The Impact of a New Chief Executive Officer's Gender on the Share Price of Europe's Largest Companies

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Abstract

The purpose of this research is to determine how shareholders perceive the announcement of a new female CEO, compared to a new male CEO. Using the 2000 largest European companies, the event study method is used to analyze the shareholder reaction. While evidence of the glass ceiling has been found, this paper aims to determine whether women that do break through and reach top positions are perceived less favorably than their male counterparts. The results show a small, significant increase in share price on the event day for the announcement of a new male CEO. However, no significant results can be found for the announcement of a new female CEO. Similar to previous research done in this area, the results are limited as the number of female CEOs remains low.

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Introduction

Despite increased emphasis on gender diversity in global companies, it is common knowledge that few women progress to the CEO position. Numerous structural and cultural impediments have been put forward to explain the small number of women running public companies (Oakley, 2000). Examples include: the old boy network at the top, gender-based stereotypes, inadequate career opportunities, lack of line experience, gender differences in linguistic styles and socialization, tokenism, and different leadership styles. These gender stereotypes are deeply rooted and widely shared (Heilman, Block, Martell, & Simon, 1989). Male managers are often thought to have more leadership ability and skills in business matters. On the other hand, women are often seen as more risk averse and hold less risky portfolios than men (Barber & Odean, 2001).

In 2016, 21 women (4.2%) held the CEO position at the 500 largest US companies (Zarya, 2016). While there has been an increase in female CEOs in the US, from just one woman leading a Fortune 500 company in 1998, it is still evident that women often fail to reach the highest position within a firm (Fairchild, 2014). With just 18 women (3.6%) in CEO positions at the largest 500 companies in the EU, the situation in Europe is similar, and arguably Europe is lagging. Isabelle Kocher, CEO of Engie, a French electric utility company, is the only female to make it into the top 50. When expanded to the top 100 largest European companies, both Alison Cooper of Imperial Brands and Emma Walmsley of GlaxoSmithKline are included.

Previous literature has often emphasized CEO characteristics as determinants of firm decisions and outcomes. Examples include looking at the CEO's age and where they got their MBA (Bertrand & Schoar, 2003), overconfidence (Malmendier & Tate, 2005), past (industry) experience, and being an insider/ outsider (Boeker & Goodstein, 1993). Little research has been done to see how shareholders perceive female CEOs.

This paper will use the event study method to determine whether, amongst Europe's largest companies, the potential of female CEOs is underestimated by shareholders. The results of this paper will be a step towards being able to conclude how investors perceive and react to female CEO appointments.

This research, as well as most of the previous literature, is limited due to sample size. However, the difference is that previous literature generally focuses on the US, while this paper will focus on the 28 European Union (EU) member states.

The rest of the paper is organized as follows: the first section looks at previous literature that is related to this topic, the second section establishes a theoretical framework, the third section presents the hypotheses, the fourth section describes the data, the fifth section specifies the methodology, the sixth section presents the results and finally there is a discussion.

Related Literature

Why are Women Not Reaching Management Positions?

Research has found that firms with female representation in the top management team (TMT) perform better financially (Welbourne, 1999). One study found that it leads to improved firm performance but only to the extent that the firm is already focused on innovation as part of its strategy (Dezsö & Ross, 2012). They find that a firm with at least one woman in the TMT generates around 1% (over $40 million USD) in additional economic value. Gender diversity is thus more than political correctness or favoring women at the expense of men, but it can in fact benefit firm performance.

Despite this, a lot of literature has found evidence of a ‘glass ceiling’ showing how women are underrepresented in top management. There are three main reasons suggested for these observations (Wolfers, 2006). First, unobserved differences could exist in terms of productivity or preferences that are correlated with gender. Second, this discrimination may be a result of different tastes, an employer might accept lower profits to avoid promoting women. Third, the ability of women could systematically be incorrectly assessed.

The reason why women often fail to reach top management positions has been widely discussed. It has been said that decision makers discriminate against out-group members (who are demographically different from themselves) (Morrison & von Glinow, 1990). Thus, those selected for these top management positions often have similar demographic attributes as the decision maker (which are often white males). Research does demonstrate that women that pass through the glass ceiling and make it to the CEO position are compensated at similar levels (in terms of total compensation, salary and bonus) as their male counterparts (Bugeja, Matolcsy, & Spiropoulos, 2012). It is surprising that they face no gender bias in pay at the top, as non-CEO full-time female employees and executives earn significantly less than their male counterparts.

Since men currently occupy the majority of top management positions and make up the majority of the applicant pool, people are more likely to envision men to have the appropriate attributes to be a successful leader (Powell & Butterfield, 2002). The minority of women in these jobs reinforces the stereotype that they are less qualified for them than men.

Shareholder Reaction to New CEO

The paper most related to this research is a working paper that uses the event study method to gauge shareholders' reaction to the appointment of a female CEO in the US. Looking at 535 US CEO announcements between 1990 and 2000, they find that markets do in fact react negatively to the appointment of a female CEO (Lee & James, 2003). In their data, there does not seem to be any significant differences (i.e. age, appointed from within same firm or industry) between the types of women and men appointed to these positions. They find that the announcement of a new female CEO leads to a negative abnormal return of 3.7% over the announcement window while the announcement of a new male CEO leads only to a 0.5% decline in stock price. Their research thus demonstrates that markets systematically underestimate the ability of women, while other research shows they perform as well as male CEOs.

The results support the underlying premise of the event study method that shareholders are sensitive to new information regarding company leadership. Furthermore, they also find that the more uncertainty surrounding a change in organizational leadership, the more negative the stock price reaction (Lee & James, 2003). Their findings go beyond that shareholders respond more negatively to the announcement of a female CEO than a male CEO, they also find that they react more negatively to female CEO appointments than other female TMT appointments (other than CEO). Finally, they find that shareholders react less negatively when women are promoted to the CEO position from within the firm rather than externally. They conclude that the glass ceiling has in fact been raised, up until the CEO position, where shareholders do differentiate between men and women. Lee and James believe that as the number of female CEOs increases, the negative shareholder reaction is likely to change.

The obvious question that follows from Lee and James' research is whether firms with female CEOs consistently beat market expectations. Addressing this question, in his research, Wolfers finds no systematic differences in returns to holding stock in firms with female CEOs. However, this result reflects the weak statistical power of his test rather than indeed inferring if financial markets do or do not under-estimate female-headed firms. The data used in this paper, and in many others, is from the ExecuComp data which tracks 1500 US firms from 1992-2004. In this sample, 1.3% of CEO years were worked by women (Wolfers, 2006). In this dataset, men often lead slightly larger and more cyclical firms whereas women were more often working in information and retail trade sectors. Thus, they conclude that markets do not systematically underestimate firms with female CEOs. But, a closer look at the standard errors reveals that these results are not convincing and very imprecise. Due to the sample size being too small (64 female CEOs and 4175 male CEOs), strong evidence cannot be found.

Initial Female-led IPO

In another study, it was researched whether CEO gender influences the initial price of a company and what the early returns are for the shareholders. Using data from the IPO Monitor between 1999 and 2001, Mohan and Chen find no difference in firm characteristics (e.g. CEO age, gross proceeds of the offering, ex ante risk, or percentage of shares floated) between a female-led and male-led initial public offering (IPO). They also find no difference in underpricing between male and female led IPOs (Mohan & Chen, 2004). They conclude that in a market like that of IPOs, where differences in opportunity sets, wealth, and knowledge are minimized between genders, gender bias does not exist. Again, however, their study is limited because of the small sample size, with just 33 female-led IPOs.

Further CEO Differences

The ExecuComp dataset used in numerous studies contains information on the 5 highest paid executives per company for many US firms[1]. In this dataset, looking at 1992-1997, women earned about 45% less than men, however, when controlling for all observables (e.g. women were younger, newer, less senior etc.), the unexplained gender compensation gap for top executives was estimated to be less than 5% (Bertrand & Hallock, The Gender Gap in Top Corporate Jobs, 2001). In this dataset, women were more often managing firms that specialized in health, social services, and trade whereas they were very scarce in the agriculture, construction, mining, and heavy manufacturing industries.

One reason why it is particularly interesting to look at CEOs in Europe, compared to a lot of the research that has been done in the US, is that research demonstrates that CEOs differ in their ability to effect firm performance per country (Crossland & Hambrick, 2007). In their study, Crossland and Hambrick find that German CEOs have a significantly smaller effect on firm performance than American CEOs. CEOs in the US get paid significantly more and have a type of celebrity status which is not the case in other advanced economies (Hayward, Rindova, & Pollock, 2004). Different national systems greatly influence the decision making scope that CEOs of public companies have. American CEOs have fewer constraints on their actions and more power and thus a bigger impact (Crossland & Hambrick, 2007). They find strong support for greater variance in firm performance attributable to US CEOs than German CEOs. Therefore, with a smaller effect of German CEOs on firm performance, it is interesting to see whether shareholders may also be less sensitive to this new information in the EU.

