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Master Thesis

- The Effect of Corporate Social Responsibility Announcements on a Company's Stock Returns and Market Efficiency -

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Abstract

In this thesis we study the effects of Corporate Social Responsibility (CSR) announcements on a company's stock returns. We focus on announcements among American corporations from 2005-2012. We perform an event study where we use the Market Model, the Fama & French Model and the Carhart Model, and we look for abnormal returns on a firm's stock returns. Furthermore, we investigate whether the potential excess returns can be considered an anomaly to market efficiency. We conclude that CSR announcements result in negative abnormal returns, and result in negative cumulative abnormal returns. Furthermore, we conclude that CSR announcements may represent an anomaly to market efficiency.

1. Introduction

Over the last decade(s), companies all over the world have increased their Corporate Social Responsibility (CSR) efforts. Many companies take the responsibility of contributing to creating a better environment, reducing global warming, improving health- and social situations for poor countries, improving the working conditions for employees, etc., very seriously. Therefore, these companies have established comprehensive CSR programs to combat with many of the serious issues and problems that the world is dealing with; both on a local and global level. However, these CSR plans do not only help improving the world; oftentimes they also increase the value of the respective companies. When a large company has made an announcement about a significant prospective CSR investment, it has been reported that these announcements have led to increasing stock returns for the company (Arx and Ziegler, 2009; Cellier and Chollet, 2011). However, is this really the case? Do CSR announcements actually increase stock returns of a company, even though these CSR programs oftentimes cost the business a large amount of money without generating directly related revenues? In this thesis we will investigate the relationship between companies' CSR announcements and the development of the stock returns of these companies. More specifically, we will examine whether the firms experience abnormal returns which can be related to the CSR announcement. We will see whether historic data from 2005-2012 can show that CSR announcements create abnormal returns, and if they may be considered an anomaly to market efficiency. Thus, the research question for this thesis is as follows:

> *"Does a Corporate Social Responsibility announcement among American multinational companies over the last seven years indicate abnormal returns? If so, can this be considered an anomaly to market efficiency?"*

1.1 Corporate Social Responsibility

There are many definitions of CSR, several of which include the fact that CSR is considered to be a firm's responsibility and commitment to the society and the firm's stakeholders. This commitment is also seen as a contribution which exceeds what is actually required from a firm by different legal aspects and expectations form regulators (Investopedia 2012). We will use the following

definition of CSR in our thesis, as we feel that this statement comprehensively involves important aspect of corporate social responsibility: "A process to integrate social, environmental, ethical and human rights concerns into their business operations and core strategy in close collaboration with their stakeholders" (EU Commission 2012).

CSR can be divided into five different dimensions (Dahlsrud 2006), where each of the dimensions will define CSR regarding different criteria and thus make distinct areas of CSR. The five dimensions are of environmental, social, economic, stakeholder and voluntariness characters. We choose to focus on the two dimensions of environment and social CSR efforts only. This is due to the fact that these are the most common CSR efforts, and we want to research the effects of what is "most commonly done" in the market place. Furthermore, we have an interest in focusing on these two types due to the fact that two previous studies on the US market have found different effects of CSR investments in these two dimensions. Bird et al. (2007) found that investments above minimum requirements in social and environmental CSR efforts were punished in the American market in the time period of 1991-2003, while Arx and Ziegler (2009) found that investments into these two dimensions were positively valued in the American market in the time period of 2003-2006. Thus, it will be interesting to compare and contrast our findings to these two studies. The two dimensions of environmental and social CSR consider CSR regarding "the natural environment" and "the relationship between the business and the society", respectively. The environmental dimension contributes to a better environment by for example introducing recyclable products, while the social dimension contributes to a better society by for example providing school books for children in primary schools.

1.2 Market Efficiency

An efficient market is a market where stock prices reflect all available information. One can separate between weak, semi-strong and strong form market efficiency. Weak form means that stock prices reflect all information available by examining market trading data, a semi-strong form means that prices additionally reflect all public information about the prospect of a company, while strong form means that stock prices reflect all information relevant to the company; including

inside information. We will refer to market efficiency as a semi-strong form in this thesis. New information is immediately embedded into the prices, and the only way to obtain higher expected returns is to take on higher risk. Thus, neither technical nor fundamental analysis should be able to give investors abnormal returns, as abnormal returns represent returns above what is justified by risk (Bodie, Kane and Marcus 2011, 371-402).

Anomalies to market efficiency represent patterns of returns that seem to contradict market efficiency. Easily accessible statistics such as a stock's P/E ratio, dividends announcements and book-to-market size sometimes seem to give abnormal returns above what is justified by risk, and can represent anomalies to the efficient market hypothesis (Bodie, Kane and Marcus 2011, 371-402). For example, when a firm has a dividend announcement, the stock prices may rise and the investors may be able to get increased returns when investing in this company. This increase in returns is not caused by increased risk of the company, but by the announcement of a dividend distribution. Hence, investors experience abnormal returns above what is justified by the risk of a certain company, and the dividend announcement acts an anomaly to market efficiency. In this study we are going to examine whether we may claim that a company's CSR announcements provide a company with abnormal returns, and also if CSR announcements represent an anomaly to market efficiency.

1.3 Discussing the Thesis

CSR has become a central theme for most American corporations, and many executives, investors and researchers question the effects of CSR on a company's financial performance. It is important to get an estimate of the financial effects of CSR, as this is likely to have an impact on future CSR efforts by various corporations. CSR efforts are undoubtedly important around the globe, and contribute to improving or solving numerous issues that the world is facing. If researchers and experts are able to prove that CSR efforts not only improve the world, but *also* have a positive impact on a firm's financial performance, it is more likely that firms will continue to maintain, and hopefully expand, their CSR programs. Thus, the importance of this research topic cannot be underestimated,

as positive results and valid evidence may contribute to improving the world through increased CSR efforts.

In this thesis we will proceed with an event study to examine whether CSR announcements create abnormal returns and may be an anomaly to market efficiency. There are 68 announcements in the data set of this thesis. Our contribution to existing literature lies in the way that we will combine the various specifications in our study; meaning how we will combine the time frame of data collection, methods and data. Our main specifications are as follows: 1) we will look at the effects of CSR for American companies from 2005-2012, 2) we will analyse the effect of the companies' CSR *announcements* themselves; and not the overall rating of companies' CSR programs; and 3) we will use the CAPM, the Fama & French Model and the Carhart Model. While some of these specifications have been applied in previous studies, the way that we combine them in this study makes our thesis unique. Thus, it is interesting to see the results from this study, and how they coincide with existing literature on the topic of CSR's effect on financial performance.

Before performing all the analyses of this thesis, we expected that CSR announcements would have a positive effect on a company's abnormal returns, and that CSR announcements would be an anomaly to market efficiency. There were several reasons why we expected to make this observation. First, it is because firms can create positive publicity and reputation by contributing to society. This is likely to improve people's impression of the company, which can lead to increased sales, more investors, improved supplier deals, etc. Overall, this can lead to higher earnings for the company, which furthermore can have a positive influence on the stock return of the company. Second, performing CSR efforts may have a positive signaling effect towards the investment community. The fact that a firm is able to invest in CSR programs signals that the firm has sufficient funding for investment into projects that do not generate directly related returns. This furthermore signals financial stability which will be positively valued by the market, and this may increase the stock return of the company. Additionally, the fact that a company performs CSR may make people wanting to associate themselves with the company, which furthermore may help firms recruit new and talented employees. Thus, CSR activities might attract more employees

with higher qualifications, which increases the overall quality of the workforce and hence the company as well.

Although there are many reasons why CSR investments can be positively related to stock returns, there are also some reasons why there might be a negative relationship. First and foremost, CSR efforts are generally expensive. They do not generate any directly related income, which means that CSR investments may be seen as pure expenses for a company. This can decrease the profitability of the company, and thus the investment community might see CSR investments as something that lowers the financial value of a company, and the stock returns of a company may thereby decrease. Furthermore, CSR efforts can in some situations create negative publicity for a company if the company is accused of doing CSR "only for creating positive publicity and higher returns" rather than for the "good will". This negative publicity can lead to loss of customers and investors, and this is likely to have a negative effect on a company's stock returns.

After having performed all the analyses in the thesis, we observed that our conclusions are opposite from our expectations; we mostly found a negative relationship between CSR announcements and abnormal returns. Also, the Market Model and the Carhart Model have very similar results, yet surprisingly provide different results than the Fama & French Model. Overall, we find mostly negative abnormal returns and negative cumulative abnormal returns. Therefore, we conclude that CSR announcements result in negative abnormal returns for a company, and may be considered an anomaly to market efficiency.

1.4 The Structure of this Thesis

This thesis will have the following structure: in section two we will introduce the main findings of related literature on this topic. In the third section we will present the methodology of our research, and will go into the details of the event study. In section four we will present the data that we use in our research. Furthermore, in section five we will present and analyse the empirical results of our study, and we will proceed to conclude the thesis in section six. We will also include a detailed bibliography and appendix in the end of the thesis.

2. Related Literature

During the recent decades, the amounts of CSR efforts that companies have commit to have grown significantly, and discussions about the wider effects of these social actions have risen. Several claimed that such CSR programs influenced the value of the companies in a positive manner, and this incentivised researchers to further examine the relationship between companies' CSR programs and the value of the respective companies. Thus, previous research does exist on the topic of this thesis, and the researches vary in their findings. Some studies have results indicating that CSR affects returns positively; others claim that CSR affects returns negatively, while some also claim that CSR does not really have an effect on financial returns at all. Furthermore, some studies looked at all CSR dimensions as one whole, while some studies separated between the different dimensions of CSR. In this literature review we will present several studies that have performed various studies and present various findings.

Brammer, Brooks and Pavelin (2006) researched the relationship between corporate social performance and stock returns in the UK for the time period of 2002-2004. Their main finding was that firms with high scores on CSR (meaning that they have invested quite significantly in CSR) have lower stock returns, while companies with the lowest possible score on CSR outperformed the market and experienced abnormal returns. Thus, this study found that CSR investment is largely destructive on shareholder value. The study also differentiated between social, environmental, employment and community CSR performance. It found that social CSR efforts tend to perform the worst relative to stock returns, sequentially followed by environment, employment and community CSR activities.

Bird et al. (2007) researched what CSR activities are valued by the market in the US, and had a time frame of data collection from 1991-2003. They researched the five dimensions of community, diversity, employee relations, environment and product both on the scale of strengths and concerns; implying ten dimensions all together. Their main finding was that the market seems to value most firms that satisfied only the *minimum* requirements of the dimensions of environment and diversity (mostly as required by law), and that the market punished firms that

exceeded minimum investment in environmental CSR efforts. They also found that the social dimension was no longer being valued, and that the market is most proactive towards CSR in the dimension of employee relations. Furthermore, they found that the market's attitude towards CSR activities change over time, and that the activities recently being valued by the market appear to be diversity, and employment. Finally, they also found evidence to suggest that companies being identified in the market as having a wide spectrum of CSR activities are being rewarded in the market place (and vice-versa), indicating that there are reputational benefits (and costs) related to CSR programs.

Arx and Ziegler (2009) measured the effect of corporate social responsibility on stock performance in the US and in Europe for the time period of 2003-2006. Their analysis showed that financial markets do value environmental and social activities of a firm compared with other firms within the same industry. Furthermore, they found that the positive effects on average monthly stock returns seemed to be more robust in the US rather than in Europe. Arx and Ziegler used three different models in their study; including the CAPM, Fama & French Model and the four-factor Carhart Model. They found that the results were more significant for the simple CAPM than for the Fama & French and the Carhart Models.

Cellier and Chollet (2011) measured the impact of CSR rating announcements on stock prices on the European Market from 2004-2009 on short term European stock returns. Their study showed that CSR really matters for financial markets, and that different CSR components have different effects on the stock prices. CSR announcements regarding human rights seem to have a positive effect, environment and human resources seem to have a negative effect, while community involvement has a mixed effect.

Mollet and Ziegler (2012) measured the impact of socially responsible investing (SRI) on American and European stock markets in the time period of 1998-2009. They used the four-factor Carhart Model, including risk factors for common market return, size, value and momentum. The researchers found that SRI is mostly related to large-sized firms. Furthermore, they also found that when all four risk factors are included, there was no evidence suggesting that SRI was

neither penalized nor rewarded by the stock markets. Thus, this recent study suggested that CSR did not have an effect on stock returns in Europe and the US.

Research on this topic has also been performed in other parts of the world outside the US and Europe. Several similar studies have been conducted on the Asian market, in which the general consensus seems to be that CSR has a positive impact on stock performance. A general study of the Asian market found significant evidence that CSR has a positive effect (Cheung et.al 2009), in addition to more narrow studies of China and Taiwan (Chen and Wang 2011; Wang 2011). A study from Pakistan claimed that CSR had no effect (Iqbal et.al 2012). Studies from Australia also have mixed findings, where it is both suggested that CSR does not have a significant impact of stock prices (Newell and Lee 2012) and that there is a weak link (Galbreath and Shum 2012). Furthermore, a study from South Africa also suggested that CSR announcements have a positive impact on stock performance; particularly announcements of substantive monetary value (Arya and Zhang 2008).

The list of previous research could be far longer. Researchers have found different results over the last decade, and as can be observed CSR activities are valued either positively, negatively or not valued at all by various markets over various time periods. As Bird et al. (2007) found, the market's attitude towards CSR changes over time. It will be interesting to see how the American market has valued CSR announcements in the time interval of 2005-2012 in this thesis, applying the CAPM, the Fama & French Model as well as the Carhart Model.

3. Methodology

The purpose of this thesis is to investigate whether a CSR announcement can create abnormal stock returns, and if this can be considered an anomaly with respect to market efficiency. In order to examine this we have applied an event study approach, which is a widely used and accepted research methodology in finance. The actual event in this thesis is a public CSR announcement from a company, in which a company announces that it will invest in a CSR project. We look at companies which have had CSR announcements during the period of 2005 and up to 2012, which will be the overall event window. The collected data of the announcements that we use in our study had to meet certain criteria that we define in section four of this thesis.

First, we studied if the new information of a CSR announcement triggered an immediate response in the market, which lead the stock returns to increase or decrease, and thus create abnormal or excess returns in the short run. Hence, we looked at a (-3, 3) day time interval around the event date, which gave us a 7 day event window to check for the immediate response. We also analyzed if one could observe similar effects in a somewhat longer time horizon around the announcement day, and thus performed the study at a (-90, 90) day interval as well; giving us an additional event window of 181 days. Secondly, we investigated if we could find evidence that the market happened to have learned about the event before the actual event day, and thus suggesting leakage of information. Furthermore, we wanted to see if the possible excess return continued after the actual event, and hence could be considered to be an anomaly to market efficiency. We studied both event windows for evidence of such results by performing a CAR study. Additionally, we analyzed our results more in-depth by making other event windows within these original windows of 7 and 181 days.

