ERASMUS UNIVERSITY ROTTERDAM

Erasmus School of Economics

Bachelor Thesis Economics and Business Economics

The effects of internal and external CEO announcements on stock prices

Abstract

In this paper I investigate the difference in market reactions on CEO announcements between different groups of CEOs for European companies between 2010 and 2021. CEOs that are hired externally are compared to CEOs that already worked for the company and CEOs with CEO experience are compared to CEOs without CEO experience. An event study is conducted to get the cumulative abnormal returns of each group, after which the CARs are compared to each other using a two-sample t-test. I find that the announcements of externally hired CEOs on average have more positive market reactions than those of internally hired CEOs in Europe.

Name student: Gijs Verleisdonk

Student ID number: 502572

Supervisor: Bas Karreman

Second assessor: Arjun Gupta

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1. Introduction

The main responsibility of a company's CEO is to establish a strategy and execute it. The CEO guides a company towards their goals and influences the way a company operates. Thus, when a new CEO is announced, this could affect the company's performance in the future, which can cause the stock market investors to react. For example, when shareholders expect the announced CEO to be less qualified to lead the company than his predecessor, they will be convinced the performance of the firm will go down, causing the firm value to decrease. At the current share price this will result in less investors willing to buy the stock and more investors willing to sell the stock ceteris paribus, which decreases the stock price of the company.

This paper will focus on investigating the difference in stock market reaction between CEOs that already worked within the company and CEOs that are hired externally, in order to see if investors have different expectations of how internally and externally hired CEOs will perform. On the one hand, it can be argued that insiders will make for better CEOs because of their superior knowledge on how the firm operates and what kind of changes might be needed. On the other hand, as an insider it can be tough to make dramatic changes, which is a disadvantage an outsider does not have. Combining these ideas, the research question of this study is:

"Do announcements of external CEO promotions lead to higher stock prices compared to announcements of internally hired CEOs?"

As an additional but highly related analysis and as a contemporary replication of Beaty and Zajac's (1987) hypothesis, a similar comparison will be made between CEOs with previous CEO experience and first time CEOs, again to see if this difference is valued and taken into consideration by investors. A priori, I would expect a CEO with experience to do better than a CEO without experience, which could lead to a difference in stock market reaction to the announcements of a CEO with or without experience.

The research in this study focusses on CEO announcements of companies in European developed markets between January 2010 and June 2021. There has already been done a lot of research on CEO succession. Beatty and Zajac (1987) looked into the issue of announcement effects on security prices by analysing the residuals of the market model. They distinguish

between insider and outsider succession and find that succession announcements on average decrease the market value of a firm for both insiders and outsiders. Subsequently, they did an event study with the assumption that expected returns of a security are simply the expected returns of the market, which led to the same results. By running a multiple regression with excess return as the dependent variable, Lubatkin et al. (1989) also conclude that investors tend to react negatively to successions. However, they find an exception to this result when outsiders are appointed to high-performing firms. In contrast to these two papers, research from Rhim et al. (2006) shows a favourable stock market reaction to the announcements of CEOs, but they did not distinguish between internally and externally hired CEOs. The mixed results across papers make it interesting to investigate the role of internally versus externally hired CEOs further.

Similar to the studies already discussed, most articles about CEO succession focus on companies listed in the United States. My research can be relevant and add value to the existing literature because it will focus on the same topic but for European companies. It will be interesting to see whether the results are similar to those of the United States or totally different. Apart from this, a lot of the research done on CEO succession was a long time ago. My announcement data is for the years 2010-2021 and thus will give a better view on the current situation on this topic. Moreover, compared to most other studies I am looking at a much larger number of announcements, which will make the results more reliable because the research is less sensitive to potential outliers. Lastly, this study focuses specifically on the stock market reactions on internal versus external CEO announcements and announcements with and without CEO experience, where most studies only focus on CEO succession in general. The topic did not get a lot of attention yet and thus this paper could help fill this research gap in the existing literature.

2. Background and hypotheses

2.1 CEOs in general

Before looking at CEO succession it is important to establish why CEO successions can influence a company. For this we need to look at whether CEOs have a large impact on firm performance. Strategic leadership theory (Finkelstein & Hambrick, 1996) assumes that a firm is a reflection of their leader. The personality, experiences and values of this leader determine

the choices they make for the firm. These actions and decisions then influence firm performance.

Benedsen et al. (2006) investigate the importance of CEOs on firm outcomes by looking at the effects of CEO deaths and the deaths of immediate family members of the CEO. The results show these deaths are strongly correlated with firm operating profitability, which leads them to conclude that CEOs are a key determinant of firm performance. Mackey (2008) estimates that the percentage of the variance in corporate profitability explained by CEOs is 29.2% which clearly shows that CEOs can have substantial impact on firm performance. These two empirical studies combined with strategic leadership theory show that CEOs play a large part in an organization's performance, and a change in CEO can thus affect a company's stock price.

2.2 Insiders versus outsiders

When a firm decides whether to hire an insider or an outsider as the new CEO, there are a few things to consider. Finkelstein et al. (2009) describe how in a stable environment the successor will normally be an insider who is similar to the predecessor. However, when a company is going through a period of poor performance, they will be looking for a change and an outside succession makes more sense. From a theoretical standpoint this means an increase in performance is more likely when an outsider gets appointed, simply because it is easier to increase performance in a firm that is performing below their standard, than in a firm that recently has shown high performance.