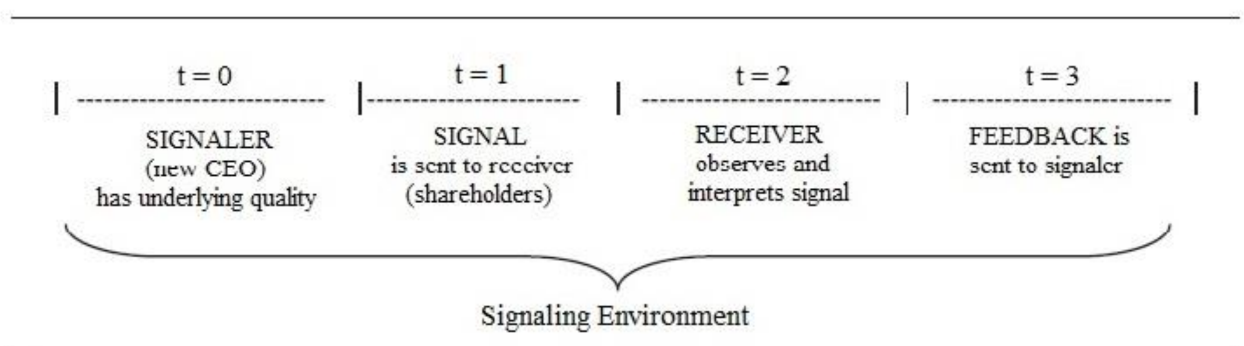
[1] http://www.kellogg.northwestern.edu/rs/data.aspx?DB=execucomp ExecuComp is a product of Standard & Poor's

Theoretical Framework

Signaling Theory

The main theory used in this paper is signaling theory. This theory, first presented by Spence in 1973, is widely used in management literature (Spence, 1973). Signaling theory proves particularly useful in situations of information asymmetry (Connelly, Certo, Ireland, & Reutzel, 2011). One party (the sender), in this paper the new CEO, needs to decide how and what to signal (or communicate) with the second party (the receiver), in this paper the shareholders. It is then up to the receiver how to interpret this signal and determine whether they believe the new CEO is of high or low quality. While the new CEO (insider) knows his or her own true abilities, the shareholders (outsiders) do not. The shareholders, however, would be interested in receiving this additional information. As a result of this information asymmetry, the new CEO has the possibility to signal their quality to the shareholders. Thus, quality is the distinguishing characteristic and is the unobservable ability of the new CEO to run the firm. Figure 1 illustrates signaling theory in the form of a timeline as used in this paper. It is important to note that there may be multiple (sometimes competing) signals.

Figure 1 – Signaling Timeline

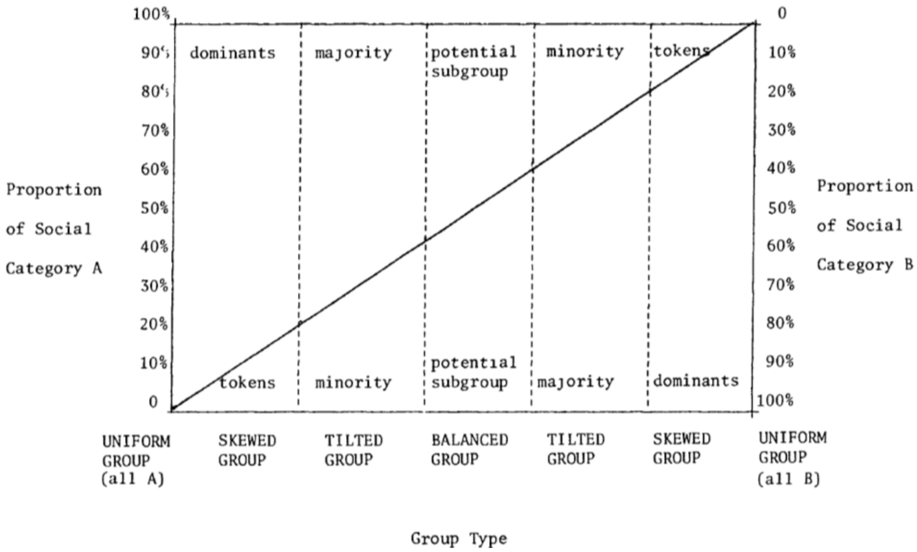


Note: t = time.

Theory of Proportional Representation

Another theory important for this paper is Kanter’s theory of proportional representation. Kanter’s theory examines matter of relative numbers. The current ratio of male to female CEOs in Europe can be considered what Kanter refers to as a ‘skewed’ group (Kanter, 1977). In a skewed group, there is a large preponderance of one type (here, male CEOs), which are also known as the numerical ‘dominants’, in comparison to another type (here, female CEOs), also known as the rare ‘tokens’. The dominants control the group and its culture. Figure 2 depicts how Kanter defines group types by proportional representation. Social category A in this paper is male CEOs and social category B is female CEOs.

Figure 2 – Group Types (Kanter, 1977)



In Kanter's research he analyzes what happens to women who are in these token positions. Three perceptual tendencies are identified in the proportional rarity of tokens: visibility, polarization, and assimilation (Kanter, 1977). The first phenomena; visibility, refers to the fact that tokens have higher visibility and create more awareness than when solely looking at dominants. This causes increased performance pressure for tokens. However, as the number of tokens increases, the less unique or noteworthy the occurrence of one becomes. For this paper, it implies that female CEOs are currently more visible since they stand out from the large majority of male CEOs, but that this increased awareness will decrease as the number of female CEOs increases.

Polarization refers to the idea that a token (with a different set of social characteristics) makes members of the dominant group more aware of their similarities with one another but also of their differences with the token. This idea has also been shown in research focusing on gender differences for CEOs. Since female CEOs are still rare, their differences with male CEOs are further brought to the forefront.

Third, assimilation, refers to involvement of stereotypes to distort the person's social characteristics in order to fit the generalization. These three phenomena generate typical token responses.

Role Congruity Theory

The role congruity theory of prejudice toward female leaders suggests two types of prejudice that underlie the preference for male leaders (Eagly & Karau, 2002). While a significant amount of discussion has focused on the barrier that excludes females from reaching key leadership positions, often known as the 'glass ceiling', the role congruity theory is a theory of the prejudices and stereotypes toward females in leadership. The first form of prejudice is that women are perceived less favorably than men when considered for leadership roles. They are often considered to have less leadership ability. Second, the behavior of women in a leadership role is evaluated less favorably. One of the main consequences of these prejudices is that female leaders are thought of less positively compared to male leaders. It also implies that it is more challenging for females to get leadership roles, and once in these roles, more difficult to be successful and be considered effective in the position.

Other research has found results supporting the role congruity theory which suggests that the normative relationship between leadership, dominance, and masculinity increases the likelihood of men to become leaders (Ritter & Yoder, 2004). This is the case even when women do possess agentic qualities like dominance.

Hypotheses

Under the maintained hypothesis of market efficiency, the event study methodology will be used to examine the impact of the announcement of a new female CEO on the share price. Based on the previously presented theories, it is expected that this announcement results in increased uncertainty for the shareholders, compared to the announcement of a male CEO, and thus negative abnormal returns are expected.

H1: The stock market reaction will be more negative (meaning there will be a more significant drop in share price relative to the benchmark share price) to the announcement of a new female CEO than that of a new male CEO.

While the announcement of a new male CEO may also result in some negative abnormal returns, as there is still new uncertainty for shareholders, the negative abnormal returns are expected to be larger for new female CEOs. Both the average abnormal returns for female CEOs compared to male CEOs as well as the magnitude of these returns will be analyzed.

Calculating the abnormal returns for each individual company (CAR) will allow for the most extreme shareholder reactions to be identified. Based on previous research and the theories presented, it is expected that the most extreme positive cases to rarely (if at all) be for females. On the other hand, females might be proportionately over-represented amongst the companies with significant negative abnormal returns. Both highly positive and negative abnormal returns will be identified to further understand what makes shareholders confident or skeptical, respectively, when it comes to a new CEO.

H2: The companies with large, positive abnormal returns will solely be those where a new male CEO is announced.

Since there are numerous events happening within a company around the CEO announcement date, for these companies with large positive or negative abnormal returns, a closer look will be done at the specific reason(s) for the large change in share price.

Data

The majority of the data used for the analysis in this paper is collected from Orbis. Orbis is a database with financial data for over 200 million companies worldwide[2]. Since the focus of this paper is on the largest European companies, Orbis was a reliable source to find the 2000 largest companies. The largest 2000 companies were selected because, based on the percentage of female CEOs in Europe, this would provide at least 50 female CEOs.

