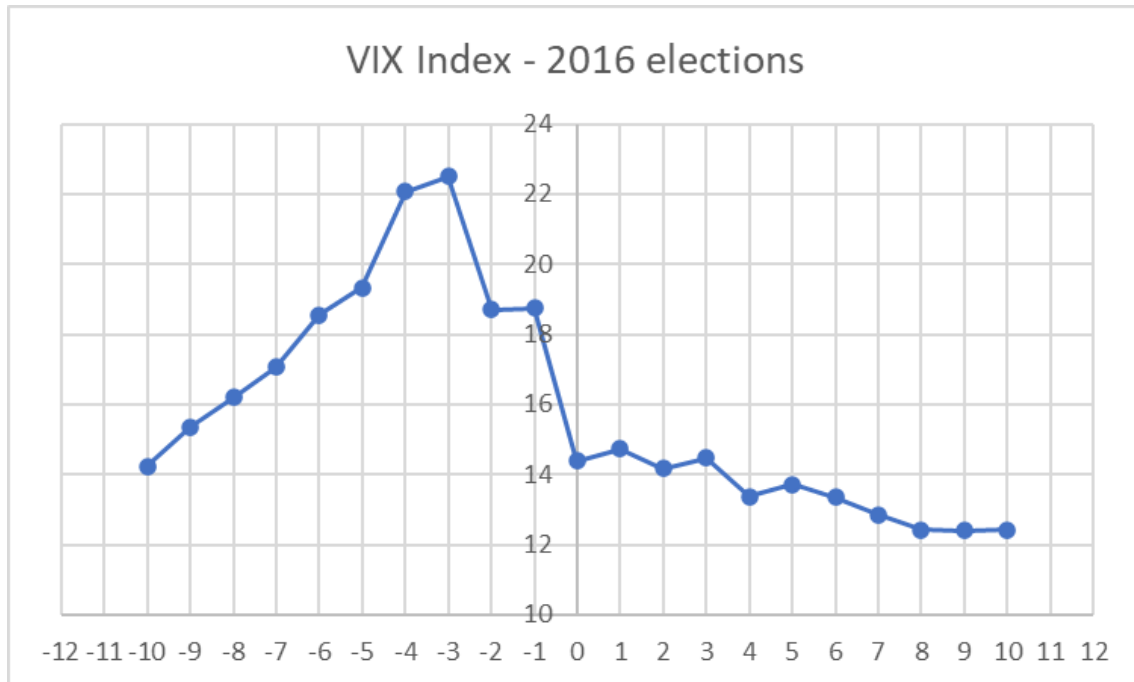
Figure 6. VIX Index around the 2016. U.S. presidential elections.

As Figure 6 illustrates, market uncertainty (the VIX index is a common measure of market uncertainty) increased substantially prior to the Election Day. However, when the election result was published, market uncertainty decreased sharply and even went below the levels 10 days before the elections.

This is consistent with the empirical results of Goodell & Vähämaa (2013), who studied the correlation between the U.S presidential elections and stock market volatility between 1992 and 2008. They demonstrated that stock market uncertainty increases as the Election Day approaches. Investors, who become more certain about the election results, develop expectations about future macroeconomic policies and adapt their portfolio accordingly. The VIX Index mirrors this behaviour around the 2016 U.S. presidential elections as well.

5.2. 2012 U.S. Presidential Elections

Table 3. Abnormal returns and cumulative abnormal returns for six major world indices around the 2012 U.S. Presidential Elections. The event date is 07.11.2012.

Indices/Markets	Event-day AR	T= -2 to +2 CAR	6-day CAR	11-day CAR
S&P 500	-2.46***	-2.74**	-5.58***	-3.27***
	(0.80)	(1.16)	(0.90)	(1.08)
Dow Jones Industrial	-2.43***	-2.32**	-5.44***	-3.53***
	(0.73)	(1.16)	(0.86)	(1.00)
NASDAQ Composite	-2.57***	-2.92**	-5.99***	-3.53***
	(0.95)	(1.23)	(0.94)	(1.17)
EURO STOXX 50	-2.31*	-2.88***	-2.76***	-1.09
	(1.39)	(1.06)	(0.95)	(1.23)
Hang Seng Index	0.62	-3.76***	-2.81**	-2.84***
	(1.09)	(1.02)	(1.23)	(1.14)
Nikkei 225	-0.06	-3.45***	-3.07***	2.39**
	(1.03)	(0.52)	(0.57)	(1.15)

Standard errors are in parentheses

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3 presents the abnormal returns for six major world indices on their first trading day after the 2012 elections, which was the 7th of November 2012. In addition, the CARs for the T = -2 to +2, 6-day and 11-day event windows following the 7th of November are presented. Figure 8 illustrates the daily abnormal returns over the window from T = -10 to T = +10.