Carlson (1961) studies the successions of chief executives in schools. In line with strategic leadership theory, he states that when the current situation is satisfactory, there is not really a preference for an insider or outsider, but when the current situation is unsatisfactory there is a clear preference for outsiders. Insiders are familiar with the interpersonal structure and helped to develop the current corporate strategy. This can be an advantage and make the transition smooth, but it can also lead to the successor being unable or unwilling to make changes when they are desired by the organization, which explains the preference for outsiders when an organization wants to turn things around. In line with this, Helmich and Brown (1972) conclude that inside succession tends to cause less organizational change for organizations than outside succession. Lauterbach and Weisberg (1999) even go one step further and find that on average external successions of top management positions in US firms turn the firm around and internal successions weaken the firm.

Chung et al. (1987) looked at abnormal gains for the two-day period surrounding the announcement date and found that for major US high-performing corporations the stock price goes up an additional 3.67% when an outsider is appointed and 0.5% when an insider is appointed as the new CEO. For low-performing firms the stock price did not change much regardless of the new CEO being an insider or outsider. These results contradict the research from Beaty and Zajac (1987) that concludes that succession announcements on average decrease the market value of a company. The findings of Lubatkin et al. (1989) are in line with Beaty and Zajac in that the market reaction is negative on average, and also with Chung et al. on the fact that outsider appointment has a more positive effect on the stock price than an inside appointment. By studying external CEO appointments in US listed firms using an event study with a four-day event window, Melita et al. (2010) find that there exist positive abnormal returns around the announcement days. Shen and Canella (2003) conclude that investors react strongly positive to outside CEO promotion and negative to inside CEO promotions after performing an event study for US firms. Lastly, the recent paper by Rose (2019) looks into CEO appointments of insiders and outsiders for Danish, Swedish and Finnish firms. This study comes closer to the sample used in this paper because it uses recent data on European firms. The results in his paper vary across the three countries. He concludes that in Sweden investors react negatively to internal promotions, in Denmark external promotions lead to a positive reaction on the stock market, and in Finland the choice between internal and external announcements does not significantly impact stock prices.

The results for the papers investigating US firms show mixed results, but all these papers agree that on average the reactions to external CEO announcements are more positive than the reactions to internal CEO announcements. The reaction to internal announcements has varying results and tends to be negative, whereas the reaction to external announcements tends to be positive. The paper focusing on European firms also has mixed results, once again it seems that external promotions lead to positive stock market reactions and internal promotions lead to negative stock market reactions. This paper only looks at a small part of Europe, so this begs the question what the results would look like if we take Europe as a whole. Based on theory, the results of empirical papers investigating the US and the paper about Denmark, Sweden and Finland, my prediction for Europe as a whole is that an outside appointment will on average result in a positive stock market reaction and an inside

appointment will on average result in a less positive or even negative stock market reaction. My first hypotheses is:

H1: “If the new CEO is hired externally, this will on average result in more positive cumulative abnormal stock returns around the announcement date compared to when the new CEO already worked for the company.”

2.3 Experienced versus inexperienced

Another factor that could influence abnormal returns around announcement dates is CEO experience. Again, it is all about the expectations of investors. If the average investor anticipates that CEO experience matters and makes for a more capable CEO who will lead the company to better performance compared to a CEO without experience, then this will be visible in the stock price. If this would be the case, the announcement of an experienced CEO could drive up the demand of the stock, making the abnormal returns more positive. But why would CEO experience be beneficial? Someone with CEO experience knows what kind of tasks have to be done and how to perform them. A first time CEO would have to learn how to be a CEO. Like Khurana (2001) mentions, CEO experience provides a track record and points to an understanding of the job. This makes it a less risky choice for companies, because someone who has already proved to be capable of getting the job done is more likely to get good results than someone who is trying something new. The Theory of Expert Leadership (TEL) (Goodall, 2012) states that expert leadership is a function of inherent knowledge, industry experience and leadership capabilities. According to this theory, these three factors have a positive effect on a company’s performance. Thus, from a theoretical point of view this means that a CEO with CEO experience is predicted to have a more positive effect on an organization’s performance than a CEO without CEO experience.

Hamori and Koyuncu (2015) look at CEO succession in S&P500 companies to research the effect of previous CEO experience on post succession firm performance. By observing the return on assets and return on sales of the companies for three years following the succession they surprisingly find that CEO experience is negatively related to post succession firm performance. Elsaid et al. (2011) examine stock market reactions on outside CEO succession of CEOs with and without experience, which they point out is an ignored distinction in the CEO succession literature. They use an event study with an event and estimation period similar to

the ones in this paper and conclude that the market reacts positive to announcements of CEOs with experience and does not react to announcements of CEOs without experience.

There is a lack of research on stock market reactions to experienced CEO announcements compared to inexperienced CEO announcements, which makes it difficult to make a good prediction for the results on European companies. Based on the theory of expert leadership (Goodall, 2012) in combination with the paper from Elsaid et al. (2011) my prediction is that the announcement of an experienced CEO on average results in a positive stock market reaction and that the announcement of an inexperienced CEO leads to a less positive or even negative stock market reaction.

My second hypotheses is:

H2: "If the new CEO already has experience working as a CEO for a different company, the cumulative abnormal stock returns will be more positive compared to when the new CEO does not have experience in this position.''