For all results that we obtained in this study, we use t- statistics to check for significance at the 90%, 95% and a 99% significance level. We indicate the level of significance with stars, where one star (*) relates to the 90% significance level, two stars (**) for 95% and three stars (***) for the 99% level. We have 68 announcements, and the critical values for the t- statsistics that we apply is based on the student t- distribution with T- 2 degrees of freedom (Brooks 2008; Exhibit

1). We used the t- statistics we got from our analysis to check for significant results, and the t- statistics are calculated in the following way:

$$t_{CAR} = \frac{\overline{CAR_{it}}}{\left(\frac{\sigma(CAR_{it})}{\sqrt{n}}\right)}$$

<div align="right">(Barber and Lyon 1997)</div>

When performing this event study, we have tested for abnormal returns and market efficiency. We applied three different models; the single index market model CAPM, the three factor market model of Fama & French, and finally the four factor Carhart Model. As one adds independent factors to a model, the explanation power (indicated with the R^2) increases and hence, explains more of the variation in the data (Brooks 2008). Thus, as the Carhart Model is the largest model with most independent factors, we expected this model to give the highest R^2 and explanation power.

The CAPM takes into consideration that a stock's expected return is affected by one market factor and one firm-specific factor:

Eqtn 1: $E(r_i) = r_f + \beta_i[E(r_M) - r_f]$

> $E(r_i)$: expected return of stock i
>
> r_f: risk free rate
>
> β: stock return's sensitivity to market return
>
> $E(r_M)$: expected market return

<div align="right">(Bodie, Kane and Marcus 2011, 321)</div>

However, we used the index model representation of CAPM in our further analysis:

Eqtn 2: $r_t = \alpha + \beta r_{Mt} + \varepsilon_t$

> r_{Mt}: market rate of return in period t
>
> β: the stock's sensitivity to the market return
>
> ε_t: part of the security's return that comes from firm specific events
>
> α: the average rate of return the stock would realize in a period with a zero market return

<div align="right">(Bodie, Kane and Marcus 2011, 381)</div>

Fama & French also take into consideration that the return can be affected by one market factor and one firm-specific factor, while also adding two factors for a firm's size and book to market value:

$$Eqtn\ 3:\ r_{it} = \alpha_i + \beta_{iM}r_{Mt} + \beta_{iSMB}SMB_t + \beta_{iHML}HML_t + \varepsilon_{it}$$

SMB = Small Minus Big; i.e. the return of a portfolio of small stocks in excess of the return on a portfolio of large stocks

HML = High Minus Low; i.e the return of a portfolio of stocks with a high book to- market ratio in excess of the return on a portfolio of stocks with a low book to- market ratio.

(Bodie, Kane and Marcus 2011, 363)

The Carhart Model includes one additional independent factor that considers the momentum effect in the market:

$$Eqtn\ 4:\ r_{it} = \alpha_i + \beta_{iM}r_{Mt} + \beta_{iSMB}SMB_t + \beta_{iHML}HML_t + \beta_{iMOM}MOM_t + \varepsilon_{it}$$

MOM = Momentum effect at the end of month t; i.e. the difference between winner and loser portfolios in the past.

(Arx and Ziegler, 2009)

The betas in the different models will show how much the returns are affected by, and correlated with, the market factor in all three models, the SMB and HML factors in the Fama & French and the Carhart Model, and the momentum effect in the Carhart Model. The betas are also an indicator of risk, as the assumption of the market efficiency hypothesis is that higher risk gives higher expected return, as one should be rewarded for taking upon more risk (Bodie, Kane and Marcus 2011, 371- 402).

The first step in our event study was to make an estimate for what one could expect the normal stock return in the market (r_M) to be if the CSR announcement events never happened. These proxies can be made in several ways, and we applied the three models that we included in this study to make such estimates for each model. We made these proxies by collecting data from the Kenneth French website. Furthermore, we calculated the stocks' return by using the following formula:

$$\Delta \ in \ Stock \ Price = \frac{(Stock \ Price_t - \ Stock \ Price_{t-1})}{Stock \ Price_{t-1}}$$

To decrease the chances for the market estimations to be affected by the actual CSR events that we are studying, we collected the data points for the proxies one year (250 trading days) prior to the actual event window. Furthermore, we used the statistical program Eviews to obtain the fitted values and hence, the estimations for the normal stock returns.

In order to get a better assessment of the potential abnormal returns (AR) resulting from the CSR announcement, we conducted a more in-depth analyses of the residuals of the regression models. Thus, this was the second step in our analysis. The residuals indicates and captures the unexpected; thus, being an indicator for how much the stocks' return may be affected by the CSR event that we are studying. Hence, we had to investigate the residuals further. We did this by calculating the stocks' abnormal return by taking the actual return adjusted for dividends (which we obtained from YahooFinance.com) minus the estimated normal return from the market proxies:

Eqtn 5: MMOD:

$$\varepsilon_t = r_t - (\hat{a} + \hat{\beta} r_{Mt})$$

Eqtn 6: FF:

$$\varepsilon_t = r_t - (\hat{a} + \hat{\beta} r_{Mt} + \hat{\beta}_{SMB} SMB_t + \hat{\beta}_{HML} HML_t)$$

(Bodie, Kane and Marcus 2011, 321)

Eqtn 7: CARH:

$$\varepsilon_t = r_t - (\hat{a} + \hat{\beta} r_{Mt} + \hat{\beta}_{SMB} SMB_t + \hat{\beta}_{HML} HML_t + \hat{\beta}_{MOM} MOM_t)$$

(Arx and Ziegler, 2009)

The abnormal returns for each of the companies' announcements included in the study was calculated, and then averaged (giving AAR). This is because it is more interesting to see what one could expect the AR to be on average for the market, rather than for an independent firm.

We used a hypothesis test to indicate whether CSR announcements have an impact on the average abnormal returns. In equations 5, 6 and 7 above, we expected the epsilon to be equal to zero on the actual announcement day (Day 0). Additionally, we also tested the other days in the event window because we wanted to see if there were any other days showing abnormal returns. Thus, we had the following hypothesis:

$$H_0: \varepsilon_t = 0$$

$$H_A: \varepsilon_t \neq 0$$

If ε was significantly different from zero, we rejected the null hypothesis. We measured this by calculating the t- statistics as previously mentioned, and checked whether the results were significant. A rejection of the null hypothesis suggests that CSR announcements represent average abnormal returns (AAR). We investigated if there was evidence of abnormal returns at the actual event date in order to see if the market reacted instantly to the occurring event, and if this was reflected in the stock returns. Furthermore, as said, we also checked for significant AARs and immediate effects for the other days in the event windows.

To take into consideration the possibility that the market could learn about the CSR announcement some time before the actual event through an information leakage, and if the CSR announcement could be considered an anomaly to market efficiency, the third step in this study was to obtain an indicator that accounted for this. We did this by summing up the abnormal returns of all of the announcements within the two time intervals, and got the cumulative abnormal return (CAR). Once again, we averaged them across all the observations (giving CAAR), as it is more interesting to see what one can expect the CAR to be on average for the market, rather than for an independent firm. Making a graph with these results showed us if the graph drifted before the event, which would suggest information leakage. Furthermore, and more importantly, the graphs would indicate whether there were continuous fluctuations of the stocks' return after the actual event (Bodie, Kane and Marcus 2011, 382-393). We had the following hypothesis:

H_0: CAAR remains stable

H_A: CAAR continues to drift

If the CAAR graph continued to drift after the event, implying a rejection of the null hypothesis; then the CSR announcements could be considered an anomaly to market efficiency. We performed this study for both the time intervals of 7 and 181 days, but we also conducted a more in-depth analysis of the CAARs by calculating the CAARs for different event windows within the two time intervals. We checked whether the results were significant and if we could reject the H_0 or not. We did this by calculating the t- statistics as previously described, and checked the different significant levels.

4. Data

Data of proper quality is vital for most empirical researches, and is also significantly important for this thesis. As described in the previous section, we have performed an event study in order to investigate the relationship between companies' CSR announcements and their returns. In this section we will describe the data that we use in the study.

There exist many variations of CSR announcements. CSR actions differ in size, field, type and budget, and the companies also differ in size, industry, nationality, etc. Thus, it was necessary to define certain criteria for the CSR announcements that we have included in our study. These criteria concern the CSR action itself (in section A below), as well as the actual company (in section B below). We have used the following criteria for this thesis:

A. CSR projects may be of very different amounts; ranging from a few dollars up to several hundred million dollars. In this thesis we have chosen to apply a range of funding which includes some of the most commonly used amounts on CSR projects. Thus, we have a range of $1,000,000-$50,000,000 on the CSR announcements in our study. This range allowed us to include a wide range of announcements, while simultaneously eliminating the smallest and largest announcements such that we increase the chances of avoiding big outliers in our data sample. Additionally, we want our results to be the most possible applicable to what we commonly experience in the market place, and thus we chose this common range of funding. Furthermore, the CSR announcements in our study had to be of an environmental or social character, and the CSR efforts could be domestic and/or international.

B. We also made certain criteria with regards to what firms we would include in our study. First and foremost, we looked at American companies only. Second, the companies had to be at least ten years old by the announcement date, as we did not want to include younger companies that are in a natural growth phase. Growth companies can expect highly fluctuating returns, and thus it could be more difficult to find the actual effect of the CSR announcements. Third, we included a maximum of three announcements per company with at least a year and a half in between each of them. We only

wanted to include a maximum of three per company, as we did not want single companies to have too large of an impact on our results. For example, if we had included many announcements for one firm, the overall results of our analyses would have been relatively impacted by the individual performance of this specific firm. Furthermore, we maintained at least a year and a half in between each announcement per firm to ensure that the estimation windows and event windows would not overlap. Fourth, the firms did not necessarily have to be multinational. Many firms were multinational; however, since we are looking at the effects of CSR announcements on the American stock market, we also included firms that were merely of a domestic character. Fifth, the firms had to be listed on an American stock exchange, and sixth, we did not include not-for profit organizations. Lastly, the firms did not have to be within a certain industry. We included CSR announcements from firms across a wide specter of industries, for example finance, retail, technology, services, food and drink, sports, etc.

The quality of the data is vital for an empirical study like this, and finding sufficient data is oftentimes a challenge. There exist databases which contain substantial information about companies' CSR programs and announcements. For this thesis we have used the webpage csrwire.com as the main database for gathering information about companies' CSR announcements. This webpage has gathered public releases regarding CSR efforts from 2,800 companies worldwide, dating back to approximately year 2000. Thus, we have researched numerous press releases from various American firms regarding CSR, and have matched these CSR announcements with the criteria that we have set for our study. We have found 68 announcements to match the criteria for our study, and will thus be able to make valid inferences.

We have used data from CSR announcements that have taken place between 2005 and 2012. When looking at companies' press releases for their CSR announcements, we were able to find the exact dates of the announcements. Thereafter, to find data on company returns, we gather stock prices for each firm from YahooFinance.com. When finding values for the SMB and HML factors in order to apply the Fama & French model, as well as the momentum factor in the Carhart Model, we retrieved information from the homepage of Kenneth French.

We also collected data on market return from this page in order to make the market proxies.

The 68 announcements included in this study are divided among 39 different companies. We gathered some basic information about each of these companies, to get an idea of what types of firms invest in CSR efforts matched to our criteria. Exhibit 2.1 and 2.2. present descriptive statistics of the companies included in the study, as well as CSR funding amounts and dates of announcements. As presented, the companies represent a wide range of sectors and industries, with the top three sectors represented being services (36%), technology (18%) and consumer goods (13%). Most of the firms are relatively large companies, with 90% of the companies being listed in the S&P 500. Furthermore, most of the companies are fairly old and well-established. Despite the fact that one of our criteria was that the companies had to be at least ten years old by the announcement day (implying that the firms had to be established by 2002 at the latest), only 2 out of the 39 companies were established after 1990. Thus, a general consensus is that the companies in our dataset are fairly large and well-established, and represent a wide area of sectors and industries.

5. Empirical Results

In this section we will present the results of our analyses. First, we will present the results from the tests of abnormal returns and the tests of the cumulative abnormal returns, and thereafter we will discuss the implications of these results. Furthermore, we will perform robustness tests of the results in our analyses. Finally, we will compare and contrast the abnormal returns and the cumulative abnormal returns before, during and after the 2008 financial crisis.

5.1 Results of abnormal returns

In section 3 we stated that we expect the epsilon term to be zero on the announcement day, and hence that the CSR announcements do not to have an impact on the average abnormal returns (AAR). We also want to test potential AARs on other days in our two event windows, and thus we presented following hypothesis:

$$H_0: \varepsilon_t = 0$$

Evidence of significant AAR would imply that we could reject H_0 and that the epsilon term is different from zero as the alternative hypothesis states:

$$H_A: \varepsilon_t \neq 0$$

We will investigate these hypotheses by looking at the results from our analysis. Table 1 presents the average abnormal returns (AAR) each day of the short time horizon of the 7 days around the CSR announcements for all the companies, hence, representing the excess returns in the 7 days perspective around the event. Table 2, on the other hand, represents the AAR for the companies at different days within the longer event window of 181 days. In this table the AARs are presented for only a select number of days within the whole event window. The AARs are given by the first line for every day, the t- statistics are given in the second line, and the third line states whether the results are significant and at what level. All of our data is tested for heteroscedasticity by applying the White's Test, autocorrelation by applying the Durbin Watson Test, and we also tested for multicollinearity. We found no evidence of the latter two, but we found some evidence of heteroscedasticity in the data for a few companies. We corrected for this, but we found no significant change in the results.

Both Table 1 and 2 show results which indicates that within a short and a longer event window one could expect to get days with both positive and negative AARs related to a CSR annnouncement, yet most negative, as there are altering signs for the AARs during these particular days. However, the applied models give somewhat different results and there are also only a few days within the event windows that actually give statistically significant results. We will comment on selected significant results. All three models in our analyses; the Market Model, the Fama & French Model and the Carhart Model, are included in the tables. One can observe from the tables that the R^2 increases as additional factors are included and hence, the larger model has a higher explanation power.Thus, the Carhart Model has the highest R^2 with 0,456 and 0,462 in Table 1 and 2 respectively. This means that the model explains 45,6 % and 46,2% of the variation within the data, which is more that what the other two models captures.