All three U.S. indices experienced a relatively large and statistically significant negative abnormal return at the 1% level on their first trading day after the 2012 elections (around -2.5% per index). The CARs were also negative and statistically significant throughout all three event windows (at the 5% level for T=-2 to +2 and 1% level for the 6-day and

11-day event windows). All three U.S. indices examined behaved very similarly in terms of abnormal returns, which can be seen from figure 7. Therefore, diversifying across different U.S. indices did not seem to offer any advantages around the 2012 elections. These findings suggest that the 2012 elections had a significant short-term effect on the U.S. stock markets, and that Barack Obama's victory was not regarded as positive news for investors. However, it should be noted that during the time, the markets were also worried about the approach of the so-called fiscal cliff, which would potentially have massive implications on government spending and taxation. The markets anticipated that the democratic victory might mean bigger tax increases and more cuts in defense budgets and other government expenditure. This most likely played a big role in the market drops that were seen after it became clear that Obama and the Democrats would rule the white house for another four years. This resonates with previous literature on both the political business cycle theory and market sentiment around presidential elections. Markets were expecting restrictive macroeconomic policies to take place during the forthcoming Democratic mandate, thus resulting in negative abnormal returns in domestic stock market indices.
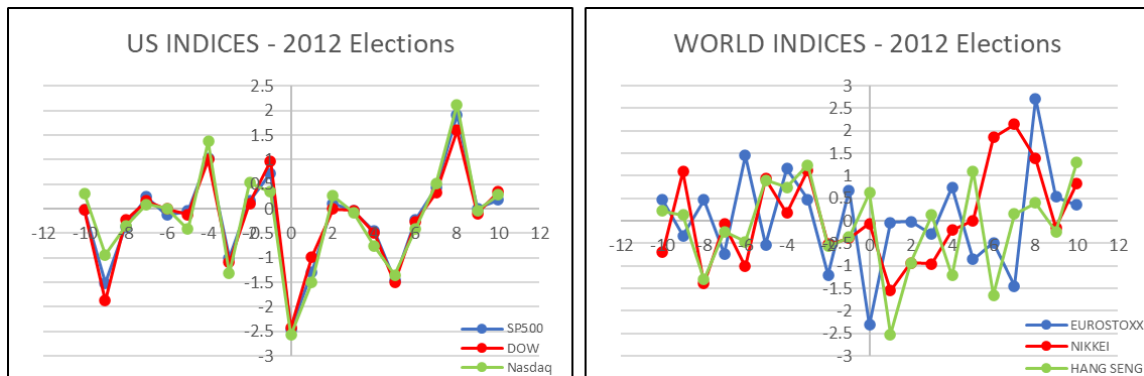

Figure 7. Daily abnormal returns around the 2012 U.S. Presidential Elections - U.S. Indices vs World Indices.

European markets experienced somewhat similar abnormal returns than their U.S. counterparts, but at least partly for different reasons. The EUROSTOXX 50 index exhibited a -2.31% abnormal return on its first trading day after the 2012 elections. The CARs were also negative on all three event windows (statistically significant on the T = -2 to +2 and 6-day event windows at the 1% level). However, the markets received some

worrying economic data regarding the Eurozone and especially Germany the same day, which contributed to the poor performance of European markets.
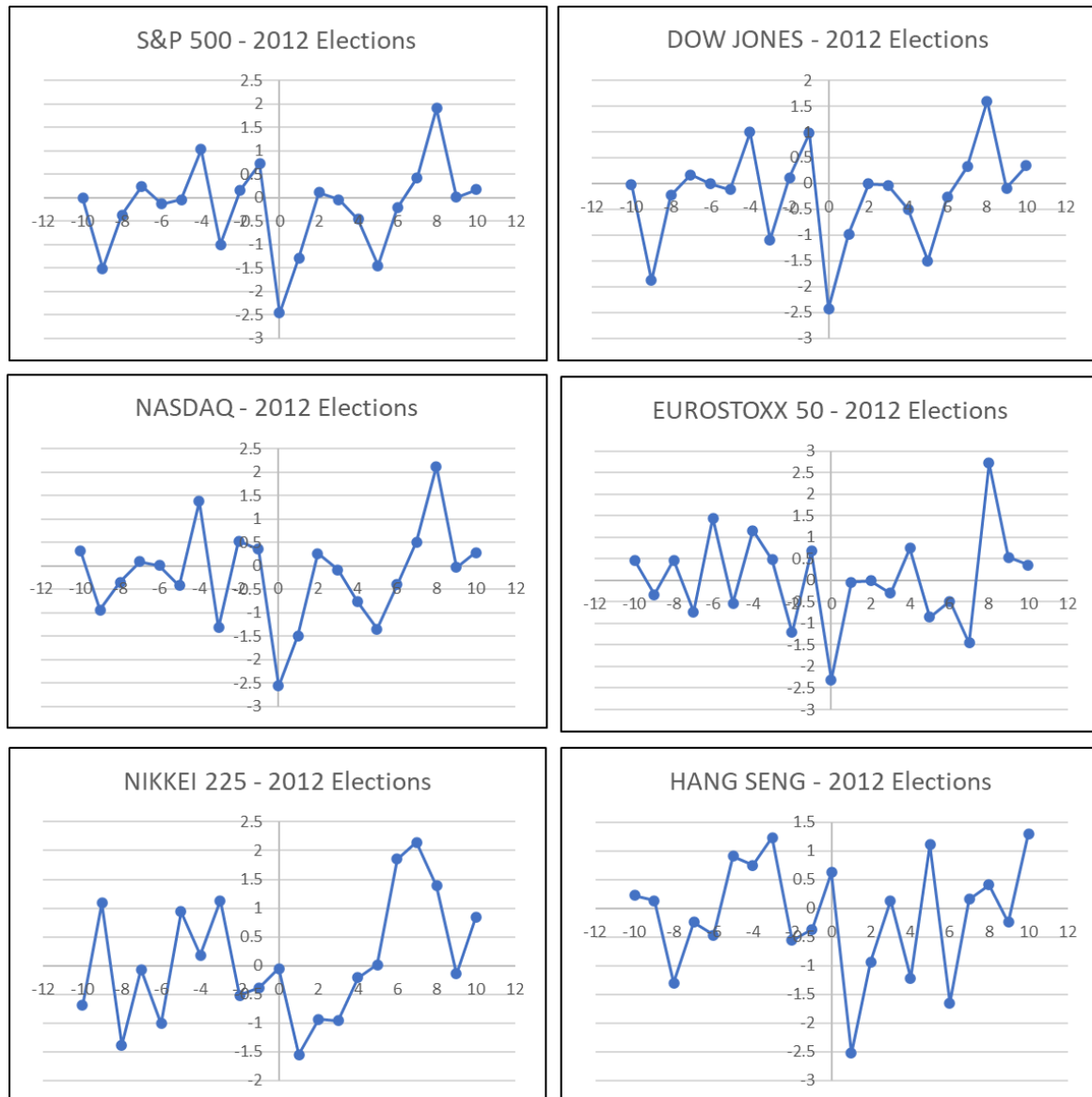
Figure 8. Daily abnormal returns around the 2012 U.S. Presidential Elections for six major world stock indices.

