Exploring Black-Swan Events and G20 Stock Markets Behaviour: Evidence from US Presidential Elections

Testing the impact of US presidential Elections on G20 Stock Markets

Author: Lounis Demanet
Student number: 613008
Thesis supervisor: Amar Shoebhag
Second reader: Phillip Messow
Finish date: 30-06-2024

The views stated in this thesis are those of the author and not necessarily those of the supervisor, second reader, Erasmus School of Economics or Erasmus University Rotterdam.

ABSTRACT

Over the last century, the establishment of globalization and strong technological advancements have led to an ever-increasing interconnectedness across countries and financial markets. Implying that shocks, such as political events may have a widespread effect across the globe, as it has been shown in the past. Building upon this, this research examines the potential impact of US presidential elections on world economies using G20 stock markets as a proxy; and by using an event study methodology. This method was employed with the use of a complementary CAPM model to calculate the abnormal returns compared to the actual returns observed following the 2016 and 2020 US election nights. We observed significant abnormal returns in several G20 equity markets following both Trump's victory in 2016 and Biden's victory in 2020. The findings suggest the importance of US political influence on global financial markets and the interconnectedness nature of world economies. At last, this research contributes to the understanding of international market dynamics and the significant impact of US presidential elections on international financial markets.

Keywords: Event Study Methodology, Financial Markets, US Elections, Abnormal Returns, Efficient Market Hypothesis

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 Introduction

In today's world, globalization and technological improvements have significantly increased the interconnectedness of countries and financial markets. Shocks are spreading internationally faster than ever before, impacting stock exchanges worldwide. The upcoming US election in November 2024 could highlight this contagion effect and drastically change the global economic landscape once more. Academic literature has defined those events that impact globally stock markets as 'black swan' events, including wars, financial crisis, health crisis, natural disasters, elections and terrorism attacks (Yousaf et al., 2022). This paper aims to investigate the impact of past US presidential elections on the global financial sector, focusing on G20 economies.

Academic literature has highlighted a strong correlation between US stock markets and presidential cycle. Wong and McAleer (2009b) found that US stock prices closely followed the 4-year Presidential Election Cycle with significant different results between Democrats and Republicans Presidents. Those results are no surprise to investors as Presidents have a great impact on the state of the economy and international relationships. It is important to note that the 4-year presidential cycle has been widely discussed in academic papers, whereas most findings results in similar significant theory of lower returns during the first half of the term as newly elected presidents often need to take necessary and/or unpopular steps towards achieving economic goals while returns are found to be greater during the second term of the mandate as the leading party prepare for a new run-up to presidential elections (Wong & McAleer, 2009b, Gärtner & Wellershoff, 1995b). Additionally, researchers have found an indirect consequence of US elections over the stock market returns expressed through expected dividends. Blanchard et al. (2018) found that half of the run up of the S&P500 in 2017 can be explained through the prediction of the corporate tax cut mentioned by Trump's party during its electoral campaign; leading to an expected increase in dividends payout for investors and consequently an increase in demand and prices of stocks. Those results are conclusive with Fama (1965)'s findings on the correlation between stock prices and future economic activity.
On the other hand, Jones and Banning (2008b) found the relationship between monthly stock returns and US elections to be little, meaning that US elections only explain a small variation in stock returns.

While academic papers have mainly focused on the relationships between US elections and national stock markets or specific industries, there is a lack of comprehensive research on the international impact on world financial markets. Additionally, empirical evidence has shown that the US has a strong influence on the international scene (Dées & Saint-Guilhem, 2010), hence we want to explore how different agents react to US shocks.

This paper will use an event study methodology and analyze abnormal returns around elections date to find significant results. Abnormal returns are calculated based on the capital asset pricing model (CAPM) and on a period of 125 days before the election night. This year's upcoming American elections

are between Trump representing the Republicans and Biden for the Democrats. Hence, we decided to study the abnormal returns following the previous victory of both candidates running for re-elections, namely 2017 for Trump and 2021 for Biden. Summing up, we believe that studying these two events can lead to new hypotheses regarding the impact of US elections on international financial markets, leading to the research question:

How and to what extent US elections impact G20 stock markets returns?

The data will be derived from the MSCI ACWI index (All Country World Index) and individual G20 country stock markets. This study will calculate the daily expected returns using an OLS model and compare them to actual returns to assess the abnormal returns. The two key event dates analyzed are November 8th, 2016, for Trump's election and November 9th, 2020, for Biden's election. We chose the election night which occurs before the beginning of their mandate rather than the beginning of their presidency because it represents better the market reaction to the uncertainties following the announcement of the future president. Furthermore, to identify if some continents were impacted more than others, the different unexpected returns of each stock exchanges will be pooled into one observation per continent, such as having information for North America, South America, Europe, Asia, and Middle East and Africa.

By focusing on the G20 stock markets, this research adds a new layer to the academic understanding of how US political matters influence global economies. We chose to analyze G20 economies as a proxy of the world's reaction as they represent a significant portion of the world's population, trade, and economy. According to the World Economic Forum (2022) the G20 includes up to 65% of the world's population, 84% of the world's economy and 79% of total international trade. Studying the results on G20 stock markets therefore brings more significance to the scientific debate regarding the impact of US elections to global financial markets.

Presidential elections are known for increasing uncertainty over economic policies, and rising uncertainties often lead to a decline in the stock market. Surprisingly, after Trump's victory in 2017 the US market measured with the S&P500's returns were up by about 25% (Blanchard et al. 2018). Therefore, this study expects to find significant abnormal returns around US election dates, with variations potentially influenced by external variables including the current state of the economy, interest rates, and trade agreements with the US.

Further discussion could explore deeper why some countries are more affected than others by the results of the US elections. This paper will open a plethora of new discussions and add-ons research on the impact of one president and its policies regarding international cooperations and economical relationships between other independent states and the US.

CHAPTER 2 Theoretical Framework

2.1 Market interconnectedness & G20 Stock Markets

Constantly growing, financial markets have over the years developed into a cross-border system involving different parties around the globe. In recent years, financial crisis, COVID pandemic, wars and other events categorized as black-sawn events have shown the contagion and dependency issues our society is nowadays facing. In their paper, Raddant and Kenett (2021) measured the interconnectedness of financial markets by calculating the volatility of stock returns in 15 different countries. Their empirical results suggested the interconnectedness between countries and sectors. They found interrelation between financial sectors and other asset classes such as commodities, where financial shocks will over time spread to the energy and material sector. It is important to note, this contagion effect between countries and asset classes is not necessarily negative. Martinez-Jaramillo, S., et al. (2019) found a duality in the dependency of financial markets, meaning that contagion effects following a financial shock can either be amplified and spread around countries or the negative shock can be absorbed by other economies reducing its initial impact.

Sun and Chan-Lau (2017) suggested that interconnectedness could be a source of systematic risks. They based their evidence on the 2008 crisis being a results of a highly interconnectedness in the financial market, with factors from that crisis similar to interconnected risks such as: (1) Increased cross-border interaction, facilitating universal spillovers, (2) growing use of complex financial instruments, leading to the enlargement of default losses, (3) Investment homogeneity from different agents' behaviour inflating common reactions and creating a domino effect. Following this rational and the United States of America being an immensely affluent country in global alliances it could be expected to find American uncertainties in other stock markets. Moreover, Baele (2005) found a strong impact of US spillovers over European equity market, and evidence of US contagion effect over European markets in times of highly volatile equity market. Strengthening this hypothesis of interconnectedness being a source of systematic risk, Lo Duca and Peltonen (2013) developed an econometrical model to assess and forecast systematic risks and events based on both domestic and international factors. The model builds on variables at a country-level and international-level such as currency exchanges and national current account deficit.

Other scholars have explored the possibility that highly correlated movement in national stock markets could be due to something else and not necessarily the result of a contagion effect (Forbes & Rigobon, 2002). They believe that limiting the results to a contagion effect is biased and should control if the market studied showed a high degree of co-movement beforehand and if that high correlation increased significantly after a shock. Therefore, if the two markets showed a high degree of correlation but did not increase in co-movement following a shock, this would mean that the two markets were just highly correlated in all states of the world and dismiss the theories on financial contagion. Adding to the

contagion and interconnectedness theories, we will analyse previous research that have studied the impact of politics on stock returns.