Table 1 : AAR (-3,3) Interval, 7 days Event Window
Table 1

Event Window	Statistic	Market Model	Fama & French Model	Carhart Model
	R^2	0,4200	0,4439	0,4560
-3	AAR	0,0021	0,0016	0,0021
	T-statistic	1,1723	0,8646	1,1903
	Significance	insign	insign	insign
-2	AAR	-0,0015	-0,0011	-0,0019
	T-statistic	-1,1431	-0,8522	-1,3897
	Significance	insign	insign	insign
-1	AAR	0,0001	0,0003	0,0012
	T-statistic	0,0510	0,1752	0,6075
	Significance	insign	insign	insign
0	AAR	-0,0032	-0,0028	-0,0033
	T-statistic	-2,0193	-1,7792	-1,9467
	Significance	**	*	*
1	AAR	0,0023	0,0020	0,0022
	T-statistic	1,5602	1,2451	1,4573
	Significance	insign	insign	insign
2	AAR	-0,0016	-0,0021	-0,0017
	T-statistic	-1,1990	-1,5798	-1,3039
	Significance	insign	insign	insign
3	AAR	-0,0005	-0,0001	-0,0011
	T-statistic	-0,3836	-0,0384	-0,7909
	Significance	insign	insign	insign

Table 1 shows that the analysis give insignificant results for most of the days in the short event window. However, an important finding is that the actual day of the announcement (Day 0) has t- statistics that gives statistically significant results at the 95% level (indcated by two stars **) for the Market Model and at the 90% level (indicated by one star *) for the other two models. The AARs are all slightly

negative with -0.0032 , $-$ 0.0028 and $-$ 0.0033 for the Market Model, Fama & French model and the Carhart Model, respectively. This implies that when the CSR action of a company is announced, it will effect the firms' stock returns negatively with approximately -0.3 %, which furthermore could mean that the market values such CSR activities negatively. Thus, this suggests that we can reject H_0 of having a zero epsilon on the announcement day, and claim that CSR announcements lead to negative abormal returns. A company that attend to announce an upcoming CSR action could therefore expect to underperform with -0.3% relative to the market at the announcement day.

Table 2: AAR (-90,90) Interval, 181 days Event Window

Table 2

Event Window	Statistic	Market Model	Fama & French Model	Carhart Model
	R^2	0,4265	0,4524	0,4623
-90	AAR	0,0027	0,0023	0,0025
	T-statistic	1,7139	1,5221	1,6579
	Significance	*	insign	insign
-75	AAR	0,0004	0,0009	0,0002
	T-statistic	0,3004	0,5570	0,1167
	Significance	insign	insign	insign
-50	AAR	0,0002	-0,0005	-0,0007
	T-statistic	0,1577	-0,4001	-0,6774
	Significance	insign	insign	insign
-30	AAR	-0,0015	-0,0010	-0,0017
	T-statistic	-1,0133	-0,6949	-1,1642
	Significance	insign	insign	insign
-20	AAR	0,0004	0,0010	0,0010
	T-statistic	0,2344	0,6333	0,5939
	Significance	insign	insign	insign
-15	AAR	-0,0018	-0,0017	-0,0019
	T-statistic	-0,7612	-0,7546	-0,8309
	Significance	insign	insign	insign
-10	AAR	-0,0008	-0,0006	-0,0008
	T-statistic	-0,5040	-0,3577	-0,5006
	Significance	insign	insign	insign
-5	AAR	0,0009	0,0012	0,0018
	T-statistic	0,4799	0,6387	0,9687
	Significance	insign	insign	insign
5	AAR	-0,0025	-0,0020	-0,0017
	T-statistic	-1,2019	-0,9669	-0,7864
	Significance	insign	insign	insign
10	AAR	-0,0026	-0,0022	-0,0018
	T-statistic	-2,3196	-1,7150	-1,3534
	Significance	**	*	insign
15	AAR	0,0028	0,0034	0,0019
	T-statistic	1,2463	1,4719	0,8484
	Significance	insign	insign	insign
20	AAR	-0,0026	-0,0023	-0,0025
	T-statistic	-1,7832	-1,5588	-1,6706
	Significance	*	insign	*
30	AAR	-0,0002	-0,0006	-0,0014
	T-statistic	-0,1385	-0,4416	-1,0093
	Significance	insign	insign	insign
50	AAR	-0,0017	-0,0018	-0,0021
	T-statistic	-1,1506	-1,3136	-1,3793
	Significance	insign	insign	insign
75	AAR	0,0017	0,0015	0,0023
	T-statistic	0,8184	0,7378	1,1299
	Significance	insign	insign	insign
90	AAR	-0,0168	-0,0165	-0,0170
	T-statistic	-1,1305	-1,1128	-1,1555
	Significance	insign	insign	insign

Table 2 shows that the Market Model in total gives the most significant results.
This is somewhat expected as the other two models are stricter and therefore it can
be harder to obtain significant results. However, one can also see that the Market

Model only has two more significant results than the other models, and that the AARs in this time interval of 181 days mostly are insignificant. Nevertheless, 90 days prior to the actual event the Market Model has a significant result at the 90%- level with positive AAR at 0,27%. Furthermore, at day 10 after the announcement, the Market Model and the Fama & French Model have significant AAR at the 95% and 90% level respectively. However, these ARRs are negative with approximately $-0,2\%$. One can also see similar results at day 20 after the announcement for the Market Model and the Carhart Model, where there are statistically significant negative AARs with around $-0,2\%$ at the 90%- level.

According to the Market Model , the positive and signifcant result 90 days prior to the event could imply that the market learns about the CSR activity some time before the event actually happens, and at this time values it positively. On the other hand, the significant negative results that we observe 10 and 20 days after the event has occured, could signal that the firm is somewhat punished for its actions. These findings could imply that the market players may value the *thought* of a company being involved in CSR acivities (indicated by positive AAR at -90), whereas when it actually becomes a reality it is no longer valued in a positive way (indicated by negative AARs at 10 and 20). Another interpretation could be that the market does learn about the event 90 days prior to the official announcement, and values such activities positively which is reflected in the stock returns at that point in time. Then, when the actual announcement is made, the positive reactions are already included in the stock returns, hence, the negative returns are essentially a result of the fact the company is spending money. However, one have to keep in mind that Table 2 also shows that there are many days which do not have evidence of sigfnificant AARs within the time interval of 181 days. Furthermore, in order to make proper statements regarding the market reactions and the possibility of information leakage, one has to investigate this further in a CAR study. We have conducted such a CAR study, which will be analyzed in the next section. Implications and a discussion of the results from the AAR and CAAR studies will also be adressed more in-depth in section 5.3.

To summarize, we get somewhat altering results regarding the AARs both for the short and the longer term event windows. Therefore, we have to interpret the results of the AARs on the days *around* the event somewhat carefully. We get a

positive and significant result before the event day, but most of the significant results are negative. Even though many of the days in the event windows are insignificant with respect to the AARs, the most important and interesting evidence of the AAR study is the statistical significant results on the *actual* event day (Day 0). All three models had significant results with a negative AARs with approxiately – 0,3%. Based on this,we can say that the epsilon term is different from zero on the announcement day, and thus reject H_0: $\varepsilon_t = 0$. This implies that CSR announcements could lead to significant abnormal returns.

### 5.2 Results of cumulative abnormal returns

By summing up the ARs of the announcements, we can obtain the cumulative abnormal returns across all announcements, and furthermore make a graph of the average CAR (CAAR). If the graph drifts before the event, this gives us an impression that the market has some information about, and reaction to, the event prior to the actual event date. Furthermore, and more importantly, the CAAR graph can show us whether the CSR announcements could be an anomaly to market efficiency theory. In section 3 we stated that to be in line with this theory, the graph of the CAAR should be somewhat stable *after* the event day. Hence, we got the following hypotheses:

H_0: CAAR remains stable

H_A: CAAR continues to drift

Evidence of drifting in the graphs after the event would imply that we could reject H_0 and have evidence for market anomalies. We will look into different event windows within each of the original event windows of 7 and 181 days, in order to check if there are different results regarding the significance.

Graph 1 presents the cumulative average abnormal returns (CAAR) for the complete 7 days event window for all three models, while Graph 2 represents the CAAR for the companies for the complete 181 days event window.

Graph 1: CAAR, (-3, 3) Interval, 7 days Event Window
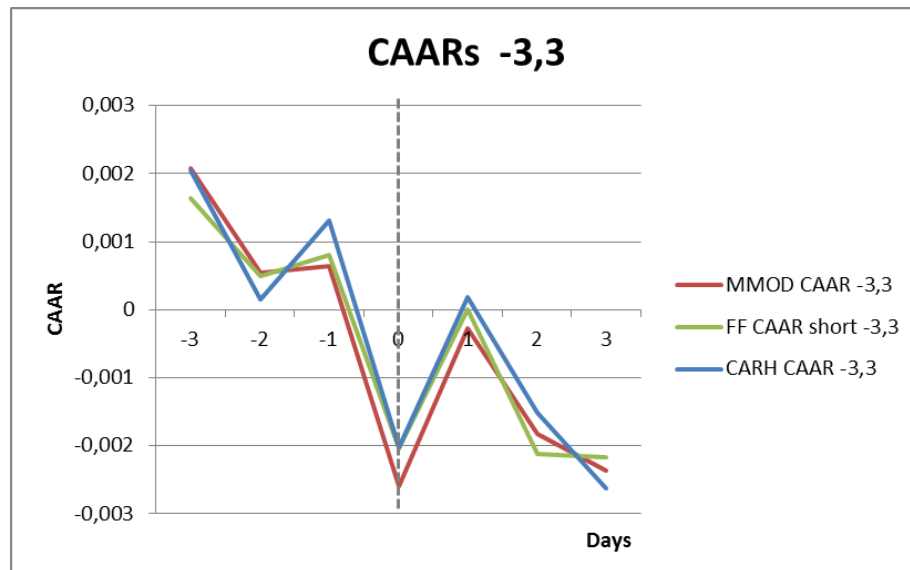
Graph 2: CAAR, (-90,90) Interval, 181 days Event Window
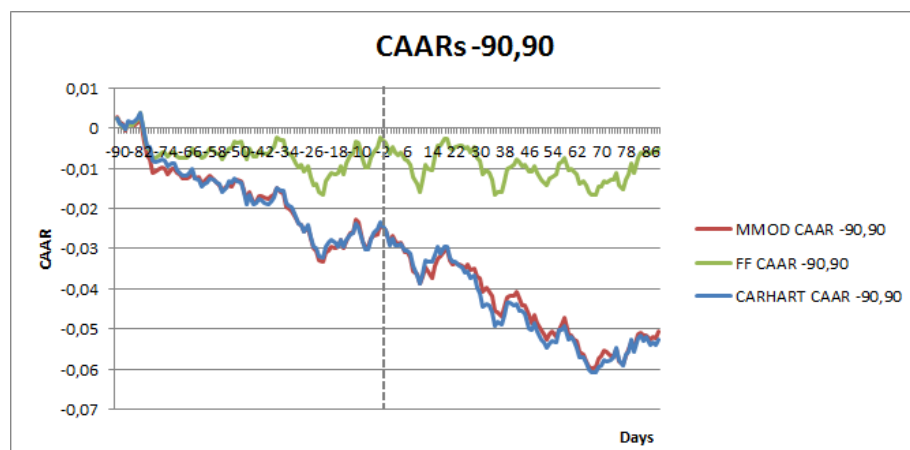
Both graphs depict that the CAAR drifts before as well as after the announcement day (Day 0). This implies that the market does get some information about the ocurring event some time before it is actually announced, and that there are market reactions that affetcts the stock returns after the event has been announced as well.

In the short event window represented in Graph 1 one can see that there is a drop in the stock returns right before the event and at day 0, followed by an incline the first day, until it continuses to drift donwards again. One can also see that the three models give somewhat equal results within this time frame. Graph 2, on the other hand, which presents the longer event window, shows that there are clearly different results amongst the three models. The Market Model and the Carhart

Model follow an equal distribution of the CAARs, where one can see that there is a clear downward drift after the event. The Fama & French Model also continues to have a declining CAAR after the event, however the decline is more modest in this model. It is somewhat puzzling that the results of the Market Model and the Carhart Model are more alike than the Fama & French and Carhart Model. Therefore, to ensure that our analyses were correct, we recollected all the data and checked the data several times, and then repeated the analyses again.

Regardless the model, the graphs indicate that we could reject the *H₀: CAAR remains stable*, and say that the CAAR continues to drift. However, we wanted to investigate the CAAR results more in-depth and check for significance. Thus, we divided the 7- and 181 days event windows into smaller event windows. Table 3 displays the CAARs for the different event windows within the 7 days original event window, whereas Table 4 represents the results of the event windows within the 181 day time frame. The CAARs are given by the first line for every day, while the t- statistics are given in the second line and the third line states whether the results are significant or not and at what level.

Table 3: CAAR; In-Depth analysis within 7 days Event Window
Table 3

Event Window	Statistic	Market Model	Fama & French Model	Carhart Model
-1,1	CAAR	-0,0008	-0,0005	0,0000
	T-statistic	-0,3432	-0,1958	0,0102
	Significance	insign	insign	insign
-1,0	CAAR	-0,0031	-0,0025	-0,0022
	T-statistic	-1,5823	-1,2733	-0,9767
	Significance	insign	insign	insign
0,1	CAAR	-0,0009	-0,0008	-0,0011
	T-statistic	-0,4330	-0,3920	-0,4857
	Significance	insign	insign	insign
-2,1	CAAR	-0,0024	-0,0016	-0,0019
	T-statistic	-0,8319	-0,5810	-0,5886
	Significance	insign	insign	insign
-2,0	CAAR	-0,0047	-0,0037	-0,0041
	T-statistic	-1,8344	-1,4597	-1,4615
	Significance	*	insign	insign
0,2	CAAR	-0,0025	-0,0029	-0,0028
	T-statistic	-0,9534	-1,1244	-0,9710
	Significance	insign	insign	insign

Table 3 shows that there is only one event windows that is statistically significant, which is the (-2, 0) event window. The CAAR is negative with -0,47% and it is

significant at the 90%- level, meaning that the firms experience negative market reactions related to the CSR announcements which is reflected in the stock returns. However, this result is only significant for the Market Model, while the other two models do not have any significant results within these event windows.