Asian indices were relatively volatile around the 2012 elections. Neither Hang Seng nor Nikkei 225 had a big swing on their first trading day after the elections. However, Hang Seng's CARs were negative and statistically significant for all three event windows. Nikkei 225, on the other hand, experienced negative and statistically significant CARs during the T = -2 to +2 and 6-day event windows at the 1% level. During the second half

of the event window, the ARs turned positive leaving the 11-day CAR positive and statistically significant at the 5% level. As can be seen from figure 6, almost all indices examined exhibited negative abnormal returns initially, but the market sentiment turned around approximately 7 days after the elections. All in all, the results suggest that the 2012 elections had a negative short-term impact on the stock markets.

Table 4. Abnormal returns and cumulative abnormal returns of three US industry indices around the 2012 U.S. Presidential Elections. The event date is 07.11.2012.

Indices/Markets	Event-day AR	T= -2 to +2 CAR	6-day CAR	11-day CAR
Aerospace & Defense	-3.14***	-2.34	-6.15***	-3.47**
	(0.92)	(1.61)	(1.39)	(1.41)
Healthcare	-1.74**	-2.12**	-4.00***	-1.63
	(0.71)	(0.88)	(0.82)	(0.91)
Financial Services	-3.59***	-4.10***	-7.50***	-5.17***
	(1.12)	(1.52)	(1.23)	(1.33)

Standard errors are in parentheses

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4 presents the abnormal returns for aerospace & defence, healthcare and financial services sectors on their first trading day after the 2012 elections. CARs for the T = -2 to +2, 6-day and 11-day event windows are also presented. Figure 10 illustrates the daily abnormal returns for these industries over the window from T = -10 to T = +10. Opposite to the 2016 elections, all three industry indices exhibited statistically significant negative ARs on their first trading day after the elections. The aerospace & defense index had a -3.14% abnormal return, healthcare index a -1.74% AR and the financial services index a -3.59% AR. In addition, all three industries experienced negative CARs throughout all three event windows, many of the CARs also being statistically significant. This is again in line with the hypothesis that regulation-sensitive industries react negatively to Democratic presidential election winners.
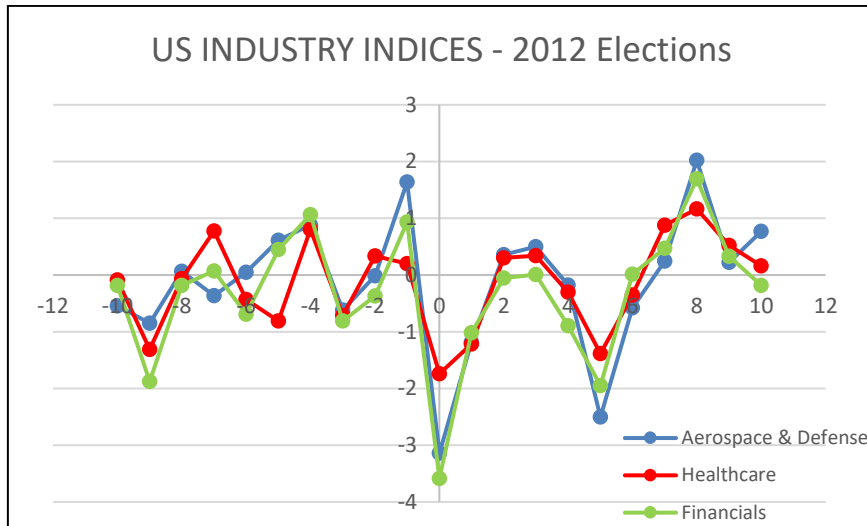
Figure 9. Abnormal returns around 2012 U.S. Presidential Elections – industry indices.

5.3. 2008 U.S. Presidential Elections

Table 5. Abnormal returns and cumulative abnormal returns for six major world indices around the 2008 U.S. Presidential Elections. The event date is 05.11.2008.