The initial search query looked for the largest publicly listed companies (based on operating revenue) in the 28 EU countries. With a total of 11,578 companies, the largest 2000 were selected for this analysis. Additional variables that were selected in the search query included the company's name, ISIN number, last available operating revenue, number of employees, country, information about the CEO (age, name, gender, salary- and total compensation, and appointment date), and the NACE code (industry). While Orbis provided the majority of the information, for many companies, information about the CEO and the number of employees was missing. This additional information was then collected from the company's websites.

Table 1 highlights numerous differences in the data between male and female CEOs and the size of the companies they lead. With 69 females, the share of female CEOs in this dataset is 3.4%. The reason for 1997 observations rather than 2000 is that 3 companies appeared not to have a CEO, or someone with a similar title. Female CEOs are, on average, 3 years younger and lead smaller companies (both in terms of number of employees and operating revenue). These differences, however, are small and should not significantly affect the results.

Table 1 – Descriptive Statistics

Descriptive Statistic	**Male CEOs**	**Female CEOs**	**Total**
Total # in Dataset	1928	69	1997
Average CEO Age	55	52	55
Average # of Employees	18,934	17,320	18,880
Average Operating Revenue	$ 5,084,324	$ 4,389,877	$ 5,060,342

[2] https://orbis.bvdinfo.com/version-2017510/home.serv?product=orbisneo

Table 2 – Summary Male/ Female CEOs in 28 EU Countries

Country	Male CEOs	Female CEOs	Total	% Female
Austria (AT)	42	1	43	2.33%
Belgium (BE)	53	3	56	5.36%
Bulgaria (BG)	8	0	8	-
Cyprus (CY)	16	0	16	-
Czech Republic (CZ)	8	0	8	-
Germany (DE)	250	2	252	0.79%
Denmark (DK)	50	2	52	3.85%
Estonia (EE)	2	0	2	-
Spain (ES)	82	1	83	1.20%
Finland (FI)	63	2	65	3.08%
France (FR)	263	7	270	2.59%
Great Britain (GB)	455	20	475	4.21%
Greece (GR)	45	0	45	-
Croatia (HR)	16	0	16	-
Hungary (HU)	6	0	6	-
Ireland (IE)	43	2	45	4.44%
Italy (IT)	124	9	133	6.77%
Lithuania (LT)	5	0	5	-
Luxembourg (LU)	33	1	34	2.94%
Latvia (LV)	1	0	1	-
Malta (MT)	3	0	3	-
Netherlands (NL)	85	4	89	4.49%
Poland (PL)	94	4	98	4.08%
Portugal (PT)	25	2	27	7.41%
Romania (RO)	12	2	14	14.29%
Sweden (SE)	131	7	138	5.07%
Slovenia (SI)	9	0	9	-
Slovakia (SK)	4	0	4	-

Table 2 gives an overview of which European countries have proportionally more females at the top than others. There is one country that stands out. Germany has the largest economy in Europe and is the third country in terms of having the highest number of large companies, after Great Britain and France. Surprisingly, Germany only has two female CEOs (0.79%) which is extremely low. Whether perceptions of female CEOs are more negative in Germany, compared to Great Britain or France, would be interesting to research further at a later time. The data in this paper is not sufficient in order to determine these differences.

The most important variable, the CEO announcement date, was not available in Orbis, or any other database for European companies. This date was generally found using Google News. On the date of the announcement, Google News often had numerous links to (local) newspapers, Bloomberg and/ or the Financial Times announcing the new CEO appointment.

While some dates were harder to find than others, many of the announcements were retrieved from the company's press archives, the New York Times, Bloomberg, the Financial Times, Wall Street Journal or a smaller newspaper (e.g. The Guardian, CBS News etc.). For a few of the large companies, an exact CEO announcement date could not be found. For these companies, the CEO had often been appointed more than 15 years ago or all information about the company was solely available in the local language.

Beginning by looking at the largest 200 companies, 147 male announcements were identified and collected. While there were 195 male CEOs in the top 200 companies, for 48 of them the announcement date could not be found due to the two reasons previously mentioned. Since this process of identifying the exact announcement date is very time intensive, the 147 male observations were considered sufficient for our analysis and the remainder of the data (largest 2000 companies) was used to solely identify further female announcements. The number of female CEO announcements collected is 51. In the end, due to lack of stock data for some ISIN numbers, the analysis of this paper contains 135 male CEO announcements and 44 female CEO announcements.

Methodology

The event study methodology, initially introduced in 1969, is frequently used in financial research. It was developed based on evidence that, on average, the market's reaction to new information is fully reflected in the share price at least by the end of the event month but probably almost immediately after the event (Fama, Fisher, Jensen, & Roll, 1969). The stock market can thus be considered 'efficient' as stock prices adjust quickly to new information.

“Financial markets provide continuous measures of the market’s perception of the value of firms, taking account of the beliefs of market participants about the abilities of men and women in senior management. As such, financial data hold the promise of potentially providing insight into the dynamics of discrimination, and specifically the persistence of biased beliefs about ability” (Wolfers, 2006, p. 532).

Signaling theory is the basis of the event study method. The premise behind using standard event study methodology is clear and will therefore enable the assessment of how shareholders perceive female CEOs. Shareholders are likely to be more skeptical and more aware of a female CEO announcement simply because they are new and different and represent a proportional rarity in comparison to male CEOs (Lee & James, 2003). Shareholders do not have a frame of reference to evaluate her with. The announcement of a new male CEO is much more common and does not stand out; it can be seen as a less risky investment.

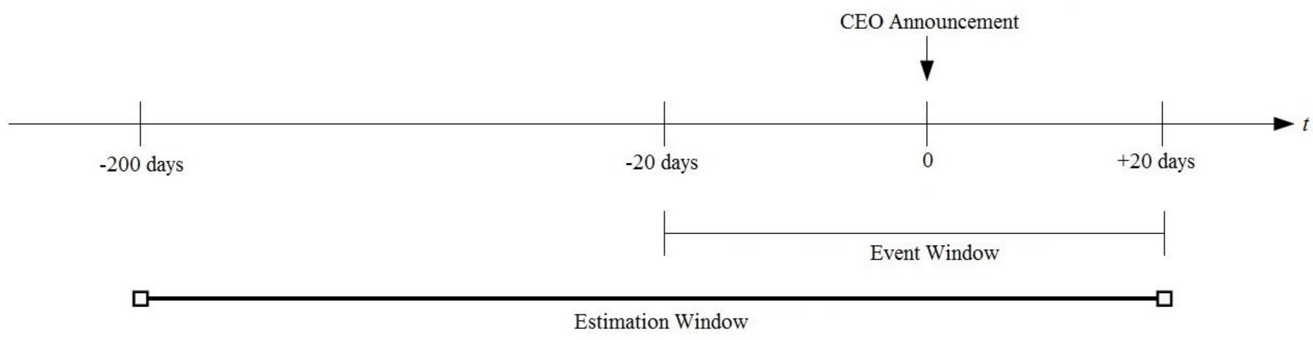
The event study methodology was initially used to examine security price performance and the dissemination of new information in the areas of investments and accounting (Binder, 1998). Since then, the method has been widely used in corporate finance and is the standard method to analyze various specific events such as a stock split, merger announcement, earnings announcement or any other event which is related to the release of information to market participants. Despite that numerous statistical issues have been pointed out over the years, the method continues to be used regularly as was already predicted 20 years ago (Binder, 1998). The results provide insight into whether there are excess or abnormal returns earned by security holders because of the specific event(s). The objective of an event study is thus to observe the market’s response to the specific event, which is done through observing security prices around the event (Peterson, 1989).

By investors buying or selling the stock following an announcement, these abnormal returns can signal whether investors expect great potential (when there are positive abnormal returns), or the opposite (Asquith & Mullins, 1986). While the event study method has been used to explain various phenomena and corporate announcements, it solely provides insights into the market perceptions of female CEO ability. This powerful tool allows us to determine how investors perceive women leaders in a business world that is dominated by male CEOs.

While many variations of the event study methodology exist, this paper will measure abnormal returns by calculating a benchmark from which the deviations can be observed. The estimation window (or estimation period) ranges from 200 days before the CEO announcement to 20 days after. The estimation window is used to establish a benchmark from which the abnormal returns can be calculated for different event windows ranging from (-20, +20) to much narrower ones. This method allows for the return on the stock to be isolated by removing the effects of economy wide factors. The results are thus solely of the portion of the return which is attributable to firm specific information.

Figure 3 is an illustration of the event study method that is used in this paper with the event window (-20, +20) which is used most often in this paper as the abnormal returns have the potential to be the largest.

Figure 3 – Event Study Method (CAR [-20, +20] Estimation)



While various statistical problems can arise when using the event study method, they are solvable and many are so minor that they do not need to be addressed. One issue, cross-sectional dependence, is not an issue in this analysis as the event dates are randomly dispersed through time rather than clustered. This is because this analysis does not look at a specific time period to find the CEO announcements.