3. Data and sample

3.1 Data collection

As the goal of this paper is to look into the effect of CEO announcements within European companies on the stock prices, I needed to find a suitable database to get a list of CEO announcements. I used BoardEx Europe to get this list. BoardEx contains accurate information on organizations and their directors like board members and CEOs. All their data is collected from credible, published sources and no third-party data is included, which makes it an appropriate data source for my research. The data I collected includes the announcement date, role name, company name, company ID, ISIN-code and director ID for each announcement. The dates of the announcements in this list vary from January 2010 until the end of June 2021. BoardEX also contains career information of each director, which includes their previous roles and the start dates. The career information will be used to determine whether or not the new CEO is hired internally or externally and is experienced or inexperienced in this role. I ran the list of Director ID's 4 times using Boardex Europe, North America, Rest of world and United Kingdom, because I also wanted to include previous roles outside of Europe as CEO experience. Unfortunately, most of the end dates of previous job positions were missing in the data, which means the data only gave information on whether

or not someone had worked for the company before and not whether they were actually working there just before becoming the new CEO.

3.2 Variable description

The first variable that I will use are the CEO announcements. This list of announcements from BoardEx at first included all kinds of directors and different types of CEOs and thus I filtered it in order to get homogeneous groups of CEOs. The groups of CEOs that I want to research are: CEOs, Co-CEOs, regional CEOs and country CEOs. From these groups, I expect the group of CEOs to have the most control in the company and the most influence on company performance and thus show the most visible result. The groups of Co-CEOs, regional CEOs and country CEOs did not have a lot of observations, so instead of testing each of these three groups separately, I will put them all together as a robustness check. As I want to research European firms, I decided only to include the announcements of the 15 developed market countries in Europe that are included in the MSCI Europe index because I think this will give a good overview of Europe. This added the benefit of having an appropriate benchmark for the event study, making the predicted normal returns and thus the abnormal returns more reliable. The large majority of the sample already consisted of these 15 developed market countries in Europe. After filtering the data by looking at the two-letter country code at the beginning of each ISIN-code, a sample of 2915 announcements was left for the main CEO group and a sample of 249 for the other three groups combined. This final sample consisted of the following European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the UK.

The second variable are the stock prices. The stock data is collected from the Datastream database using the ISIN-codes for each announcement. Apart from the historic stock prices for each of the companies, the stock data for the MSCI Europe index is also collected from Datastream. Datastream is a much-used source to collect stock data from, an example of a paper that empirically researches the relationship between share prices and economic events using stock price data from Datastream is Dahya et al. (1996). An example of a paper using stock data from Datastream to conduct an event study is Ferry & Maber (2013).

In order to be able to compare the announcement effects of the CEOs that come from within the company to the CEOs that are hired externally and the CEOs with previous CEO experience to the CEOs without experience in their new role, I created four different samples from the

original sample of 2915 announcements. For this I used the background information for each of the directors. As the end date of the role was missing for most of the career background data, I defined internal announcements as someone who already had worked for the same company before the CEO announcement, because they are familiar with the way the company operates, the people that work there and the strengths and weaknesses of the company. Next, I split the announcements in internal and external by checking whether or not: 1. the company ID of the announcement matched the company ID of previous roles, and 2. the start date of the matching roles was before the announcement date. To check whether or not the designated CEO already had CEO-experience at a different company, I first filtered the career information so that only the roles as CEO, CO-CEO, country CEO and regional CEO were left and then checked whether the company ID of the announcement was not the same as the company ID of the first role the person had as a CEO, which would indicate that this person indeed has experience working as a CEO. If there was no record of the first CEO role of the director, the announcements were filtered away, as they were creating noise in the dataset. This reduced the main CEO sample from 2915 to 2881 announcements and the robustness check sample from 249 to 242 announcements.

3.3 Descriptive statistics

The filtering process led to the following four samples for the main CEO group: an internal sample of 2257 announcements, an external sample of 624 announcements, an experienced sample of 358 announcements and an inexperienced sample of 2523 announcements. For the groups of Co-CEO, regional CEO and country CEO combined this is: 177 internal announcements, 65 external announcements, 18 experienced announcements and 224 inexperienced announcements. In the next two figures these divisions and the distribution between the different European countries are displayed.