Indices/Markets	Event-day AR	T= -2 to +2 CAR	6-day CAR	11-day CAR
S&P 500	-5.21***	-2.99**	-15.37***	-19.90***
	(2.15)	(3.92)	(2.98)	(3.88)
Dow Jones Industrial	-5.01***	-3.30	-13.97***	-16.60***
	(2.00)	(3.64)	(2.89)	(3.70)
NASDAQ Composite	-5.50***	-3.40	-16.01***	-22.86***
	(2.21)	(3.56)	(2.75)	(3.75)
EURO STOXX 50	-1.38	1.67	-12.26***	-15.49***
	(2.24)	(3.98)	(3.19)	(2.98)
Hang Seng Index	3.43	3.49	-1.30	-8.16**
	(2.72)	(4.01)	(4.26)	(3.74)
Nikkei 225	4.63*	-3.71	-3.07	-6.68*
	(2.50)	(5.22)	(4.41)	(3.75)

Standard errors are in parentheses

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5 presents the abnormal returns for six major world indices on their first trading day after the result of the 2008 elections was published, which was the 5th of November 2008. In addition, the CARs for the T = -2 to +2, 6-day and 11-day event windows following the 5th of November are presented. Figure 10 illustrates the daily abnormal returns over the window from T = -10 to T = +10.

As figure 11 illustrates, U.S. indices once again exhibit very similar abnormal returns around the presidential elections. The event-day ARs for all three were highly negative and statistically significant at the 1% level, which suggests that U.S. markets saw the result as negative news. The CARs were also negative and statistically significant during all three event windows at the 1% level. Nasdaq index slumped the most, experiencing a whopping -22.86% CAR during the 11-day window. This could indicate that the U.S. stock markets took the result badly. However, during the time, market volatility was very high due to the financial crisis, making it hard to tell what part of the negative abnormal returns were because of the elections and what part due to general market instability and negative sentiment.

European markets had a milder initial reaction, even though still negative. However, the 6-day and 11-day CARs followed their U.S. counterparts and were highly negative with a 1% statistical significance level. Hang Seng and Nikkei 225, on the contrary, had a large positive AR on their first trading day after the elections. The Asian indices experienced less negative CARs throughout all three event windows as well, the 11-day CAR being the only statistically significant one. Overall, the results suggest that U.S. markets saw the election result as negative news, whereas international markets were not impacted as much.
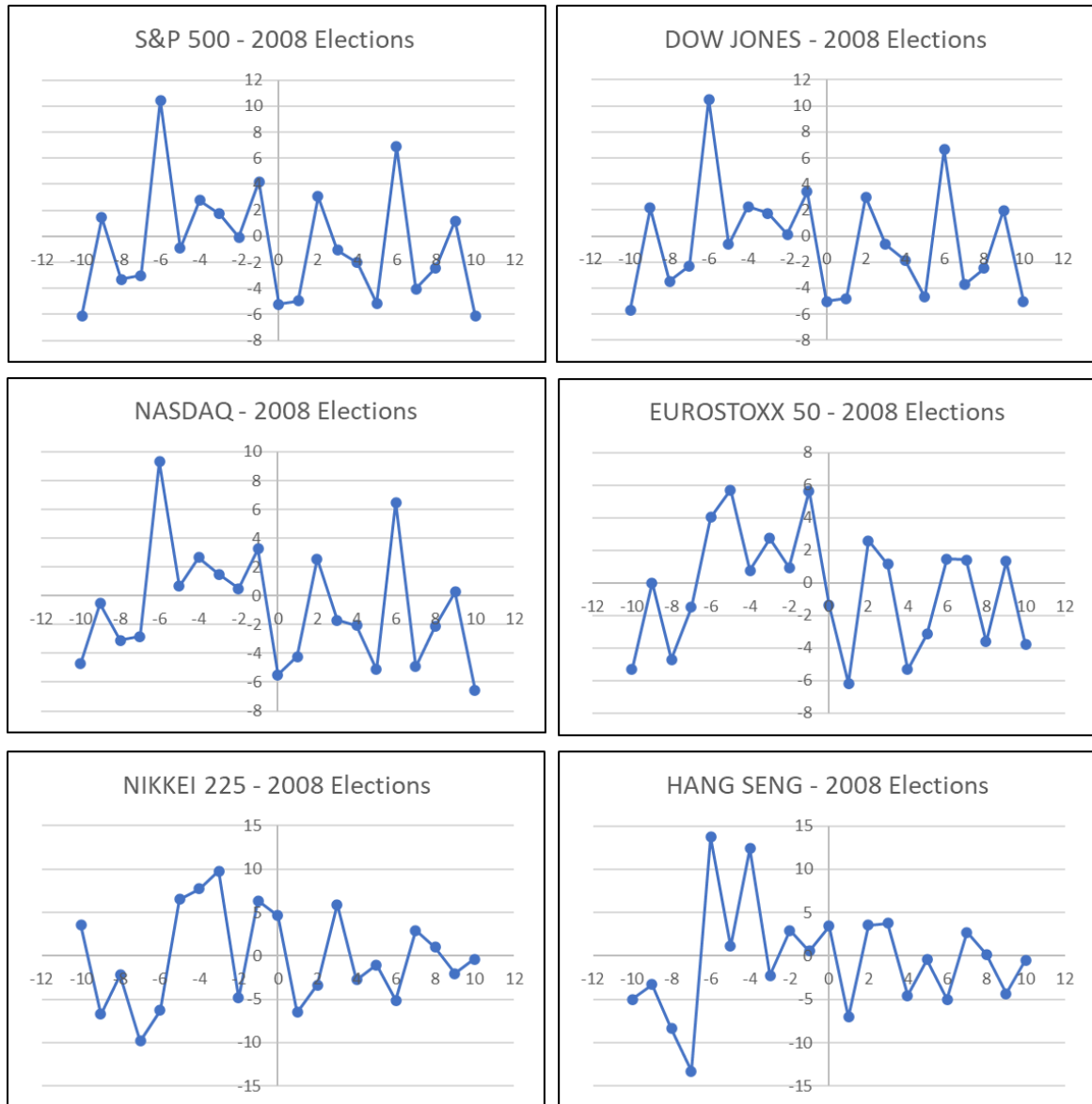
Figure 10. Daily abnormal returns around the 2008 U.S. Presidential Elections for six major world stock indices.
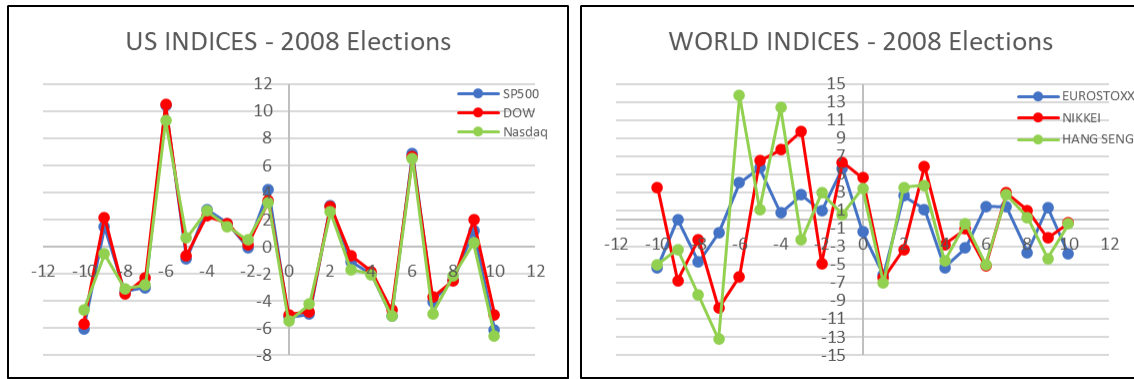
Figure 11. Daily abnormal returns around the 2008 U.S. Presidential Elections - U.S. Indices vs World Indices.