This event study uses daily returns as they perform better than monthly returns (Binder, 1998). The reason for this is that with daily returns the potential statistical problems can easily be corrected for and are often minor and unimportant.

This paper looks at CEOs since they are arguably the most important company employee and often the most visible. The CEO position is also the most homogenous of the executive roles and it is unlikely that someone with a different job title performs the role of a CEO. The goal is to find the abnormal return attributable to the CEO announcement by adjusting for the price fluctuations of the market. There is evidence that there are more females in the workforce and also higher up within organizations, but it is still rare to see them reach the highest position within a firm. The largest European companies are used in this research as the announcement date for these is easier to find than that of smaller companies and because the market is more aware of these.

Results

Hypothesis 1

In the following result tables (numbers 3-5), the first column is the event window (trading days), the second column is the cumulative average abnormal returns (CAAR), the third column is the number of positive/ negative observations, and the fourth and fifth columns show the results of a time-series t-test. To calculate the CAAR, the average returns on days -200 till +20 are calculated for that specific stock and then compared to the event window under consideration, for example (-20, +20). The CAAR is the mean of all companies. Later, the cumulative abnormal returns (CAR), which looks at the individual abnormal returns for the one specific company under consideration, is discussed.

For example, in Table 3, when looking at the event window of 20 days before the event date and 20 days after the event date, on average there is almost a 1% decrease in the share price. Out of the 179 observations, 83 were positive and 96 negative. For this event window, however, the value of the t-test is smaller than 1.9 (and the probability larger than 0.05) and thus the results are insignificant.

Taking a closer look at Table 3, the only statistically significant event window is on the day itself (0, 0). On the day of the new CEO announcement, there appears to be a slight increase in the share price by 0.32% compared to the benchmark model. While there is just one significant effect, overall it appears that in the all market model (containing all data of both male and female CEO announcements), the announcement of a change in CEO, on average, does not appear to have much of an effect on the share price.

Table 3 – All Market Model

Date	CAAR	Pos : Neg	T-test	Probability
(-20,20)	-0,0091	83 : 96	-1,1015	0,2707
(-5,5)	-0,0027	85 : 94	-0,6417	0,5211
(-3,3)	0,0006	90 : 89	0,1908	0,8487
(-2,2)	0,0022	101 : 78	0,7649	0,4443
(-1,1)	0,0007	95 : 84	0,3037	0,7614
(0,0)	0,0032	91 : 88	2,501	0,0124
(0,1)	0,0007	91 : 88	0,3889	0,6973
(0,3)	0,0003	93 : 86	0,1295	0,8969

Having looked at the male and female CEO announcements together in one model, it is now interesting to split the male and female CEO announcements in order to determine whether there is indeed a difference. Table 4 summarizes the main findings from the male CEO announcements. The results are very similar to the all market model, not surprisingly, since the majority of observations in the all market model were male CEO announcements. Again, there is only a significant result for the event window on the day of the announcement (0, 0). While this effect is slightly larger than in the all market model, a share price increase of 0.37% remains small. Thus it is possible to conclude that a new male CEO does not result in a significant reaction, on average, amongst the shareholders.

Table 4 – Male Market Model

Date	CAAR	Pos : Neg	T-test	Probability
(-20,20)	-0.0053	61 : 74	-0.5904	0.5549
(-5,5)	-0.0038	63 : 72	-0.8137	0.4158
(-3,3)	-0.0002	66 : 69	-0.064	0.949
(-2,2)	0.004	77 : 58	1.263	0.2066
(-1,1)	0.0022	73 : 62	0.9031	0.3665
(0,0)	0.0037	69 : 66	2.6499	0.0081
(0,1)	0.0023	69 : 66	1.1322	0.2576
(0,3)	0.0011	69 : 66	0.4043	0.686

The results from the male market model are slightly different to those that Lee and James found in their analysis of CEO announcements in the US. They found that share prices drop by 0.5% when a new male CEO is announced.

Next, in Table 5, the results of the female market model are summarized. For the female CEO announcements, no significant effect can be found for any of the event windows. It is possible to speculate that the reason for this is the small sample size (44 observations). For the majority of the event windows, the split between positive and negative observations is exactly equal; with 22 positive observations and 22 negative observations. While no results are significant, the results do suggest that the announcement of a female CEO is far from always being perceived negatively by the shareholders. In a later section, supplementary analysis will be done to determine whether there are large outliers that cause the insignificant results.

Table 5 – Female Market Model

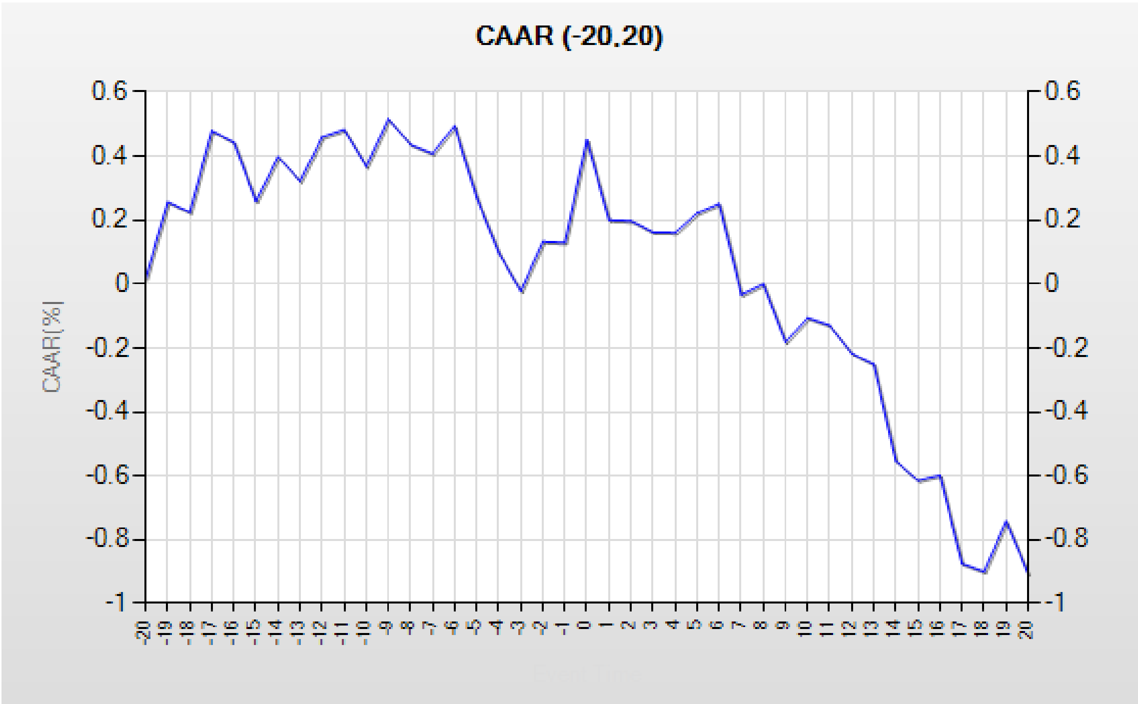
Date	CAAR	Pos : Neg	T-test	Probability
(-20,20)	-0.0205	22 : 22	-1.0958	0.2732
(-5,5)	0.0006	22 : 22	0.0598	0.9523
(-3,3)	0.0034	24 : 20	0.437	0.6621
(-2,2)	-0.0033	24 : 20	-0.5069	0.6122
(-1,1)	-0.004	22 : 22	-0.7983	0.4247
(0,0)	0.0016	22 : 22	0.5416	0.5881
(0,1)	-0.0041	22 : 22	-0.9861	0.3241
(0,3)	-0.0022	24 : 20	-0.3689	0.7122

While a slight positive effect was found for males on the event date, no effect was found for females. All in all, from the first section of the analysis, no significant effect is found for both the announcement of a male or female CEO.

Despite finding no effect in the tables above, it is still helpful to graph these results in order to visualize them. Figures 1-3 graph the cumulative average abnormal returns (CAAR) for the event window (-20, +20). On the x-axis are the trading days from 20 days before the event (-20) till 20 days after the event (+20) and on the y-axis is the CAAR as a percentage, again comparing to the benchmark (0).