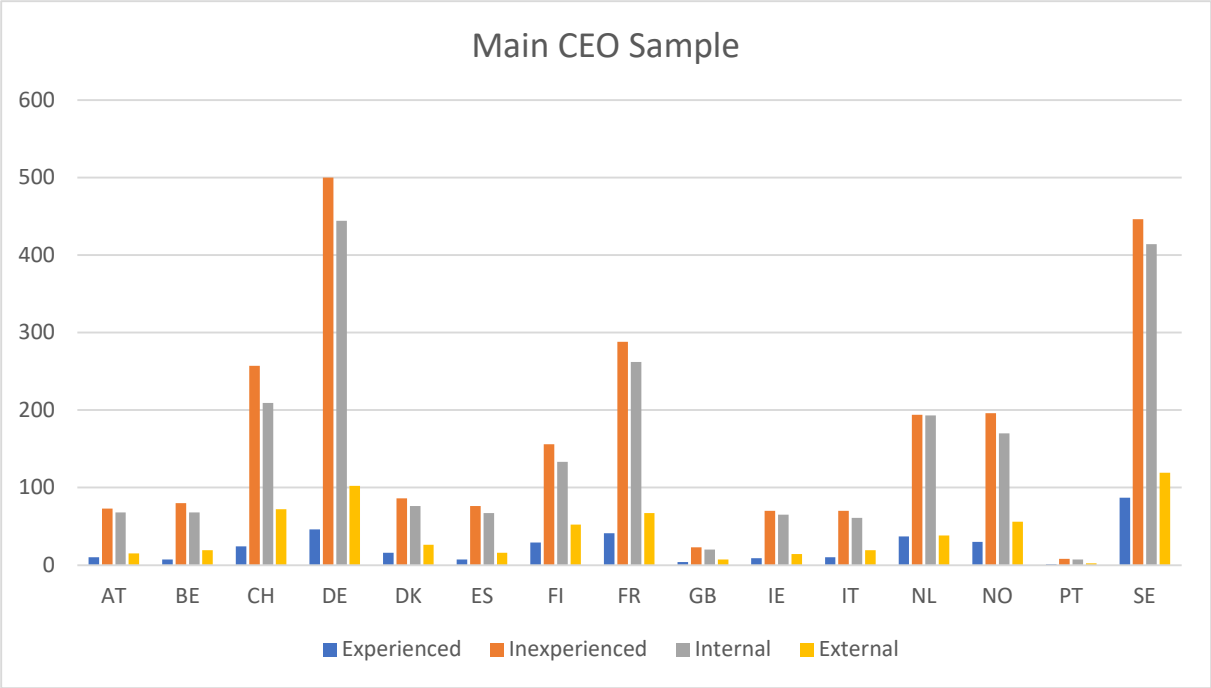

Figure 1: Distribution of the main CEO sample between countries

Notes: The figure shows how the sample is divided in experienced and inexperienced CEOs, and in internal and external CEOs. The distribution of the announcements across the 15 European countries is also shown. The X-axis shows the two-letter ISIN country codes and the Y-axis shows the number of announcements. The countries from left to right are: Austria, Belgium, Switzerland, Denmark, Spain, Finland, France, Great Britain, Ireland, Italy, the Netherlands, Norway, Portugal and Sweden.

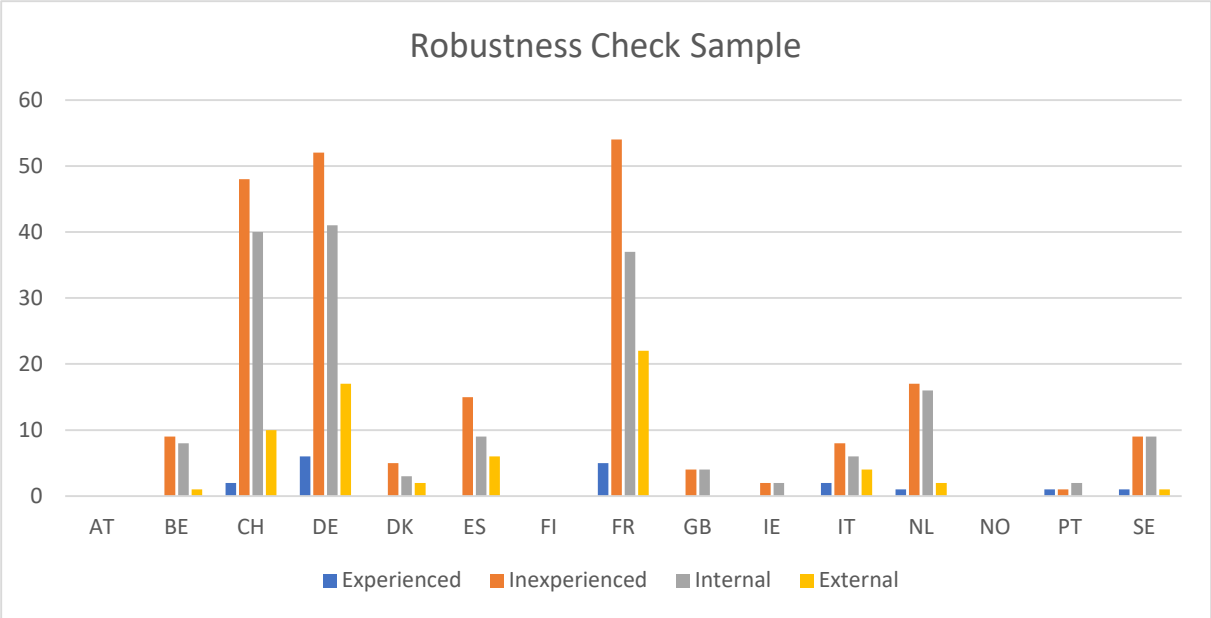

Figure 2: Distribution of the robustness check sample between countries

Notes: The figure shows how the robustness check sample consisting of Co-CEOs, regional CEOs and country CEOs is divided between experienced and inexperienced, and internal and external announcements. The distribution of the announcements across the 15 European countries is also visible. The X-axis shows the two-letter ISIN country codes and the Y-axis shows the number of announcements. The countries from left to right are: Austria, Belgium, Switzerland, Denmark, Spain, Finland, France, Great Britain, Ireland, Italy, the Netherlands, Norway, Portugal and Sweden.

In Figure 1, it is clearly visible that for every country there are more inexperienced CEO announcements when compared to experienced CEO announcements and more internal CEO announcements than external CEO announcements. In addition, Portugal and Great Britain have the lowest number of CEO announcements in total, while Germany and Sweden have the highest number of observations. From Figure 2, the fact that Austria, Finland, and Norway do not have any observations catches the eye. On the other hand, Switzerland, Germany, and France have a relatively high number of CEO announcements.