2.2 The Political Business Cycle Theory & US Elections

The concept of Political Business Cycle (PBC) is a very popular theory introduced by Nordhaus in 1975, where politicians are found to influence economic policies in order to be re-elected. This results in an economic cycle following elections, where the economy is growing before elections and suffers post-elections from negative consequences of the expansionary policies employed beforehand. In his work Nordhaus (1975) develops a model to represent those cyclical patterns highlighting politicians prioritizing short-term economic gains over long term stability to win votes. He supported his claims with empirical evidence from economic indicators such as unemployment and inflation rates exhibiting patterns consistent with the electoral cycle. For example, politicians were found to engage in expansionary fiscal and monetary policies before elections to create favourable economic conditions such as low unemployment rate but then after elections the US economy was going through a period of high inflation and budget deficit. Nonetheless, scholars have highly debated if policies influence the economy or if economic shocks influence policies. Blomberg and Hess (2003) mentioned this gap in opinion between experts where some firmly believe that political shocks are the primary reason of economic fluctuations (the political business cycle) and where some believe that instead economic movements are driven by real shocks (the business cycle). In the model build, politicians are opportunistic and change their policy intentions in function of the economic situation to gain the majority of voters (Nordhaus, 1975), which follows closely the theory of economic shocks influencing policies. Yet, Blomberg and Hess (2003) found consistent and significant results in favour of the PBC. Meaning that, we can expect to find in our research abnormalities in returns following US elections night. Yet, after finding empirical evidence that the difference in returns following US political cycle was unexpected Santa-Clara and Valkanov (2003) mentioned that the extent to which economic policies can impact returns is due to the differences in policies between parties that could have surprised investors. They assumed that if the market expected a difference in returns, we should then be able to identify a strong price adjustment around elections dates when the winning party is announced. Yet, they do not observe any movement in prices which is consistent with their findings that the difference in returns is unexpected by stock market agents.

Indeed, Santa-Clara and Valkanov (2003) discovered a significant difference in market performance based on whether a Republican or Democrat president is in office. They found a difference of 16% higher abnormal returns during Democrats' presidency rather than Republicans. The difference in returns they found is mostly from unexpected returns than expected returns as expected returns are based on predicted components such as macro variables associated with the business cycle. Unlike other academic papers, those excess returns were not concentrated around elections date. Hence, we have mitigated expectations of finding significant abnormal returns around election date as different papers

have different findings regarding when the impact of the newly elected president is passed to stock markets. Moreover, we could expect to have different reaction on an international level between Trump and Biden victory as other studies have also found similar results where the economy seems to expand more early under Democratic Presidents and vice versa under Republican Presidents (Blomberg & Hess, 2003). Yet Biden's administration decided to continue with the nationalistic policies that Trump put in place during his term (Schoenbaum, 2023). As we know that in 2016, Trump's slogan was to "Make America Great Again" and thus focusing on American industry rather than international cooperation. We, therefore, suppose to find a stronger negative reaction in aggregate abnormal returns (AAR) and cumulative aggregate abnormal returns (CAAR). Schneider-Petsinger (2019) analyzes how Trump's nationalist policies led to a deterioration of the transatlantic trade agreements between Europe and the US. Trump increased import tariffs on European goods which impacted negatively global trade agreements as well as brought more volatility and uncertainties in international markets with his aggressive policies. Similarly, Biden who had very different policies than Trump on many areas decided to keep the same strategy regarding international trade (Schoenbaum, 2023).

2.3 Event Studies and Abnormal Returns

'An event study is the name given to an empirical investigation of the relationship between security prices and economic events' states Strong (1992). The objective of this methodological approach is to identify the extent to which a certain event has an effect in the price behaviour of an asset class. This has two major assumptions, first that the event information will be priced in, meaning it will influence a security's price. Second, that no other third variable impacts return during the event window. MacKinlay (1997) findings suggest that event studies are useful and significant for evaluating the impact of economics event on stock prices. To reduce the risk of omitted variable bias, it is suggested by scholars to keep a short event window (Armitage, 1995, Ullah et al., 2021, McWilliams & Siegel, 1997). For the hypothesis testing, we are exploring a null and alternative hypothesis as they are the most common in event studies according to Strong (1992).

Unlike other papers, Jones and Banning (2008) find that US elections only significantly explain a small variation in stock returns, or Forbes and Rigobon (2002b) highlighting a difference between contagion and already pre-existing interdependencies between markets. Meaning that what appears to be contagion is just the continuation of established high co-movement and when testing against the biased of correlation coefficient they found little evidence of contagion. We could then expect other factors to influence stock market movements but will test the first hypothesis to be:

H1: US election night has a significant impact on G20 stock markets.

Following Girardi (2020)'s study financial markets tend to respond differently depending on whether a Republican or Democrat politician wins the American presidential elections. The results show a negative

shock on stock market returns following a Democrat victory, and the amplitude of the decrease varies depending on the strength of the expected policies proposed by the left-wing party. Meaning that the more radical are the proposed economic policies the more severe and persistent is the decrease in equity returns over time. This combined with a short window period to minimize the risk of external variables lead us to the second hypothesis:

H2: The effect of US elections on G20 stock market varies depending on the partisan outcome (Republican vs Democrat).

Studying the unexpected returns following both Biden and Trump victory allows us to speculate on their position worldwide. It provides us with indicators on how both presidents and partis are perceived by economic agents around the globe. The results of this paper will, however, give a suggestion and not a final answer regarding the impact of both party on world economics. In order to have a deeper understanding of the relation between those two presidents and world economies further research should control for economic situation globally and at the country level, as well as the offered policies both presidents were promoting.

CHAPTER 3 Data

To study the abnormal returns of global stock markets following US elections we used the election night as the event date. Following Chien et al. (2014) hypothesis that movement in the stock market represents investor's reaction to news and people's perspective of the future economy. We decided to use the election night instead of the beginning of the candidate's terms which starts a few months later as the information is already priced in. Hence, by election night actors on the stock market already know who the next president will be. For Trump's victory in 2017, the event date is November 8th, 2016. For Biden's victory the election night was November 3rd, 2020, however due to delays in counting votes in major states the official results were only available on Saturday 7th of November. Hence, we selected Monday 9th of November 2016 as the event date for Biden's victory. Regarding the time zone difference and closing hours of the national stock markets, the event date varies between November 8th and November 9th, 2016. It is not the case in 2021 with Biden's victory, where the first trading day following the results of the election night was Monday 9th of November for all observed stock markets. Major states also known as 'swing states' are the key indicator to forecast the next president. Swing states represent the states that are not historically attached to one party, and hence where running candidates from both parties spend most effort. For example, the state of Texas is not a key state as it is no surprise to US citizens that Republicans will win, vice versa for California with democrats. Hence, the results from those states are already expected by speculators, while on election night the results from key states are counted and reveal who is most likely to win. Based on (MacKinlay, 1997, Sayed & Eledum, 2021 & Yousaf et al., 2022) papers, an estimation-window of 120 trading-days will be used as they found it to be sufficient to create a benchmark for normal returns. In order to have a global overview of the impact of US elections on world economies, the alliance of G20 countries is used as a proxy. The G20 countries is a mix of the world's largest advanced and emerging economies, representing 65% of the population, 80% of world trade and 84% of the world economy in 2022 (World Economic Forum, 2022, G20 Turkey, 2015) The G20 countries include 19 independent member states and the European Union as the 20th member. Spain is also observed as part of the G20 countries even though they are not actually part of the alliance, however, they are considered as a permanent guest. Moreover, we segmented the stock market of the G20 countries by region (Asia, Europe, North America, Latin America, and Middle East & Africa) for the purpose of conducting an event study analysis. This will provide us with more insight at both the country level and regional level effect.

CHAPTER 4 Method

Following (MacKinlay, 1997, Sayed & Eledum, 2021 & Yousaf et al., 2022) papers, normal returns are calculated using 120 days period prior to the event date. Furthermore, as academic findings suggest, the OLS market model is the most accurate for event study approach (Dyckman et al., 1984). Hence, the normal expected returns, $E(R_{it})$ is calculated given the OLS market model formula displayed below:

$$E(R_{it}) = a_i + \beta_i R_{mt}$$

Where R_{mt} represents the daily data of the MSCI ACWI index (All Country World Index) on day t, and it is used as the returns benchmark. The ACWI is used as a benchmark as it represents the market capitalization-weighted index, offering a broad overview of equity market throughout the world. Like the G20, it covers various developed and emerging markets. To determine alpha, we used the daily Fama-French 3 factor research risk free rate, and calculated the corresponding beta to each country with the formula displayed below:

$$\beta = \frac{Covariance(R_{it}, R_{mt})}{Variance(R_{mt})}$$

Where, we compared the daily returns of each country's ETF (R_{it}) to the world benchmark, the ACWI (R_{mt}). All returns were hedged to USD by using the exchange rates between the US and the different indexes. To calculate the actual daily return of the sample of indices we used the following formula:

$$R_{it} = LN\left[\frac{P_{it}}{P_{it-1}}\right]$$

The logarithm of returns is used as it provides comprehensive results for analyzing returns is more robust to outliers (Ultsch, 2009). In the formula displayed above, P_{it} is the price of the selected index i on day t, and P_{it-1} is the price of the selected index one day before t.