Table 4: CAAR, In- Depth analysis within 181 days Event Window
Table 4

Event Window	Statistic	Market Model	Fama & French Model	Carhart Model
-90,90	CAAR	-0,1564	-0,0767	-0,1449
	T-statistic	-2,6282	-0,8068	-2,4120
	Significance	**	insign	**
-90,0	CAAR	-0,0288	-0,0066	-0,0290
	T-statistic	-1,6391	-0,2534	-1,5622
	Significance	insign	insign	insign
0,90	CAAR	-0,0418	-0,0176	-0,0441
	T-statistic	-1,8427	-0,5526	-1,9583
	Significance	*	insign	*
-75,75	CAAR	-0,0446	-0,0043	-0,0466
	T-statistic	-2,2010	-0,1067	-2,1019
	Significance	**	insign	**
-75,0	CAAR	-0,0185	0,0004	-0,0209
	T-statistic	-1,3383	0,0174	-1,4935
	Significance	insign	insign	insign
0,75	CAAR	-0,0294	-0,0074	-0,0293
	T-statistic	-1,9313	-0,3047	-1,6444
	Significance	*	insign	insign
-50,50	CAAR	-0,0369	-0,0095	-0,0398
	T-statistic	-2,3828	-0,3411	-2,3384
	Significance	**	insign	**
-50,0	CAAR	-0,0156	-0,0032	-0,0164
	T-statistic	-1,5494	-0,1963	-1,5690
	Significance	insign	insign	insign
0,50	CAAR	-0,0246	-0,0090	-0,0271
	T-statistic	-2,0663	-0,5427	-1,9822
	Significance	**	insign	*
-30,30	CAAR	-0,0150	0,0007	-0,0187
	T-statistic	-1,4733	0,0424	-1,6782
	Significance	insign	insign	*
-30,0	CAAR	-0,0065	0,0022	-0,0069
	T-statistic	-0,8328	0,2096	-0,9113
	Significance	insign	insign	insign
0,30	CAAR	-0,0118	-0,0042	-0,0155
	T-statistic	-1,2826	-0,3526	-1,4690
	Significance	insign	insign	insign
-20,20	CAAR	-0,0021	0,0084	-0,0025
	T-statistic	-0,2422	0,6482	-0,2681
	Significance	insign	insign	insign
-20,0	CAAR	0,0021	0,0068	0,0005
	T-statistic	0,3316	0,8619	0,0843
	Significance	insign	insign	insign
0,20	CAAR	-0,0075	-0,0011	-0,0067
	T-statistic	-0,9842	-0,1137	-0,7678
	Significance	insign	insign	insign
-10,10	CAAR	-0,0162	-0,0128	-0,0147
	T-statistic	-2,5013	-1,5944	-2,1666
	Significance	**	insign	**
-10,0	CAAR	-0,0061	-0,0033	-0,0052
	T-statistic	-1,2344	-0,6107	-1,0397
	Significance	insign	insign	insign
0,10	CAAR	-0,0134	-0,0122	-0,0132
	T-statistic	-2,5666	-2,0275	-2,3999
	Significance	**	**	**

Table 4 somewhat confirms what one could observe from the graphs, namely that

the results of the Market Model and the Carhart Model are more similar to each

other than the Fama & French Model. The table also shows that once again, we get both significant and insignificant results with respect to the CAARs. The Market Model and the Carhart Model have significantly negative CAARs for the (-90, 90) window, whereas the Fama & French Model has an insignificant CAAR for this window. This would also mean that the distribution of the Fama & French CAAR as observed in Graph 2, which were completely different from the other two models, is not significant. These results imply that for the time interval of 181 days one would expect to get negative CAARs with approximately -12% in relation to a CSR announcement by applying the Market Model and the Carhart Model, while the Fama & French Model does not give any significant implications of these matters as it has insignificant results. Furthermore, the significant results of the Market Model and the Carhart Model; and their corresponding drifting graphs; suggest that CSR announcements could be considered to be an anomaly to market efficiency.

In general, Table 4 shows that the Market Model and the Carhart Model seem to have more significant results in the longer event windows than the Fama & French Model; for instance, the first two models have significant negative CAARs at the 95% -level for the event windows of (-75, 75) , (-50,50) and (- 10, 10). However, it is important to point out that the event window of (0, 10) is statistically significant for *all the three models* with t- statistics which are significant at the 95% - level. Due to this, and the fact that the Market Model and the Carhart Model were significant at the (-10,10) window, we analyzed this event window more detailed. Therefore, we created different event windows within the (-10, 10) time frame. The results are shown in Table 5 below:

Table 5: CAAR, In-Depth Analysis within 181 days Event Window
Table 5

Event Window	Statistic	Market Model	Fama & French Model	Carhart Model
-10,1	CAAR	-0,0042	-0,0015	-0,0037
	T-statistic	-0,8249	-0,2537	-0,6861
	Significance	insign	insign	insign
-10,5	CAAR	-0,0082	-0,0047	-0,0065
	T-statistic	-1,3925	-0,6738	-1,0388
	Significance	insign	insign	insign
-10,7	CAAR	-0,0095	-0,0060	-0,0075
	T-statistic	-1,5096	-0,8174	-1,0838
	Significance	insign	insign	insign
-10,10	CAAR	-0,0162	-0,0128	-0,0147
	T-statistic	-2,5013	-1,5944	-2,1666
	Significance	**	insign	**
-10,15	CAAR	-0,0118	-0,0038	-0,0076
	T-statistic	-1,7641	-0,4279	-1,1073
	Significance	*	insign	insign
-10,20	CAAR	-0,0104	-0,0017	-0,0082
	T-statistic	-1,3316	-0,1586	-0,9587
	Significance	insign	insign	insign
-5,5	CAAR	-0,0033	-0,0005	-0,0025
	T-statistic	-0,6433	-0,0805	-0,4384
	Significance	insign	insign	insign
-5,0	CAAR	-0,0012	0,0009	-0,0011
	T-statistic	-0,3245	0,2215	-0,2876
	Significance	insign	insign	insign
0,5	CAAR	-0,0054	-0,0041	-0,0050
	T-statistic	-1,3735	-0,9449	-1,1869
	Significance	insign	insign	insign
0,8	CAAR	-0,0101	-0,0085	-0,0089
	T-statistic	-2,0161	-1,5123	-1,6169
	Significance	**	insign	insign
0,10	CAAR	-0,0134	-0,0122	-0,0132
	T-statistic	-2,5666	-2,0275	-2,3999
	Significance	**	**	**

The results show that the Market Model clearly gives more significant results than the other two models, and that the only event window that is still significant for all three models is the event window (0, 10). The results show negative CAARs for all models which are statistically significant at the 95%- level, where the Market Model has a negative result of – 1,34% , the Fama & French model has a negative CAAR at – 1,22%, and the Carhart Model has a negative CAAR at – 1,32%. This implies that the market values CSR negatively and one would expect to get a negative CAAR within the time interval of 10 days after the CSR announcement. Additionally, according to the Market Model and the Carhart Model, there are negative statistically significant results at the 95%- level in the event window of (-

10,10). This indicates that the market learns about the occurring event some time before the actual event has occurred, in addition to the fact that the market values the CSR negatively after the event.

Our analyses give both significant and insignificant results; hence, one will have to interpret the results carefully. However, we do find evidence of significant negative CAARs throughout the event windows, both in the 7 days and the 181 days intervals. Within the 7 day time interval, though, there were only one event window for the Market Model that was significant at the 90%- level, whereas within the 181 day interval we got some more and stronger statistically significant results. Checking for significance, the graphical presentations of the results also show that that the graphs actually drift downwards before *and* after the event. These results imply that the market learns about the announcement some time before the event actually occurs and values the CSR activities negatively. The drifting graphs also imply that it could be considered to be an anomaly to market efficiency. The Market Model and the Carhart Model were the two models that overall gave most results that were significant, both in the analysis of the different event windows and for the graph itself. The Fama & French Model had less significant results. Hence, based on the results from the Fama & French Model, we are not able state clear conclusions. Furthermore, due to the low significance within the event window of 7 days, we are not able to conclude that the CAAR represent an anomaly within a short time aspect of the CSR announcement. However, based on the stronger results from the Market Model and the Carhart Model within the event window of 181 days, we are able to say that the CAAR continues to drift after the event. Therefore, we reject the hypothesis *H_0: CAAR remains stable,* and say that within a longer time horizon of the event, the CAAR continues to drift. Thus, this suggests that CSR announcements represent an anomaly to market efficiency.

5.3 Discussing the results of AAR and CAAR

Following the discussions from the previous two sections, we observe that our analyses show that we have one positive and some negative significant average abnormal returns, and more importantly, that we have significant negative cumulative average abnormal returns for the Market Model and the Carhart Model. We also observed that some results were insignificant, in addition to the

fact that the Fama & French Model had very different results from the Market Model and the Carhart Model.

Overall, we conclude that our results suggest that CSR efforts had a negative impact on companies' stock returns in the period of 2005-2012. Also, since the Fama & French Model mainly has insignificant results while the Market Model and the Carhart Model have much significant results, we are going to focus on the findings of the Market Model and the Carhart Model in this section. Therefore, in this section we will discuss potential reasons for the negative average abnormal returns and cumulative average abnormal returns that we found. For simplicity, we will use the term "abnormal returns" as a conjoint term for both "average abnormal returns" and "cumulative average abnormal returns" throughout the remainder of this section.

As mentioned in section 1.3, before performing the analyses in this thesis we expected that CSR announcements were going to result in positive abnormal returns, and that CSR announcements would be a positive anomaly to market efficiency. This was mainly due to the fact that CSR signals financial stability, it could create positive publicity, and it may attract qualified personnel to the company. However, as indicated, our analyses showed that CSR announcements create negative abnormal returns for a company. At first, this surprised us. However, after having discussed the results thoroughly, we found several potential reasons why CSR announcements result in negative abnormal returns for a company. These reasons will be discussed in the following paragraphs in this section.

As described in section 2; Literature Review; previous studies have found varying results regarding the effects of CSR announcements on stock returns. Some studies have found positive connections, some found negative connections, while some researchers concluded that CSR efforts have no significant impact on stock returns. For example, Arx and Ziegler found that financial markets positively value environmental and social activities of a firm in the US and Europe in the time period of 2003-2006, Bird et al. found that the American market seemed to value firms that satisfied only the minimum requirements (ie as required by law) of the dimensions of environment and diversity in the period of 1991-2003, while

Mollet and Ziegler did not find evidence suggesting that CSR had any impact on stock returns in the period of 1998-2009. Additionally, some studies found altering results on other markets as well. Thus, the market seems to value CSR differently over time, as Bird et al. also mentioned in their study. On the American market, Arx and Ziegler found a positive effect of CSR in the period of 2003-2006, and Mollet and Ziegler found no effect in the period of 1998-2009. And now, we have found a negative effect in the period of 2005-2012. Thus, our results are confirming the finding of Bird et al.; that the effects of CSR on a company's abnormal returns change over time. Therefore, this may suggest that our negative results essentially is a part of an overall change in the market valuation of CSR; the negative market perception of CSR in the period of 2005-2012 may basically be due to the fact that the perception of CSR has changed from the findings of Arx and Ziegler in 2009 and Mollet and Ziegler in 2012.

Another potential explanation for the negative abnormal returns lies in the fact that CSR efforts are very expensive. Firms make substantial investments into various projects, while these investments do not generate any directly related returns. Thus, it may be that the investment community does not appreciate that firms spend much money on projects that do not directly contribute to increasing the value of the firms, and hence the CSR efforts result in negative abnormal returns. Additionally, in the period of 2008-2009, the American economy experienced a significant crisis where many companies ran into financial difficulties. It may be that the presence of this crisis heavily influenced the results that we got in our analyses, and hence contributed to creating negative abnormal returns. In order to get an idea of how this financial crisis impacted our sample and our tests, we investigate our results in a manner which takes the crisis into consideration in section 5.5.

Relating to the previous argument; today, after the financial crisis in the beginning of the 2000s and the crisis of 2008-2009, several experts claim that the American economy is heavily influenced by macroeconomic events. Thus, firm performances are now more influenced by macroeconomic events than they used to be, and it may be that firm specific events currently do not have the same effect on companies' stock returns as they used to. Thus, this may suggest that firm specific events such as CSR announcements do not impact companies' abnormal

returns in the manner that we would expect them to, and it suggests that the negative returns that the firms are experiencing are moreover related to the state of the economy and general events in the firms' market place. Thus, it may be that we observe negative abnormal returns out of coincidence or relations to the macro economy, rather in direct relations to the CSR announcements.

Another possible explanation for the negative abnormal returns may lie in the types of projects that firms invest in. In general, firms invest in CSR projects of numerous different types. Oftentimes, firms invest in projects that are directly related to their own industry; for example when DELL Inc. donates $10 million to education technology initiatives across the country. However, oftentimes we observe that firms invest in CSR projects that are not directly related to their own field at all; such as when Walt Disney donates $1 million to "various environmental causes". When the companies invest in CSR projects that are not directly related to their own industry, they run the risk of being accused of doing CSR "only for creating positive publicity and higher returns" rather than for the "good will". Investors may not value that the firms is spending money that do not directly benefit the industry in which the company operates. This may cause the CSR effort to have a negative effect on a company's stock returns, rather than a positive effect. Furthermore, firms also experience a tax relief when spending money on CSR. Thus, if it seems that certain firms are doing CSR essentially to experience tax benefits rather than purely doing it for "the greater good", this is also likely to cause the CSR efforts to have a negative impact on a company's abnormal returns.

The specific dimensions of CSR in which the companies invest may also influence the impact that a company's CSR efforts have on its stock returns. As mentioned in section 1.1, there are essentially five main dimensions of CSR into which companies can invest; these five being the environmental, social, economic, stakeholder and voluntariness dimensions. As previously described, we chose to focus on the two dimensions of environment and social CSR efforts. Essentially, we chose to focus on these two types of dimensions, as these seem to be the two most common types of CSR dimensions. However, the fact that we are looking at the dimensions of environment and social may have a direct impact on the fact that we observe negative abnormal returns in our analyses. Previous studies

disagree on the effects of these two dimensions. Bird et al. (2007) found that the market valued the various dimensions differently. Furthermore, they found that for the time period of 1991-2003, the market punished firms that exceeded minimum investment in environmental CSR efforts, while the social dimension was no longer being valued. On the contrary, Arx and Ziegler (2009) found that the market valued environmental and social CSR efforts in the period of 2003-2006. Thus, these researchers found opposite results, and our results seem to support the findings of Bird et al., which indicates that it may be that the trend of "punishing" CSR efforts in environmental and social dimensions still remains. Thus, it may be that we obtain negative abnormal returns in our analyses due to the fact that we have focused on social and environmental efforts, and it may be that we had observed different results if we had focused on CSR announcements within the dimensions of economic, stakeholder and voluntary CSR efforts.

In our study, the event window for a "longer term effect" starts 90 days prior to, and ends 90 days after the CSR announcements. However, this event window may be too short in order to be able to observe the true effect of the CSR announcement. As Arx and Ziegler (2009) mention, it may take longer time for the true effect of a CSR project to reveal itself for a company. The full process of a CSR project may last for a long period of time; it may take up to several years from the day that the CSR project is first planned until the day that the project is completed. Thus, when we look at the effect of the CSR announcements for the following 90 days only, we are not able to include the effects of the completed CSR activity. Perhaps the market has a negative reaction towards the CSR effort at the day when the announcement is made and the time right after, since the market essentially just realizes that the firm is going to spend a significant amount of money on something that is not generating any direct returns. Furthermore; perhaps the market instead values a CSR effort to a greater extent when the project is either started, is starting to show good results, or has been completed as the market is able to observe the good effects of the CSR project. Thus, the fact that we are looking at the CSR announcements themselves in this study; and have chosen an event window of maximum 181 days; we do not have a sufficient window to capture the complete effect of the whole CSR process. Thus, this may be a reason why we observe negative abnormal results from our analyses.