5.4. 2004 U.S. Presidential Elections

Table 6. Abnormal returns and cumulative abnormal returns for six major world indices around the 2004 U.S. Presidential Elections. The event date is 03.11.2004.

Indices/Markets	Event-day AR	T= -2 to +2 CAR	6-day CAR	11-day CAR
S&P 500	1.11	3.14***	2.84***	4.47***
	(0.71)	(0.63)	(0.67)	(0.65)
Dow Jones Industrial	1.03	3.65***	3.58***	5.27***
	(0.69)	(0.65)	(0.65)	(0.61)
NASDAQ Composite	1.00	3.29***	2.60***	5.86***
	(1.12)	(0.33)	(0.52)	(0.65)
EURO STOXX 50	0.19	2.22***	0.61**	2.32***
	(0.92)	(0.32)	(0.26)	(0.60)
Hang Seng Index	0.68	3.36***	2.75***	3.91***
	(1.06)	(0.62)	(0.55)	(0.77)
Nikkei 225	-0.01	2.61***	0.92*	2.10**
	(1.15)	(0.65)	(0.55)	(0.94)

Standard errors are in parentheses

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6 presents the abnormal returns for six major world indices on their first trading day after the 2004 elections, which was the 3rd of November 2004. In addition, the CARs for the T = -2 to +2, 6-day and 11-day event windows following the 3rd of November are presented. Figure 13 illustrates the daily abnormal returns over the window from T = -10 to T = +10.

Same as with previous elections that were examined in this study, U.S. indices behaved quite similarly. This is illustrated also in figure 12. The S&P 500, Dow Jones and Nasdaq all had an approximately one percent abnormal return on their first trading day after the 2004 elections. The CARs were also positive and statistically significant at the 1% level throughout all three event windows. These findings suggest that the 2004 elections had a short-term impact on U.S. stock markets, and that the victory of George Bush and the republicans was received positively by the markets. These results, in addition to those found from the 2016 presidential election, support the existence of a party effect, according to which stock markets are more favorable to the election of a Republican President than to a Democrat. In line with Niederhoffer et al. (1970) who demonstrated that stock prices increased on the days following the election of a Republican presidential candidate eight times out of nine before 1970, domestic markets rose twice out of three times a Republican was elected as President of the United States during the 21st century. On the contrary, this positive short-term effect did not happen following the Democrat victories of 2008 and 2012.
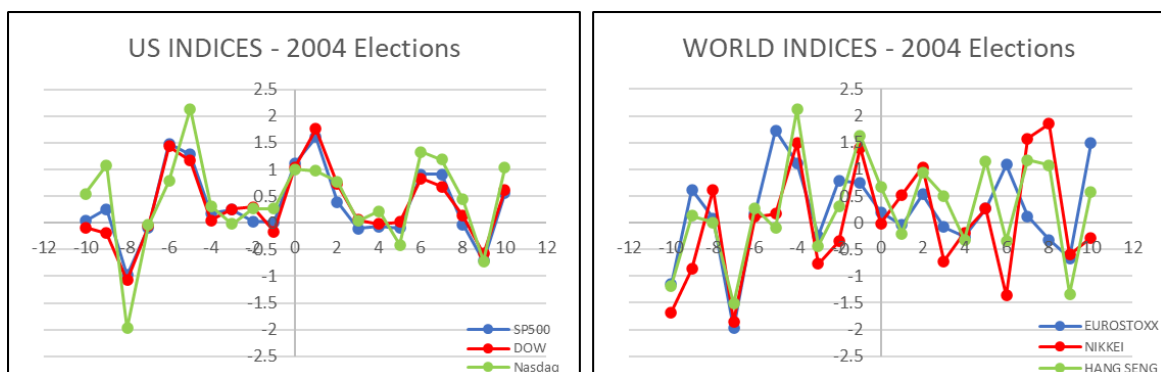