To calculate Abnormal returns (AR) we compare the expected returns we obtained to the actual returns for each index i on day t.

$$AR_{it} = [R_{it} - E(R_{it})] \times 100$$

Cumulative abnormal returns (CAR) are obtained by summing the returns over the event window from Γ_1 which represents day t-5 to Γ_2 which is t+5:

$$CAR_i(\Gamma_1, \Gamma_2) = \sum_{i=1}^{N} AR_{it}$$

To measure and assess the common reaction of the different economies to the event, the aggregate of abnormal returns (AAR) and cumulative aggregate of abnormal returns (CAAR) are calculated by taking the average of each daily abnormal returns in the event window (t-5 to t+5):

$$AAR_t = \frac{1}{N} \sum_{i=1}^{N} AR_{it}$$

Where, AAR_t shows the average abnormal returns on day t and N is the number of indices. Ultimately, to calculate the cumulative aggregate of abnormal returns (CAAR) we use the same formula as before, but with AAR_t instead:

$$CAAR_i(\Gamma_1, \Gamma_2) = \sum_{i=1}^{N} AAR_{it}$$

Finally, we observed the returns 5 days before and 5 days after the event date giving a total of 11 trading-days. We decided to use an event window of 11 trading-days following (Armitage, 1995, Ullah et al., 2021, McWilliams & Siegel, 1997) findings mentioning that keeping a short event window diminishes the risk of external factors impacting our post-event's date results. Further, we examined the results at an individual level for each country and cluster them by continents to see if any significant relationship can be assessed. To evaluate the significance of the event on abnormal returns we used the methodology from Ullah et al. (2021)'s paper and performed a T-test at different significance level.

Table 1 shows the beginning and end date of the event window (11-trading days), while the third column represents the starting date of the estimation window (120-trading days). The estimation window starts 125 business days before the event day and finishes at t-6, included. The starting and ending dates are adjusted to each stock market to have an equal number of observations.

CHAPTER 5 Results & Discussion

The results are divided in three sub-sections, the first section represents and analyses the results obtained from Trump's victory in 2016, the second sub-section offers the same methodology and findings but with Biden's victory in 2020. The third section compares and discusses the results from both presidents as well as the limitations of this paper. The first two sub-sections will help us answer the first hypothesis, that US elections have a significant effect on G20 countries. While the third section will answer the second hypothesis stating that there is a difference between the effect of the elected president's party and the G20 stock market's reaction.

5.1 Trump Election night, November 8th, 2016.

On Tuesday November 8th, 2016, the results from the swing states were officially published throughout the United States of America. Slowly, the news spread around the world triggering different reactions on national stock exchanges. For most of the studied countries the American results were spread over night, and the reactions of stock market agents were only shown on the 9th of November 2016 when their national markets opened. Figure 1 represents the change in prices on event day in percentage. Japan experienced the strongest negative price movement, with their stock market closing at 5.5% lower than the previous day. For other exchanges, the variation in prices is between -2% and +2%. Despite the increase in economic uncertainties following elections the US equity market experienced a 0.5% increase suggesting that investors were confident for the coming months.
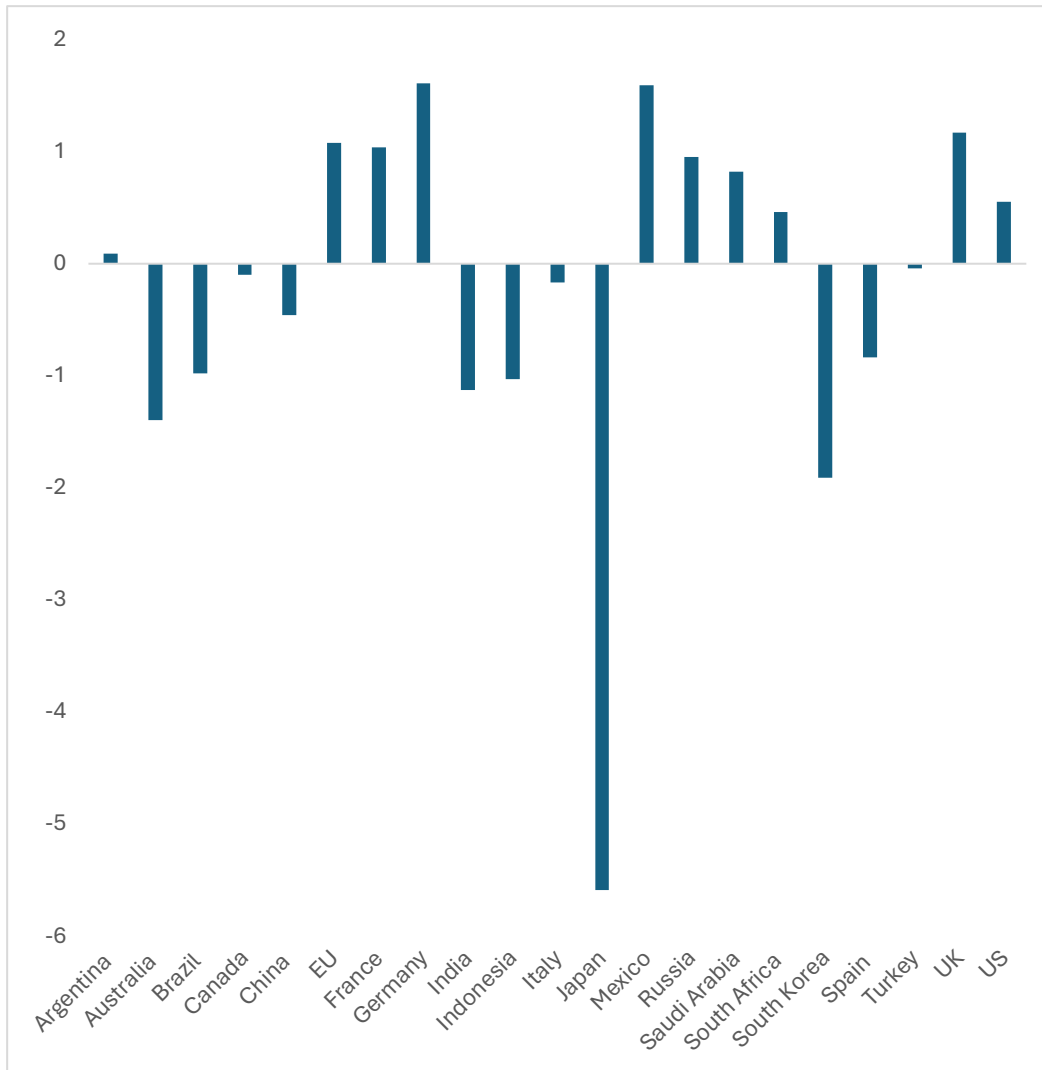
Notes: The graph above represents the reaction of stock market agents after the information was released. Hence, the chart displays the change in price observed on each stock market either on the 8th of November or 9th of November 2016.

Fig. 1. Average change in prices of G20 stock markets on event day (%), 2016

Table 1 below represents the abnormal returns on the day of the event and the cumulative abnormal returns. The cumulative abnormal returns on the event day shows the sum of the abnormal returns in the event window until that date (from t_{-5} to t_0).

Table 1. Abnormal and Cumulative Returns on event day (country-level analysis)

Country Name	Abnormal Return (AR)	Cumulative Abnormal Return (CAR)	t-test
Argentina*	0.539	0.752	*0.431*
Australia	0.003	-0.990	*-0.198*
Brazil*	-1.671	-4.295	*-0.471*
Canada*	-0.067	-1.363	*-0.513*
China	0.301	0.144	*0.077*
EU	0.159	-1.060	*-0.321*
France	0.346	0.200	*0.052*
Germany	0.313	-1.292	*-0.306*
India	0.377	-1.891	*-0.459*
Indonesia	1.557	0.603	*0.108*
Italy	0.447	-1.900	*-0.383*
Japan	0.596	-1.699	*-0.178*
Mexico*	1.376	-1.095	*-0.069*
Russia	0.549	-2.956	*-0.557*
Saudi Arabia	2.206	6.315	*1.424*
South Africa	2.179	2.214	*0.225*
South Korea	0.262	-1.772	*-0.573*
Spain	0.260	-1.535	*-0.349*
Turkey	0.304	-5.456	*-1.357*
UK	1.958	-1.055	*-0.174*
US*	-0.148	-0.323	*-0.283*

*Notes: * Significance at 1% level (0.001) ** Significance at 5% level (0.05) *** Significance at 10% level (0.1). Panel A represents the 20 member states forming the G20 alliance and Spain. Countries marked with * represent the markets where the information was priced in before market closure. All the returns are calculated based on Trump's election in 2016.*