In summary, there are several potential reasons explaining why our analyses show that CSR announcements result in negative abnormal returns. Some suggested explanations may relate to a somewhat general macroeconomic picture, whereas some explanations are moreover related to the specifications of our methodology. However, despite our suggested reasons, one can find good arguments supporting intuitions behind both a positive and a negative relationship between a firm's CSR announcements, and its abnormal returns. Thus, the empirical data is what really matters; and the data for this particular thesis suggest that there is a negative relationship between a firm's CSR announcements and its abnormal returns.

5.4 Robustness Tests

After having performed all the tests in our analyses, we wanted to test the robustness of our results. We performed three different robustness tests to see how our results and significance levels changed with some variations in the data. In the first test we eliminated the two CSR announcements with the highest dollar value, and the two CSR announcements with the lowest dollar value. In the second test we eliminated the two announcements which got the highest market betas from our regressions, and the two announcements with the lowest market betas. In the third test we eliminated the three announcements with the highest standard errors from our regressions. We alternated the t-statistics test by applying corresponding degrees of freedom to the amount of remaining announcements in the data set. We performed the robustness tests on the Carhart Model, since this is the most extensive model in our analysis, obtaining the highest R^2.

The robustness tests caused very few changes in the results of our analyses, and exhibit 3 is an excerpt from the results that we obtained. It corresponds to table 4 in section 5.2, and thus presents the CAAR analysis of the longer term event windows. It shows the CAARs, t-statistics and significance levels from the original Carhart analysis, as well as the corresponding values from the three robustness tests. As presented in the exhibit, there is a small number of changes. Some event windows increase their significance, while some decrease their significance. Overall, the robustness tests show somewhat *more* significant results than our original results. However, the changes caused by the robustness tests are so small such that they cannot change the overall findings and analyses presented

in the previous subsections. Thus, we conclude that the robustness tests confirm the overall findings in our thesis.

5.5 *Comparing AAR and CAAR before, during and after the 2008 crisis*

In order to get an impression of how our overall results are influenced by the 2008 financial crisis, we performed a new analysis where we split all our CSR announcements into three groups according to times of expansion and contractions in the American Economy from 2005-2012. Following the business cycle reference dates from the National Bureau of Economic Research (NBER 2013), we defined the period of January 2005 until November 2007 as a period of expansion, the period of December 2007 until June 2009 as a period of contraction, and the period of July 2009 until December 2012 as a period of expansion. Therefore, the announcements in Period 1, 2 and 3 correspond to the three periods mentioned above, respectively. Period 1 includes 21 announcements, Period 2 includes 15 announcements, and Period 3 includes 32 announcements. Since the periods contain relatively few data points, we must interpret the results with some caution. We performed this analysis using the Carhart Model, since this model had the highest R^2 in our original tests. Below are the graphs depicting the CAARs for the three different periods for the -3,3 and the -90,90 intervals:

Graph 3: CAARs -3,3 Days for Different Time Periods
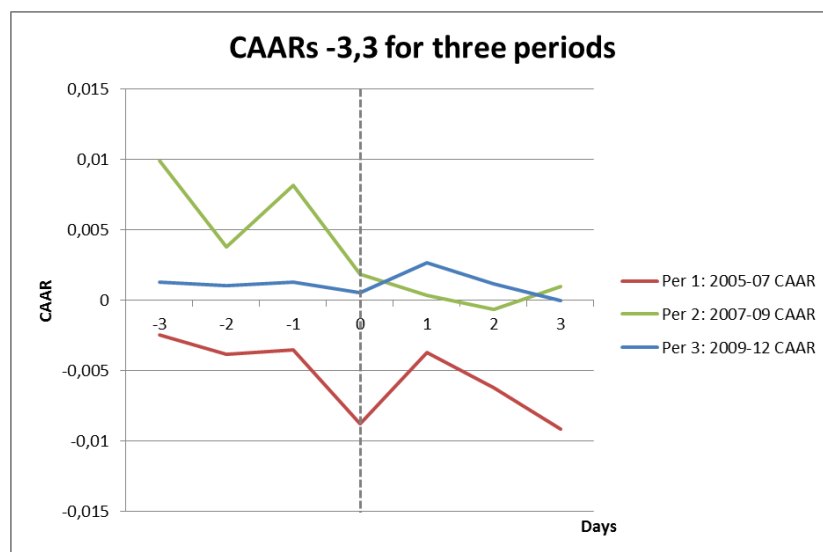
Graph 4: CAARs -90,90 Days for Different Time Periods
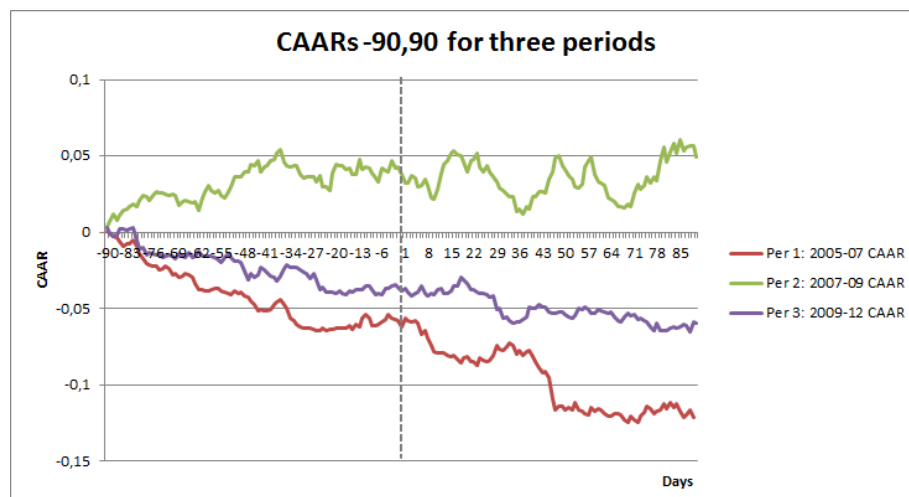
The results that came out from this test were somewhat surprising. As shown, period 1 of expansion; 2005-2007; has the lowest CAAR, period 2 of financial crisis; 2007-2009; has the highest CAAR, while period 3 of expansion; 2009-2012 has its CAAR in between of the other two. When performing the significance tests of the three periods, we found that all three periods are insignificant in the -3,3 interval, period 2 and 3 are insignificant in the -90,90 interval, and period 1 is significant at the 99% level in the -90,90 interval.

Most of all, it is surprising that the period of financial crisis has the highest CAAR, and that period 1 of expansion has the lowest CAAR. Although most of these CAARs were insignificant, we still think it is interesting to provide some intuition for why we see this particular distribution of the CAARs. After all, this is the underlying distribution for the all the data points in our overall study. Firstly, the firms that are divided into the three periods are not the same. Ideally, all three periods would include the same firms, such that we would be able to compare firm specific performances across the three periods. However, given that we have 68 CSR announcements from 39 different firms, it would not be possible to create three periods that contains the same firms. Secondly, although the economy was in a financial crisis in period 2, there were in fact some firms that performed well during this time. Thus, it may be that we have caught some of these firms in our sample. Likewise, some firms did not perform well in the two periods of expansion, and it may be that some of the firms in our sample were among those. Graph 5 shows the distribution of the market return from 2005-2012, as provided by Kenneth French. This distribution does indeed show that each period

experienced positive and negative returns in the market, which implies that specific firms may have experienced much larger swings.

Graph 5: Market Return 2005-2012
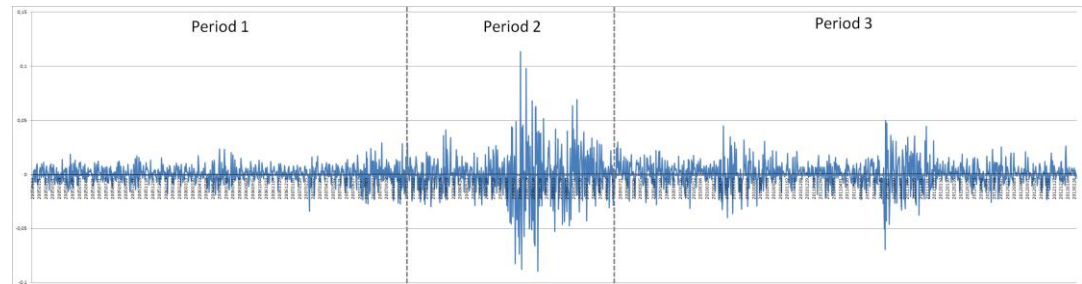
Another reason why we see the surprising CAARs in this analysis may lie in the way that the abnormal returns are actually calculated. Abnormal returns are really "actual returns – estimated returns". Thus, in the periods of expansion (2005-07 and 2009-12), one expects and estimates returns to be higher, and then it may be harder for the actual returns to exceed the expectations, and hence there is negative abnormal returns. Conversely, in the period of crisis, one expects lower estimated returns; perhaps even negative; and then if a company actually has some positive returns, it may be "easier" to exceed what was expected. Additionally, the fact that companies are able to do CSR efforts in times of crisis, may have a particularly positive effect on a company's stock returns in period 2. First, this signals that the company is in a financial position which allows it to set aside funding for something that does not generate directly related income. Second, instead of exploiting additional funds as dividends or other capital investments, the firm is thinking about the greater good and is helping out society in times of difficulties. These two points may support the notion that CSR creates positive abnormal returns in times of crisis.

Lastly, and perhaps the most important reason why we see the surprising CAARs, may lie in the size of our data sample. Overall, we have 68 CSR announcements in our sample, which is a decent number in order to make analyses of the whole period of 2005-2012. However, when we split these announcements into three groups, some of the samples are very small. Period 1, 2 and 3 contains 21, 15 and 32 announcements, respectively. Thus, the periods have fairly small and asymmetric sample sizes, which furthermore can contribute to obscuring the

results. Thus, this makes it more difficult both to rely on the results that we get in each CAAR, as well as the comparisons among each period. Additionally, the small sample size is probably also contributing to making most of the results from this analysis insignificant. This helps us realize that the main benefit from doing this analysis of separating between the three periods relating to the cycles of the economy, is to understand the reason why the overall CAAR graph from section 5.2 is the way it is. We plotted the overall CAAR from graph 2 in section 5.2 into a plot together with the CAARs from the three different periods, depicted in the following graph:

Graph 6: CAARs for all Three Periods, and Overall CAAR
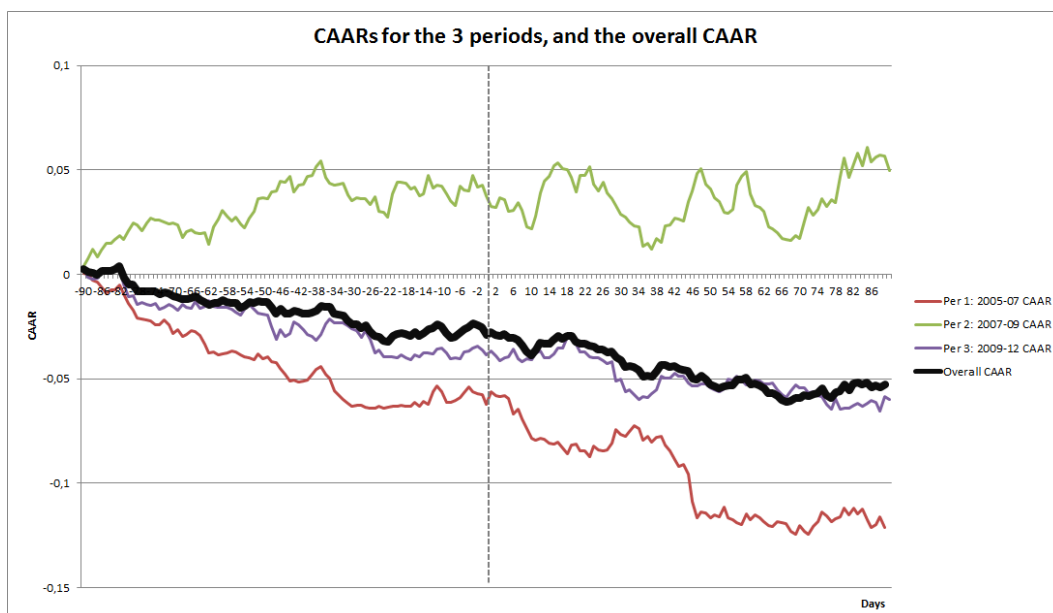
The thick, black line is the original overall CAAR from section 5.2. As shown in graph 6, it is very similar to the CAAR graph from period 3; the period of 2009-2012. This is mainly due to the fact that the sample size for this period is much larger than the sample sizes from the other two periods. It does lie somewhat above the CAAR for period 2, which is due to the high and positive CAAR from period 1. Essentially, this tells us that our overall CAAR is heavily influenced by the CSR announcements that we collected from the period of 2009-2012. Thus, this contributes to explaining why we observe a negative overall CAAR in our analyses of the effects of CSR announcements on a company's stock returns, since we now know that the CAAR in the period of 2009-2012 was negative.

The findings from this interim analysis may also support findings in previous literature, where Bird et al. (2007) suggested that the market's attitude of CSR

changes over time. The CAARs from our three defined periods vary from each other; one being very negative, one being relatively negative one being very positive. Furthermore, this analysis also supports the fact that different previous studies come to different conclusions. Some find that CSR has a positive effect on stock returns, some find a negative effect, and some find that there is no effect at all. Thus, even though the CAARs for the three defined periods generally are not significant, they may still be related to findings of previous studies.

6. Conclusion

In this thesis we have studied the relationship between a company's CSR activities and their effects on a company's stock returns. More specifically, we have researched whether CSR announcements create abnormal returns for a company, and if such announcements may be considered an anomaly to market efficiency. We focused on CSR announcements in the American market during the time period of 2005-2012, and we had a total of 68 announcements in our analysis. Furthermore, we used both a short term and a longer term event window of 7 days and 181 days in our analysis. We performed a detailed study using the Market Model, the Fama & French Model and the Carhart Model, and we focused on the findings from the Market Model and the Carhart Model as these two models had much more significant results than the Fama & French Model. Based on our analyses, we came to the conclusion that CSR announcements have a negative impact on a company's abnormal return, as well as on a company's cumulative abnormal returns. The CAARs in our analyses continue to drift negatively, and based on these findings we suggest that CSR announcements represent an anomaly to market efficiency.