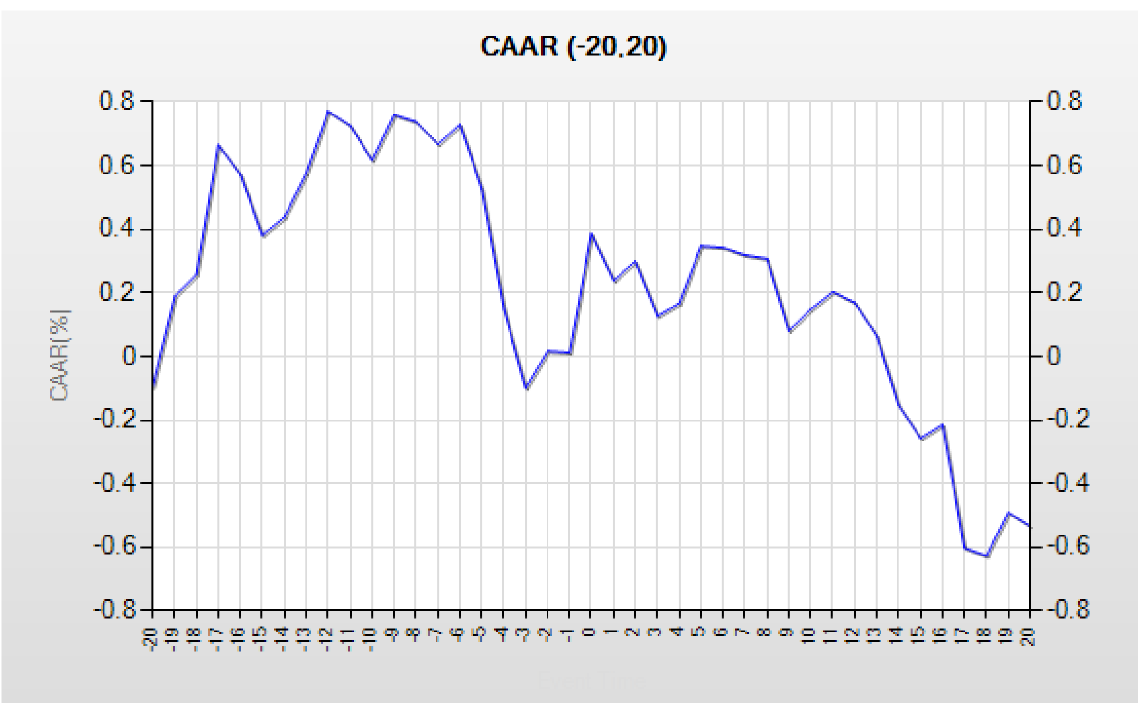
Figure 4 is a graph of the all market model. In this graph, the slight increase in share price on the event date (x=0) can be seen. Following the event date, there appears to be a drop in the share prices although this is likely insignificant.

Figure 4 – All Market Model



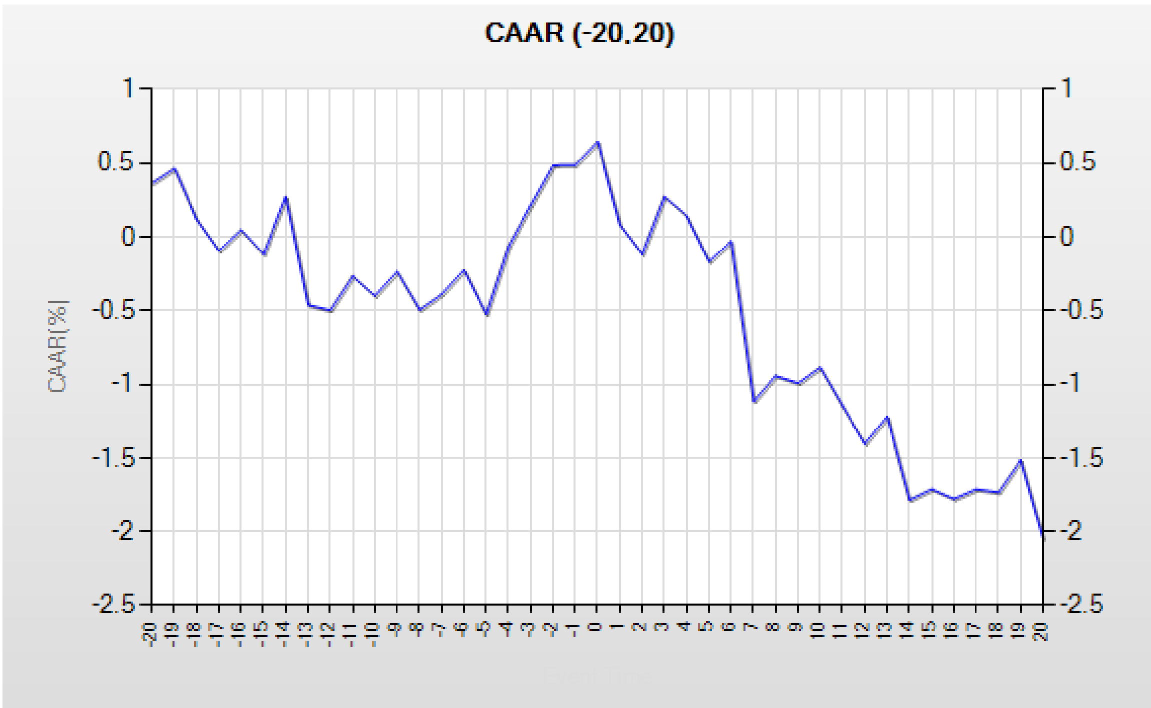
In Figure 5, the graph of the male market model shows a similar small spike on the event date followed by a drop in share prices following the date.

Figure 5 – Male Market Model



In Figure 6, the share price appears to remain relatively constant up until the announcement, after which the share price continues to drop. This drop is more drastic than in the previous graphs. For now, it is possible to tentatively conclude that outliers are responsible for the share price drop following the event date.

Figure 6 – Female Market Model



Hypothesis 2

Extreme Outliers

Having looked at the CAAR in some detail, the focus now turns to the CAR. As mentioned previously, the CAR is the individual abnormal return for one company, not the average of all the companies (CAAR). It is cumulative over the event window. Looking at the CAR will enable the identification of extreme cases (outliers) where the shareholder reaction was either very positive or negative.

Looking at the CAR data for all 179 companies, within the 8 different event windows, the most extreme changes in share prices can be found. Table 6 summarizes the 6 companies that had a 30% increase or decrease in share price in one of the event windows. These six cases are the most extreme outliers where the announcement of a new CEO had a drastic effect.

The first two companies, Volkswagen and BP, are two of the largest European companies. While Volkswagen had share prices drop almost 51% in the event window (-5, +5), for GP there was a massive increase of 35% in share prices in the event window (-20, +20). For Rizzoli Corriere Della Sera Media Group (RCS Media Group), an Italian multimedia publishing group, the most drastic female drop in share prices can be observed, as it dropped 47% in the event window (-20, +20). For Continental and Fabryka Kotlow Rafako Spolka Akcyjna (Rafako) there was a significant increase in share prices, 38% and 41% respectively. Lastly, for Post NL, there was also a significant drop in share prices of 37%.

This mix of both males and females (with both positive and negative reactions) is interesting since hypothesis 2 expected none of the extreme positive returns to be a reaction to a new female CEO. The most extreme negative abnormal return is for the female CEO announcement of RCS Media Group. Since there are both very positive and negative results for females and only 44 observations, this explains that no significant results could be found.

Table 6 – CAR Outliers (30% +)

Company	**Volkswagen**	**BP**	**RCS Media Group**	**Continental**	**Rafako**	**Post NL**
Country	Germany	Great Britain	Italy	Germany	Poland	Netherlands
Gender	Male	Male	Female	Male	Female	Female
Date	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**
(-20,20)	-0.438	0.349	-0.466	0.375	0.409	-0.336
(-5,5)	-0.509	0.078	0.013	0.085	0.302	-0.226
(-3,3)	-0.248	0.028	-0.020	-0.010	0.209	-0.174
(-2,2)	-0.098	0.047	-0.014	0.026	0.097	-0.123
(-1,1)	-0.124	0.018	-0.011	0.053	0.102	-0.090
(0,0)	-0.066	-0.025	-0.021	-0.033	0.039	-0.017
(0,1)	-0.122	-0.029	-0.027	-0.015	0.080	-0.089
(0,3)	-0.148	-0.010	-0.029	-0.077	0.208	-0.133

The obvious question is why these companies had such dramatic changes in the share prices. For example, what was the situation at Volkswagen that resulted in a massive drop in share prices? In this section, for each company an attempt is made in order to determine the cause(s) for the abnormal returns.

First, Volkswagen will be investigated to determine why their new CEO announcement on September 25th, 2015 caused a dramatic drop in share prices. Their new CEO, Matthias Müller, was chosen to lead the company after the previous CEO stepped down after the emissions cheating scandal revelations came out the previous week (Ewing & Vlasic, 2015). The scandal, which revealed that Volkswagen's vehicles had software that tricked diesel air-quality tests, placed immense pressure on Müller to restore Volkswagen's reputation. Müller had been with Volkswagen since 1977 and previously led Porsche, which was taken over by Volkswagen, and had a good reputation for increasing sales and profits. On the date of his CEO announcement, Müller insisted that he knew nothing about the scandal. While some corporate governance experts said Volkswagen should have hired an outsider rather than an insider, the fall in share prices in the event window is primarily a reaction to Volkswagen's scandal that happened just days before the new CEO announcement rather than a reaction to Müller himself. Interestingly, Müller has just recently (May 17th, 2017) been placed under investigation for having been involved in the scandal (Boston, 2017).