4. Methodology

To study the correlation between the CEO announcements and the stock prices, an event study will be conducted. To perform this event study, I will use the Eikon Datastream event study tool which is based on MacKinlay (1997). The abnormal returns that I am interested in are described as:

$$AR_{it} = R_{it} - E(R_{it} \mid R_{mt})$$

Where AR_{it} is the abnormal return, R_{it} is the actual return, $E(R_{it} \mid R_{mt})$ is the normal or expected return and R_{mt} is the market return that is used to calculate the normal return when using the market model. The variable i indicates the stock and the variable t indicates the event time. So, on the announcement day of stock i, t is equal to 0. The model used to calculate the normal returns is the market model. For this model an important assumption is a stable linear relation between the market return and the stock return, which means the stock always follows the market in a certain way. For example, when the linear relation is 0.5 this means that when the market goes up 10% the stock will go up 5% and when the market goes down 10% the stock goes down 5%. The normal returns are predicted by looking at the relation between the stock return and the market return in the estimation period and then extending this relation for the event period. This mean that the predictions would be wrong if the relation between the market return and the stock return is not linear, as the consistent reactions of the stock to the market would be wrongfully assumed to continue. For any stock i the market model is:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

$$E(\varepsilon_{it} = 0)$$

R_{it} is the return of stock i at time t, in the event study tool this is based on the ISIN code of the companies. R_{mt} is the market return at time t, for which the MSCI Europe will be used in this study. This index is an appropriate benchmark because it is based on the performance of companies across 15 developed market countries in Europe and the final sample of announcements that will be used, consists of a random mixture of companies based in those 15 developed market countries. For this reason, using market returns as a benchmark to predict normal returns instead of looking at historical market returns of the same company became the favourable choice for me. α_i and β_i are the parameters of the market model and ε_{it} is the zero mean disturbance term, which is expected to be 0. In order to predict the parameters of the market model, which are needed to calculate the normal returns in the event period, an Ordinary Least Squares (OLS) regression is performed. This regression will find a linear relationship between the stock returns and the market returns by using the stock price data from the different companies and the MSCI Europe in the estimation period.

The abnormal returns will then be calculated with the following formula:

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$$

Next, the abnormal returns for each day of the event window will be added up in order to get the cumulative abnormal returns.

$$CAR_i(t1,t2) = \sum_{t=t1}^{t2} AR_{it}$$

In this formula t1 is the first day of the event period and t2 is the last day of the event period.

After I have the CARs for each event, I will first do a single-sample t-test for each of the four main CEO subsamples to test whether they are significantly different from 0. After this, the last step will be a two-sample t-test in Stata to compare the CARs across the different samples described in the data section. This will then give me the T-statistics and P-values that will decide whether or not I will reject my hypotheses. As a robustness check, two-sample t-tests will also be performed for the main CEO sample with a different event window and the main CEO sample with a different estimation window to see how sensitive the results are to these changes. For the robustness check sample consisting of co-CEOs, regional CEOs and country CEOs a two-sample t-test will also be performed, using the original event window and estimation period.

An important decision influencing the final results is choosing an appropriate estimation and event window. McWilliams and Siegel (1997) find that the larger the event window, the higher the chance that there is another event that is influencing the stock price as well. In this case there would be confounding events which would make the conclusions less valid. By taking shorter event windows, the event you are interested in will be better isolated which will thus make the results more representative. Another reason they give to use a short event window is that taking a long event window is a violation of the assumption of market efficiency. If the market is efficient the effects of events are quickly incorporated into the stock prices. Dann, Mayers and Raab (1977) even state that the market price of a stock adjusts to firm specific information within 15 minutes. For looking at the effects of CEO announcements on stock prices I thus decided to keep the event window as short as possible. This means I will look at the event date itself and one day after the event date. To control for a potential leak of information I also look at one day before the event. This gives us a three-day event window

from -1 to 1. I decided to follow the example estimation window from McWilliams and Siegel from -250 to -50. This way the expected returns are based on 201 trading days, which is long enough so that it will give a good representation of the stock returns, but at the same time not so long that it is outdated. By ending the estimation window at -50 I am making sure that the estimated alpha and beta in the market model are not affected by the event. As a robustness check and to test the market hypotheses, I will also perform the event study with the original estimation window and a five-day event window from -2 to 2. Lastly, I will also perform the event study using the original event window and a shorter estimation period, starting 100 days before the event date and ending 50 days before the event date. In other words, a benchmark window from -100 to -50, consisting of 51 trading days. These robustness checks will show me how sensitive the results are to changes in the event and benchmark window.

5. Results

5.1 Main results

After performing the event study, the abnormal returns for most of the announcements were calculated. However, there were some missing values because of missing stock price data of the company in question on dates that were used in the calculation. This reduced the main CEO sample to 2153 internal announcements, 596 external announcements, 330 experienced announcements and 2419 inexperienced announcements. For all the statistical tests that are performed, more extensive information can be found in the appendix.

The abnormal returns were added up in order to get the cumulative abnormal returns. To get a clear overview of the ARs and CARs of each of the four groups, I will first display the averages. In table 1, the average abnormal return per event day per subsample is shown for the main CEO sample. The average abnormal returns in the first three rows add up to the cumulative average abnormal return (CAAR), which is visible in the last row.