There are several potential explanations for these negative results. For example, the market's valuation of CSR changes over time and the period of 2005-2012 seem to be a period which does not value CSR; CSR efforts are expensive; CSR activities may create poor publicity if a company is not doing CSR only for the good will but rather for the pure interest of publicity, returns or tax reliefs; it may be that social and environmental CSR dimensions (which we have focused on in this thesis) are negatively related to a firm's stock returns; or it may be that markets do not value the CSR *announcements* themselves (which we focus on in this thesis), but rather the performance and completion of the CSR activity. Additionally, it may be that the financial crisis from December 2007 until June 2009 had a strong impact on our results. We attempted to test this in section 5.5, however, we mostly obtained insignificant results in our analyses and hence could not make a complete interpretation of the analysis with respect to the financial crisis.

Previous literature does not provide a completely united view on the effect of CSR activities on a firm's stock returns. Some find a positive relationship between CSR and a firm's stock returns, whereas others find either a negative relationship or no relationship at all. Our study is unique in the way that we combine the three main specifications of our study; ie that we have a time frame of 2005-2012 on the American market, that we look at CSR *announcements*, and that we apply the Market Model, the Fama & French Model and the Carhart Model. We think that our results and our thesis as a whole add value to the existing base of literature on the topic of the effect of CSR on a firm's stock returns.

After having completed the analyses in this thesis, we have also observed some weaknesses of our study. First and foremost, the strength of the study would have increased if we had been able to find more announcements that could go into the study. Although a sample size of 68 CSR announcements is a decent amount, the trustworthiness of our results would increase with more announcements. Also, some of our abnormal returns and cumulative abnormal returns are not significant; and this could potentially change if the sample size increased. Additionally, it is somewhat puzzling that the Fama & French Model gives such different results from the Carhart Model, and a larger sample size could potentially have contributed to changing this.

Furthermore, the criteria that we determined for what announcements to include in the study have eliminated some announcements from the sample. If we had increased the range of funding into the project, opened up for more CSR dimensions to be included, allowed for more than three announcements to be included per firms, etc., we could have obtained a larger sample size. However, we found it important to have some clearly defined criteria for our sample, such that we would have the highest possibility of making valid and market-wide inferences from our results. But, it seems as though we could have benefited from having somewhat looser criteria, and instead had a larger sample size.

Additionally, the fact that we are using CSR *announcements* in our study; and not another measure such as CSR ratings; may be both a strength and a weakness to our study. It contributes to making our study unique since hardly any studies have done this in the past, and it enables us to make an inference of whether CSR

announcements may be an anomaly to market efficiency. On the contrary, it may be a weakness because the market might value the start or completion of a project, and not the announcement about a CSR project itself. Also, we do not know how much of a "surprise" this announcement is. It may be that such CSR projects; or potentially CSR budgets; are mentioned in some firms' annual reports. Thus, if this is the case, then the information that is released on the CSR announcement day is not actually "new" information, and may already be incorporated into the firm's stock price. Hence, this may indicate that we could have observed stronger results if we had chosen to look at the effects on firms' performance in relations to their CSR ratings in various databases, instead of looking at the effects of the CSR announcements on firms' stock returns.

Through this study, we find a negative relationship between a firm's CSR announcements and its abnormal returns, and we also suggest that CSR announcements represent an anomaly to market efficiency. We had expected to find the opposite; that CSR has a positive impact on a firm's stock returns. The world is dependent on massive CSR efforts from companies around the globe, and it would likely have been more beneficial for society if we had found a positive relationship. If there is a positive relationship between CSR and a firms' stock returns, it may be easier to motivate more firms to perform CSR. Thus, proving a positive relationship may contribute to increasing the overall CSR efforts that firms perform, which furthermore could help improving various issues and challenges all over the world. As mentioned, it may be that we had found different results in this thesis by using different specifications in our study. In line with this, we think that an interesting topic for future research would be to analyze the effects of *finished* CSR projects on the value of companies. In other words, instead of looking at the effects of CSR announcements presenting a new CSR project (like we have done in this thesis), it would be interesting to know how the value of a company changes when the *completion* of a large CSR project is announced. Perhaps the market would value the results of CSR projects positively, and hence suggest that CSR projects have a positive influence on the value of a company.

After having performed this study and having seen our results, another interesting question strikes us. The amount of CSR efforts worldwide; and in the US in

particular; have grown significantly over the past few decades, and most national and multinational American companies now have a well-established CSR program. Therefore, it seems that CSR efforts have become something that now is *expected* by the market, rather than something that companies do voluntarily. In other words, would the negative abnormal results that we found in this study be even *more* negative, if the firms did not perform any CSR activities at all? Has CSR developed into an expectation from the market rather than a motivation from the company to perform a good will to society? We think that this question also represents an interesting topic of future research. It would be interesting to see a research that identifies companies that do *not* perform CSR activities, and analyze how these companies perform compared to firms that do perform CSR activities. Hopefully, for the greater good of our society, this study could prove that firms that *do not* perform CSR activities underperform compared to the firms that do perform CSR.

After having completed this thesis, we have gained useful economic insight and our awareness of the immense importance and magnitude of firms' CSR efforts have increased. Despite the fact that our results suggest that CSR announcements have a negative impact on companies' stock returns, we hope that companies will maintain their CSR investments in the future.

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8. Appendix: Exhibits

Exhibit 1; T- statistics

| Student T- distribution with ν- degrees of freedom			
	90 %	95 %	99 %
α (Two- tailed)	0,1	0,05	0,01
ν Degrees of Freedom			
66	1,6683	1,9966	2,6524

Source: www.itl.nist.gov

Exhibit 2.1; Descriptives Table; All Companies

Exhibit 2.1

Firm	Founded	Sector	Firm Industry	S&P500	Date of announcement	Investment into CSR Project
Abbott Laboratories (ABT)	1888	Healthcare	Medical appliances and equipment	Yes	19.01.2010	$ 2 500 000
Abbott Laboratories (ABT)	1888	Healthcare	Medical appliances and equipment	Yes	24.07.2012	$ 1 000 000
Adobe Systems, via Adobe Foundation (ADBE)	1982	Technology	Application software	Yes	21.06.2006	$ 10 000 000
American Eagle Outfitters (AEO)	1977	Services	Apparel stores	No	01.04.2005	$ 1 000 000
American International Group, Inc. (AIG)	1919	Financial	Property and casualty insurance	Yes	31.07.2007	$ 5 000 000
AT&T (T)	1875	Technology	Telecom service - domestic	Yes	17.09.2008	$ 29 000 000
Avon Products (AVP)	1886	Consumer goods	Personal products	Yes	05.09.2012	$ 1 000 000
Baxter International Inc. (BAX)	1931	Healthcare	Medical instruments and supplies	Yes	23.10.2008	$ 5 000 000
Becton, Dickonson and Company (BDX)	1897	Healthcare	Medical instruments and supplies	Yes	03.01.2005	$ 1 500 000
Becton, Dickonson and Company (BDX)	1897	Healthcare	Medical instruments and supplies	Yes	27.01.2010	$ 5 000 000
Cisco Systems, Inc. (CSCO)	1984	Technology	Networking and communication devices	Yes	01.07.2008	$ 45 000 000
Cisco Systems, Inc. (CSCO)	1984	Technology	Networking and communication devices	Yes	10.06.2010	$ 1 000 000
Coca Cola (KO)	1892	Consumer goods	Beverages - softdrinks	Yes	16.03.2009	$ 30 000 000
Coca Cola (KO)	1892	Consumer goods	Beverages - softdrinks	Yes	22.05.2011	$ 6 000 000
CSX Corportaion	1827	Services	Railroads	Yes	17.10.2011	$ 8 275 000
CVS Caremark (CVS)	1892	Services	Drugstores	Yes	05.02.2008	$ 5 500 000
CVS Caremark (CVS)	1892	Services	Drugstores	Yes	14.01.2010	$ 6 300 000
CVS Caremark (CVS)	1892	Services	Drugstores	Yes	13.09.2011	$ 6 000 000
Darden Restaurants Inc (DRI)	1968	Services	Restaurants	Yes	30.04.2012	$ 1 700 000
Dell Inc. (DELL)	1984	Technology	Personal computers	Yes	22.09.2010	$ 10 000 000
Dow Chemical Company (DOW)	1897	Basic Materials	Chemicals - major diversified	Yes	06.03.2006	$ 2 000 000
Dow Chemical Company (DOW)	1897	Basic Materials	Chemicals - major diversified	Yes	20.05.2008	$ 2 000 000
Dow Chemical Company (DOW)	1897	Basic Materials	Chemicals - major diversified	Yes	04.08.2011	$ 2 000 000
ExxonMobil (XOM)	1859	Basic Materials	Major integrated oil and gas	Yes	02.05.2007	$ 33 000 000
FedEx (FDX)	1998	Services	Air delivery and freight services	Yes	04.08.2011	$ 5 375 000
GE (GE)	1892	Industrial goods	Diversified machinery	Yes	24.10.2005	$ 20 000 000
GE (GE)	1892	Industrial goods	Diversified machinery	Yes	30.06.2008	$ 18 000 000
GE (GE)	1892	Industrial goods	Diversified machinery	Yes	15.01.2010	$ 2 500 000
Goldman Sachs (GS)	1869	Financial	Diversified investments	Yes	11.04.2005	$ 1 700 000
Goldman Sachs (GS)	1869	Financial	Diversified investments	Yes	30.05.2007	$ 2 000 000
IBM	1911	Technology	Information Technology Services	Yes	24.10.2011	$ 50 000 000
Intel Corporation (INTC)	1968	Technology	Semiconductor - broadline	Yes	12.05.2006	$ 4 000 000
ITT	1920	Industrial goods	Diversified machinery	No	07.09.2010	$ 10 500 000
JCPenny (JCP)	1902	Services	Department stores	Yes	03.11.2008	$ 9 000 000
JCPenny (JCP)	1902	Services	Department stores	Yes	13.01.2011	$ 6 700 000
Johnson Controls Inc (JCI)	1885	Consumer goods	Autoparts	Yes	01.09.2005	$ 1 000 000
Kohl's (KSS)	1988	Services	Department stores	Yes	29.03.2012	$ 2 000 000
Marriott (MAR)	1927	Services	Lodging	Yes	07.04.2008	$ 2 000 000
MasterCard (MA)	1966	Services	Business services	Yes	26.04.2012	$ 19 500 000
Men's Wearhouse (MW)	1973	Services	Apparel stores	No	16.02.2011	$ 1 000 000
Merck Company (MRK)	1891	Healthcare	Drug Manufacturers - major	Yes	19.11.2007	$ 2 800 000
Merck Company (MRK)	1891	Healthcare	Drug Manufacturers - major	Yes	19.07.2012	$ 3 000 000
MGM Resorts International (MGM)	2000	Services	Resorts and casinos	No	14.12.2011	$ 4 600 000
Microsoft (MSFT)	1975	Technology	Application software	Yes	21.02.2006	$ 41 000 000
Motorola Solutions (MSI)	1928	Technology	Communication equipment	Yes	10.04.2006	$ 1 000 000
Motorola Solutions (MSI)	1928	Technology	Communication equipment	Yes	14.11.2007	$ 3 500 000
Motorola Solutions (MSI)	1928	Technology	Communication equipment	Yes	19.01.2010	$ 7 500 000
Nike (NKE)	1964	Consumer goods	Textile - apparel footwear and accesories	Yes	27.05.2008	$ 45 000 000
Nike (NKE)	1964	Consumer goods	Textile - apparel footwear and accesories	Yes	30.11.2010	$ 6 000 000
PepsiCo (Foundation) (PEP)	1965	Consumer goods	Beverages - softdrinks	Yes	22.01.2008	$ 2 500 000
PepsiCo (Foundation) (PEP)	1965	Consumer goods	Beverages - softdrinks	Yes	14.01.2010	$ 1 000 000
Philip Morris International (PM)	1847	Consumer goods	Cigarettes	Yes	15.03.2011	$ 1 200 000
Starbucks Corporation (SBUX)	1985	Services	Speciality eateries	Yes	15.03.2007	$ 2 000 000
Target Corporation (TGT)	1962	Services	Discount, variety stores	Yes	19.03.2006	$ 15 600 000
Target Corporation (TGT)	1962	Services	Discount, variety stores	Yes	11.05.2011	$ 3 500 000
The Hartford financial services group (HIG)	1810	Financial	Property and casualty insurance	Yes	15.07.2007	$ 1 000 000
Union Pacific (UNP)	1862	Services	Railroads	Yes	03.03.2011	$ 7 400 000
United Technologies (UTX)	1929	Industrial goods	Aerospace/defense products and services	Yes	10.07.2008	$ 1 000 000
UPS (UPS)	1907	Services	Air delivery and freight services	Yes	11.11.2009	$ 1 000 000
UPS (UPS)	1907	Services	Air delivery and freight services	Yes	01.02.2012	$ 6 000 000
Wal-Mart Stores (WMT)	1962	Services	Department stores	Yes	10.12.2008	$ 25 000 000
Wal-Mart Stores (WMT)	1962	Services	Department stores	Yes	23.03.2011	$ 5 000 000
Walt Disney (DIS)	1923	Services	Entertainment - diversified	Yes	01.09.2005	$ 2 500 000
Walt Disney (DIS)	1923	Services	Entertainment - diversified	Yes	14.05.2007	$ 12 500 000
Walt Disney (DIS)	1923	Services	Entertainment - diversified	Yes	14.05.2009	$ 1 000 000
Well's Fargo (WFC)	1852	Financial	Money center banks	Yes	06.04.2006	$ 5 000 000
Well's Fargo (WFC)	1852	Financial	Money center banks	Yes	15.02.2008	$ 1 500 000
Western Union (WU)	1851	Financial	Credit services	Yes	22.12.2011	$ 3 400 000