Table 1 displays the abnormal and cumulative abnormal returns on the day of the event. It is important to note that for some countries the new information is not priced in yet as their markets closed before the information was released. Table 2.2 in the appendix indicates the specific dates for each country such as the event date, event window and estimation period. For those particular countries where markets closed before the election results, we can identify their reaction on the following day, at t_{+1}. Furthermore, the results in table 1 reveal insignificant excess returns on the event date, suggesting that the first hypothesis stating that US elections impact stock markets is wrong. However, table 2 below shows significant cumulative abnormal returns for some countries towards the end of the event window. This could indicate a slower and more contained reaction from stock market agents. Whereas, in the following days, the impact of the elections slowly spread and raise concerns throughout financial markets. Indeed, we can find strong negative abnormal returns such as Turkey experiencing -11% CAR, or even Spain and Mexico both losing -7% and -17% respectively (see table 2). On the other side, Saudi

Arabia is the biggest winner from the newly elected president with a cumulative abnormal return of approximatively 10% compared to only 1% for the concerned market itself, the US. Mexico experiencing the biggest loss is no surprise to us knowing Trump's policies regarding the shared border with the Hispanic country and their strong trade interdependency. Moreover, many markets show insignificant abnormal returns suggesting that those economies are more influenced by other aspects than US elections. This could indicate resilient markets to US political influence.

Furthermore, we can find strong asymmetrical reaction to the US elections results per continent. The biggest trade partners of US per continent show the strongest adverse reaction, where Europe and South America have the strongest total cumulative abnormal returns, -12.068% and -20.422% respectively. Closely followed by Asia with -10.453% (see appendix F).

Table 2. Event window CAR per country

Markets	t-5		t-3		t-1		t+1		t+3		t+5	
	CAR	t-value	CAR	t-value	CAR	t-value	CAR	t-value	CAR	t-value	CAR	t-value
Argentina	0.947	0.543	0.068	0.038	0.213	0.122	0.059	0.033	0.202	0.115	0.226	0.129
Australia	-0.443	-0.088	-1.608	-0.322	-0.993	-0.199	-2.370	-0.475	0.442	0.088	-1.923	-0.385
Brazil	1.297	0.142	-5.277	-0.578	-2.624	-0.287	-6.506	-0.713	-12.748	-1.398	-8.077	-0.886
Canada	-0.048	-0.018	-1.614	-0.607	-1.296	-0.487	-1.072	-0.403	-2.893	-1.089	-1.356	-0.511
China	0.453	0.243	0.425	0.228	-0.157	-0.084	-0.453	-0.243	1.227	0.661	1.710	0.921
EU	-0.663	-0.201	-1.204	-0.364	-1.219	-0.368	0.136	0.041	-0.991	-0.300	-2.110	-0.638
France	-0.099	-0.026	-1.466	-0.386	-0.146	-0.038	1.187	0.312	-1.502	-0.395	-0.938	-0.247
Germany	-0.724	-0.172	-1.684	-0.399	-1.604	-0.381	0.375	0.089	0.448	0.106	-0.618	-0.146
India	-0.623	-0.151	-2.308	-0.560	-2.267	-0.550	-2.963	-0.719	-4.370	-1.061	-7.227	-1.755*
Indonesia	-0.157	-0.028	-1.893	-0.341	-0.954	-0.171	-0.494	-0.088	-4.332	-0.779	-7.628	-1.373
Italy	-0.586	-0.118	-1.847	-0.373	-2.347	-0.473	-1.890	-0.381	-1.746	-0.352	-4.259	-0.860
Japan	0.054	0.006	-1.927	-0.202	-2.295	-0.241	-7.324	-0.769	-0.589	-0.061	0.082	0.008
Mexico	-0.606	-0.118	-4.426	-0.476	-2.471	-0.216	-0.903	-0.101	-12.994	-1.303	-17.453	-1.706*
Russia	0.660	0.124	-1.302	-0.245	-3.505	-0.661	-2.030	-0.383	-0.022	-0.004	-3.898	-0.735
Saudi Arabia	1.214	0.273	0.687	0.154	4.109	0.926	6.918	1.561	10.418	2.35**	10.525	2.374**
South Africa	2.838	0.289	1.470	0.149	0.035	0.003	2.547	0.259	-7.387	-0.753	-10.700	-1.091
South Korea	-0.540	-0.175	-1.281	-0.414	-2.034	-0.657	-3.670	-1.186	-3.445	-1.114	-4.167	-1.347
Spain	-0.303	-0.069	-2.432	-0.553	-1.795	-0.408	-2.392	-0.544	-6.923	-1.576	-7.233	-1.647*
Turkey	-1.077	-0.267	-3.045	-0.757	-5.760	-1.433	-5.582	-1.389	-9.841	-2.449**	-11.354	-2.826***
UK	-1.836	-0.303	-2.472	-0.408	-3.013	-0.498	0.351	0.058	-3.653	-0.604	-1.427	-0.236
US	-0.304	-0.266	-0.828	-0.725	-0.176	-0.153	0.441	0.386	0.928	0.814	1.009	0.884

*Notes: * Significance at 1% level (0.001) ** Significance at 5% level (0.05) *** Significance at 10% level (0.1).*

Table 3 illustrates the aggregate reaction of financial markets throughout the event window. The AAR represents the aggregate abnormal returns on each day around elections night, and the CAAR shows the cumulative aggregate abnormal returns pre- and post- event date. We can see a significant CAAR on event day of -0.879% and continuous negative aggregate abnormal returns in the following days highlighting a pessimistic reaction from global stock markets going down to -3.64% on the 5th day after election night. Without any surprise, the American shock is spread worldwide as the US is a main trading partner of many states around the world and plays an important role on the international scene. Hence, the uncertainties around the US economy have a global reach, increasing uncertainties worldwide.

Table 3. Aggregate stock market's reaction

Days	AAR	t stat	CAAR	t stat
t-5	0.012	0.058	0.012	-7.098*
t-4	-1.157	-6.204*	-1.145	-2.581**
t-3	-0.473	-1.892***	-1.617	-5.225*
t-2	-1.131	-4.525*	-2.749	-2.679*
t-1	1.306	4.798*	-1.443	-12.098*
t	0.564	2.913**	-0.879	-9.232*
t+1	-0.342	-0.965	-1.221	-5.730*
t+2	0.211	0.413	-1.010	-7.867*
t+3	-1.836	-3.243*	-2.846	0.046
t+4	-0.687	-2.342**	-3.533	-4.396*
t+5	-0.107	-0.358	-3.640	-6.640*

*Notes: * Significance at 1% level (0.001) ** Significance at 5% level (0.05) *** Significance at 10% level (0.1). Aggregate Abnormal Returns (AAR) and Cumulative Aggregate Abnormal Returns (CAAR) highlight the overall reaction on G20 stock markets on different days of the event window.*

Finally, the results following Trump's victory in November 2016 are somehow expected following the nationalistic policies he has mentioned during his electoral campaign. As observed, most financial markets reacted negatively to the news, as Trump brought alongside his victory strong uncertainties at an international level, impacting supply chains, firms and consumers. Below the same analysis, methodology and statistical tests are performed on Biden's victory in 2020, however, we strongly believe that the following results obtained are significantly influenced by the macroeconomic situation. To have a global overview, in November 2020 financial markets experienced a strong equity rally where governments used expansionary fiscal policies to boost the economy following the COVID-19 lockdown of March 2020. Hence, the results found show significant increase in stock prices which we suspect to be the results of a combination of events and not only US elections. We advise readers to take the macroeconomic situation into consideration when interpreting those results.