Table 1: Abnormal average returns and CAARs per group

Variable	Internal	External	Experienced	Inexperienced
AAR -1	**-.0005**	**.0022**	**.0005**	**.0000**
AAR 0	**-.0016**	**.0025**	**-.0016**	**-.0006**
AAR 1	**-.0022**	**.0001**	**-.0013**	**-.0017**
CAAR	**-.0043**	**.0049**	**-.0025**	**-.0023**

Notes: The average abnormal returns of the three event days leading to the cumulative average abnormal returns for each of the four groups of the main CEO sample.

First, I tested for each of the main CEO samples whether they were significantly different from 0. The overview of the results of these one-sample t-tests is visible in table 2. For the event window -1 to 1 in combination with an estimation period of -250 to -50, the only sample that is significantly different from 0 on a 95% confidence level is the one consisting of internal CEO announcements, with a P-value of 0.0006 and a mean of -0.0043. The other three samples have a P-value larger than 0.05 and thus we cannot make any conclusions about those. Although, it is worth mentioning that the external and inexperienced samples are significantly different from 0 on a 90% confidence level because the P-values of 0.0711 and 0.0655 are both smaller than 0.1.

Table 2: One-sample t-tests CEO CARs

Variable	Observations	Mean	t-value	P-value
Internal	**2153**	**-.0043**	**-3.4562**	**.0006*** **
External	**596**	**.0049**	**1.8078**	**.0711***
Experienced	**330**	**-.0025**	**-.8868**	**.3759**
Inexperienced	**2419**	**-.0023**	**-1.8426**	**.0655***

Notes: One-sample t-tests on the CARs of the internal, external, experienced and inexperienced CEO samples. Ho: mean = 0, Ha: mean != 0. Statistical significance is in asterisks; *significant on a 90% confidence level, **significant on a 95% confidence level, ***significant on a 99% confidence level.

Next, we will look at the results of the two-sample t-tests on the main CEO sample, comparing each of the groups CARs to each other to see if there is a significant difference in market reactions. From now on all the tests are one-tailed, which means the p-values will be compared with 0.025 instead of 0.05 at a 95% confidence level.

Table 3: Two-sample t-tests main CEO sample CARs

Test	Mean difference	t-value	P-value
External/internal	**.0091**	**3.0852**	**.0010*** **
Experienced/inexperienced	**-.0002**	**-.0719**	**.5286**

Notes: Two-sample t-tests on the CARs of the main CEO sample. External CARs are compared to internal CARs and experienced CARs are compared to inexperienced CARs. Ho: difference = 0, Ha: difference > 0. Statistical significance is in asterisks; *significant on a 90% confidence level, **significant on a 95% confidence level, ***significant on a 99% confidence level.

Row 2 of table 3 shows the results of the CARs comparison between internal and external announcements. We do not reject the alternative hypothesis because the P-value is smaller than 0.025. This means we can conclude that external CEO announcements on average have significantly higher CARs than internal CEO announcements.

Row 3 of table 3 shows the results of the CARs comparison between the experienced and inexperienced sample. We reject the alternative hypothesis, because the P-value is larger than

0.025. This means we cannot conclude that the CARs of the experienced announcements are significantly larger than the CARs of the inexperienced announcements.

5.2 Robustness checks

In this section, we will take a look at the results of the three robustness checks, starting with the main CEO sample with an adjusted event window of -2 to 2 and the original estimation period. There is a small difference in observations between the samples of the two event windows due to missing values.

Table 4: Two-sample t-tests main CEO sample CARs, window [-2,2]

Test	Mean difference	t-value	P-value
External/internal	**.0078**	**2.3049**	**.0107****
Experienced/inexperienced	**-.0002**	**-.0530**	**.5211**

Notes: Two-sample t-tests on the CARs of the main CEO sample with event window -2 to 2. External CARs are compared to internal CARs and experienced CARs are compared to inexperienced CARs. Ho: difference = 0, Ha: difference > 0. Statistical significance is in asterisks; *significant on a 90% confidence level, **significant on a 95% confidence level, ***significant on a 99% confidence level.

Row 2 of table 4 shows the results of the CARs comparison between internal and external announcements with the alternative event window. Although the shorter event window gave a higher mean difference, we still accept the alternative hypothesis because the P-value of 0.0107 is smaller than 0.025. Thus, the conclusion that external CEO announcements on average have significantly higher CARs than internal CEO announcements still stands with the alternative event window.

Row 3 of table 4 shows the results of the CARs comparison between the experienced and inexperienced sample with the alternative event window. The mean difference is very similar to the one of the original event window and we again have to reject the alternative hypothesis, because the P-value of 0.5211 is larger than 0.025. This means we still cannot conclude that the CARs of the experienced announcements are significantly larger than the CARs of the inexperienced announcements using a different event window.

The second robustness check takes the main CEO sample, using the original event window, but an alternative estimation period of -100 to -50. The results of the two-sample t-tests are visible in table 5. Once more, there is a slight difference in missing values and thus observations between the two estimation periods.

Table 5: Two-sample t-tests main CEO sample CARs, benchmark [-100,-50]

Test	Mean difference	t-value	P-value
External/internal	**.0092**	**2.9964**	**.0014*** **
Experienced/inexperienced	**-.0007**	**-.2337**	**.5923**

Notes: Two-sample t-tests on the CARs of the main CEO sample with estimation period -100 to -50. External CARs are compared to internal CARs and experienced CARs are compared to inexperienced CARs. Ho: difference = 0, Ha: difference > 0. Statistical significance is in asterisks; *significant on a 90% confidence level, **significant on a 95% confidence level, ***significant on a 99% confidence level.