Next, a closer look will be done for BP's large increase in share price. Robert Dudley, announced as the new CEO on July 27th, 2010, was previously a managing director at the company, with more than 30 years in the oil business, and was the first foreigner (American) to lead the long standing British company (Mufson, 2010). After a massive oil spill in the Gulf of Mexico that resulted in many lives lost and a $32.2 billion charge for the company, the appointment of Dudley comes at a turning point for the company where they can move forward from the oil spill (BBC News, 2010). After a prior share plunge of almost 40%, the departure of the previous CEO, responsible for the disastrous oil spill, likely lead to the majority of the increase in the share price rather than the fact that Dudley would be the person replacing him (Rooney & Wong, 2010).

The largest share plunge was for the female CEO announcement at the Italian company RCS Media Group. Laura Cioli was announced CEO on October 27th, 2015, 3 weeks after her predecessor resigned (Corriere Della Sera, 2015). Unfortunately, due to lack of information sources in English, the reason for the dramatic fall in share prices is unclear.

Elmar Degenhart was announced the new CEO of Continental on August 12th, 2009. He had lots of experience for the job and was described as calm and authentic (Focus, 2009). Degenhart was considered to think strategically, to give his employees space to do their work, and the majority of the top management at Continental already knew him. While there were evidently some that were skeptical, believing the new CEO should be an entrepreneur and not a bureaucrat, the majority seemed to be very confident with the decision. As an insider with a proven track record who was respected by many, the announcement increased stakeholders' confidence in the company and as a result share prices rose.

For Rafako, all information regarding the company is in Polish and unfortunately details on why shareholders had such a positive reaction to the new female CEO cannot be identified.

Lastly, a closer look will be done at Post NL, a mail, parcel and e-commerce corporation in the Netherlands, Germany, Italy, Belgium, and the United Kingdom. The company had big issues as the mail market continues to shrink and they are unsure of where to invest next (van den Dool, 2012). Herna Verhagen was a member of the board of directors before being named the company's new CEO. She had nearly 20 years of experience in the company. Her predecessor decided to resign because of disagreements with the supervisory board regarding the future of the company. The company appeared to have significant problems when she became CEO after the demerger with TNT Express. The fall in share prices primarily appears the reaction of the shareholders to the numerous issues at the company and that the CEO resigned than a reaction to the announcement of Verhagen as CEO.

Since two of the six companies solely had company information and news in the local language, the analysis is extended to the companies that had a 20-30% increase or decrease in share price. While the shareholder reaction here is less extreme than of those that were previously under consideration, companies that fall into this category still had a significant shareholder reaction around the event date. Since the average change in share price is 0% in the data, a deviation between 20-30% is significant and suggests that shareholders did react to specific event(s) around the event date.

Medium-Level Outliers

Here, further analysis will be done to continue to determine why certain CEOs have very positive/ negative reactions from shareholders. Table 7 (consisting of 2 separate tables) summarizes the CAR for the companies with abnormal returns between 20% and 30%.

Table 7 – CAR Outliers (20-30%)

Company	Fiat Chrysler	UniCredit	Electrocomponents	Country wide	FBD Holdings	RWE	Air France - KLM	Inditex
Country	Netherlands	Italy	Great Britain	Great Britain	Ireland	Germany	France	Spain
Gender	Male	Male	Male	Female	Female	Male	Male	Male
Date	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**
(-20,20)	0.252	-0.101	0.219	-0.223	-0.286	-0.207	-0.223	-0.236
(-5,5)	0.020	-0.206	0.124	-0.044	-0.228	-0.122	-0.087	-0.014
(-3,3)	-0.027	-0.119	0.113	-0.022	-0.222	-0.155	-0.081	0.020
(-2,2)	0.036	-0.148	0.071	0.007	-0.195	-0.155	-0.051	0.022
(-1,1)	0.043	-0.073	0.040	-0.044	-0.186	-0.096	-0.022	0.033
(0,0)	0.040	0.009	-0.001	0.002	-0.106	-0.047	0.003	0.019
(0,1)	0.031	-0.050	0.037	-0.002	-0.128	-0.113	-0.009	0.028
(0,3)	-0.048	-0.032	0.087	0.036	-0.144	-0.174	-0.076	0.031

Table 7 Continued – CAR Outliers (20-30%)

Company	Lloyds Banking Group	Royal Bank of Scotland	ICA Gruppen	ING Groep	X5 Retail Group	Standard Chartered	Leonardo
Country	Great Britain	Great Britain	Sweden	Netherlands	Netherlands	Great Britain	Italy
Gender	Male	Male	Male	Male	Male	Male	Male
Date	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**	**CAR**
(-20,20)	-0.272	-0.243	-0.204	-0.239	-0.216	0.298	-0.265
(-5,5)	-0.054	-0.008	-0.059	-0.093	-0.098	0.057	-0.108
(-3,3)	-0.039	0.036	-0.032	-0.070	-0.076	0.011	-0.073
(-2,2)	-0.033	0.035	-0.026	-0.057	-0.081	0.059	-0.060
(-1,1)	-0.023	-0.015	-0.005	-0.051	-0.082	0.043	-0.071
(0,0)	0.031	-0.006	-0.014	-0.017	-0.065	0.050	-0.030
(0,1)	0.017	0.009	-0.009	-0.025	-0.087	0.065	-0.071
(0,3)	-0.017	0.025	-0.016	-0.045	-0.095	0.059	-0.076

Beginning with Fiat Chrysler Automobiles, Sergio Marchionne was announced the new CEO on May 7th, 2009 following the alliance between Fiat and Chrysler. Marchionne had a large vision for the company with numerous other acquisitions in order to double the size of the company (Daily Herald, 2009). He had a strong reputation, making Fiat profitable after 17 quarters of losses. The positive reaction of the shareholders is a response to the alliance announcement as well as that Marchionne will lead the company.

For UniCredit, CEO Jean Pierre Mustier was announced the new CEO on June 30th, 2016 as the first non-Italian to run the company (Sirletti, 2016). As a former insider, Mustier had a tough task ahead of him with the Italian banking system falling deeper into a crisis. Shares had been dropping for quite some time prior to the announcement of Mustier as the company had $80 billion of bad debts and sagging profits (Arnold, 2016). Despite Mustier having been fined before for a trading case and some board members having concerns regarding his lack of ability to understand what is happening in Italy, his reputation was good and here again the shareholders' reaction was primarily to the circumstances of the company at the time rather than the event.

Countrywide is UK's largest estate agency group. Elizabeth Platt was announced the new CEO of this company on May 20th, 2014 (Palin, 2014). While an outsider of the industry, Platt was respected for her leadership abilities, ambitions for the company, and her focus on service delivery. At this time, the UK housing market had been booming and thus the shareholder reaction is again a combination of the trust for the incoming CEO as well as the continued growth of the market she will be able to benefit from.

Fiona Muldoon, was announced CEO of FBD Holdings, an insurance company, on July 31st, 2015 (Lowry, 2015). Transitioning from the Group Finance Director, her predecessor was greatly respected and it appears the share price drop was mainly a result of the previous CEO announcing his resignation.

Jean-Marc Janaillac was named the new CEO of Air France-KLM on May 1st, 2016 (Landauro, 2016). With experience in the airline industry and at Air France, the share drop appears to be due to the surprising resignation of his predecessor and the challenges Janaillac had ahead of him. He was considered to be taking one of the toughest jobs in global aviation mainly because of the increased competition and troublesome unions (Stothard, 2016). He was not the first choice for the job and all this likely made shareholders uncertain of the company's future.

The announcement of Antonio Horta-Osorio on November 3rd, 2010 as CEO of Lloyds Banking Group was unexpected as many believed an internal candidate would be chosen (The Telegraph, 2010). While he had a good track record and experience in the industry, outrage occurred after it became evident his pay package could already be worth £8.3 million in his first year (Barrow, Duke, & Chapman, 2010). Since the bank was bailed out by many taxpayers, the high salary frustrated many causing the shares to drop.

Ross McEwan was announced CEO of the Royal Bank of Scotland on August 2nd, 2013. McEwan had been at the bank for a year and had a varied career in finance. Since he had previously been working in retail banking and was criticized for having a lack of experience in investment banking, there was speculation McEwan would further shrink the investment bank (Treanor, 2013). The 30,000 jobs that had been lost in the previous years, placed pressure on McEwan to make an end to this. The New Zealander was further criticized for his lack of political and regulatory contacts in the UK which was seen as a problem because the government owns an 81% stake in the company (Goff & Hume, 2013). The uncertainty the shareholders had regarding McEwan likely lead to the share drop.