5.2 Biden Election night, November 3rd, 2020.

In November 2020 were held the 46th American presidential elections. However, due to some issues with counting votes alongside scandalous allegations of fake votes, the results from swing states were only published on Saturday the 7th of November 2016. Yet, accurate investor reactions can only be derived from Monday 9th, 2016, when all markets worldwide opened for the first time since the information release. Hence, even if the election night was November 3rd, 2016, we decided to observe the first Monday following as t_0. Below, figure 2 highlights the equity market rally that occurred in November where most markets worldwide encountered rapid expansion.
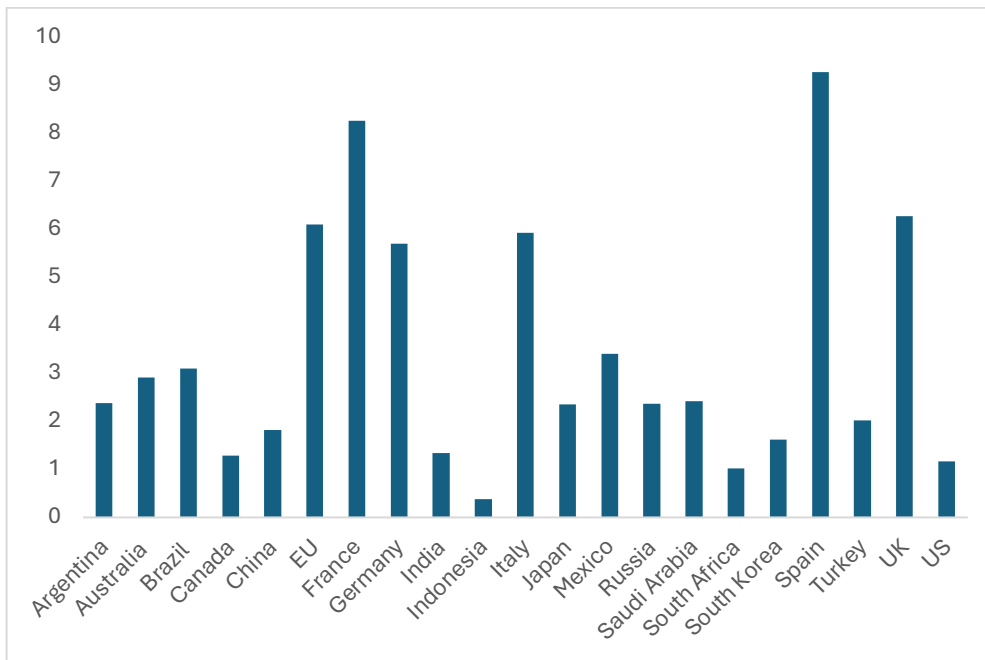
Notes: The graph above represents the reaction of stock market agents on Monday 9th of November 2016, after the information was released on Saturday 7th.

Fig. 2. Average Change in Prices of G20 stock markets on event day (%), 2020

Figure 2 illustrates the change in prices between the previous closing price and the closing price on event date. We can see a strong positive reaction from stock market agents with an average return around 3.5%. Spain, France and the EU experienced the most significant returns ranging between 9% for Spain and 8% for France while the EU experienced a 6% increase. Moreover, no stock market in the G20 alliance bore negative returns whereas Trump's election night in 2016 showed mitigated returns varying from -6% to +2%.

Table 1.1 shows the abnormal returns on event date and the cumulative abnormal returns from the beginning of the event window to the event date (t_{-5}, t_0) per country.

We can find significant abnormal returns on event date for some European countries such as France with 8% excess returns and Italy with 5% excess returns. Furthermore, the excess returns experienced by the European Union highlights a strong confident reaction from those markets to Biden's presidency. Similar reaction was shared by other stock markets such as India (1.121%) and Saudia Arabia (2.918%) showing a global positive surprise from investors worldwide.

Table 1.1. Abnormal and Cumulative Returns on event day (country-level analysis), 2020

Country Name	Abnormal Return (AR)	Cumulative Abnormal Return (CAR)	t-test
Argentina	1.555	7.654	0.806
Australia	2.792	8.307	2.148
Brazil	2.112	1.890	0.292
Canada	0.591	2.918	0.854
China	1.567	6.014	1.572
EU	5.931	12.415	1.985**
France	8.053	16.425	1.973**
Germany	4.980	8.756	1.408
India	1.121	4.602	2.249**
Indonesia	0.532	3.036	0.666
Italy	5.282	10.966	1.731***
Japan	2.173	6.968	1.577
Mexico	3.372	6.160	1.328
Russia	2.032	4.995	1.427
Saudi Arabia	2.918	6.887	2.109**
South Africa	0.980	14.445	2.411**
South Korea	1.497	7.505	1.950
Spain	9.037	15.794	1.816
Turkey	0.597	6.692	1.083
UK	5.772	9.295	1.552
US	-0.360	-0.851	-1.915***

*Notes: * Significance at 1% level (0.001) ** Significance at 5% level (0.05) *** Significance at 10% level (0.1). Panel A.A represents the 20 member states of the G20 alliance and Spain. The results are calculated based on Biden's victory in the 2020 presidential elections.*

On the other hand, the US bore unfavourable outcome after election night, being the solely country with negative abnormal returns (-0.36%). The contrast between negative returns in their homeland and positive unexpected returns everywhere else is surprising but consistent with existing literature studying the difference between Democrats and Republicans. Supporting the statement that US citizens reacted more pessimistically than the rest of the world, panel B (see appendix F) emphasises the difference between continents. Indeed, North America showed the lowest cumulative abnormal returns with a total of 2.370% excess returns while the European continent had almost 30 times more over the same period.

In overall, the aggregate reaction to Biden's victory was positive for financial markets as we can see below in table 1.2. The cumulative aggregate abnormal returns show a strongly significant excess returns that investors did not anticipate following Biden's victory with up to 10.082% and an aggregate abnormal return of almost 3% on the event day (2.978%).

Table 1.2. Aggregate stock market's reaction during event window

Days	AAR	t stat	CAAR	t stat
t-5	0.682	*1.687****	0.682	*7.587**
t-4	1.374	*5.702**	2.056	*6.626**
t-3	0.734	*2.815**	2.789	*7.515**
t-2	1.693	*6.615**	4.482	*6.183**
t-1	0.200	*0.894*	4.683	*8.255**
t	2.978	*5.293**	7.661	*4.399**
t+1	0.985	*3.388**	8.646	*7.166**
t+2	0.619	*2.235**	9.265	*7.674**
t+3	-0.791	*-2.708**	8.474	*9.632**
t+4	0.317	*1.261*	8.790	*8.094**
t+5	1.292	*6.783**	10.082	*6.740**

*Notes: * Significance at 1% level (0.001) ** Significance at 5% level (0.05) *** Significance at 10% level (0.1). Aggregate Abnormal Returns (AAR) and Cumulative Aggregate Abnormal Returns (CAAR) highlight the overall reaction on G20 stock markets on different days of the event window.*

Lastly, table 1.3 shows the CAR for G20 countries over different dates in the event window surrounding Biden's election night. We can identify a strong imbalance between countries indicating how different G20 nations perceived Biden's elections. The European continent showed a distinct positive market reaction with cumulative abnormal returns at t_{+5} varying from 14% in the EU, 17.7% in France and 13% in Italy, followed by more mitigated reactions from other markets such as Saudi Arabia and India with approximatively 8%. And a minimal impact in the US with a negative 1% CAR. The diverse CARs across different countries could be due to the varying degrees of economic ties between the US and each nation and the expectations from the new administration. Positive CAR in the majority of observed countries suggest that investors in these markets anticipated favourable economic policies or improved international relations under Biden, while negative CAR in some countries could highlight either market sceptics or other growing concerns regarding Biden's administration.

Table 1.3. Event window CAR per country

Markets	t-5		t-3		t-1		t+1		t+3		t+5	
	CAR	*t-value*	CAR	*t-value*	CAR	*t-value*	CAR	*t-value*	CAR	*t-value*	CAR	*t-value*
Argentina	5.854	*0.617*	4.241	*0.447*	6.098	*0.642*	11.186	*1.178*	5.615	*0.591*	8.029	*0.846*
Australia	-0.068	*-0.017*	1.784	*0.461*	5.516	*1.426*	9.409	*2.433**	10.293	*2.661* *	10.857	*2.807* *
Brazil	-3.241	*-0.501*	-1.476	*-0.228*	-0.222	*-0.034*	2.963	*0.458*	3.377	*0.522*	10.115	*1.563*
Canada	0.936	*0.274*	2.694	*0.788*	2.327	*0.681*	4.086	*1.196*	3.358	*0.983*	5.280	*1.545*
China	0.797	*0.208*	3.502	*0.915*	4.447	*1.162*	4.824	*1.261*	3.024	*0.790*	3.501	*0.915*
EU	1.432	*0.229*	4.382	*0.701*	6.484	*1.037*	14.005	*2.239**	13.623	*2.178**	14.155	*2.263**
France	1.547	*0.186*	7.218	*0.867*	8.372	*1.006*	13.387	*2.114**	15.703	*1.886***	17.751	*2.132**
Germany	-0.024	*-0.004*	2.668	*0.429*	3.776	*0.607*	10.629	*1.709***	7.441	*1.196*	8.492	*1.365*
India	0.264	*0.129*	1.106	*0.541*	3.481	*1.702***	6.334	*3.097* *	7.383	*3.610* *	7.654	*3.742* *
Indonesia	-1.629	*-0.357*	-1.844	*-0.404*	2.503	*0.549*	5.039	*1.105*	5.176	*1.135*	5.817	*1.276*
Italy	0.340	*0.054*	4.016	*0.634*	5.684	*0.898*	13.387	*2.114**	11.146	*1.760***	13.231	*2.089**
Japan	-1.568	*-0.355*	1.664	*0.377*	4.795	*1.085*	6.912	*1.565*	9.666	*2.188**	10.804	*2.447**
Mexico	-0.936	*-0.202*	-0.754	*-0.162*	2.788	*0.601*	8.707	*1.878***	10.524	*2.270**	13.587	*2.930* *
Russia	-0.312	*-0.089*	1.695	*0.484*	2.963	*0.847*	4.026	*1.150*	8.472	*2.421**	10.593	*3.027* *
Saudi Arabia	1.922	*0.588*	2.764	*0.847*	3.970	*1.216*	7.314	*2.240**	7.629	*2.336**	7.958	*2.437**
South Africa	2.638	*0.440*	6.285	*1.049*	13.465	*2.247**	15.742	*2.627* *	13.010	*2.171**	13.712	*2.288**
South Korea	1.291	*0.335*	3.960	*1.029*	6.009	*1.561*	7.275	*1.890***	8.582	*2.229**	11.957	*3.106* *
Spain	1.405	*0.162*	5.112	*0.588*	6.757	*0.777*	18.346	*2.110**	17.976	*2.068**	21.342	*2.455**
Turkey	2.329	*0.377*	6.076	*0.983*	6.095	*0.986*	5.127	*0.830*	4.577	*0.741*	4.366	*0.707*
UK	1.269	*0.212*	3.601	*0.601*	3.523	*0.588*	9.897	*1.653***	12.253	*2.046**	13.598	*2.271*
US	0.071	*0.160*	-0.122	*-0.274*	-0.491	*-1.105*	-0.905	*-2.037**	-0.884	*-1.990***	-1.073	*-2.416**