Row 2 of table 5 shows that even though the estimation period is shorter, these results for the CAR comparison between the internal and external announcements are quite similar to the original results. The mean difference is almost exactly the same and the P-value is again below 0.025 which leads us to accept the alternative hypothesis and conclude that the external CARs are on average significantly larger than the internal CARs.

In row 3 of table 5, it is visible that the mean difference of the experienced and inexperienced CARs is slightly more negative compared to the one of the original results. Again we reject the alternative hypothesis and thus cannot conclude that the CARs of experienced announcements are larger than the CARs of inexperienced announcements.

Lastly we will look at the results of the Co-CEO, regional CEO and country CEO sample with the original event window and estimation period. For this group, the sample was reduced to: 176 internal announcements, 65 external announcements, 17 experienced announcements and 224 inexperienced announcements.

Table 6: Two-sample t-tests robustness check sample CARs

Test	Mean difference	t-value	P-value
External/internal	**.0019**	**.3592**	**.3599**
Experienced/inexperienced	**-.0090**	**-1.2154**	**.8815**

Notes: Two-sample t-tests on the CARs of the robustness check sample (Co-CEOs, regional CEOs and country CEOs). External CARs are compared to internal CARs and experienced CARs are compared to inexperienced CARs. Ho: difference = 0, Ha: difference > 0. Statistical significance is in asterisks; *significant on a 90% confidence level, **significant on a 95% confidence level, ***significant on a 99% confidence level.

Row 2 of table 6 displays the results of the two-sample t-test comparing external and internal CARs for the robustness check sample consisting of Co-CEOs, regional CEOs and country CEOs. Like expected the mean difference is smaller than for the main CEO sample, most likely because these CEOs have less influence in their company. For this sample, we reject the alternative hypothesis, because the P-value is larger than 0.025. Subsequently, we cannot

conclude that the CARs from announcements of external Co-CEOs, regional CEOs and country CEOs are significantly larger than the CARs from announcements of internal Co-CEOs, regional CEOs and country CEOs. This could be caused by the smaller number of observations in this sample.

Row 3 of table 6 shows the results of the two-sample t-test comparing experienced and inexperienced CARs for the robustness check sample consisting of Co-CEOs, regional CEOs and country CEOs. Remarkably the mean of the experienced CEOs is negative and the mean of the inexperienced CEOs is positive. The results are however not very trustworthy because of the extremely low number of observations for the group of experienced Co-CEOs, regional CEOs and country CEOs. Subsequently the P-value is much higher than 0.025 and we thus reject the alternative hypothesis and cannot make any conclusions about these results.

6. Conclusion

The main objective of this thesis is to investigate whether there is a difference in market reaction for different groups of CEOs around the announcement date. Internal CEOs are compared to external CEOs and CEOs with CEO experience are compared to CEOs without CEO experience. Using CEO announcements from European firms, an event study is performed. Afterwards, the CARs from the different groups are compared to each other, to see if there is a significant difference.

In line with prior research, the first hypothesis states that the CARs for the announcements of externally hired CEOs will on average be more positive than the CARs of internal CEO announcements. In the result section it is visible that the CARs of external CEO announcements were indeed on average significantly larger than the CARs of the internal CEO announcements, even when the event window or estimation period is changed. This means the results corroborate the first hypothesis, and I can conclude that the European stock market reacts more favourably to outside CEO announcements than to inside CEO announcements, which also answers the research question: “Do announcements of external CEO promotions lead to higher stock prices compared to announcements of internally hired CEOs?” with yes.

The second hypothesis states that the CARs of the announcements of CEOs with CEO experience will on average be more positive than the CARs of announcements of CEOs without CEO experience. There is no statistically significant result corroborating this, and thus this

hypothesis is rejected. Subsequently, I cannot conclude that CEO experience leads to a more favourable reaction on the European stock market around the announcement date.

This study contributes to the literature by making a clear conclusion about the comparison of stock market reactions between internal and external CEO announcements in Europe, based on recent data. The limitations of this study are mainly data related. For some companies, Datastream did not have stock data, and these announcements were thus not used. Moreover, in BoardEx the end date of most of the previous career information of CEOs was not available, which made it difficult to distinguish between internal and external CEOs. For future research, it would be interesting to look into the difference in stock market reactions to announcements of CEOs with CEO experience and CEOs without CEO experience more, as I was not able to find evidence of a more positive reaction towards experienced CEOs. There still has been done very little research on this particular subject and if it turns out that the stock market does not react favourably to CEO experience, it would be interesting to know why.

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Appendix

Table 7: One-sample t-test internal CEO CARs

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
Internal	**2153**	**-.0043**	**.0012**	**.0573**	**-.0067**	**-.0018**

Notes: One-sample t-test on the CARs of the internal CEO sample. t = -3.4562 with 2152 degrees of freedom. Ho: mean = 0, Ha: mean != 0. Pr(|T| > |t|) = 0.0006.

Table 8: One-sample t-test external CEO CARs

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
External	**596**	**.0049**	**.0027**	**.0657**	**-.0004**	**.0101**

Notes: One-sample t-test on the CARs of the external CEO sample. t = 1.8078 with 595 degrees of freedom. Ho: mean = 0, Ha: mean != 0. Pr(|T| > |t|) = 0.0711.