Figure 12. Daily abnormal returns around the 2004 U.S. Presidential Elections - U.S. Indices vs World Indices.

European and Asian markets had fairly similar results than their U.S. counterparts. The Eurostoxx 50 index exhibited a small initial abnormal return on the event day, and all three event windows had statistically significant positive CARs (6-day CAR at the 5% level, the two other windows at the 1% level). The Hang Seng index had a 0.68% abnormal return on its first trading day after the 2004 elections. The CARs were also positive and statistically significant at the 1% level throughout all three event windows. Nikkei 225, on the other hand, had a small -0,01% AR on the event day, but CARs during all three event windows were positive and statistically significant (at the 1%, 10% and 5% levels). Altogether, the results suggest that the 2004 U.S. presidential elections did have an impact on both U.S. and world markets, and that the news of Bush and the Republicans winning the elections was received positively. Also, the results from the 2004 elections further imply that investors cannot find diversification against domestic political risk from U.S. stock markets.
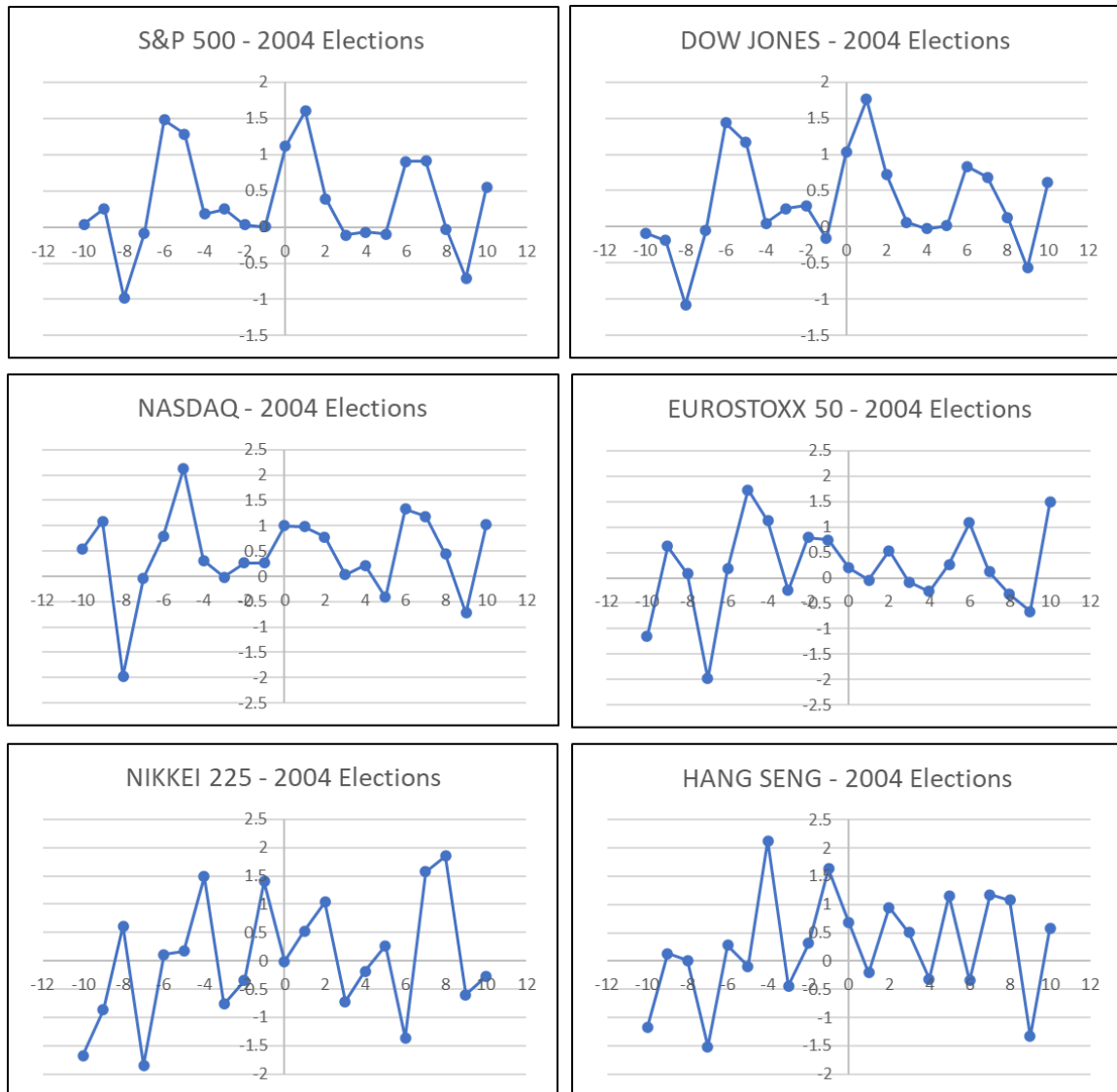
Figure 13. Daily abnormal returns around the 2004 U.S. Presidential Elections for six major world stock indices.