*Notes: * Significance at 1% level (0.001) ** Significance at 5% level (0.05) *** Significance at 10% level (0.1).*

To summarize, the results obtained after Biden's election night show a majority of strong market reaction throughout the globe. We will now discuss more in depth the findings and compare them with Trump's results as well as mention potential limitations of this study and how further research could deal with them.

4.3 Discussion and Limitations

Jones and Banning (2008b) found empirical results that show only a small variation between US elections and stock market returns, however, this study found significant observation of abnormal returns on countries stock exchanges following recent American elections. The first hypothesis of this paper tested for significant findings succeeding presidential elections in the United States. Like many other papers, such as Santa-Clara & Valkanov (2003) and Blomberg & Hess (2003) we found an

association between the two, hence we cannot reject the first hypothesis. We do not rule out the other hypothesis that other aspects could play a more important role in the interconnectedness of financial markets, we even suggest further research to study the different international relationships between countries and the US at an individual level to understand better the amplitude of each shock and its contagion effect. Yet, the results are consistent with Girardi (2020) & Blanchard et al. (2018) mentioning the effect of US elections on stock markets and consistent with Kenett (2021) about the international spread of nationalistic shocks.

Our findings imply that a strong contagion effect is most likely to exists between G20 stock markets following black-swan events as we found significant abnormal returns. This is consistent with previous empirical findings showing evidence of US spillovers over European equity market (Baele, 2005). Indeed, we found Europe to be the continent with the highest CAR following election night in 2020 (see appendix f).

Furthermore, we cannot reject the second hypothesis stating that national exchanges react differently between a Republican president or a Democrat president. Surprisingly, in our paper we have identified a more positive reaction from stock markets after the announcement of Biden's victory (Democrat candidate) compared to the abnormal returns following Trump (Republican candidate), this is surprising following Schoenbaum (2023) finding that Biden's administration decided to use the same policies as Trump regarding international trade. We believe, what caused this gap between the two candidates running for presidency is their mediatic image. Trump was seen as more aggressive towards international relations than Biden, which we suspect to be one of the reasons that led to such a gap between both presidents. To support our suspicion appendix F displays the aggregate CAR per continent, where each continent is seen to have a drastic change. Indeed, most continent experienced a total negative cumulative aggregate abnormal return with numbers ranging from -4% to 1.6% at its best (see panel A). While the same exact mix of countries had a huge increase after Biden election night, with numbers ranging from 0.6% to 11.7% (see panel B). Nonetheless, those results are consistent with Girardi (2020) stating that a Democrat candidate leads to higher stock returns than Republicans. We believe that increasing the sample size of US elections can lead to more reliable analysis of the impact of democrats and republicans on stock markets. Many research have already explored the relationship between US elections and equity returns as well as the difference between political parties, yet we have identified a lack of studies addressing world economies.

Furthermore, stock markets can sometimes be victim of market anomalies, meaning that the observed returns are influenced by other events such as pandemic which makes it harder to isolate the results of a specific occurrence only. This could also affect the reliability of the findings. Indeed, the findings from this paper can lead to new speculations and studies, such as for example, investigating if the high abnormal returns in November 2020 is a result of Biden's election night or is part of the massive equity rally occurring after the first COVID lockdown in March 2020. We suggest developing this event

study methodology to more presidential elections which will decrease the probability of the same events influencing abnormal results and may control better the impact of both political parties on global financial markets.

Nonetheless, the unforeseen abnormal returns following Biden victory is consistent with existing literature which has found empirical evidence of a significant difference in abnormal returns between Democrats and Republicans presidency. Santa-Clara and Valkanov (2003) found abnormal returns during Democrats presidency to be 16% higher than during Republicans, which could explain such variation in excess returns between Trump (Republican party) and Biden (Democrat party).

Finally, the findings from this paper can be linked to broader economic theory, such as the Efficient Market Hypothesis. The Efficient Market Hypothesis (EMH) states that equity markets are efficient if stock prices reflect all the information available (Malkiel, 1989). Widely criticised theory over the years, Ball (2009) explored the limitations of the EMH, including that information processing is assumed to be costless and that information is directly reflected in prices, or that it is assumed that all new information released have the same meaning for investors. While, in reality investors have different beliefs and access to information leading to different interpretations, and information processing is costly. Yet, Malkiel (2003b) defends the Efficient Market Hypothesis, showing empirical evidence that markets generally reflect available information on the long-term. On the other hand, he acknowledges the short-term inefficiencies and market fluctuations. This paper aligns with Malkiel (2003b) findings that market efficiency can vary in the short-term around significant events such as political elections, but it supports the idea that stock market reactions to US elections should be rational and based on available information. Indeed, we chose to study the election night rather than the beginning of the presidency term because we believed security prices will reflect the new information about the next president which occurs at election night. Hence, the abnormal returns around election night were expected, which shows investors reaction to new information and market efficiency on the long-term.

CHAPTER 6 Conclusion

This study aimed to analyse the impact of US presidential elections on world economies using an event study approach. We decided to study how and to what extent do US elections impact global financial markets using G20 stock markets as a proxy. We have identified significant excess returns for both newly elected presidents, namely Trump in November 2016 and Biden in November 2020. The results suggested the existence of potential contagion effect between stock markets as the abnormal returns and cumulative abnormal returns in the trading-days following the press release of the winning party were found to be significant. Additionally, we found significant differences between Trump's victory and Biden's victory, which adds on to the already existing literature comparing the influence of Democrat and Republican parties on financial markets. Moreover, the results showed different degrees of impact, where some countries were more impacted than others. This could imply a stronger dependency from those markets to the US market. For example, it was no surprise to see Mexico heavily dependent on the news regarding its neighbour, yet further research could dive deeper in which sector of the economy is the most vulnerable to movements. On the other hand, some countries such as Saudi Arabia or Spain showing a strong and significant change in prices after the press release is less obvious and could surprise negatively stock market agents. Hence, understanding the degree of co-movement between two countries can help policy makers and investors navigate better future shocks. We believe this research opens a plethora of new studies on financial interconnectedness and black-swan events.

Nevertheless, the limited number of events studied and the potential impact of other global events interfering with the returns should be considered while interpreting the results.
We suggest, further studies to control for external variables that influence the analysed markets or focus on the economic ties between each country and its impact. In addition, future research could expand the number of observed presidential elections to reduce the impact of one external variable, or, study different major black-swan events to understand the degree of robustness of international markets to US uncertainties and shocks.

Overall, this paper contributes to a deeper understanding the global financial market dynamics and the importance of US presidential elections.