Exhibit 2.2; Descriptives Chart; Sector Distribution
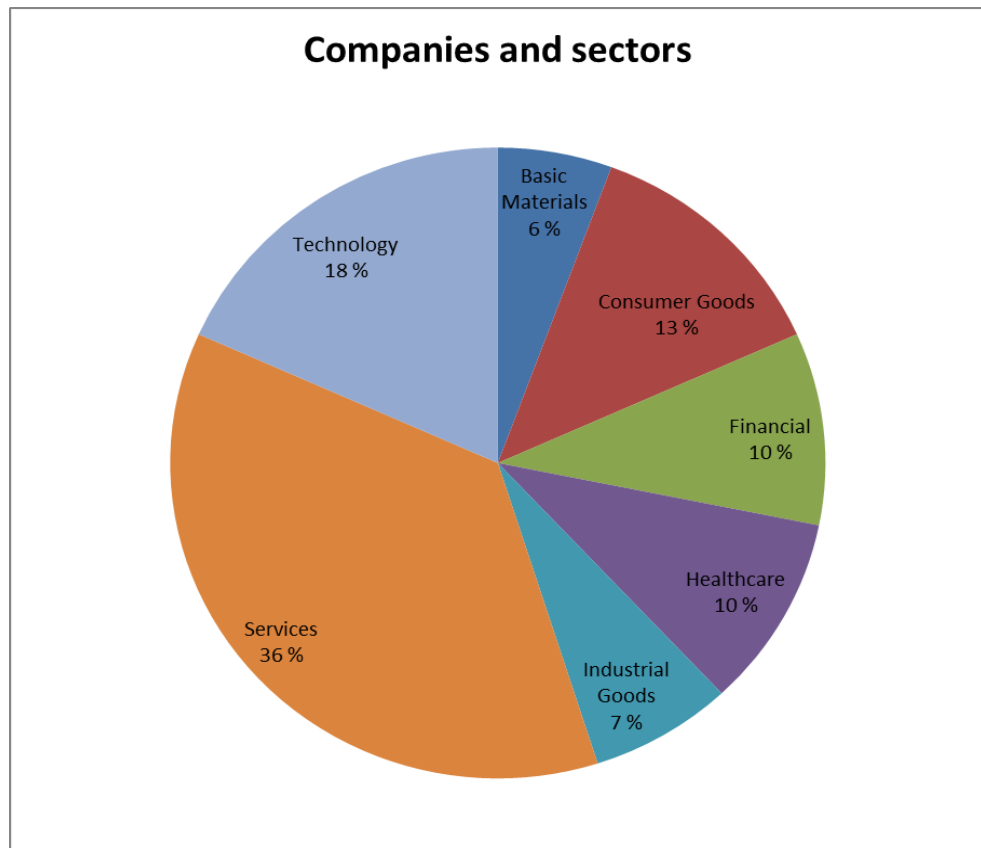
Exhibit 3; Robustness Tests

Exhibit 4

Event Window	Statistic	Original Values, Carhart Model	Test 1: Announcement Value	Test 2: Market Beta	Test 3: Standard Error
-90,90	CAAR	-0,1449	-0,1589	-0,1383	-0,1426
	T-statistic	-2,4120	-2,5227	-2,2068	-2,5171
	Significance	**	**	**	**
-90,0	CAAR	-0,0290	-0,0308	-0,0241	-0,0252
	T-statistic	-1,5622	-1,576	-1,266	-1,4033
	Significance	insign	insign	insign	insign
0,90	CAAR	-0,0441	-0,0469	-0,0425	-0,0481
	T-statistic	-1,9583	-1,967	-1,8145	-2,0814
	Significance	*	*	*	**
-75,75	CAAR	-0,0466	-0,0457	-0,0401	-0,0461
	T-statistic	-2,1019	-1,9495	-1,7897	-2,1387
	Significance	**	*	*	**
-75,0	CAAR	-0,0209	-0,0213	-0,0167	-0,0172
	T-statistic	-1,4935	-1,4371	-1,1471	-1,2345
	Significance	insign	insign	insign	insign
0,75	CAAR	-0,0293	-0,0282	-0,0271	-0,0324
	T-statistic	-1,6444	-1,4945	-1,5102	-1,812
	Significance	insign	insign	insign	*
-50,50	CAAR	-0,0398	-0,041	-0,0377	-0,0406
	T-statistic	-2,3384	-2,2656	-2,2249	-2,7145
	Significance	**	**	**	***
-50,0	CAAR	-0,0164	-0,0169	-0,0144	-0,0128
	T-statistic	-1,5690	-1,5249	-1,306	-1,3962
	Significance	insign	insign	insign	insign
0,50	CAAR	-0,0271	-0,0279	-0,0271	-0,0312
	T-statistic	-1,9822	-1,9268	-2,0271	-2,3368
	Significance	*	*	**	**
-30,30	CAAR	-0,0187	-0,0186	-0,0163	-0,0169
	T-statistic	-1,6782	-1,619	-1,4211	-1,5628
	Significance	*	insign	insign	insign
-30,0	CAAR	-0,0069	-0,0075	-0,004	-0,0025
	T-statistic	-0,9113	-0,9686	-0,5313	-0,3564
	Significance	insign	insign	insign	insign
0,30	CAAR	-0,0155	-0,0149	-0,0161	-0,0179
	T-statistic	-1,4690	-1,3485	-1,5372	-1,7252
	Significance	insign	insign	insign	*
-20,20	CAAR	-0,0025	-0,0032	-0,0029	-0,0032
	T-statistic	-0,2681	-0,3195	-0,2982	-0,3571
	Significance	insign	insign	insign	insign
-20,0	CAAR	0,0005	0,0006	0,0018	0,0029
	T-statistic	0,0843	0,1	0,2813	0,5012
	Significance	insign	insign	insign	insign
0,20	CAAR	-0,0067	-0,0076	-0,0084	-0,0096
	T-statistic	-0,7678	-0,8265	-0,966	-1,1111
	Significance	insign	insign	insign	insign
-10,10	CAAR	-0,0147	-0,0163	-0,015	-0,0139
	T-statistic	-2,1666	-2,3155	-2,0895	-2,153
	Significance	**	**	**	**
-10,0	CAAR	-0,0052	-0,0056	-0,004	-0,0047
	T-statistic	-1,0397	-1,1334	-0,7639	-0,9378
	Significance	insign	insign	insign	insign
0,10	CAAR	-0,0132	-0,0145	-0,0147	-0,0127
	T-statistic	-2,3999	-2,5233	-2,5553	-2,3102
	Significance	**	**	**	**

9. Appendix: Preliminary Master Thesis

Preliminary Master Thesis

- The Effect of Corporate Social Responsibility Announcements on a Company's Stock Returns and the Efficient Market Hypothesis -

Hand-in date:
15.01.2013

Campus:
BI Oslo

Examination code and name:
GRA 1900 Master Thesis

Programme:
Master of Science in Business & Economics, Major Finance

Table of Content

Abstract

In this thesis we will study the effects of Corporate Social Responsibility (CSR) announcements on a company's stock returns. We will focus on announcements among American corporations from 2005-2012. We will perform an event study where we use CAPM and Fama and French regressions, and we will look for abnormal returns on a firm's stock returns. We will furthermore investigate whether the potential the excess returns can be considered an anomaly to market efficiency. In the event study we will look at the effects of different types of CSR announcements, separating between environmental and social CSR efforts. We expect to see results indicating that a corporation's CSR announcements create abnormal returns, and will be an anomaly to market efficiency. This is essentially because CSR programs create positive publicity for a company, they signal financial stability to the investment community, and CSR programs may recruit new and talented employees which can increase the overall quality of the company.

1. Introduction

Over the last decade(s), companies all over the world have increased their Corporate Social Responsibility (CSR) efforts. Many companies take the responsibility of contributing to creating a better environment, reducing global warming, improving health- and social situations for poor countries, improving the working conditions for employees, etc., very seriously. Therefore, these companies have established comprehensive CSR programs to combat with many of the serious issues and problems that the world is dealing with; both on a local and global level. However, these CSR plans do not only help improving the world; oftentimes they also increase the value of the respective companies. When a large company has made an announcement about a significant prospective CSR investment, it has been reported that these announcements have led to increasing stock returns for the company (Arx and Ziegler, 2009. Cellier and Chollet, 2011). However, is this really the case? Do CSR announcements actually increase stock returns of a company, even though these CSR programs oftentimes cost the business a large amount of money without generating directly related revenues? In this thesis we will investigate the relationship between companies' CSR announcements and the development of the stock returns of these companies. More specifically, we will examine whether the firms experience abnormal returns which can be related to the CSR announcement. We will see whether historic data from 2005-2012 can show that CSR announcements create abnormal returns, and if they may be considered an anomaly to market efficiency. Thus, the research question for this thesis is as follows:

"Does a Corporate Social Responsibility announcement among American multinational companies over the last seven years indicate abnormal returns? If so, can this be considered an actual anomaly to market efficiency?"

Furthermore, we will also investigate whether there is a difference between the effects of two dimensions of CSR efforts on the potential excess stock returns. More specifically, we will look at the environmental and the social CSR dimensions separately, and their effects on stock's excess return.

1.1 Corporate Social Responsibility

There are many different definitions of CSR, many of which include the fact that CSR is considered to be a firm's responsibility and commitment to the society and the firm's stakeholders. This commitment is also seen as a contribution which exceeds what is actually required from a firm by different legal aspects and expectations form regulators (Investopedia 2012). We will use the following definition in our thesis, as we feel that this statement comprehensively involves important aspect of corporate social responsibility: "A process to integrate social, environmental, ethical and human rights concerns into their business operations and core strategy in close collaboration with their stakeholders" (EU Commission 2012).

CSR can furthermore be divided into five different dimensions (Dahlsrud 2006), where each one of the dimensions will define CSR regarding different criteria and thus make distinct areas of CSR. The five dimensions include the environmental, social, economic, stakeholder and voluntariness dimensions. We will focus on the former two dimensions in our study; the environmental and the social dimension. They consider CSR regarding "the natural environment" and "the relationship between the business and the society", respectively. The environmental dimension will i.e be to contribute to a better environment by for example introducing recyclable products, while the social dimension will be to contribute to a better society by for example providing school books for children in primary schools.

Later in our thesis we will set more detailed criteria for what types of CSR announcements we will include in our study.

1.2 Market Efficiency

An efficient market is a market where stock prices reflect all available information. One can separate between weak, semi-strong and strong form market efficiency. Weak form means that stock prices reflect all information available by examining market trading data, a semi-strong form means that prices additionally reflect all public information about the prospect of a company, while strong form means that stock prices reflect all information relevant to the company; including inside information. We will refer to market efficiency as a semi-strong form in

this thesis. New information is immediately embedded into the prices, and the only way to obtain higher expected returns is to take on higher risk. Thus, neither technical nor fundamental analysis should be able to give investors abnormal returns, as abnormal returns represent returns above what is justified by risk (Bodie, Kane and Marcus 2011, 371-402).

Anomalies to market efficiency represent patterns of returns that seem to contradict market efficiency. Easily accessible statistics such as a stock's P/E ratio, dividends announcements and book-to-market size sometimes seem to give abnormal returns above what is justified by risk, and can represent anomalies to the efficient market hypothesis (Bodie, Kane and Marcus 2011). In this study we are going to examine whether we may claim that a company's CSR announcements provide a company with abnormal returns, and also represent an anomaly to market efficiency.

1.3 Discussing the Thesis

CSR has become a central theme for most American corporations, and many executives, investors and researchers question the effects of CSR on a company's financial performance. It is important to get an estimate of the financial effects of CSR, as this likely will have an impact on future CSR efforts by various corporations. CSR efforts are undoubtedly important around the globe, and contribute to solve or improve numerous issues that the world is dealing with. If researchers and experts are able to prove that CSR efforts not only improve the world, but *also* have a positive impact on a firm's financial performance, it is more likely that firms will continue to maintain and hopefully expand their CSR programs. Thus, the importance of this research topic cannot be underestimated, as positive results and valid evidence may contribute to improving the world through increased CSR efforts.

In this thesis we will proceed with an event study to examine whether CSR may be an anomaly to market efficiency. Our contribution to existing literature lies in the way we will combine the various specifications in our study; meaning how we will combine the time frame of data collection, methods and data. Our main specifications are as follows: 1) we will research CSR announcements for American companies from 2005-2012, 2) we will use the CAPM and the Fama

and French model, and 3) we will separate between environmental and social CSR efforts. While some of these specifications have been applied in previous studies, they have not been studied in combination like we will in this thesis. Thus, it will be interesting to see the results from this study, and how they will coincide with existing literature on the topic of CSR's effect on financial performance.

Prior to having done the event study, we do expect that CSR efforts provide a firm with positive stock excess returns, and we expect to see that CSR announcements represent an anomaly to market efficiency. There are several reasons why we expect this. First, it is because firms can create positive publicity and reputation by contributing to society. This is likely to improve people's impression of the company, which furthermore may have a positive influence on the stock return of the company. Second, performing CSR efforts may have a positive signaling effect towards the investment community. The fact that a firm is able to invest in CSR programs signals that the firm is financially stable, which will be positively valued by the market. Thus, this may increase the stock return of the company. Additionally, the fact that a company performs CSR may make people wanting to associate themselves with the company, which furthermore may help firms recruit new and talented employees. Thus, CSR activities might attract more employees with higher qualifications, which increases the overall quality of the workforce and hence the company as well.

Although there are many reasons why CSR investments can be positively related to stock returns, there are also some reasons why there might be a negative relationship. First and foremost, CSR efforts are generally expensive. They do not generate any directly related income, which means that CSR investments may be seen as pure expenses for a company. Thus, the investment community might see CSR investments as something that lowers the financial value of a company, and the stock returns of a company may thereby decrease. Furthermore, CSR efforts can in some situations create negative publicity for a company if the company is accused of doing CSR "only for creating positive publicity and higher returns" rather than for the "good will". This is likely to have a negative effect on a company's stock returns.

Prior to performing the empirical study, we believe in the former intuition supporting a positive relationship between CSR announcements and stock returns. Thus, we expect to see that CSR announcements positively affect stock returns of a company.

1.4 The Structure of this Thesis

This thesis will have the following structure: in the second section we will introduce the main findings of related literature on this topic. In the third section we will present the methodology of our research, and will go into the details of the event study. In section four will present the data that we use in our research. Furthermore, in section five we will present and analyse the empirical results of our study, and we will proceed to conclude the thesis in section six. We will also include a detailed bibliography and appendix in the end of the thesis.

This preliminary report will include all of the above, except section five and six with the empirical analysis and the conclusion, as well as the appendix.

2. Related Literature

During the recent decades, the amounts of CSR efforts that companies have commit to have grown significantly, and discussions about the wider effects of these social actions have risen. Several claimed that such CSR programs influenced the value of the companies in a positive manner, and this incentivised researchers to further examine the relationship between companies' CSR programs and the value of the respective companies. Thus, previous research does exist on the topic of this thesis, and the researches vary in their findings. Some studies have results indicating that CSR affects returns positively; others claim that CSR affects returns negatively, while some also claim that CSR does not really have an effect on financial returns at all. Furthermore, some studies looked at all CSR dimensions as one whole, while some studies separated between the different dimensions of CSR. In this literature review we will present several studies that have performed various studies and present various findings.