Ralph Hamers was announced the new CEO of the ING group on February 22nd, 2013 (MT.nl, 2013). He had been at the company since 1991 but at 46 years old, he was the youngest CEO they had ever had. Shareholders were frustrated that his predecessors' contract had been renewed by a few months in order to train Hamers. Hamers had numerous tasks of his predecessor to finish and the important task of improving the bank's image for young people (de Bruijn, 2013). Here as well, a combination of frustration towards the previous CEO and uncertainty towards the young, new CEO, resulted in a share price drop.

Bill Winters was announced the new CEO of Standard Chartered on February 26th, 2015. Winters was considered one of the best bankers of his generation and had an outstanding track record at JPMorgan; more than doubling the net investment banking profits in the previous quarter before leaving (Wright, 2015). He was one of the most wanted CEOs at banks and the announcement of his position at Standard Chartered was thus the main cause for share prices to increase with almost 30%.

For Electrocomponents, RWE, Inditex, ICA Gruppen, X5 Retail Group, and Leonardo the reason for the significant fall or increase in share prices could not be identified because a lack of information or the language barrier.

While all companies had different things going well or not going well for them at the time of the announcement of the new CEO, the main takeaway from looking closely at each of the companies is that for the majority of them, with few exceptions, it appears the majority of the change in share price was a response to something other than the new CEO.

Discussion

Based on previous theories, it was expected that the uncertainty of any new CEO (male or female) would result in negative abnormal returns. Despite this, a small, significant increase in share price was found on the event date (0, 0) in the all market model and the male market model. This increase in share price was only 0.32% in the all market model and 0.37% in the male market model. Despite this being very small, it is interesting that on the event date, there are more positive abnormal return observations than negative. Therefore, these results suggest that the increased uncertainty that shareholders face does not, on average, result in a fall in share prices.

This small change in share price suggests that, at least for male CEOs, shareholders are, on average, relatively insensitive to this new information. It is possible to speculate that this goes back to Crossland and Hambrick's research that suggests that German CEOs (and likely European CEOs due to similar national systems) have a smaller effect on firm performance than American CEOs and thus that shareholders are less interested and face less uncertainty when a new CEO is announced.

While none of the results in the female market model were significant, some speculation can be done. The ratio of positive to negative observations was equal for many event windows, with few exceptions where there were slightly more positive observations. It cannot be concluded, for hypothesis 1, that there is or is not a more negative stock market reaction when a female CEO is announced compared to a male CEO. But, it is also not the case that all shareholder reactions to a female CEO are negative. If that were the case, it would be evident that shareholders truly perceive female CEOs as unfit for the position. It is likely that the announcement in today's world still creates more uncertainty for shareholders when a female CEO is appointed. The most extreme case; that they always react negatively when a female is set to take the lead, is not the case.

It is possible to tentatively reject hypothesis 2, that the companies with large, positive abnormal returns would solely be those with a new male CEO announcement. When observing those companies with abnormal returns larger than (+/-) 20%, however, there is only one company, Rafako, that is an exception to this hypothesis with positive abnormal returns of almost 41%. Unfortunately the reason for the most extreme share price increase in the sample could not be identified due to all information being in Polish. Thus, with one exception, about which no information can be found, no concrete conclusion regarding hypothesis 2 can be made. It is unclear whether hypothesis 2 is indeed false or whether the exception is an extreme outlier that should not be considered. The other four female outliers were all negative, likely causing the insignificant female results. With a larger sample size, more accurate conclusions for both hypotheses can be done.

The closer examination of the specific reasons for the change in share price revealed that in the majority of extreme cases, the specifics of who became the new CEO were only a (small) part of the change in share price. With a few exceptions, where the change in share price mainly reflected the shareholders' reaction to who the new CEO was, the preciseness of the event study method for this purpose is questioned. It is evident more data is needed to further research this topic. While the event study method controls for all other variables and isolates the effect under analysis, since the resignation and new appointment are sometimes very close together, or even on the same day, the shareholder reaction may be more than just to the new male or female CEO.

While the theory of proportional rarity would suggest that the announcement of a female CEO would draw more attention and likely uncertainty for the shareholders, this negative effect could be countered by numerous factors, one being that the females that make it to the CEO level are those that are extremely talented and skilled. As the proportion of male CEOs to female CEOs becomes (more) equal, the announcement of a female CEO becomes less interesting and noteworthy. Since there is still a relatively small number of female CEOs in Europe, these results would be more robust with a larger number of female CEOs. If the proportional rarity argument indeed holds, it is expected that this negative reaction (if any) of the shareholders to neutralize as the number of female CEOs becomes less rare.

Limitations

The limitations of this paper have already been mentioned. The largest, most obvious limitation is that the sample size for the female CEOs is too small and thus no significant results can be found. This limitation is present in all previous studies that look at female CEOs and it appears that it will take quite some time before there will be enough female CEOs to do extensive research if the hiring rate remains similar or slowly increases.

A second limitation is that, despite the event studies' efforts, the change in share price in this analysis might not truly reflect the shareholder's reaction to solely the gender of the new CEO, but also to other major events that happened very close to the event date.

Further Research

This paper does not tell us anything regarding the accuracy of these perceptions. Despite not finding significant negative returns for female CEOs in this paper, they have previously been found. Further research should be done to determine whether the underpricing of female CEOs done for large European companies in fact under-estimates the true ability of women. In other words, if financial markets indeed underestimate female CEOs, are excess returns present? While some research has been done in this area, a lack of a large dataset has limited the ability to conclude whether female-headed firms outperform market expectations. As more females become CEO, the amount of data available will increase and more conclusive research will be able to be done. If the hiring rate doesn't increase, however, waiting for more data and thus insights to become available will take a long time.

References

Arnold, M. (2016, July 1). *Financial Times*. Retrieved from Jean-Pierre Mustier set for return to familiar UniCredit ground: https://www.ft.com/content/8b1d7258-3ef2-11e6-9f2c-36b487ebd80a

Asquith, P., & Mullins, D. (1986). Signalling with Dividends, Stock Repurchases, and Equity Issues. *Financial Management, 15*(3), 27-44. Retrieved from http://www.jstor.org/stable/3664842?seq=1#

Barber, B., & Odean, T. (2001, February). Boys will be Boys: Gender, Overconfidence, and Common Stock Investment. *The Quarterly Journal of Economics, 116*(1), 261-292. doi:10.1162/003355301556400

Barrow, B., Duke, S., & Chapman, J. (2010, November 4). *Outrage over £8.3m deal for new Lloyds boss (and they even pay the transfer fee)*. Retrieved from Daily Mail: http://www.dailymail.co.uk/news/article-1326309/Outrage-8-3m-deal-new-Lloyds-boss-Antonio-Horta-Osorio.html

BBC News. (2010, July 27). Retrieved from BP to set aside $32.2bn to cover oil spill costs: http://www.bbc.com/news/business-10770252

Bertrand, M., & Hallock, K. (2001, October). The Gender Gap in Top Corporate Jobs. *Industrial and Labor Relations Review, 55*(1), 3-21. doi:10.1177/001979390105500101

Bertrand, M., & Schoar, A. (2003, November). Managing with Style: The Effect of Managers on Firm Policies. *The Quarterly Journal of Economics, 118*(4), 1169-1208. doi:10.1162/003355303322552775

Binder, J. J. (1998, September). The Event Study Methodology Since 1969. *Review of Quantitative Finance and Accounting, 11*(2), 111-137. doi:10.1023/A:1008295500105

Boeker, W., & Goodstein, J. (1993, February). Performance and Successor Choice: The Moderating Effects of Governance and Ownership. *Academy of Management Journal, 36*(1), 172-186. doi:10.2307/256517

Boston, W. (2017, May 17). *Volkswagen CEO Targeted in Emissions-Cheating Probe*. Retrieved from The Wall Street Journal: https://www.wsj.com/articles/volkswagen-ceo-targeted-in-emissions-cheating-probe-1495019275

Bugeja, M., Matolcsy, Z. P., & Spiropoulos, H. (2012, September). Is there a gender gap in CEO compensation? *Journal of Corporate Finance, 18*(4), 849-859. doi:10.1016/j.jcorpfin.2012.06.008

Connelly, B. L., Certo, T., Ireland, D., & Reutzel, C. (2011, January). Signaling Theory: A Review and Assessment. *Journal of Management, 37*(1), 39-67. doi:10.1177/0149206310388419

Corriere Della Sera. (2015, October 27). Retrieved from Cioli nuovo amministratore delegato di Rcs Mediagroup : http://www.corriere.it/economia/15_ottobre_27/cioli-nuovo-amministratore-delegato-rcs-mediagroup-beadd3ec-7ce7-11e5-8cf1-fb04904353d9.shtml?refresh_ce-cp