REFERENCES

Armitage, S. (1995). EVENT STUDY METHODS AND EVIDENCE ON THEIR PERFORMANCE. *Journal of Economic Surveys*, 9(1), 25–52. doi: https://doi.org/10.1111/j.1467-6419.1995.tb00109.x

Baele, L. (2005). Volatility spillover effects in European equity markets. *Journal of Financial and Quantitative Analysis*, *40*(2), 373–401. doi: https://doi.org/10.1017/s0022109000002350

Ball, R. (2009). The global financial crisis and the efficient market hypothesis: What have we learned? *The Bank of America Journal of Applied Corporate Finance*, 21(4), 8–16. Doi: https://doi.org/10.1111/j.1745-6622.2009.00246.x

Blanchard, O., Collins, C. G., Jahan-Parvar, M. R., Pellet, T., & Wilson, B. A. (2018). A year of rising dangerously? The U.S. stock market performance in the aftermath of the presidential election. *Journal of Policy Modeling*, *40*(3), 489–502. Doi: https://doi.org/10.1016/j.jpolmod.2018.03.004

Blomberg, S., & Hess, G. D. (2003). Is the political business cycle for real? *Journal of Public Economics*, *87*(5–6), 1091–1121. doi: https://doi.org/10.1016/s0047-2727(01)00142-6

Chien, W., Mayer, R., & Wang, Z. (2014b). Stock market, economic performance, and presidential elections. *Journal of Business & Economics Research*, *12*(2), 159. doi: https://doi.org/10.19030/jber.v12i2.8530

Dees, S., & Saint-Guilhem, A. (2010). The role of the United States in the global economy and its evolution over time. *Empirical Economics*, *41*(3), 573–591. doi: https://doi.org/10.1007/s00181-010-0407-2

Dyckman, T. R., Philbrick, D. R., & Stephan, J. A. (1984). A comparison of event study methodologies using daily stock returns: a Simulation approach. *Journal of Accounting Research,* 22, 1. doi: https://doi.org/10.2307/2490855

Fama, E. F. (1965). The Behavior of Stock-Market Prices. *The Journal of Business*, 38(1), 34–105. doi: http://www.jstor.org/stable/2350752

Forbes, K. J., & Rigobon, R. (2002). No contagion, only interdependence: Measuring stock market comovements. *The Journal of Finance*, *57*(5), 2223–2261. doi: https://doi.org/10.1111/0022-1082.00494

Gärtner, M., & Wellershoff, K. W. (1995). Is there an election cycle in American stock returns? *International Review of Economics & Finance*, *4*(4), 387–410. doi: https://doi.org/10.1016/1059-0560(95)90036-5

Girardi, D. (2020). Partisan Shocks and Financial Markets: Evidence from Close National Elections. *American Economic Journal. Applied Economics*, *12*(4), 224–252. doi: https://doi.org/10.1257/app.20190292

Hutt, R. (2022). What is the G20?. *World Economic forum*

https://www.weforum.org/agenda/2022/11/g20-summit-what-you-need-to-know/

Jones, S. T., & Banning, K. (2008). US elections and monthly stock market returns. *Journal of Economics and Finance*, *33*(3), 273–287. doi: https://doi.org/10.1007/s12197-008-9059-x

Lo Duca, M., & Peltonen, T. A. (2013). Assessing systemic risks and predicting systemic events. *Journal of Banking & Finance,* 37(7), 2183–2195. doi: https://doi.org/10.1016/j.jbankfin.2012.06.010

MacKinlay, A. C. (1997). Event Studies in Economics and Finance. *Journal of Economic Literature*, *35*(1), 13–39. doi: http://macct-ku.org/document/Event_Studies.pdf

Malkiel, B. G. (1989). Efficient market hypothesis. In Palgrave Macmillan UK eBooks, 127–134. Doi: https://doi.org/10.1007/978-1-349-20213-3_13

Malkiel, B. G. (2003c). The efficient Market hypothesis and its critics. *The Journal of Economic Perspectives,* 17(1), 59–82. https://doi.org/10.1257/089533003321164958

Martinez-Jaramillo, S., Carmona, C.U., Kenett, D.Y. (2019). Interconnectedness and financial stability. *Journal of Risk Management in Financial Institutions,* 12(2), 168-183.

McWilliams, A., & Siegel, D. (1997). Event studies in Management Research: Theoretical and Empirical issues. *The Academy of Management Journal*, 40(3), 626–657. doi: https://doi.org/10.5465/257056

Nordhaus, W. D. (1975). The political business cycle. *Review of Economic Studies*, *42*(2), 169. doi: https://doi.org/10.2307/2296528

Raddant, M., & Kenett, D. Y. (2021). Interconnectedness in the global financial market. *Journal of International Money and Finance*, *110*, 102280.
doi: https://doi.org/10.1016/j.jimonfin.2020.102280

Santa-Clara, P., & Valkanov, R. (2003). The presidential puzzle: political cycles and the stock market. *the Journal of Finance*, *58*(5), 1841-1872. doi: https://doi.org/10.1111/1540-6261.00590

Sayed, O. A., & Eledum, H. (2021). The short-run response of Saudi Arabia stock market to the outbreak of COVID-19 pandemic: An event-study methodology. *International Journal of Finance & Economics,* 28(3), 2367–2381. doi: https://doi.org/10.1002/ijfe.2539

Schoenbaum, T. J. (2023). The Biden Administration's trade policy: promise and reality. *German Law Journal*, *24*(1), 102–124. doi: https://doi.org/10.1017/glj.2023.7

Schneider-Petsinger, M. (2019). US–EU Trade Relations in the Trump Era: Which Way Forward? *Chatham House*. doi: https://apo.org.au/node/225401

Strong, N. (1992). MODELLING ABNORMAL RETURNS: a REVIEW ARTICLE. *Journal of Business Finance & Accounting,* 19(4), 533–553. doi: https://doi.org/10.1111/j.1468-5957.1992.tb00643.x

Sun, A. J., & Chan-Lau, J. A. (2017). Financial networks and interconnectedness in an advanced emerging market economy. *Quantitative Finance,* 17(12), 1833–1858. doi: https://doi.org/10.1080/14697688.2017.1357976

Turkey G20. (2015). About G20 http://g20.org.tr/about-g20/g20-members/index.html

Ullah, S., Zaefarian, G., Ahmed, R., & Kimani, D. (2021). How to apply the event study methodology in STATA: An overview and a step-by-step guide for authors. *Industrial Marketing Management,* 99, A1–A12. doi: https://doi.org/10.1016/j.indmarman.2021.02.004

Ultsch, A. (2009). Is log ratio a good value for measuring return in stock investments? In *Studies in classification, data analysis, and knowledge organization* (pp. 505–511). doi: https://doi.org/10.1007/978-3-642-01044-6_46

Wong, W., & McAleer, M. (2009). Mapping the Presidential Election Cycle in US stock markets. *Mathematics and Computers in Simulation*, *79*(11), 3267–3277. doi: https://doi.org/10.1016/j.matcom.2009.05.007

World Economic Forum (2022). What is the G20? *Global Governance*. https://www.weforum.org/agenda/2022/11/g20-summit-what-you-need-to-know/

Yousaf, I., Patel, R., & Yaroyaya, L. (2022). The reaction of G20+ stock markets to the Russia–Ukraine conflict "black-swan" event: Evidence from event study approach. *Journal of Behavioural and Experimental Finance*, *35*, 100723. doi: https://doi.org/10.1016/j.jbef.2022.100723

APPENDIX A Stock Exchanges

Below, table 2 indicates which index has been chosen to represent the state of the economy of each member state of the G20.

Table 2.1. List of selected indexes per country for both Elections

Country name	Index Name	Ticker
Argentina	S&P Merval	MERV
Australia	S&P/ ASX 200	AXJO
Brazil	Bovespa	BVSP
Canada	S&P/TSX	GSPTSE
China	Shanghai Composite	SSEC
EU	Euro Stoxx 50	STOXX50E
France	CAC 40	FCHI
Germany	DAX	GDAXI
India	Nifty 50	NSEI
Indonesia	Jakarta Stock Exchange	JKSE
Italy	Italy 40	IT40
Japan	Nikei 225	N225
Mexico	S&P/BMV IPC	MXX
Russia	MOEX	IMOEX
Saudi Arabia	Tadawul All Shares Index	TASI
South Africa	FTSE South Africa Index	FTWIZAFL
South Korea	KOSPI	KS11
Spain	IBEX 35	IBEX
Turkey	BIST 100	XU100.IS
UK	FTSE 100	FTSE
US	S&P 500	SPX

Notes: We selected the biggest stock exchange per country to have a representation of the reaction of the agents on those markets.