Brammer, Brooks and Pavelin (2006) researched the relationship between corporate social performance and stock returns in the UK for the time period of

2002-2004. Their main finding was that firms with high scores on CSR; i.e. have invested quite significantly in CSR; have lower stock returns, while companies with the lowest possible score on CSR outperformed the market. Thus, this study found that CSR investment is largely destructive on shareholder value. The study also differentiated between social, environmental, employment and community CSR performance. It found that social CSR efforts tend to perform the worst relative to stock returns, sequentially followed by environment, employment and community CSR activities.

Bird et al. (2007) researched what CSR activities are valued by the market in the US, and had a time frame of data collection from 1991-2003. They researched the five dimensions of community, diversity, employee relations, environment and product both on the scale of strengths and concerns; implying ten dimensions all together. Their main finding was that the market seems to value most firms that satisfied only the minimum requirements of the dimensions of environment and diversity (mostly as required by law), and that the market is most proactive towards CSR in the dimension of employee relations. Furthermore, they found that the market's attitude towards CSR activities change over time, and that the activities recently being valued by the market appear to be diversity, employment and environment. Finally, they also found evidence to suggest that companies being identified in the market as having a wide spectrum of CSR activities are being rewarded in the market place (and vice-versa), indicating that there are reputational benefits (and costs) related to CSR programs.

Arx and Ziegler (2009) measured the effect of corporate social responsibility on stock performance in the US and in Europe for the time period of 2003-2006. Their analysis showed that financial markets do value environmental and social activities of a firm compared with other firms within the same industry. Furthermore, they found that the positive effects seemed to be more robust in the US rather than in Europe.

Cellier and Chollet (2011) measure the impact of CSR rating announcements on stock prices on the European Market from 2004-2009 on short term European stock returns. Their study showed that CSR really matters for financial markets, and that different CSR components have different effects on the stock prices. CSR

announcements regarding human rights seem to have a positive effect, environment and human resources seem to have a negative effect, while community involvement has a mixed effect.

Mollet and Ziegler (2012) measured the impact of socially responsible investing (SRI) on American and European stock markets in the time span of 1998-2009. They used the four-factor Carhart model, including risk factors for common market return, size, value and momentum. The researchers found that SRI is mostly related to large-sized firms. Furthermore, they also found that when all four risk factors are included, there was no evidence suggesting that SRI was neither panelized nor rewarded by the stock markets. Thus, this recent study suggested that CSR did not have an effect on stock returns in Europe and the US.

Research on this topic has also been performed in other parts of the world outside the US and Europe. Several similar studies have been conducted on the Asian market, in which the general consensus seems to be that CSR has a positive impact on stock performance. A general study of the Asian market found significant evidence that CSR has a positive effect (Cheung et.al 2009), in addition to more narrow studies of China and Taiwan (Chen and Wang 2011; Wang 2011). A study from Pakistan claimed that CSR had no effect (Iqbal et.al 2012).Studies from Australia also have mixed findings, where it is both suggested that CSR does not have a significant impact of stock prices (Newell and Lee 2012) and that there is a weak link (Galbreath and Shum 2012). Furthermore, a study from South Africa also suggested that CSR announcements have a positive impact on stock performance; particularly announcements of substantive monetary value (Arya and Zhang 2008).

The list of previous research could be far longer, and as can be observed, researchers have found different results over the last decade. A general consensus seems to be that at least some CSR activities are valued positively by some markets over various time periods. However, as Bird et al. (2007) found, the market's attitude towards CSR change over time. Therefore, it will be interesting to see how the American market has valued CSR announcements regarding social and environmental efforts in the time span of 2005-2012 in this thesis, applying the CAPM and the Fama and French model.

3. Methodology

The purpose of this thesis is to investigate whether a CSR announcement can create abnormal stock returns, and if this can be considered an anomaly with respect to market efficiency. In order to examine this we are going to apply an event study approach, which is a widely used and accepted research methodology in finance. The actual event in this thesis will be a public CSR announcement from a company, in which a company announces that it will invest in a CSR project. The collected data of the announcements that we are going to use in our study have to meet certain criteria that we will define in section four of this thesis.

First, we are going to study if this new information of a CSR announcement will trigger an immediate response in the market, which will lead the stock return to increase and thus create an abnormal or excess return in the short run. Second, we will see if this possible increase will continue after the actual event, and hence can be considered an anomaly to market efficiency.

When looking at the CSR announcements we will separate between two types of CSR actions; being environmental and social CSR efforts. First we will combine both types of announcements into a CAR study and see if they have an effect on return together, and if CSR announcements may be an anomaly to market efficiency. Afterwards we will perform a multiple regression of the two types of CSR efforts, in order to see the different effects of environmental and social CSR activities. This may allow us to examine whether one of the two types of announcements has a stronger effect on excess returns. Furthermore, we also expect to see different results from the two types of models that we will be using. The CAPM and the Fama and French model have different factors that they measure, and this may have an impact on the testing of the impact of CSR announcements on market efficiency.

We will look at companies which have had CSR announcements during the period of 2005 and up to 2012, which will be the overall event window. When collecting data for companies' stock returns, we will use the returns 3 months prior to and after the actual event. We will calculate the stocks' return by using the following formula, and hence we will get the changes in the stock's return:

Stock return changes: (price today – price yesterday) / price yesterday

For all tests that we perform in this study, we will use a 95% significance level, where a p- value lower than 5% will show that the results are statistically significant.

The first step in our event study is to make an index or a proxy for what one can expect the normal stock return in the market (r_M) to be if the CSR announcement events never happens. This proxy can be made in several ways, and we will use the CAPM to make such a proxy. We are going to make this index by collecting data from the S&P500 from 2005-2012, since this is our total period of data collection for the CSR announcements. By collecting for this whole period of time, we will decrease the chances that the market index will be affected by the actual CSR events that we are studying.

When performing this event study, we will use both the single index market model CAPM and the three factor market model of Fama and French. As mentioned, this will allow us to test for abnormal returns and market efficiency with somewhat different aspects.

The CAPM takes into consideration that a stock's expected return is affected by one market factor and one firm-specific factor:

Eqtn 1: $E(r_i) = r_f + \beta_i[E(r_M) - r_f]$

E(ri): Expected return of stock i

rf: risk free rate

β: stock return's sensitivity to market return

E(rM): Expected market return

(Bodie, Kane and Marcus 2011, 321)

However, we will use the index model representation of CAPM in our further analysis:

Eqtn 2: $r_t = \alpha + \beta r_{Mt} + \varepsilon_t$

r_{Mt}: market rate of return in period t

β: the stock's sensitivity to the market return

ε_t: part of the security's return that comes from firm specific events

α: the average rate of return the stock would realize in a period with a zero market return

(Bodie, Kane and Marcus 2011, 381)

Fama and French also take into consideration that the return can be affected by one market factor and one firm-specific factor, while also adding two factors for a firm's size and book to market value:

Eqtn 3: $r_{it} = \alpha_i + \beta_{iM}R_{Mt} + \beta_{iSMB}SMB_t + \beta_{iHML}HML_t + \varepsilon_{it}$

SMB = Small Minus Big; i.e. the return of a portfolio of small stocks in excess of the return on a portfolio of large stocks

HML = High Minus Low; i.e the return of a portfolio of stocks with a high book to- market ratio in excess of the return on a portfolio of stocks with a low book to –market ratio.

(Bodie, Kane and Marcus 2011, 363)

In both cases we expect the intercept term (α) to be equal to zero, hence, the hypothesis will be:

$$H_0: \alpha = 0$$
$$H_A: \alpha \neq 0$$

If we reject this hypothesis, it is suggested that the stock has over- or underperformed compared to the market. Thus, this can be an indicator whether or not the stock has obtained abnormal returns; perhaps as a result of the CSR announcement. However, one should be careful in relying too much on the interpretation of the alpha in an event study like this (Brooks 2008). Consequentially, we will conduct more in-depth analyses as well, in order to get a better assessment of the potential abnormal returns resulting from the CSR announcement.

The betas in the different models will show how much the return is affected by, and correlated with, the market factor in both models and the SMB and HML factors in the Fama and French model. The betas are also an indicator of risk, as the assumption of the market efficiency hypothesis is that higher risk gives higher expected return, as one should be rewarded for taking upon more risk (Bodie, Kane and Marcus 2011).

The residuals of the regression models will indicate and capture the unexpected; thus, being an indicator for how much the stocks' return may be affected by the CSR event we are looking into. Hence, we will have to investigate the residuals further. We will do this by calculating the stocks' abnormal, unexpected return by taking the actual return minus the estimated normal return from the market proxy:

Eqtn 4: CAPM: $\varepsilon_t = r_t - (\alpha + \beta r_{Mt})$

Eqtn 5: FF: $\varepsilon_t = r_t - (\alpha + \beta r_{Mt} + \beta_{SMB}SMB_t + \beta_{HML}HML_t)$

(Bodie, Kane and Marcus 2011, 321)

We also make another hypothesis test to indicate whether CSR announcements have an impact on abnormal return. In both equations 4 and 5 above, we expect the epsilon to be equal to zero. Thus, we have the following hypothesis:

$H_0: \varepsilon = 0$

$H_A: \varepsilon \neq 0$

If ε is significantly different from zero, we will reject the null hypothesis. We will measure this by looking at the p-value from our initial regression with the CAPM and the Fama and French model. Rejecting the null hypothesis will suggest that CSR announcements represent excess return.

We calculate the abnormal return for each of the companies included in the study. We gather stock prices from each firm starting three months ahead and ending three months after the announcement. We will use stock prices for three days prior to and after the announcement to look for the immediate effects of the announcements. Furthermore, we will use the stock prices from the six-month interval to look for abnormal returns in the longer run and potential anomalies to market efficiency. However, this will not be sufficient in order to explain whether

the CSR announcement can be considered an anomaly to market efficiency. We also have to consider the fact that there could be a leakage of information prior to the event that could affect the stock's performance and cause abnormal return. The next step in this study will therefore be to make an indicator that will account for this. We will do this by summing up the excess returns of all of the companies' stocks, and will get what is called the cumulative abnormal return (CAR). Making a graph with these results will show us if there will be continuous fluctuations of the stocks' return after the actual event or not (Bodie, Kane and Marcus 2011, 382-393). We have the following hypothesis:

$$H_0: \text{CAR remains stable}$$

$$H_A: \text{CAR continues to drift}$$

If the CAR graph continues to drift after the event; implying that we reject the null hypothesis; then the CSR announcements can be considered an anomaly to market efficiency with respect to the given market models.

After having investigated whether the CSR announcements can be considered an anomaly to market efficiency, we will continue our study by doing an analysis of the different types of CSR announcements' effect on excess return. We will perform a regression analysis where the excess return from equation 3 and 4 is the dependent variable, and the two different dimensions of CSR; environmental and social; are the independent variables. Then we will see whether these CSR announcements are statistically significant and can be explanatory variables to the potential excess return, or if there could be other factors that can explain the abnormal return. Furthermore, we will also be able to see if one of the CSR-announcement variables have more impact on excess return than the other, and hence, may be financially more important for a company to consider in its CSR strategy. We will look at the excess return of the two market models, CAPM and Fama and French, separately to see if it will make a difference in our results. Thus, we will use the following multiple regression lines:

Eqtn 6: CAPM: $R_{ExcessCAPM} = \alpha + \beta r_{exENV} + \beta r_{exSOC} + \varepsilon$

Eqtn 7: FF: $R_{ExcessFF} = \alpha + \beta r_{exENV} + \beta r_{exSOC} + \varepsilon$

The R_{Excess} is the dependent variable, and the input will be all of the excess returns we have found in our data sample. The independent variables r_{exENV} and r_{exSOC} will be all of the stock returns of the companies which have made an environmental or a social CSR announcement, respectively. Hence, we will distinguish between the two different types of CSR announcements. The betas of these variables will indicate how much each of them contributes to explain the potential excess return. We will also check if these results are statistically significant.

4. Data

Data of proper quality is a key ingredient for most empirical researches, and is also significantly important for this thesis. As described in the previous section, we will perform an event study in order to investigate the relationship between companies' CSR announcements and their returns. In this section we will describe the data that we will use in the study.

There exist numerous variations of CSR announcements. CSR actions differ in size, field, type and budget, and the companies also differ in size, industry, nationality, etc. Thus, it is necessary to define certain criteria for the CSR announcements that we will include in our study. These criteria concern the CSR action itself, as well as the actual company. We have set the following criteria for this thesis:

a) The CSR announcements have to be of a certain size for us to include them in our study, and we have set this limit to $1,000,000-$50,000,000. This range will allow us to include a wide range of announcements, while simultaneously eliminating the smallest and largest announcements such that we increase the chances of avoiding big outliers in our data sample. Furthermore, the CSR announcements have to be of an environmental or social character, and the CSR efforts can be domestic and/or international.

b) We have also set certain criteria with regards to what firms we will include in our study. First and foremost, we will look at American companies. The companies must be at least ten years old, as we do not want to include younger companies that are in a natural growth phase. If we include growth companies, it can be more difficult to find the actual effect of the CSR announcement. We

will include a maximum of three announcements per company with at least a year in between each of them. Furthermore, the firms do not necessarily have to be multinational. Many firms will be multinational; however, since we are looking at the effects of CSR announcements on the American stock market, we will also include firms that are merely of a domestic character. The firms have to be listed on an American stock exchange, and we will not include not-for profit organizations. Lastly, the firms do not have to be within a certain industry. We will include CSR announcements from firms across a wide specter of industries, for example banking, retail, technology, food and drink, sports, etc.

The quality of the data is vital for an empirical study like this, and finding sufficient data is oftentimes a challenge. There exist several databases which contain substantial information about companies' CSR programs and announcements. For this thesis we plan use the webpage "www.csrwire.com" as the main database for gathering information about companies' CSR announcements. This webpage has gathered public releases regarding CSR efforts from more than 2,800 companies worldwide, dating back to approximately year 2000. Thus, we will research thousands of press releases from various American firms regarding CSR, and we will match the different CSR announcements with the criteria that we have set for our study. We plan to use an absolute minimum of fifty announcements for our study, such that we will be able to make valid inferences.

We will use data from CSR announcements that have taken place between 2005 and 2012. When looking at companies' press releases for their CSR announcements, we are able to find the exact dates of the announcements. Thus, to find data on company returns, we gather stock prices from each firm starting three months ahead and ending three months after the announcement. After having found the specific dates of the announcements, we retrieve stock prices from "www.YahooFinance.com". Additionally, we will also retrieve S&P 500 prices from this database in order to make the initial market proxy.

When finding the book/market value and the market capitalization of the firms in order to apply the Fama and French model, we retrieve information from the

annual report/quarterly report closest in time of the announcement. For example, for an announcement dated February 3rd 2008 we will refer to the last quarter of 2007 to retrieve the book/market value and the market capitalization of this corporation. These annual/quarterly reports have also been found at "www.YahooFinance.com".

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