Crossland, C., & Hambrick, D. C. (2007, August). How national systems differ in their constraints on corporate executives: A study of CEO effects in three countries. *Strategic Management Journal, 28*(8), 767-789. doi:10.1002/smj.610

Daily Herald. (2009, May 7). Retrieved from Fiat Group CEO Sergio Marchionne to head Chrysler: http://prev.dailyherald.com/story/?id=291931

de Bruijn, F. (2013, February 22). *Ralph Hamers Opvolger Jan Hommen bij ING*. Retrieved from BNR: https://www.bnr.nl/nieuws/beurs/10130546/ralph-hamers-opvolger-jan-hommen-bij-ing

Dezsö, C. L., & Ross, D. G. (2012, September). Does female representation in top management improve firm performance? A panel data investigation. *Strategic Management Journal, 33*(9), 1072-1089. doi:10.1002/smj.1955

Eagly, A. H., & Karau, S. J. (2002, July). Role Congruity Theory of Prejudice Toward Female Leaders . *Psychological Review , 109*(3), 573-598. doi:10.1037/0033-295X.109.3.573

Ewing, J., & Vlasic, B. (2015, September 25). *Volkswagen Names Matthias Müller, an Insider, as Chief Executive*. Retrieved from The New York Times: https://www.nytimes.com/2015/09/26/business/volkswagen-namesmuller-an-insider-as-chief-executive.html?_r=1

Fairchild, C. (2014, June 3). *Number of Fortune 500 women CEOs reaches historic high*. Retrieved from Fortune: http://fortune.com/2014/06/03/number-of-fortune-500-women-ceos-reaches-historic-high/

Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969, February). The Adjustment of Stock Prices to New Information. *International Economic Review, 10*(1), 1-21. doi:10.2307/2525569

Focus. (2009, August 12). Retrieved from Degenhart: Erfahrener Manager an Conti-Spitze: http://www.focus.de/finanzen/news/auto-degenhart-erfahrener-manager-an-conti-spitze_aid_425665.html

Goff, S., & Hume, N. (2013, August 2). *New RBS chief Ross McEwan banks on his people skills* . Retrieved from Financial Times: https://www.ft.com/content/e219dc60-fa65-11e2-87b9-00144feabdc0

Hayward, M. L., Rindova, V. P., & Pollock, T. G. (2004, July). Believing one's own press: the causes and consequences of CEO celebrity. (653, Ed.) *Strategic Management Journal, 25*(7), 637-. doi:10.1002/smj.405

Heilman, M., Block, C., Martell, R., & Simon, M. (1989, December). Has anything changed? Current characterizations of men, women, and managers. *Journal of Applied Psychology, 74*(6), 935-942. Retrieved from http://psycnet.apa.org/index.cfm?fa=buy.optionToBuy&id=1990-13510-001

Kanter, R. M. (1977, March). Some Effects of Proportions on Group Life: Skewed Sex Ratios and Responses to Token Women. *American Journal of Sociology, 82*(5), 965-990. doi:10.1086/226425

Landauro, I. (2016, May 1). *Air France-KLM Names Jean-Marc Janaillac as New Chairman, CEO*. Retrieved from Wall Street Journal: https://www.wsj.com/articles/air-france-klm-names-jean-marc-janaillac-as-new-chairman-ceo-1462137235

Lee, P., & James, E. (2003). She'-e-os: Gender Effects and Stock Price Reactions to the Announcements of Top Executive Appointments. *Darden Business School Working Paper, 2*(11).

Lowry, E. (2015, July 31). *Irish Farmers Journal*. Retrieved from FBD announces resignation of CEO: http://www.farmersjournal.ie/fbd-announces-resignation-of-ceo-186590

Malmendier, U., & Tate, G. (2005, November). Does Overconfidence Affect Corporate Investment? CEO Overconfidence Measures Revisited. *European Financial Management, 11*(5), 649-659. doi:10.1111/j.1354-7798.2005.00302.x

Mohan, N., & Chen, C. (2004). Are IPOs Priced Differently Based Upon Gender? *Journal of Behavioral Finance, 5*(1), 57-65. doi:10.1207/s15427579jpfm0501_6

Morrison, A. M., & von Glinow, M. (1990, February). Women and minorities in management. *American Psychologist, 45*(2), 200-208. doi:10.1037/0003-066X.45.2.200

MT.nl. (2013, February 22). Retrieved from Goudhaan Ralph Hamers nieuwe topman ING : https://www.mt.nl/business/goudhaan-ralph-hamers-nieuwe-topman-ing/74162

Mufson, S. (2010, July 28). *BP names Dudley as CEO, announces $17 billion loss*. Retrieved from Washington Post: http://www.washingtonpost.com/wp-dyn/content/article/2010/07/27/AR2010072700479.html

Oakley, J. (2000, October). Gender-based Barriers to Senior Management Positions: Understanding the Scarcity of Female CEOs. *Journal of Business Ethics, 27*(4), 321-334. doi:10.1023/A:1006226129868

Palin, A. (2014, May 20). *Financial Times*. Retrieved from Countrywide appoints new chief executive from Bupa: https://www.ft.com/content/4533e33e-e00e-11e3-9534-00144feabdc0

Peterson, P. P. (1989). Event Studies: A Review of Issues and Methodology. *Quarterly Journal of Business and Economics, 28*(3), 36-66.

Powell, G., & Butterfield, A. (2002, June). Exploring the Influence of Decision Makers' Race and Gender on Actual Promotions to Top Management. *Personnel Psychology, 55*(2), 397-428. doi:10.1111/j.1744-6570.2002.tb00115.x

Ritter, B. A., & Yoder, J. D. (2004, September 1). Gender Differences in Leader Emergence Persist Even for Dominant Women: An Updated Confirmation of Role Congruity Theory. *Psychology of Women Quarterly, 28*(3), 187-193. doi:10.1111/j.1471-6402.2004.00135.x

Rooney, B., & Wong, G. (2010, July 27). *BP ousts CEO Hayward and taps an American* . Retrieved from CNN Money: http://money.cnn.com/2010/07/27/news/companies/bp_hayward/

Sirletti, S. (2016, June 30). *Bloomberg*. Retrieved from UniCredit Appoints Mustier CEO to Spearhead Bank's Overhaul: https://www.bloomberg.com/news/articles/2016-06-30/unicredit-said-planning-to-appoint-mustier-as-chief-executive

Spence, M. (1973, August). Job Market Signaling. *The Quarterly Journal of Economics, 87*(3), 355-374. Retrieved from http://links.jstor.org/sici?sici=0033-5533%28197308%2987%3A3%3C355%3AJMS%3E2.0.CO%3B2-3

Stothard, M. (2016, May 1). *Janaillac takes controls at Air France-KLM* . Retrieved from Financial Times: https://www.ft.com/content/d374034a-0fe1-11e6-91da-096d89bd2173

The Telegraph. (2010, November 3). Retrieved from Lloyds Banking Group appoints Santander UK head Antonio Horta-Osorio as new chief: http://www.telegraph.co.uk/finance/newsbysector/epic/lloy/8106973/Lloyds-Banking-Group-appoints-Santander-UK-head-Antonio-Horta-Osorio-as-new-chief.html

Treanor, J. (2013, August 2). *RBS announces Ross McEwan as Stephen Hester's successor*. Retrieved from The Guardian: https://www.theguardian.com/business/2013/aug/02/rbs-ross-mcewan-stephen-hester

van den Dool, P. (2012, April 19). *Topman PostNL Koorstra stapt op*. Retrieved from NRC: https://www.nrc.nl/nieuws/2012/04/19/topman-postnl-koorstra-stapt-op-a1445700

Welbourne, T. (1999, April). Wall Street Likes its Women: An Examination of Women in the Top Management Teams of Initial Public Offerings. *CAHRS Working Paper Series*. Retrieved from http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1105&context=cahrswp&sei-redir=1&referer=http%3A%2F%2Fscholar.google.nl%2Fscholar%3Fq%3Dwelbourne%2B1999%2Bwall%2Bstreet%2Blikes%2Bits%2Bwomen%26btnG%3D%26hl%3Den%26as_sdt%3D0%252C5#search=

Wolfers, J. (2006, April-May). Diagnosing Discrimination: Stock Returns and CEO Gender. *Journal of the European Economic Association, 4*(2-3), 531-541. doi:10.1162/jeea.2006.4.2-3.531

Wright, B. (2015, February 26). *Just who is Bill Winters, the new chief executive of Standard Chartered?* Retrieved from The Telegraph: http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/11436560/Just-who-is-Bill-Winters-the-new-chief-executive-of-Standard-Chartered.html

Zarya, V. (2016, June 6). *The Percentage of Female CEOs in the Fortune 500 Drops to 4%*. Retrieved from Fortune: http://fortune.com/2016/06/06/women-ceos-fortune-500-2016/