APPENDIX B: Event window, event date and Estimation window for Trump

Table 2.2. Event window per stock market during 2016 Elections

Country name	Starting Date (t-5)	End Date (t+5)	Estimation Window (t-125)	Event Date (t)
Argentina	01/11/2016	15/11/2016	02/05/2016	08/11/2016
Australia	01/11/2016	15/11/2016	07/05/2016	09/11/2020
Brazil	31/10/2016	16/11/2016	10/05/2016	08/11/2016
Canada	01/11/2016	16/11/2016	11/05/2016	08/11/2016
China	01/11/2016	15/11/2016	13/05/2016	09/11/2020
EU	31/10/2016	16/11/2016	11/05/2016	08/11/2016
France	31/10/2016	16/11/2016	11/05/2016	08/11/2016
Germany	31/10/2016	16/11/2016	11/05/2016	09/11/2020
India	02/11/2016	15/11/2016	30/05/2016	08/11/2016
Indonesia	01/11/2016	15/11/2016	04/05/2016	08/11/2016
Italy	31/10/2016	16/11/2016	11/05/2016	09/11/2020
Japan	31/10/2016	15/11/2016	09/05/2016	08/11/2016
Mexico	01/11/2016	15/11/2016	16/05/2016	08/11/2016
Russia	31/10/2016	15/11/2016	13/05/2016	09/11/2020
Saudi Arabia	01/11/2016	15/11/2016	04/05/2016	08/11/2016
South Africa	01/11/2016	15/11/2016	12/05/2016	08/11/2016
South Korea	01/11/2016	15/11/2016	09/05/2016	09/11/2020
Spain	31/10/2016	15/11/2016	12/05/2016	08/11/2016
Turkey	01/11/2016	15/11/2016	03/05/2016	08/11/2016
UK	01/11/2016	15/11/2016	16/05/2016	09/11/2020
US	01/11/2016	16/11/2016	11/05/2016	08/11/2016

Notes: The estimation window consists of 120 days before the beginning of the event window (t-5). The number of trading days varies between each stock market depending on national holidays. Hence, we selected different starting dates for the estimation window and event window as well as different dates for the end date of the event window. We have a total of 11 trading days in the event window and 120 trading days in the estimation window.

APPENDIX C: Descriptive Statistics Trump

Descriptive Statistic 2016 Elections

Ticker	Obs	Mean	SD	Min	Max
MERV	131	1022.56	67.52	885.20	1137.84
AXJO	131	4051.92	133.05	3783.40	4267.34
BVSP	131	17167.18	1966.46	13431.25	20873.52
GSPTSE	131	11068.58	209.16	10609.92	11495.21
SSEC	131	452.56	11.12	429.93	473.96
STOXX50E	131	3325.58	87.10	3044.45	3458.36
FCHI	131	4910.73	121.96	4512.43	5111.64
GDAXI	131	11481.65	396.50	10433.39	12033.01
NSEI	131	127.43	3.70	119.26	134.48
JKSE	131	0.52	0.03	0.47	0.55
IT40	131	1940.46	75.94	1767.76	2114.99
N225	131	159.42	6.31	142.54	171.50
MXX	131	2495.13	87.47	2171.18	2693.61
IMOEX	131	30.33	1.08	27.95	32.24
TASI	131	1670.32	97.12	1445.93	1799.05
FTWIZAFL	131	231.96	14.39	199.66	260.36
KS11	131	1.77	0.07	1.64	1.88
IBEX	131	9672.30	325.41	8646.66	10242.07
XU100.IS	131	25930.95	1061.67	22844.88	28917.35
FTSE	131	8826.02	236.10	8191.58	9298.18
SPX	131	2133.67	43.20	2000.54	2190.15

Notes: All returns are hedged in USD.

APPENDIX D: Event window, event date and Estimation window for Biden

Table 2.3. Event window per stock market during 2020 Elections

Country name	Starting Date (t-5)	End Date (t+5)	Estimation Window (t-125)	Event Date (t)
Argentina	02/11/2020	16/11/2020	05/05/2020	09/11/2020
Australia	02/11/2020	16/11/2020	18/05/2020	09/11/2020
Brazil	30/10/2020	16/11/2016	11/05/2020	09/11/2020
Canada	02/11/2020	17/11/2020	12/05/2020	09/11/2020
China	02/11/2020	16/11/2020	11/05/2020	09/11/2020
EU	02/11/2020	16/11/2020	13/05/2020	09/11/2020
France	02/11/2020	17/11/2020	14/05/2020	09/11/2020
Germany	02/11/2020	16/11/2020	29/04/2020	09/11/2020
India	02/11/2020	17/11/2020	30/04/2020	09/11/2020
Indonesia	02/11/2020	16/11/2020	15/05/2020	09/11/2020
Italy	30/10/2020	16/11/2020	08/05/2020	09/11/2020
Japan	30/10/2020	16/11/2020	15/05/2020	09/11/2020
Mexico	02/11/2020	16/11/2020	12/05/2020	09/11/2020
Russia	30/10/2020	16/11/2020	30/04/2020	09/11/2020
Saudi Arabia	02/11/2020	16/11/2020	13/05/2020	09/11/2020
South Africa	02/11/2020	16/11/2020	11/05/2020	09/11/2020
South Korea	02/11/2020	16/11/2020	15/05/2020	09/11/2020
Spain	02/11/2020	16/11/2020	07/05/2020	09/11/2020
Turkey	02/11/2020	16/11/2020	15/05/2020	09/11/2020
UK	02/11/2020	16/11/2020	12/05/2020	09/11/2020
US	02/11/2020	17/11/2020	14/05/2020	09/11/2020

Notes: The estimation window consists of 120 days before the beginning of the event window (t-5). The number of trading days varies between each stock market depending on national holidays. Hence, we selected different starting dates for the estimation window and event window as well as different dates for the end date of the event window. We have a total of 11 trading days in the event window and 120 trading days in the estimation window.

APPENDIX E: Descriptive Statistics Biden

Descriptive Statistics 2020 Elections

Ticker	Obs	Mean	SD	Min	Max
MERV	131	615.41	49.07	484.64	730.70
AXJO	131	4222.30	242.14	3439.64	4696.67
BVSP	131	17840.62	1627.16	13215.72	20540.07
GSPTSE	131	11955.08	610.51	10522.91	12908.55
SSEC	131	457.65	34.57	396.41	496.89
STOXX50E	131	3735.48	223.13	2987.58	4123.66
FCHI	131	5681.24	335.66	4622.82	6445.57
GDAXI	131	14503.10	1034.38	11188.46	15811.36
NSEI	131	144.83	14.84	116.33	172.64
JKSE	131	0.34	0.02	0.29	0.37
IT40	131	2228.89	139.42	1812.06	2473.82
N225	131	213.79	12.04	182.87	247.72
MXX	131	1706.82	94.84	1492.38	2049.87
IMOEX	131	38.74	1.88	35.08	42.10
TASI	131	2041.68	158.68	1732.92	2295.97
FTWIZAFL	131	189.57	12.48	157.71	220.77
KS11	131	1.90	0.17	1.57	2.27
IBEX	131	8197.49	413.65	6997.40	9407.98
XU100.IS	131	6803.19	7915.86	141.30	17428.61
FTSE	131	7724.17	263.55	7036.20	8515.62
SPX	131	3276.20	184.95	2820.00	3626.91

Notes: All returns are hedged in USD.

APPENDIX F: Cumulative Abnormal Returns pooled together per Continent

Panel A. CAR per continent after Trump's victory

Continent	t	t+1	t+2	t+3	t+4	t+5	Total
Asia	3.096	-11.669	14.173	-7.966	-4.064	-4.024	-10.453
Europe	4.337	5.209	-3.570	-10.814	-5.391	-1.838	-12.068
North America	-0.215	1.055	-0.063	-1.272	0.611	1.007	1.124
South America	0.244	-2.712	-6.280	-11.910	-0.754	0.991	-20.422
Middle East & Africa	4.385	0.936	0.169	-6.603	-4.832	1.626	-4.319

Notes: Asia includes the following countries: Australia, China, India, Indonesia and South Korea. Europe includes EU, Turkey, Russia, Spain, France, Germany, Italy and the UK. North America only includes Canada and the US, and South America Argentina, Brazil and Mexico. Lastly, Middle East & Africa accounts for Saudi Arabia and South Africa.

Panel B. CAR per continent after Biden's victory

Continent	t	t+1	t+2	t+3	t+4	t+5	Total
Asia	7.509	3.416	4.400	-2.822	0.063	5.266	17.831
Europe	41.684	7.336	6.279	-7.762	0.662	11.673	59.871
North America	0.231	1.114	0.124	-0.831	0.226	1.507	2.370
South America	7.039	7.153	1.754	-5.094	6.150	6.064	23.066
Middle East & Africa	3.898	1.724	-1.435	-0.983	0.431	0.601	4.237

Notes: Asia includes the following countries: Australia, China, India, Indonesia and South Korea. Europe includes EU, Turkey, Russia, Spain, France, Germany, Italy and the UK. North America only includes Canada and the US, and South America Argentina, Brazil and Mexico. Lastly, Middle East & Africa accounts for Saudi Arabia and South Africa.