5.5. 2000 U.S. Presidential Elections

As mentioned earlier, the 2000 U.S. presidential elections had a distinctive element compared to other elections. For the first time in the U.S. modern history, it took more than five weeks for a winner to officially emerge. U.S citizens went to the polls on November 7, 2000. Usually, the final results would be announced by the end of the following day the latest, but this time George W. Bush didn't emerge as a clear winner until December 13th the same year because the election was so tight that it required vote recounts. Nippani & Medlin (2002) examined the impact the late declaration of the U.S. Presidential Election winner had on the stock markets at the end of 2000. They found that the delay had a negative short-term impact on U.S. stock markets. In this study, the first trading day after the results were finally clear is examined to see if there was another market reaction at that point.

Table 7. Abnormal returns and cumulative abnormal returns for six major world indices around the 2000 U.S. Presidential Elections. The event date is 13.12.2000.

Indices/Markets	Event-day AR	T= -2 to +2 CAR	6-day CAR	11-day CAR
S&P 500	-0.82	-4.30***	-8.07***	-2.71*
	(1.36)	(0.96)	(1.22)	(1.58)
Dow Jones Industrial	0.27	-2.50***	-4.11***	1.21
	(1.28)	(1.03)	(1.54)	(1.46)
NASDAQ Composite	-3.77	-9.38***	-22.73***	-13.41***
	(3.00)	(2.62)	(1.90)	(3.69)
EURO STOXX 50	-1.17	-3.57***	-6.40***	-4.68***
	(1.36)	(1.28)	(1.68)	(1.50)
Hang Seng Index	1.90	-1.37	-2.58	-3.77***
	(1.87)	(1.89)	(1.78)	(1.43)
Nikkei 225	-0.65	1.35	-6.12***	-7.06***
	(1.40)	(1.22)	(1.27)	(1.92)

Standard errors are in parentheses

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7 presents the abnormal returns for six major world indices on their first trading day after the result of the 2000 elections was declared, which was the 3rd of November 2000. In addition, the CARs for the T = -2 to +2, 6-day and 11-day event windows following the 13th of December are presented. Figure 14 illustrates the daily abnormal returns over the window from T = -10 to T = +10.
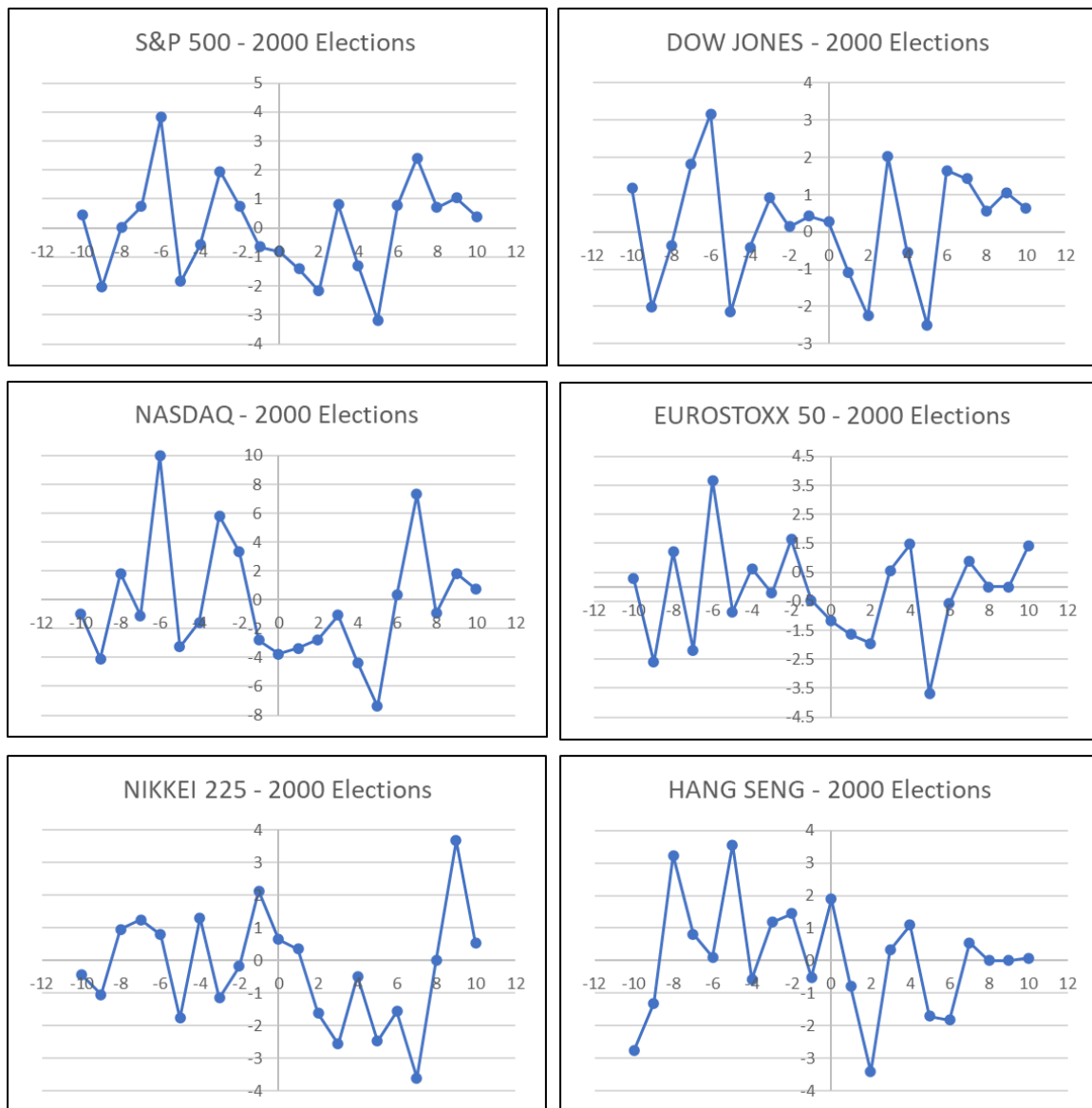