Table 9: One-sample t-test experienced CEO CARs

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
Experienced	**330**	**-.0025**	**.0028**	**.0509**	**-.0080**	**.0030**

Notes: One-sample t-test on the CARs of the inexperienced CEO sample. t = -0.8868 with 329 degrees of freedom. Ho: mean = 0, Ha: mean != 0. Pr(|T| > |t|) = 0.3759.

Table 10: One-sample t-test inexperienced CEO CARs

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
Inexperienced	**2419**	**-.0023**	**.0012**	**.0604**	**-.0047**	**.0001**

Notes: One-sample t-test on the CARs of the inexperienced CEO sample. t = -1.8426 with 2418 degrees of freedom. Ho: mean = 0, Ha: mean != 0. Pr(|T| > |t|) = 0.0655.

Table 11: Two-sample t-test internal versus external CARs

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
External	**596**	**.0049**	**.0027**	**.0657**	**-.0004**	**.0101**
Internal	**2153**	**-.0043**	**.0012**	**.0573**	**-.0067**	**-.0018**
Difference		**.0091**	**.0030**		**.0033**	**.0149**

Notes: Two-sample t-test on the CARs of the internal and external main CEO sample. t = 3.0852 with 861.82 degrees of freedom. Ho: difference = 0, Ha: difference > 0. Pr(|T| > |t|) = 0.0010.

Table 12: Two-sample t-test experienced versus inexperienced CARs

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
Experienced	**330**	**-.0025**	**.0028**	**.0509**	**-.0080**	**.0030**
Inexperienced	**2419**	**-.0023**	**.0012**	**.0604**	**-.0047**	**.0001**
Difference		**-.0002**	**.0031**		**-.0062**	**.0058**

Notes: Two-sample t-test on the CARs of the experienced and inexperienced main CEO sample. t = -0.0719 with 465.465 degrees of freedom. Ho: difference = 0, Ha: difference > 0. Pr(|T| > |t|) = 0.5286.

Table 13: Two-sample t-test internal versus external CARs, window [-2,2]

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
External	596	.0021	.0030	.0730	-.0038	.0080
Internal	2152	-.0057	.0016	.0722	-.0087	-.0026
Difference		.0078	.0034		.0012	.0144

Notes: Two-sample t-test on the CARs of the internal and external main CEO sample with event window -2 to 2. t = 2.3049 with 941.983 degrees of freedom. Ho: difference = 0, Ha: difference > 0. Pr(|T| > |t|) = 0.0107.

Table 14: Two-sample t-test experienced versus inexperienced CARs, window [-2,2]

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
Experienced	328	-.0042	.0032	.0574	-.0104	.0021
Inexperienced	2420	-.0040	.0015	.0742	-.0069	-.0010
Difference		-.0002	.0035		-.0071	.0067

Notes: Two-sample t-test on the CARs of the experienced and inexperienced main CEO sample with event window -2 to 2. t = -0.0530 with 488.794 degrees of freedom. Ho: difference = 0, Ha: difference > 0. Pr(|T| > |t|) = 0.5211.

Table 15: Two-sample t-test internal versus external CARs, benchmark [-100,-50]

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
External	604	.0046	.0028	.0685	-.0008	.0101
Internal	2164	-.0046	.0013	.0598	-.0071	-.0020
Difference		.0092	.0031		.0032	.0152

Notes: Two-sample t-test on the CARs of the internal and external main CEO sample with estimation period -100 to -50. t = 2.9964 with 875.798 degrees of freedom. Ho: difference = 0, Ha: difference > 0. Pr(|T| > |t|) = 0.0014.

Table 16: Two-sample t-test experienced versus inexperienced CARs, benchmark [-100.-50]

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
Experienced	337	-.0032	.0028	.0518	-.0087	.0024
Inexperienced	2431	-.0025	.0013	.0632	-.0050	.0000
Difference		-.0007	.0031		-.0068	.0054

Notes: Two-sample t-test on the CARs of the experienced and inexperienced main CEO sample with estimation period -100 to -50. t = -0.2337 with 486.429 degrees of freedom. Ho: difference = 0, Ha: difference > 0. Pr(|T| > |t|) = 0.5923.

Table 17: Two-sample t-test internal versus external CARs, robustness sample

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
External	65	.0016	.0039	.0317	-.0063	.0094
Internal	176	-.0003	.0035	.0458	-.0071	.0065
Difference		.0019	.0052		-.0084	.0122

Notes: Two-sample t-test on the CARs of the internal and external robustness sample (Co-CEOs, regional CEOs and country CEOs). t = 0.3592 with 165.223 degrees of freedom. Ho: difference = 0, Ha: difference > 0. Pr(|T| > |t|) = 0.3599.

Table 18: Two-sample t-test experienced versus inexperienced CARs, robustness sample

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Confidence Interval]	
Experienced	**17**	**-.0082**	**.0068**	**.0280**	**-.0226**	**.0062**
Inexperienced	**224**	**.0008**	**.0029**	**.0433**	**-.0049**	**.0065**
Difference		**-.0090**	**.0074**		**-.0243**	**.0063**

Notes: Two-sample t-test on the CARs of the experienced and inexperienced robustness sample (Co-CEOs, regional CEOs and country CEOs). t = -1.2154 with 22.2786 degrees of freedom. Ho: difference = 0, Ha: difference > 0. Pr(|T| > |t|) = 0.8815.