Figure 14. Daily abnormal returns around the 2000 U.S. Presidential Elections for six major world stock indices.

As can be seen from table 7 and figure 14, U.S. markets performed rather poorly after the election result was announced. S&P 500 had negative CARs throughout all three event windows with a statistical significance of 1% for the two first windows. However, the U.S. markets started to rebound approximately six days after the event day. Dow Jones also had statistically significant negative CARs during the two first event windows but had an even stronger rebound bringing the 11-day CAR back to positive.

Nasdaq, on the other hand, had a similar trend than the S&P 500, but the negative CARs following the event day were even bigger. The event day AR for Nasdaq was negative (-3.77%) and CARs during all three event windows were also negative and statistically significant at the 1% level, even though Nasdaq also started to rebound around six days after the event day. However, because of the burst of the so-called dot-com bubble, Nasdaq was very volatile during the period, making it harder to analyze the potential effects of the elections. European and Asian indices behaved somewhat similarly than the U.S. indices, exhibiting mainly negative returns. The Eurostoxx 50 experienced statistically significant negative CARs during all three event windows at the 1% level. Overall, the results indicate that the markets did have a short-term negative reaction to the election announcement, but since the markets were volatile at the time, it is hard to make definite conclusions.

6. CONCLUSIONS

A substantial body of literature shows that political uncertainty has an impact on both stock market returns and risk levels. In developed countries, presidential elections are considered as one of the most influential political events. Therefore, it is intuitively plausible that presidential elections might have an effect on stock markets as well. The importance of U.S. Presidential elections is further bolstered due to the profound status of the United States in the global world, and the fact that the office of the President has a lot of power in the U.S. compared to most developed countries.

This thesis contributes to existing literature by examining the short-term effects that U.S. presidential elections have on the stock market. Elections from 2000 to 2016 are studied. A special focus is placed on the 2016 U.S. presidential elections, due to their particular nature and because they are the most recent elections. The event study methodology is employed to examine the stock market's reaction. Daily price data from six major world indices is used. The indices are the S&P 500, Dow Jones Industrial Average, NASDAQ Composite, EUROSTOXX 5O, Nikkei 225 and the Hang Seng index.

The overall results imply that U.S. presidential elections do have a short-term impact on the stock markets. Regarding stock market returns, this impact seems to be stronger for domestic markets. U.S. indices also exhibit very similar abnormal returns around each election period under examination. Foreign markets, on the other hand, seem to exhibit more mixed results. European and Asian indices tend to experience larger than normal abnormal returns and increased market volatility around and following the elections, but this impact is not as clear as in the U.S. markets. In general, European markets seem to follow their U.S. counterparts more accurately than Asian markets.

The findings of this study seem to give some level of support to the idea that the markets prefer Republicans over the Democrats. From the five elections examined, three winners were Republican and two Democrats. The markets reacted negatively to both Democratic victories (2008 and 2012). From the three Republican election winners, two were received positively by the markets and only one had a negative short-term impact. It was

hypothesized that industries that are sensitive to government policies and regulations would prefer the Republicans. Measured by the reaction of aerospace & defence, healthcare and financial services sectors, this seems to be the case. These three industries all exhibit strong gains when a Republican candidate wins the elections, and negative when a Democrat wins.

These findings have the following implications for investors. Firstly, diversifying across U.S. markets won't help protect against election induced uncertainty. International diversification, on the other hand, seems to offer some advantages. Especially Asian markets appear to react differently to the presidential elections, sometimes even opposite to U.S. markets. Secondly, some industries are more sensitive to political events, which should be taken into account by investors who own shares of such companies. For example, investors who have invested in the defence, healthcare or financial services sectors might want to rebalance their portfolios before presidential elections. Overall, the empirical findings of this study indicate that political risk and U.S. presidential elections have an impact on the stock market, and that taking elections into account when making investment decisions may be beneficial.

Compared to previous research, the results of this thesis do not highlight major differences that could be attributed to the recent digitalisation of global markets and economies. Therefore, future research ideas could include examining how the social media activity and online influence (e.g. Twitter activity) of presidents and other world leaders impact the stock markets. This form of political risk is a relatively new phenomenon, and it could reveal interesting findings. Also, the effects of U.S. presidential elections on international stock markets are still not understood well enough. Therefore, further research on the topic is still needed.

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